This document is output from the Help File included with Helvar's Designer software.

For further information, please contact your local Helvar representative.
Please see www.helvar.com for contact details.

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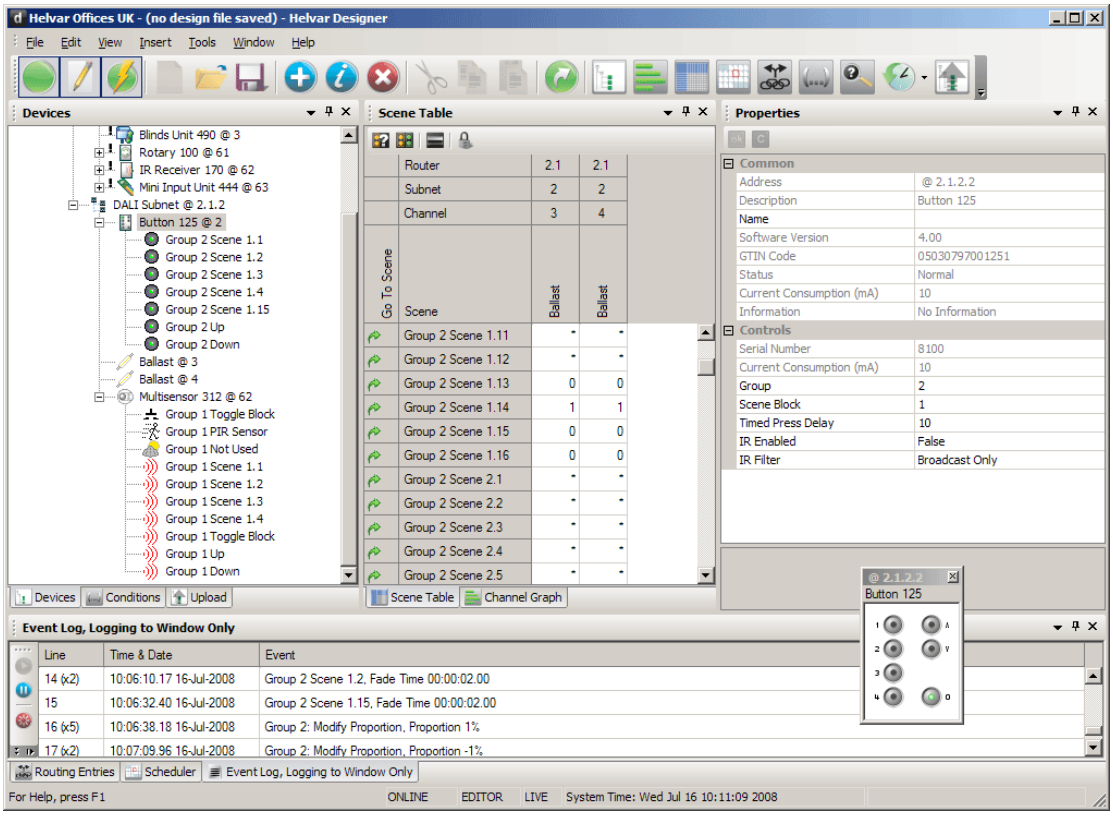
Getting Started

Welcome to Designer Help

Getting Started

- *Designer interface* *Click on an area of the Designer interface below to view the related topic.*



- Installing and Running Designer
- Configuring a Router
- Designing a Lighting System
- Monitoring a Lighting System
- Replacing a Device
- Scheduling Scene Changes

Other Support Facilities

- Using the Online Help System
- Troubleshooting
- Helvar Customer Support

Help version: 4.2.18

Related Topics

- About Designer
- Using the Online Help System
- Installing and Running Designer
- About Designer Software Version
- About Helvar Limited
- Recommended System Specification

Using the Online Help System

Accessing Help via Designer

- Press **F1** to open the help system.
- Click **Help / Help Topics** on the drop-down menu bar.

Related Topics

- Advanced Searching Techniques

Downloading, Installing and Running Designer

Step 1: Obtain FTP Login Details from Helvar Representative

Contact your local Helvar representative who will provide you with personal login information needed to download the files from the Helvar download area.

Step 2: Download Designer Software from Helvar website

1) Got to http://www.helvar.com/downloads/tools

2) In the Designer section, click the Online Download link to open the Helvar FTP site.

3) When prompted, enter the username and password provided by your Helvar representative in Step 1 and click '**Login**'

4) Once logged in, locate the Designer program files and click on the zip file you wish to download.

5) A file download window will open. Click '**Open**' to immediately extract and access the setup.exe file or click '**Save**' to save the zipped installation files to your system so installation can be run at a later date.

6) Once download is complete, open the file to check it contains the appropriate setup.exe file and double click on the setup.exe file to initialise installation to your PC.

Note:

- If multiple users are intended to use DESIGNER then the software must be installed on each of the intended users PC's.

Step 3: Install Designer Software

Double click the setup.exe file downloaded in Step 2 and follow the on-screen instructions to install the software.

Step 4: Run Software

Start the Designer software.

Related Topics

- Helvar Customer Support
- About Designer
- About Helvar
- About Designer Software Version
- Recommended System Specification
- Start Designer

- Exit Designer

About Designer

Designer is a Windows application for designing, editing, monitoring and controlling your *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . Here are some of its most important features:

- Monitoring activity in the lighting system
- Logging activity in the lighting system
- Designing and editing the lighting system
- Scheduling events that affect the lighting system

Note to New Designer Users

If this is the first time you have used Helvar Designer, we urge you to explore the Quick Start Guides provided in this help system. These show you the basics of lighting system design using Designer, putting you in an excellent position to understand and exploit the full range of design and control features available to you with this package.

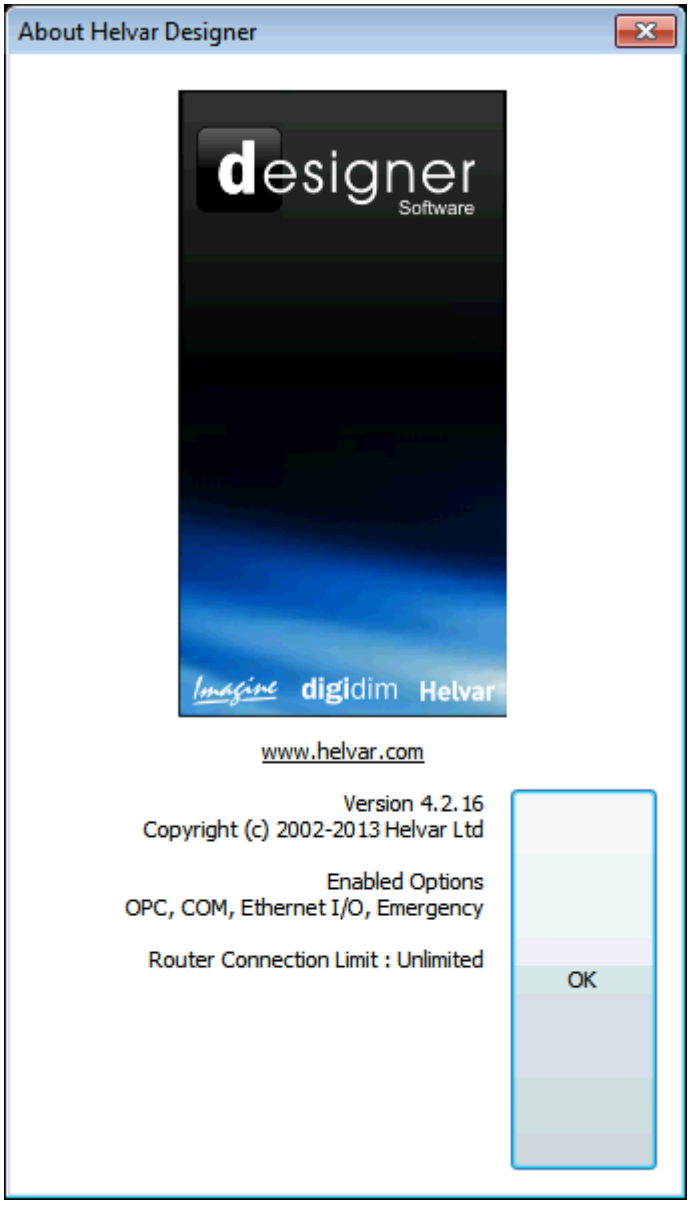
Helvar also provides training courses at its purpose-built training facilities in the UK, and can provide on-site training anywhere in the world. To learn more about these services, contact your local Helvar representative, or Helvar office.

For contact details, see the Helvar website.

Related Topics

- Installing and Running Designer
- About Designer Software Version
- About Helvar
- Recommended System Specification

About Designer Software Version



1. Click **Help / About** on the Designer drop-down menu bar. *This displays a window like the one shown on the left.*

   It contains a link to the Helvar website, the Designer software version (with the date and time it was installed), and the features (options) enabled for the software.
2. Click **OK** to close the dialogue.

Related Topics

- About Designer
- Installing and Running Designer

About Helvar Ltd.

Helvar is a Finnish company that has been trading continuously since its founding in 1921. For more than 80 years, Helvar has been a leader in developing products based on the latest technological advances. Today, we have customers worldwide, with applications as varied as hotels, universities, cruise ships, hospitals, theatres and homes. Here we present a brief look at our milestone achievements.

- 1921 Founded in Helsinki, Finland.
- 1949 Started manufacture of electromagnetic components.
- 1966 Introduction of electronic dimmers.
- 1973 Purpose-built factory for magnetic ballasts in Karkkila, Finland.
- 1981 Started manufacture of electronic ballasts.
- 1990 The first controllable ballast (EL - AC).
- 1992 Introduction of Imagine range of microprocessor digital dimmers.
- 1992 Introduction of the Sceneset lighting control product range.
- 1999 Introduction of Digidim, a revolutionary range of lighting products for DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* .
- 2000 Introduction of a flat electronic ballast range.
- 2001 Introduction of harmonic-free dimmer.
- 2002 Launch of Imagine 900 Lighting Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* .
- 2004 Launch of TouchPanel, a touch-sensitive full color LCD screen used for controlling and programming a Helvar lighting control system.
- 2007 Launch of Digidim 910 Router.
- 2008 Launch of Imagine 920 Router.

Helvar's headquarters are in Karkkila, Finland. Magnetic and electronic ballasts are manufactured here. Lighting control electronics such as sensors, dimmers and controls are manufactured in the UK. The research, development and product management for lighting control is situated in Dartford, UK. Helvar has regional sales offices in Karkkila, Dartford, Gothenburg, Frankfurt and Milan, with dealers and distributors in more than 50 countries, so our expertise is never out of reach.

- *To learn more about Helvar, see the Helvar Website.*

Related Topics

- Helvar Customer Support
- About Designer

Starting and Exiting Designer

Starting Designer

Start Designer manually

1. Click **Start** / **Programs** / **Designer**.
2. Select **Designer**.

Start Designer via a system file

1. Start Windows Explorer.
2. Browse to a folder containing Designer System files. *These are files with the .design extension. For example, **Mydesign.design**.*
3. Double-click on the Designer System file. *Designer opens the file.*

Related Topics

- Exit Designer
- Installing and Running Designer

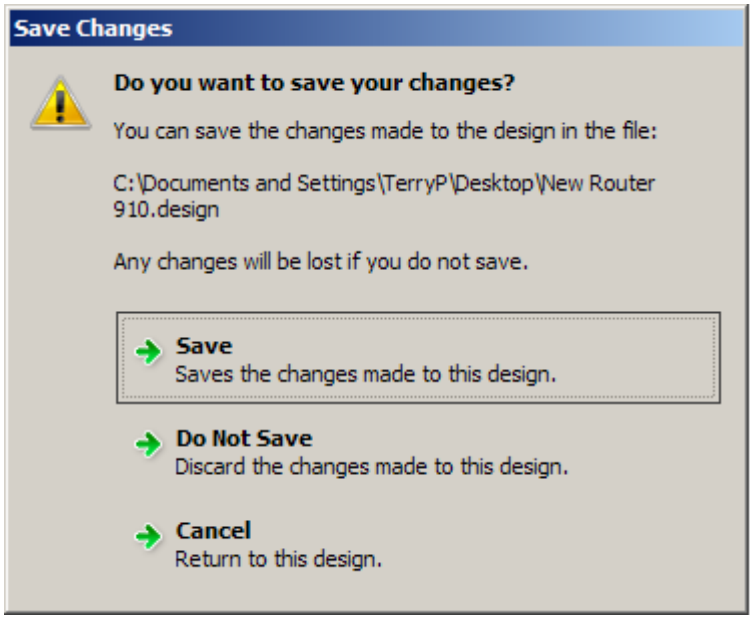
Exiting Designer

You can exit Designer by using any of the following methods:

- Click **File** / **Exit**.
- Click the close button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* at the upper-right corner of the main Designer window.

Exiting Designer if you have unsaved work in a Workgroup Design (Offline)

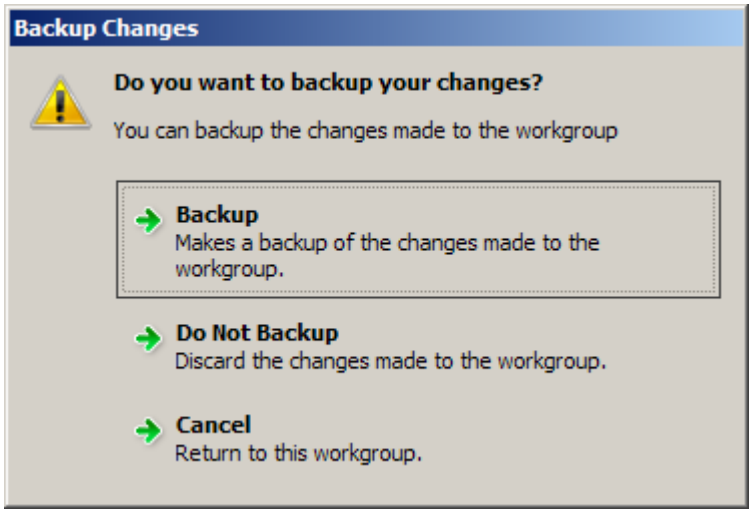
After using one of the exit methods described above, you are prompted to save the Workgroup Design:



- Click **Save** to save the work; OR click **Do Not Save** to exit without saving the work; OR click **Cancel** to cancel the action and continue working.

Exiting Designer if you have made changes to a Real Workgroup (Online) and have not made a backup

After using one of the exit methods described above, you are prompted to backup the Real Workgroup:



1. Click **Backup** to backup the work to a design file; OR click **Do Not Backup** to exit without backing up the work; OR click **Cancel** to cancel the action and continue working.
2. If you clicked **Backup**, the **Save As** dialogue appears.
3. Browse for a folder and type in a different filename, if required, then click **Save** to make a backup of the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* .

Related Topics

- Start Designer
- Installing and Running Designer

Keyboard shortcuts

Keyboard Shortcuts

Helvar

General

Delete	Delete the selected item.
F1	Start online help.
Alt+F4	Quit Designer.
Ctrl+G	Go to a channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* or scene *Collection of lighting levels for each channel assigned to the same group as the scene.* .
Ctrl+N	Start a new project.
Ctrl+O	Open a project.
Ctrl+S	Save the current project.
F9	Open / view Channel Graph.
F10 or **Ctrl+T**	Open / view Scene Table.
Shift+Ctrl+F12	Reset position of panes.
Ctrl+Tab	Gives you a list of the views (windows) which are open. (Press **Ctrl** then the **Tab** key, and, whilst holding **Ctrl**, use the ↓**or** ↑arrow keys to navigate to the view you wish to make active. Once you have selected the view, release the **Ctrl** key to make active).

Menus

Alt+F	File menu.
Alt+E	Edit menu.
Alt+V	View menu.
Alt+I	Insert menu.
Alt+T	Tools menu.
Alt+W	Window menu.
Alt+H	Help menu.

Device Tree

F2	Rename the selected item.
F3	Identify item.
F4	Properties of the selected item.

F5	Chat.
F8	Change device *A physical item with which you can interact, either directly or via Designer.* address.
F11	Show Device Tree.
F12	Show Routers View
Home	Go to the first item in the Device Tree.
End	Go to the last item in the Device Tree.
PgUp	Scroll up one screen of items.
PgDn	Scroll down one screen of items.
↑	Go to the next item above the selected item in the Device Tree.
↓	Go to the next item below the selected item in the Device Tree.
→	Go to the first child *An item in the next level below a given level in the Devices Tree.* item below the selected item in the Device Tree, and expand the Device Tree to the child level of the selected device.
←	Go to the parent *An object in the level above a given level in the Devices Tree.* item above the selected item in the Device Tree, and collapse the Device Tree to the parent level of the selected device.
Shift+Click	When inserting a device, hold down the Shift key when you click on the item you want to insert, to insert multiple instances of the item. *To learn more see Insert Items.*
*****	Expand all branches of the Device Tree.
Ctrl+I	Identify device

Scene Table

F2	Rename the selected Scene or Device.
Delete	Clear the level value in the selected cell, or restore the default scene or device name.
Ctrl+A	Select all items in the Scene Table.
Home	Go to the first column in the selected row.
End	Go to the last column in the selected row.
Ctrl+Home	Go to the first column in the selected row.
Ctrl+End	Go to the last row in the selected column.
Shift+Click	Select a range of cells from the currently selected cell to the cell you shift-click on.
↑	Go to the next cell above the selected cell in the Scene Table.
↓	Go to the next cell below the selected cell in the Scene Table.
→	Go to the next cell to the right of the selected cell in the Scene Table
←	Go to the next cell to the left of the selected cell in the Scene Table

Shift+↑	Select a range of cells from the currently selected cell to the cell you select next.
Shift+↓	Select a range of cells from the currently selected cell to the cell you select next.
Shift+→	Select a range of cells from the currently selected cell to the cell you select next.
Shift+←	Select a range of cells from the currently selected cell to the cell you select next.
Ctrl+↑	Go to the first row in the selected column.
Ctrl+↓	Go to the last row in the selected column.
Ctrl+→	Go to the last column in the selected row.
Ctrl+←	Go to the first column in the selected row.

Routers View

Note: Select the desired *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* in Routers view to perform the following functions.

Ctrl+U	Upgrade router's firmware *Software that is embedded in a hardware device that allows reading and executing of the software, but does not allow modification.* .
Ctrl+E	Erase flash: Permanently erase router's data (including scenes).
Ctrl+I	Identify router.
Ctrl+R	Restart router.
Ctrl+P	Test connection.

Clipboard

Ctrl+C	Copy the selected item to the clipboard.
Ctrl+V	Paste the contents of the clipboard to the selected location.
Ctrl+X	Cut the selected item to the clipboard.

Related Topics

- Navigating with a Wheel Mouse

Keyboard Shortcuts

General

Delete	Delete the selected item.
F1	Start online help.
Alt+F4	Quit Designer.
Ctrl+G	Go to a channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* or scene *Collection of lighting levels for each channel assigned to the same group as the scene.* .
Ctrl+N	Start a new project.
Ctrl+O	Open a project.
Ctrl+S	Save the current project.
F9	Open / view Channel Graph.
F10 or **Ctrl+T**	Open / view Scene Table.
Shift+Ctrl+F12	Reset position of panes.
Ctrl+Tab	Gives you a list of the views (windows) which are open. (Press **Ctrl** then the **Tab** key, and, whilst holding **Ctrl**, use the ↓**or** ↑arrow keys to navigate to the view you wish to make active. Once you have selected the view, release the **Ctrl** key to make active).

Menus

Alt+F	File menu.
Alt+E	Edit menu.
Alt+V	View menu.
Alt+I	Insert menu.
Alt+T	Tools menu.
Alt+W	Window menu.
Alt+H	Help menu.

Device Tree

F2	Rename the selected item.
F3	Identify item.
F4	Properties of the selected item.
F5	Chat.

F8	Change device *A physical item with which you can interact, either directly or via Designer.* address.
F11	Show Device Tree.
F12	Show Routers View
Home	Go to the first item in the Device Tree.
End	Go to the last item in the Device Tree.
PgUp	Scroll up one screen of items.
PgDn	Scroll down one screen of items.
↑	Go to the next item above the selected item in the Device Tree.
↓	Go to the next item below the selected item in the Device Tree.
→	Go to the first child *An item in the next level below a given level in the Devices Tree.* item below the selected item in the Device Tree, and expand the Device Tree to the child level of the selected device.
←	Go to the parent *An object in the level above a given level in the Devices Tree.* item above the selected item in the Device Tree, and collapse the Device Tree to the parent level of the selected device.
Shift+Click	When inserting a device, hold down the Shift key when you click on the item you want to insert, to insert multiple instances of the item. *To learn more see Insert Items.*
*****	Expand all branches of the Device Tree.
Ctrl+I	Identify device

Scene Table

F2	Rename the selected Scene or Device.
Delete	Clear the level value in the selected cell, or restore the default scene or device name.
Ctrl+A	Select all items in the Scene Table.
Home	Go to the first column in the selected row.
End	Go to the last column in the selected row.
Ctrl+Home	Go to the first column in the selected row.
Ctrl+End	Go to the last row in the selected column.
Shift+Click	Select a range of cells from the currently selected cell to the cell you shift-click on.
↑	Go to the next cell above the selected cell in the Scene Table.
↓	Go to the next cell below the selected cell in the Scene Table.
→	Go to the next cell to the right of the selected cell in the Scene Table
←	Go to the next cell to the left of the selected cell in the Scene Table
Shift+↑	Select a range of cells from the currently selected cell to the cell you select next.

Shift+↓	Select a range of cells from the currently selected cell to the cell you select next.
Shift+→	Select a range of cells from the currently selected cell to the cell you select next.
Shift+←	Select a range of cells from the currently selected cell to the cell you select next.
Ctrl+↑	Go to the first row in the selected column.
Ctrl+↓	Go to the last row in the selected column.
Ctrl+→	Go to the last column in the selected row.
Ctrl+←	Go to the first column in the selected row.

Routers View

Note: Select the desired *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* in Routers view to perform the following functions.

Ctrl+U	Upgrade router's firmware *Software that is embedded in a hardware device that allows reading and executing of the software, but does not allow modification.* .
Ctrl+E	Erase flash: Permanently erase router's data (including scenes).
Ctrl+I	Identify router.
Ctrl+R	Restart router.
Ctrl+P	Test connection.

Clipboard

Ctrl+C	Copy the selected item to the clipboard.
Ctrl+V	Paste the contents of the clipboard to the selected location.
Ctrl+X	Cut the selected item to the clipboard.

Related Topics

- Navigating with a Wheel Mouse

Quick Start Guides

Monitoring your Lighting System

You can monitor and log *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* activity and performance by using Designer.

Activities that can be monitored

- Device *A physical item with which you can interact, either directly or via Designer.* status
- Channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* activity (such as levels, scene *Collection of lighting levels for each channel assigned to the same group as the scene.* selections, and errors)

Activities that can be logged

- Scene recall
- Level change
- Device communication errors

These events are logged in the Event Log.

Related Topics

- Channel Graph
- Event Log
- Event Log Configuration
- Design your Lighting System
- Replace Device

Designing your Lighting System

Designer offers a free-form approach to designing your *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . If you are working with an existing lighting system, by connecting your computer to it, Designer can construct a model of the system automatically. You can then program the system while still connected, or store the model and work on your design remotely. If you are designing a new lighting system, you can use Designer to model the lighting system and test it before it is installed on-site.

Designer also provides lighting system monitoring facilities. These yield detailed information about system performance, allowing you to maximise system efficiency, and identify problems. *To learn more see Monitor your Lighting System*.

We have broken down the lighting system design process into the following stages that are common to most projects. These provide an overview of what you need to do, but you should refer to the various links to learn more about using Designer to complete each stage.

Tip:

- Save your work regularly as you create and refine your lighting system design. *To learn more see Save a Workgroup.*

Stage 1: Collect information about the lighting system

It is important to define the extent, and the functionality, of the lighting system. This information provides a basis for the design, and usually includes the following:

- The number of channels and loads
- The location of the channels
- The number and type of devices
- The location of the devices
- Group information
- Overall system functionality
- Functionality in the individual group/area
- Time scheduling
- Constant Light functions

A typical project will include a ***Load*** *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* **Schedule**. This is a document that lists the items specified for the lighting system, and usually has a lighting design drawing to accompany it. This provides the basis for your Workgroup Design.

At this stage it is usually best to discuss lighting design possibilities with the client. Typically, a client will require functional and economical lighting for service areas (such as boiler rooms, store rooms and stairwells), and more sophisticated lighting in public and social areas (such as lounges, kitchens and auditoria). Specifications and drawings for the project also provide important information that you should be aware of at this stage. This also allows you to draw attention to lighting possibilities that the client may not have considered, such as using the Multisensor (312) in stairwells and corridors, or using conditions to add impact to the lighting in a public space.

If the lighting system has not yet been outlined, it is important to do so now. A good way to do this is to obtain a floor plan for the project and to indicate the approximate location of each panel (*control device A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.*) and load (*control gear For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router,*

and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.). This gives you a good approximation of the extent of the lighting system, so that the number and location of routers can be established.

Stage 2: Allocate channels and devices to routers

All channels and devices are controlled by routers. Each *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* contains two *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* subnets, and may have *SDIM Stands for Serial DIMming communication. It is a Helvar communication protocol.* and *DMX Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* subnets (if using the Imagine 920 Router). By using the information collected earlier, and knowing the limits of a *subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* , you can allocate the channels and loads into the required number of routers.

DALI Subnet

Each DALI subnet can support up to 64 Digidim devices and has a maximum current capacity of 250mA. The exact limit depends on the total electrical current needed for all the connected devices.

Tip:

- It is recommended that you use up to 63 of the available 64 addresses. This is because the DALI subnet needs at least one free address before it looks for unaddressed devices. This means that if you have more than 64 addresses on the system and then reduce the number to exactly 64, the system will still report as if it had more than 64 devices, until the router is restarted. *NOTE: The system still behaves as expected, but just reports that there are too many devices on the subnet.*

For information about the electrical current usage within the DALI subnet:

1. If Properties is not open already, click .
2. In the Device Tree, click on the DALI subnet (for total current consumption for all devices) or the device *A physical item with which you can interact, either directly or via Designer.* (for device consumption).
3. In Properties, look in the **Current Consumption** field (*All units are in mA*).

SDIM Subnet *(Imagine 920 Router only)*

Each router can support up to 128 devices, within the limits of 252 SDIM addresses. *To learn more see SDIM Subnet.*

DMX Subnet *(Imagine 920 Router only)*

Each router can support up to 252 channels in from one DMX source, such as a lighting desk (DMX In Subnet), and can drive up to 252 DMX output channels/addresses (DMX Out Subnet). *To learn more see DMX Subnet.*

Stage 3: Create your design in Designer

Having created your lighting design on paper, using up-to-date floor plans and specifications where possible, you can now create your design in Designer. However, before you start, you must decide on a naming convention. A good naming convention ensures that the design does not become confusing for you or others to follow. *To learn more see Names and Conventions.*

1. Create a new Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* in Designer. *To learn more see Start a New Workgroup Design.*

2. Give the Workgroup a meaningful name. *To learn more see Rename a Workgroup.*
3. Add the channels and devices, as determined in step 1 (above). *To learn more see Insert an Item.*
4. Give the devices names to help you identify their location or purpose. *To learn more see Rename an Item.*

Tip:

- Currently, each Workgroup can support up to 100 routers. If more routers are required then you must continue the lighting system design in another Workgroup. This help system assumes your lighting system requires a single Workgroup. *For more information see Workgroups.*

Stage 4: Configure the subnets

1. Configure each control gear . *To learn more see Control Gear Configuration.*
2. Configure each control device . *To learn more see Device Configuration.*
3. Assign scenes and functions to each control. *To learn more see Subdevice Configuration*

Stage 5: Edit the scenes

In Stage 4 (above) you assigned scenes to each control in your design. The lighting levels for each *scene Collection of lighting levels for each channel assigned to the same group as the scene.* can now be set. This process can take place in the Scene Table and the Channel Graph. We also recommend that you give each scene a new name, as this will avoid confusion as your design becomes more sophisticated.

- Edit each scene as required. *To learn more see Edit a Scene in Scene Table, Rename a Scene and Monitor and Edit a Scene in Channel Graph.*

Stage 6: Test the devices

At this point in the process the main components of the design are in place and configured. Before proceeding, it is important to test the design to ensure that it works as expected. Designer includes mimics to help you do this, without necessarily affecting the real lighting system. *To learn more see Mimics.*

- Click each button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* to simulate its use in the lighting system, checking that the correct scene is recalled. The recalled scene is displayed in Channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* Graph.

Stage 7: Create Routing Entries

A routing entry provides a means of routing scene recall commands to perform different actions. You can set scene conditions - so that the scene is called only under certain circumstances - and set conditions for the routing entries to occur. For example, when a button is pressed and a scene is called, you can redirect it to another scene, by inserting a *redirect Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled.* routing entry. *To learn more see Routing Entries.*

1. Add Routing Entries as required. *To learn more see*
2.

1.

1.
2.

1.
2.
3.
4.

-
-

Replace Router

If a *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* fails in the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* it may be necessary to replace it. When replacing a router, you must ensure that the replacement *device A physical item with which you can interact, either directly or via Designer.* is integrated into your lighting system design. For example, each router is identified in Designer by its unique serial number. If you replace a router, the serial number of the replacement router will be different, and Designer will regard it as a new router.

Replace and configure a router

1. Make a backup of the Real Workgroup. *To learn more about making backups, see Save a Real Workgroup.*
2. Switch off the router, and then disconnect the power supply and all connections to the router.
3. Remove the faulty router.
4. Install the replacement router.
5. Reconnect the power supply and all connections to the router, and switch on the router.
6. To replace the router, set the router's IP address *Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* to match *An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* the IP address of the previous router. *See Manually Assign IP Address to Router for steps on how to do this.*
7. Test the replacement router to ensure that it is working correctly and is recognised by Designer.
8. Backup the changes to the Real Workgroup. We recommend that you save the changes with a new Workgroup filename (stating a new version and date for example).

Related Topics

- Design your Lighting System
- Monitor your Lighting System
- Manually Assign IP Address to Router
- Upload a Workgroup Design
- Save a Real Workgroup
- Replace a Device

Replacing Devices

If a *device A physical item with which you can interact, either directly or via Designer.* fails in the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* it may be necessary to replace it. When replacing *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* devices, you must ensure that the replacement device is integrated into your lighting system design.

Replace and configure a device

1. Make a backup of the Real Workgroup. *To learn more about making backups, see Save a Real Workgroup.*
2. Switch off the router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* , disconnect the power supply to the router, and then disconnect all devices which are on the same DALI subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* as the faulty device.
3. Remove the faulty device.
4. Install the replacement device.
5. Reconnect the devices on the DALI subnet and the power supply to the router, and then switch on the router.
6. To replace the device, open the Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* and upload it to the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* , making sure to match *An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* the replacement device with the original design device. *To learn more about uploading, see Upload A Workgroup Design.*
7. Test the replacement device to ensure that it is working correctly and is recognised by Designer.
8. Backup the changes to the Real Workgroup. We recommend that you save the changes with a new Workgroup filename (stating a new version and date for example).

Related Topics

- Design your Lighting System
- Monitor your Lighting System
- Upload a Workgroup Design
- Save a Real Workgroup
- Replace a Router

Connecting to the Lighting System

Designer communicates with the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* via a common Ethernet connection. The type of connection you use depends on how you intend to work with the lighting system. For example, if you need to access the lighting system remotely from anywhere in the world, then a Remote Desktop Connection supported via VPN may be the best solution. To learn more about the various connection methods and how to prepare for using them, use the following links:

- Connect via Ethernet
- Remote Desktop Connection
- Connect via VPN

To connect to the lighting system using Designer, switch to Online Mode and then connect to your desired Workgroup.

Related Topics

- Online and Offline Modes - Switch to Online Mode
- Connect to a Real Workgroup
- Connect via Ethernet
- Remote Desktop Connection
- Connect via VPN
- Edit a Connection
- Firewall

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Related Topics

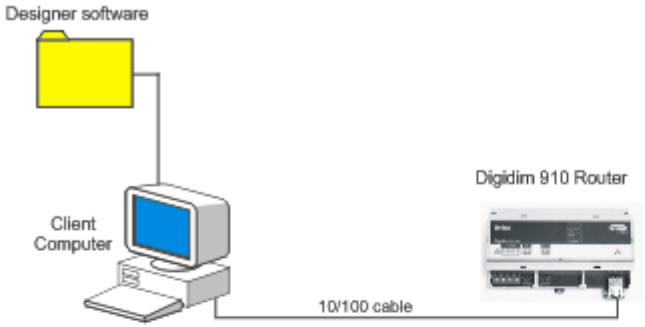
- Online and Offline Modes - Switch to Online Mode
- Connect to a Real Workgroup
- Connect via Ethernet
- Remote Desktop Connection
- Connect via VPN
- Edit a Connection
- Firewall

Connecting via Ethernet

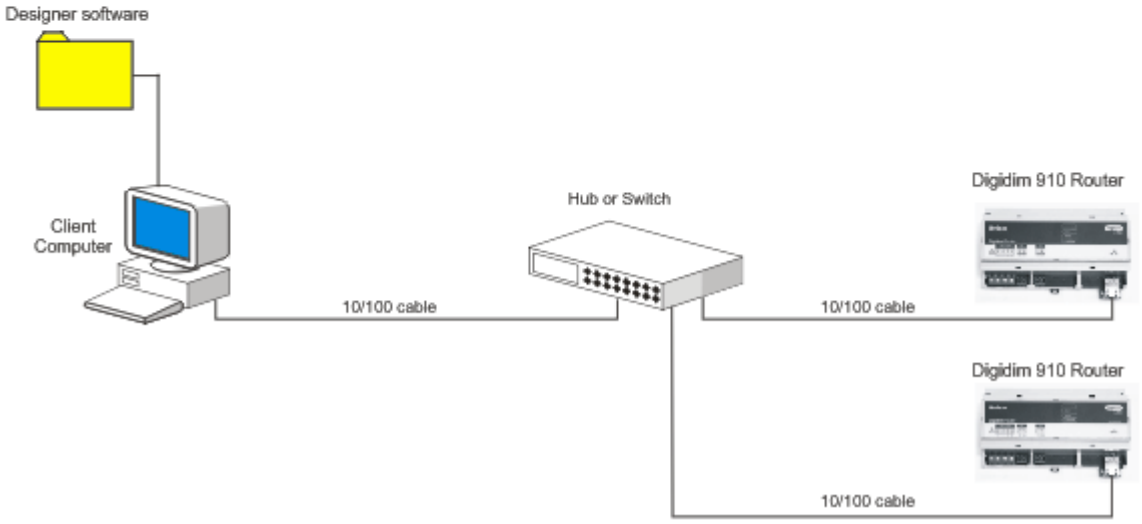
Ethernet connection is useful for monitoring and designing the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* , and is ideal for a permanent local connection.

This type of connection requires the following equipment:

Connecting to a computer



Connecting to a hub or switch



Related Topics

- Connect to the Lighting System
- Remote Desktop Connection
- Connect via VPN
- Edit a Connection
- Firewall

Remote Connection

You can connect to the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* with a remote computer, via the Internet. This is called a Remote Desktop Connection (*RDC Stands for Remote Desktop Connection. Connect to the lighting system via a remote computer.* , also called Remote Desktop).

RDC is the client application for Terminal Services. It allows the user to remotely log in to a networked computer running the Terminal Services server. RDC presents the desktop interface of the remote system, as if it were accessed locally.

Terminal Services is one of the components of Microsoft Windows that allows a user to access applications and data on a remote computer, over any type of network, although best used when dealing with a Wide Area Network (WAN) or Local Area Network (*LAN Stands for Local Area Network. A computer network in which two or more computers are connected together so that they can communicate and share resources.*). *Contact your IT Administrator for advice on the various methods of Remote Desktop Connection and what is the best method for your type of network.*

Note:

- You can perform a Remote Desktop Connection with or without VPN *Stands for Virtual Private Network. Provides an encrypted (and therefore private) connection between two or more network sites over a public network, such as the Internet.* , although it is recommended that you use VPN as it is more secure. *See Connect via VPN.*

- See the Microsoft website for more information and to download the RDC application.

Related Topics

- Connect to the Lighting System
- Connect via Ethernet
- Connect via VPN
- Edit a Connection
- Firewall

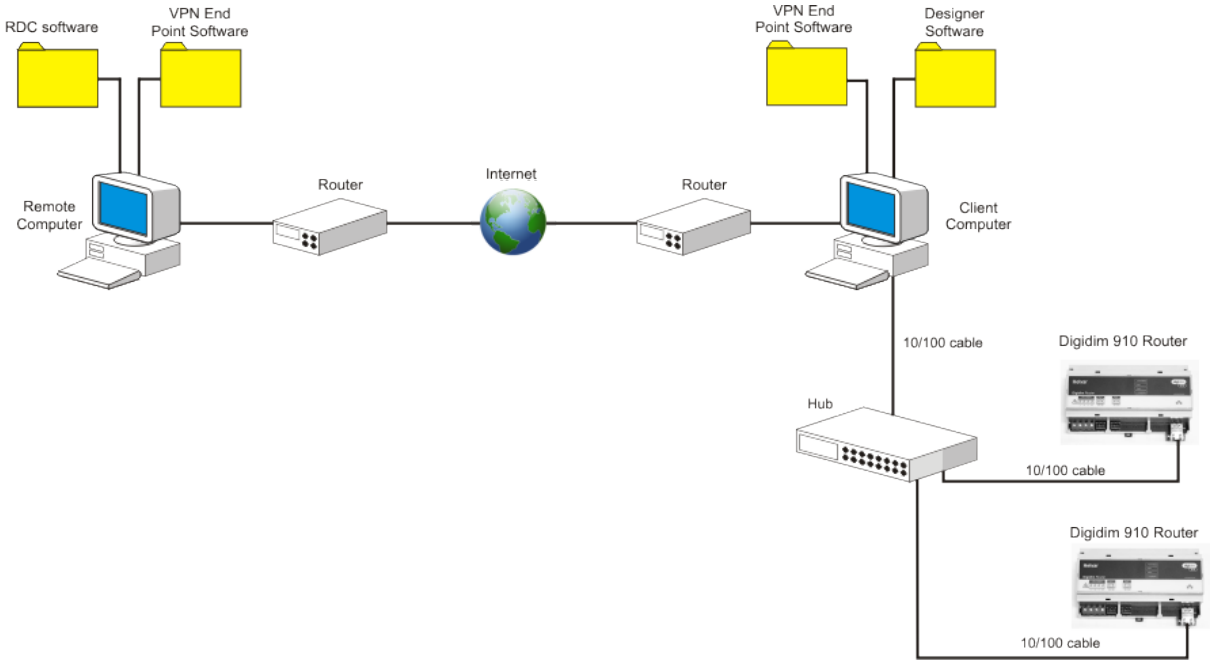
Connecting via VPN

This type of connection is useful for monitoring and designing the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* remotely. However, it requires a computer at both ends of the connection for the *VPN Stands for Virtual Private Network. Provides an encrypted (and therefore private) connection between two or more network sites over a public network, such as the Internet.* End Point software and the client computer, local to the lighting system, to be running Designer software.

VPN connection to Helvar routers

The diagram below shows an example of how VPN software supports a Remote Desktop Connection (RDC) which gives access to Helvar routers.

This type of connection requires the following equipment:



Tips:

- Most routers and LAN *Stands for Local Area Network. A computer network in which two or more computers are connected together so that they can communicate and share resources.* modems support VPN Passthrough. This facility simply means that the router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* does not interfere with a VPN End Point.
- Some routers have a VPN End Point built-in. These are known as VPN Servers. If you are not using a VPN Server router, then you must use VPN End Point software on the computer.
- Before configuring a VPN connection, we recommend that you ensure that the operating system on each computer has the latest VPN software installed. Microsoft provides an automated update service via its website.

Note:

- If you are using Windows XP and you intend to use a VPN, do not enable Internet Connection Firewall. Internet Connection Firewall is a firewall built into Windows XP. *To learn more, click on your Windows XP desktop, press **F1** to start the Windows XP help facility, and then search for **Firewall**.*

Related Topics

- Connect to the Lighting System
- Remote Desktop Connection
- Connect via Ethernet
- Edit a Connection
- Firewall

Edit a Connection

Note:

- You must be Offline and in Editor Mode to edit a connection.

1. In Routers view (click **View / Routers** from the drop-down menu bar), select the Workgroup you wish to edit.
2. In Properties view (click), edit as required (you can change the Workgroup Name, IP Address *Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* and Cluster ID).
3. Click .

Related Topics

- Connect to the Lighting System
- Connect via Ethernet
- Connect via VPN
- Remote Desktop Connection
- Firewall
- Workgroups
- Properties
- Routers
- Client Computer Configuration
- Router Configuration

Firewall

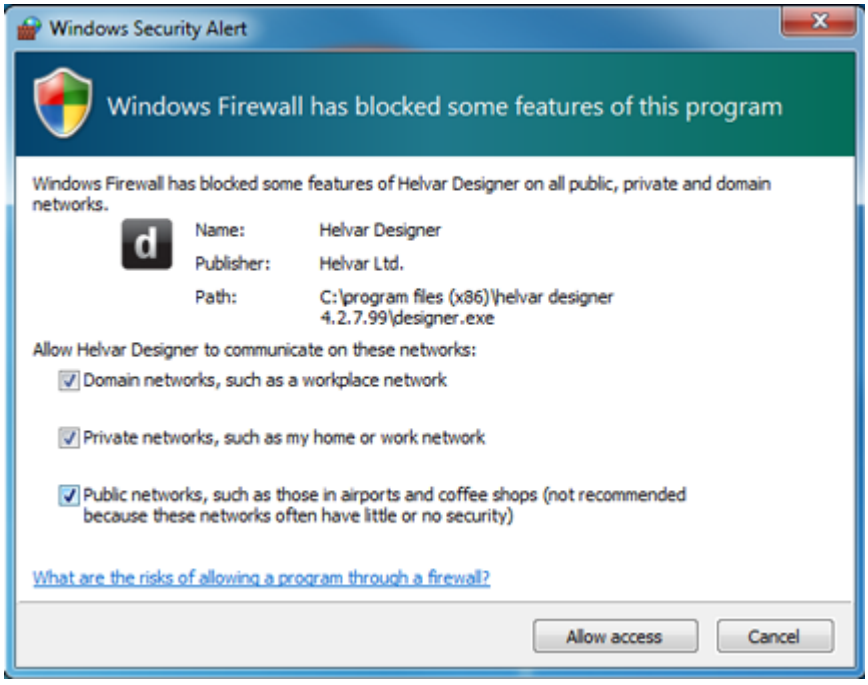
A firewall is a *device A physical item with which you can interact, either directly or via Designer.* that protects a computer or network from unauthorised, unwanted, malicious or covert attempts to establish channels of communication with other computers or devices. If you are using a firewall then you must configure it to allow Designer to operate as a server, and allow Designer to communicate freely with the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* .

When Designer starts, it initialises itself as a clientapplication, and, when you switch to Online mode, establishes a *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* through which it can communicate with the lighting system. As this channel provides a path for information to flow into and out of the computer, a firewall will normally try to prevent this taking place. For Designer to work correctly in Online mode, you must configure your firewall to allow Designer to act as a client.

Tip:

- We recommend that you install and use a firewall and anti-virus software on each server and client computer in the lighting system. This will protect your computer from intrusions and disruptions that could have an adverse effect on the lighting system.

Windows 7 Firewall and Designer



A Windows Security Alert window (see left) may automatically pop up when Designer attempts to run on Windows 7.

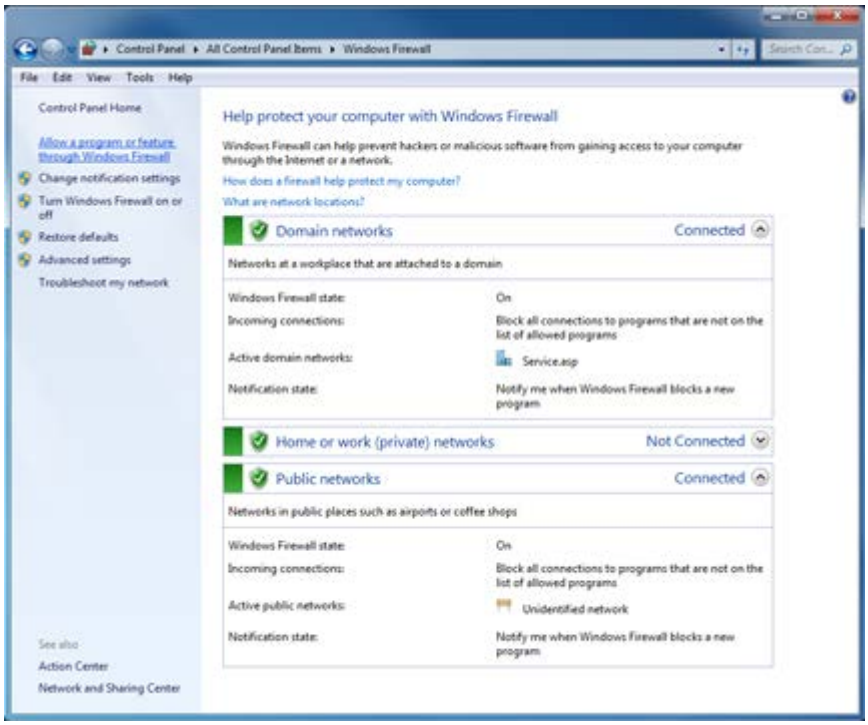
If the security window appears then it may be an indication that you may need to configure the Windows firewall permissions to allow Designer to communicate freely across the network.

This is often the case when Designer is newly installed on systems, as Windows automatically flags up new, unrecognized software that is attempting to communicate freely with other computers

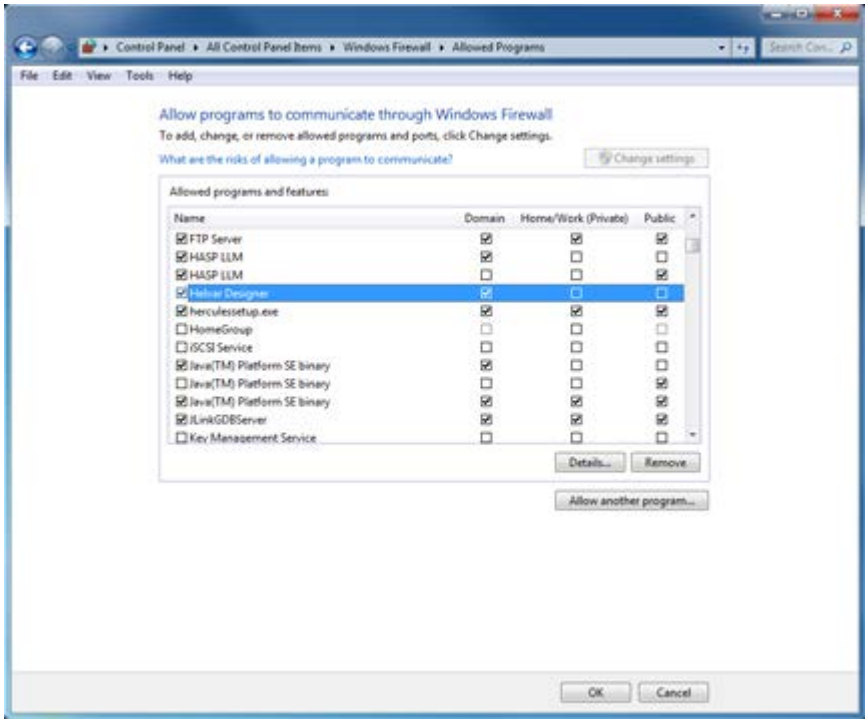
or devices.

To allow Designer permission for network communication :

1. Access '**Control Panel**' from Windows 7 desktop.
2. Select **Windows Firewall** from the list. *The Windows Firewall main window will open.*
3. Select **Allow a program or feature through Windows Firewall** from the list on the left of the screen.



4. Scroll through to Helvar Designer and tick **all** boxes (Domain, Home/Work, Public)



3.

Note:

- Click 'Details' to check which version of Designer you are giving permissions to if there are multiple versions installed on your PC.

4.

5. Click **OK** to save new permissions.

6. Return to Desktop and run **Designer**.

7. Any Windows Security Alert windows should not open anymore. However, if they do then tick **all** boxes in the window and click '**Allow access'**.

Disclaimer!

Please note that Helvar Ltd cannot be held responsible for any unauthorized third party access to your PC and networks via any piece of Helvar software. This includes receipt of viruses and other harmful applications that maybe be downloaded by unauthorized parties. Network access is undertaken completely at the risk of the owner/s of the network (either an individual or an entity) and not Helvar Ltd.

For further information please refer to Legal Notices.

Related Topics

- Connect to the Lighting System
- Connect via Ethernet
- Connect via VPN
- Remote Desktop Connection
- Edit a Connection

Client Computer and Router Configuration

Network Configuration Overview

These are the steps that need to be followed to set up and configure Client Computers and Helvar routers to a network:

1. Set up the network
2. Configure Client computer/s
3. Configure Helvar Routers
4. Advanced configuration:
    - Assign Specific IP Address to Router
    - Locate Router by Serial Number

Related Topics

- Network Installation
- Client Computer Configuration
- Router Configuration
- Locate Router by Serial Number
- Manually Assign IP Address to Router
- Network Topology

Network Configuration Overview

These are the steps that need to be followed to set up and configure Client Computers and Helvar routers to a network:

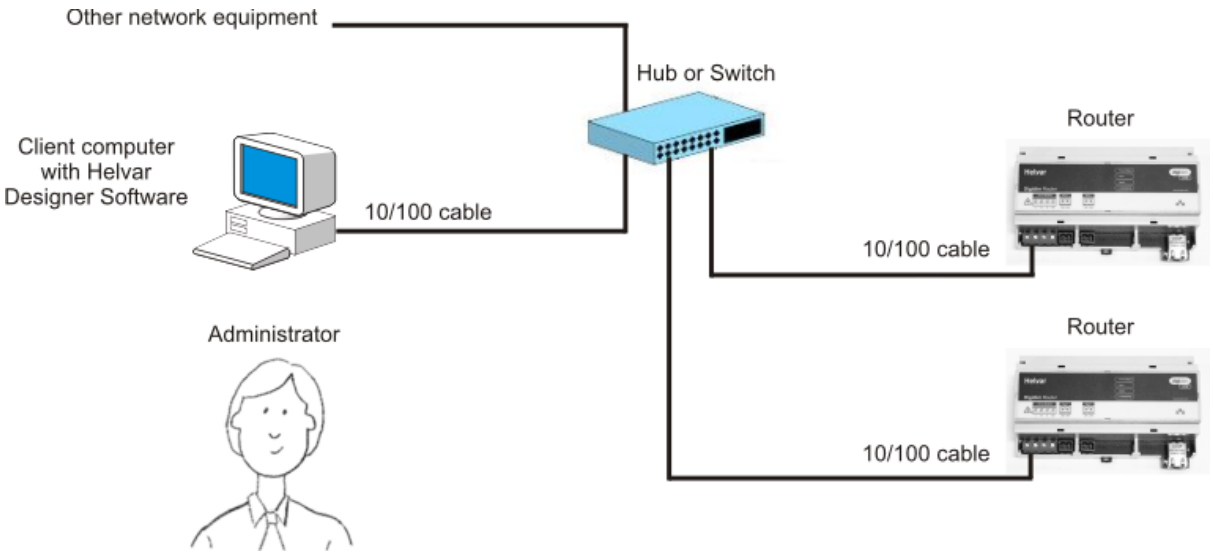
1. Set up the network
2. Configure Client computer/s
3. Configure Helvar Routers
4. Advanced configuration:
    - Assign Specific IP Address to Router
    - Locate Router by Serial Number

Related Topics

- Network Installation
- Client Computer Configuration
- Router Configuration
- Locate Router by Serial Number
- Manually Assign IP Address to Router
- Network Topology

Network Installation

A typical network comprises Helvar routers, network hubs or switches, and one or more computers installed with Helvar Designer software (with which to configure and control the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*).



Related Topics

- Network Topology
- Router Configuration
- Manually Assign IP Address to Router
- Configure a Client Computer
- Network Address Format
- Network Configuration Overview
- Connecting to the Lighting System

Network Topology

There are two types of network topology that can be applied to a *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* system: single cluster (small systems) and multi-cluster (larger systems).

Note:

- A cluster is a collection of routers that work together.

- If you are using up to 30 routers, single cluster topology may be used.
- If you are using 31 to 100, we recommend that you use a multi-cluster system.
- For more than 100 routers, you must use multi-cluster network topology.

Small Systems (Single Cluster)

Single cluster topology basically means that all routers and clients reside within the same cluster. The following table shows an example of the router system components and their IP addresses:

IPv4 Address	Cluster	Member ID	Client / Router
192.168.5.1	5	1	Client
192.168.5.2	5	2	Router
192.168.5.3	5	3	Router
192.168.5.4	5	4	Client

Note:

- If a router with the same Workgroup name has an IPv4 address of 192.168.4.10, it will not be able to join the router system described above as it is in cluster 4.

Large Systems (Multi-Cluster)

In a multi-clustered network topology, routers in different clusters can join the same 'Workgroup'. The default cluster ID for multi-cluster network topology is 254 however the Cluster ID can be edited to suit the needs of your project. This is done via Router Configuration.

The following table shows an example of how the IP addresses could be allocated for a multi-clustered system:

IPv4 Address	Cluster	Member ID	Client / Router
10.254.1.1	1	1	Router
10.254.1.2	1	2	Router
10.254.1.3	1	3	Router
10.254.1.4	1	4	Router

10.254.1.5	1	5	Router
10.254.5.1	5	1	Router
10.254.5.2	5	2	Router
10.254.5.3	5	3	Router
10.254.5.4	5	4	Router
10.254.5.5	5	5	Router
10.254.254.1	254	1	Client
10.254.254.2	254	2	Client

Related Topics

- Network Address Format
- Network Configuration Overview
- Network Installation
- Router Configuration
- Manually Assign IP Address to Router
- Configure a Client Computer

Network Address Format

IP Address Structure

The *IP address Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* of a *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* / client can be divided into three distinct parts. These are the prefix, the cluster and the cluster member identifier. The prefix occupies the two most significant octets, the cluster takes the third octet and the least significant octet is reserved for the cluster member ID.

Octet	1 (MSB)	2	3	4 (LSB)
Usage	Prefix		Cluster ID	Member ID

IP Address Prefixing

Note:

- There are no restrictions concerning what IP address prefix can be used, regardless of the topology that has been deployed, except that all routers and clients in a Workgroup must have the same prefix.

The IP address prefix is defined by the first two octets of the address, i.e. for the IP address 10.254.1.1, the prefix is 10.254. The prefix can be set to almost anything, provided that the addresses comply with the rules of the Internet Protocol (IP). For example, the IP address prefix could be 172.28 or 192.168, or even 1.1.

Clusters

A cluster is basically, but not exactly, an IP *subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.*. The cluster ID is represented by the value in the third octet of the IP address and applies to both network topology types. The following table provides some examples:

IPv4 Address	**Cluster**
10.254.1.X	1
172.28.5.X	5
192.168.253.X	253
1.1.1.X	1
10.254.254.X	254

There are three addresses to take note of here. Firstly, 10.254.1.X and 1.1.1.X are both stating that they are in cluster 1. This may be true but as the addresses have different prefixes they are both in cluster 1 but on different network IP address ranges, and therefore different clusters. The third address to take note of is 10.254.254.X. The cluster 254 is the default Cluster ID for clients operating a multi-cluster router system.

Note:

- In certain instances it may be necessary to change the cluster ID of 254 to fit in with a clients existing network structure. *To change these settings see Router Configuration*

Cluster Member ID

Cluster member IDs must be in the range of 1-254. Any other values are not valid.

Client Computers (PCs running Designer)

Note:

- When using a multi-clustered system, all Client PCs must be in cluster 254. *See Client Computer Configuration to learn how to set the IP address of a Client PC A computer running Designer and connected to the Lighting System (Real Workgroup)..*

IP Address = **nnn.nnn.254.z** where **n =** prefix number

z = Cluster Member ID (**1..64)**

254 = Client Cluster ID (**1...254**) *Configurable in the IP Settings window; visible in Router Properties*

Subnet mask = **255.0.0.0**

Routers

Note:

- Designer automatically assigns IP addresses for routers, giving them the next available IP address in sequential order. If you are replacing a router , or you cannot have all routers connected at the same time, then you can change the IP Address of a router. *See Manually Assign IP Address to Router.*

IP Address = **nnn.nnn.x.y** where **n =** prefix number

x = Cluster ID (**1..253)**

y = Cluster Member ID (**1..254)**

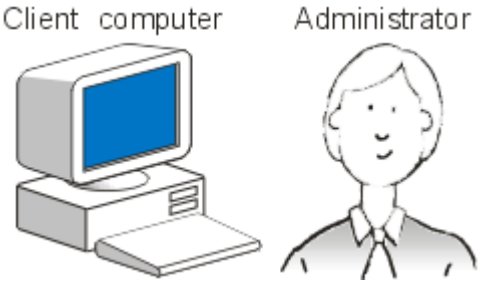
(See Router Configuration to learn how to set the Cluster ID and Cluster Member ID)

Subnet mask = **255.0.0.0**

Related Topics

- Router Configuration
- Client Computer Configuration
- Network Installation
- Manually Assign IP Address to Router
- Network Topology

Client Computer Configuration



A Client Computer is a PC *Stands for Personal Computer.* that is connected to the network (lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*) and configured to communicate with routers via Designer.

Note:

- Ensure Designer is not running before you configure a Client Computer.

Check Client Computer Network Card Addresses

1. On the Windows Start menu click **Start** / **Run**.
2. In the **Open** field type **command** and then click **OK**. This will start a DOS session.
3. At the command prompt type **ipconfig** and the press Enter. The settings of each network card in the computer will be listed.
4. To obtain more information, type **ipconfig/all**.
5. Type **exit** and press **Enter** to close the DOS session.

Note:

- On some computers, the ability to start a DOS session may have been disabled. If this is the case please contact your system administrator for advice.

Configure Network Address

Windows XP

1. From the Windows desktop, select **Start** / **Control Panel** or **Start / Settings / Control Panel**.
2. Double-click **Network Connections**.
3. Select the named network that you want to use with the lighting system.
4. Right-click on network and select **Properties**.
5. Select **Internet Protocol (TCP/ IP)** for the network settings you want to configure, and click **Properties**. The **Internet Protocol (TCP/ IP)** window appears, in which you can configure the network settings.

   Make a note of the current network settings, as these may be valid settings which you can return to later.
6. Click the check box next to **Use the following IP address:**.
7. Enter a valid IP Address. *See Network Address Format.*
8. Enter a valid Subnet Mask. *See Network Address Format.*
9. You will need to enter the correct IP **Gateway** *A generic term for an inter-networking system. Gateways can be implemented completely in software, completely in hardware, or as a combination of the two. Depending on their implementation, gateways can operate at any level of the OSI model from application protocols to low-level signaling. A Gateway is not required on a single network, but is required if communicating across subnets.* setting. If you do not have this, speak to your network administrator. *The default is 0.0.0.0 which means no gateway is used. For further information see Network Address Format.*

10. Click **OK** to accept the changes or **Cancel** to discard them.

Vista

1. From the Vista desktop, select **Start** / **Control Panel**
2. Double-click **Network and Internet**.
3. In the **Network and Sharing Center** section, double-click **View Network Status and Tasks**.
4. Double-click **Manage Network Connections** on the left-hand side of the page.
5. Select the named network that you want to use with the lighting system.
6. Right-click on network and select **Properties**.
7. A warning appears. Select **Continue**.
8. Select **Internet Protocol Version 4 (TCP/IPv4)** for the network settings you want to configure, and click **Properties**. The **Internet Protocol Version 4 (TCP/IPv4) Properties** window appears, in which you can configure the network settings.

   Make a note of the current network settings, as these may be valid settings which you can return to later.
9. Enter a valid IP Address. *See Network Address Format.*
10. Enter a valid Subnet Mask. *See Network Address Format.*
11. You will need to enter the correct IP **Gateway** *A generic term for an inter-networking system. Gateways can be implemented completely in software, completely in hardware, or as a combination of the two. Depending on their implementation, gateways can operate at any level of the OSI model from application protocols to low-level signaling. A Gateway is not required on a single network, but is required if communicating across subnets.* setting. If you do not have this, speak to your network administrator. *The default is 0.0.0.0 which means no gateway is used. For further information see Network Address Format.*
12. Click **OK** to accept the changes or **Cancel** to discard them.

Windows 7

1. From the Windows 7 desktop, select **Start** / **Control Panel**
2. Double-click **Network and Internet**.
3. In the **Network and Sharing Center** section, double-click **View Network Status and Tasks**.
4. Double-click **Change Adaptor Settings** on the left-hand side of the page.
5. Select the named network that you want to use with the lighting system.
6. Right-click on network and select **Properties**.
7. A warning appears. Select **Continue**.
8. Select **Internet Protocol Version 4 (TCP/IPv4)** for the network settings you want to configure, and click **Properties**. The **Internet Protocol Version 4 (TCP/IPv4) Properties** window appears, in which you can configure the network settings.

   Make a note of the current network settings, as these may be valid settings which you can return to later.
9. Enter a valid IP Address. *See Network Address Format.*
10. Enter a valid Subnet Mask. *See Network Address Format.*
11. You will need to enter the correct IP **Gateway** *A generic term for an inter-networking system. Gateways can be implemented completely in software, completely in hardware, or as a combination of the two. Depending on their implementation, gateways can operate at any level of the OSI model from application protocols to low-level signaling. A Gateway is not required on a single network, but is required if communicating across subnets.* setting. If you do not have this, speak to your network administrator. *The default is 0.0.0.0 which means no gateway is used. For further information see Network Address Format.*
12. Click **OK** to accept the changes or **Cancel** to discard them.

Time Settings for Client Computers

Only one Client Computer can set *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* clocks in a Real Workgroup (the times on all routers are synchronised to the Client PC's time). *To learn more about this, see Options and Dates and Times.*

Related Topics

- Router Configuration
- Manually Assign IP Address to Router
- Network Address Format
- Network Installation
- Client Computer
- Edit a Router's / PC's Connection
- Network Topology

Router Configuration

Tip:

- Designer automatically assigns IP addresses for Helvar routers, giving them the next available IP address *Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* in sequential order. However, you can set your own IP addresses to make them compatible with the components in your existing network, or if you are replacing routers, or if it is not possible to have all routers connected. If any of these are applicable, then manually enter an IP address (*see Manually Assign IP Address to Router*). You are then responsible for assigning the router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* an available IP address, by checking the IP addresses of existing routers connected to the lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* .

Note:

- Ensure that all routers which you wish to configure are connected to the lighting system and powered on, otherwise Designer could assign duplicate addresses.
- Designer automatically assigns IP addresses for routers, giving them the next available IP address in sequential order.
- Ensure you are Offline and in Editor mode before you configure a router . It is impossible to go online with a router until you assign an IP address.

1. Click **View / Routers** to open the Routers view.
2. In Routers view, click to highlight the router which you wish to configure.
3. Click to view Properties, if necessary.
4. In the **Cluster Settings** section of Properties, click in the **Network Topology** field to select **Single Cluster** or **Multiple Cluster** network topology.

Network Topology	Multiple Clusters
Client Cluster ID	0
Cluster ID	15
Cluster Member ID	1

5. Click in the **Cluster ID** field. Enter a Cluster ID number for the router. This must be a positive integer from **1** to **253**, although for small systems **1** is usually sufficient.

   254 is the default Cluster ID for multiple-cluster systems. This Cluster ID can also be configured to suit any particular network. *(See Network Topology and Network Address Format). The Cluster Member ID is set automatically.*

Note:

- The Cluster ID is the third part of the IP address and the Cluster Member ID is the last part. *See Network Address Format*
- The Workgroup Name can be assigned at the same time as the Cluster ID. *See Assign Routers to a Workgroup.*

6. Click to save the changes. *Designer assigns an IP address automatically and the configuration settings are sent via Ethernet to the selected router, which stores the settings in its flash memory. Designer restarts the router automatically so that it uses the new configuration. Whilst this happens, the router disappears from the Routers view for a while, but reappears when restarted and detected by Designer.*

IMPORTANT:

- Wait until the previous router has reappeared in Routers view before configuring the next router.

7. Repeat from step 2 (above) for each router in the system, ensuring that each IP address used is unique.

OR To assign all routers to the same cluster simultaneously:

1. In Routers view, shift-click to select multiple routers.
2. In Properties view, enter a Cluster ID (and Workgroup Name) which is assigned to all selected routers.

To learn more about Ethernet network addressing see Network Address Format.

Note:

- Cluster Member IDs are generated automatically and cannot be changed in the **Cluster Member ID** field, only in the **IP Address** field. *See Manually Assign IP Address to Router if you wish to do this.*

Changing Cluster ID

To change the Cluster ID, you CANNOT just simply type in a new number in the **Cluster ID** field. The router must first be removed from the cluster and then a new Cluster ID number entered:

1. Enter **0** in the **Cluster ID** field and click . *Wait for the router to restart in Routers view.*
2. Enter a new Cluster ID number and click . *The router is assigned to the new cluster.*

Related Topics

- Routers
- Rename a Router
- Digidim 910 Router
- Imagine 920 Router
- Manually Assign IP Address to Router
- Client Computer Configuration
- Network Address Format
- Locate Router by Serial Number
- Network Installation
- Properties
- Edit a Router's / PC's Connection
- Upgrade Router Firmware
- Network Topology

Manually Assign IP Address to Router

Tip:

- Designer automatically assigns IP addresses for Helvar routers, giving them the next available IP address *Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* in sequential order. However, you can set your own IP addresses to make them compatible with the components in your existing network, or if you are replacing routers, or if it is not possible to have all routers connected. If any of these are not applicable, it is recommended that you set the router's Cluster ID in the **Cluster ID** field, which automatically generates a sequential Cluster Member ID, instead of setting the Cluster Member ID in the **IP Address** field. This way, there is no chance of assigning duplicate IP addresses. *See Router Configuration for steps on how to set the Cluster ID and Cluster Member ID.*

Note:

- Using this method of assigning IP addresses, you are responsible for assigning the router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* an available IP address, by checking the IP addresses of existing routers connected to the lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* .
- Ensure that you are Offline and in Editor mode before you configure a router. You CANNOT go online with a router until you assign an IP address.

1. Click **View / Routers** to open the Routers view.
2. In the Routers table, click to highlight the router which you wish to configure.
3. Click to view Properties, if necessary.

   In the **Discovery & IP Settings** section of Properties:

Discovery & IP Settings	
Serial Number	10001
Hardware Revision	2
Workgroup Name	Terry's 920
IPv4 Address	10.254.1.1
IPv4 Gateway	0.0.0.0
IPv4 Broadcast Address	255.255.255.255

4. In the **IPv4 Address** field, enter a valid IP address. The format must be **nnn.nnn.x.y** (where **n** is a prefix number, **x** = 'Cluster ID' and **y** = 'Cluster Member ID'). *See Network Address Format.*

Tip:

- Depending on your type of network, it may not be necessary to change the default settings in the **IP Gateway** *A generic term for an inter-networking system. Gateways can be implemented completely in software, completely in hardware, or as a combination of the two. Depending on their implementation, gateways can operate at any level of the OSI model from application protocols to low-level signaling. A Gateway is not required on a single network, but is required if communicating across subnets.* and **IP Broadcast** fields.

We recommend that you do not change the IP gateway or IP broadcast address *An address used to broadcast messages to all devices on the network domain. Each router uses a broadcast message to indicate its presence.* without consulting your network administrator.

5. If using a gateway, in the **IPv4 Gateway** field, enter a valid IP gateway. *The default is 0.0.0.0 which means no gateway is used.*
6. If necessary, in the **IPv4 Broadcast Address** field, enter a valid IP broadcast address. *The default of 255.255.255.255 can be used.*
7. Click

to save the changes. *The configuration settings are sent via Ethernet to the selected router, which stores the settings in its flash memory. Designer restarts the router automatically so that it uses the new configuration. Whilst this happens, it disappears from the Routers view for a while, but reappears when restarted and detected by Designer.*

   IMPORTANT:
   - Wait until the previous router has reappeared in Routers view before configuring the next router.

8. Repeat from step 2 for each router in the system, ensuring that each IP address used is unique.

To learn more about Ethernet network addressing see Network Address Format.

Related Topics

- Digidim 910 Router
- Routers
- Router Configuration
- Client Computer Configuration
- Network Address Format
- Locate Router by Serial Number
- Properties
- Offline Mode
- Editor Mode
- Network Topology

Locate Router by Serial Number

In the event that an invalid *IP address Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* has been assigned to a *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* and you cannot see the router in Routers view, you can locate the router on the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* and assign a new IP address by entering it's serial number in Designer:

1. Click **View / Routers** to open the Routers view.
2. In the Routers table, click to highlight 'Target router with its serial number' (which is in the first row of the table).

Routers

ID	System Name	Serial Number	IP Address	Time	S/W Version	Cluster Role	Subnet Mask	Gateway
1	Target router with its serial number	1235	10.0.1.1	-	4.0.3	Unclustered	255.0.0.0	0.0.0.0
2	Offline	PC Client - SIMONE2	0.0.0.0	16:07:48.00 25-Sep-2007	4.0.9.1 (INTERNAL)	Unclustered	0.0.0.0	0.0.0.0
3	MeetingRoomTraining	12644	10.254.15.1	16:07:43 25-Sep-2007	4.0.3	Cluster Master	255.0.0.0	0.0.0.0
4	Lab	PC Client - CARRERA	10.254.254.2	16:07:42.00 25-Sep-2007	4.0.2.4 (INTERNAL)	Cluster Master	255.0.0.0	0.0.0.0
5	MeetingRoomTraining	PC Client - PADSTOW	10.254.254.20	16:07:45.00 25-Sep-2007	4.0.3	Cluster Master	255.0.0.0	0.0.0.0

3. Click to view Properties (if Properties view is not already open).
4. In the Properties table under the **Discovery & IP Settings** section, click in the **Serial Number** field.
5. Highlight the default number **-1**. Enter the serial number of the router whose settings you wish to change.

Discovery & IP Settings	
Serial Number	-1
Hardware Revision	0
Workgroup Name	Target router with its serial number
IP Address	10.0.1.1
Cluster Settings	
Cluster ID	0
Cluster Member ID	0

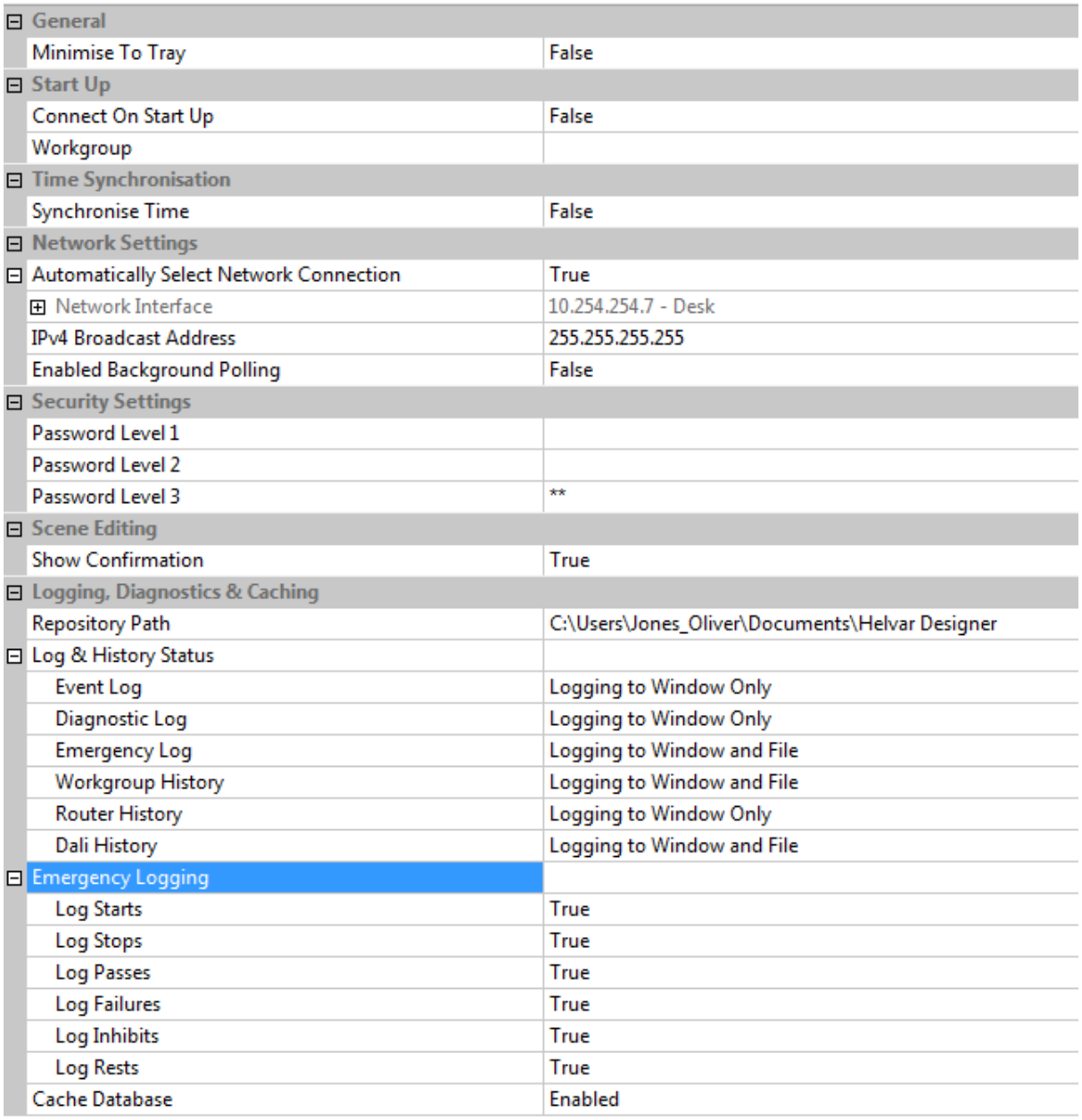
6. In the **Workgroup Name** field, click and drag to highlight the text 'Target router with its serial number'. Enter a Workgroup name for the router.
7. In the **Cluster Settings** section, enter the **Cluster ID** (*see Router Configuration*), or the **IP Address** (*see Manually Assign IP Address to Router*).
8. Click . *The settings shown are sent to the router which matches the serial number entered. This router sets its Workgroup name, IP address and cluster ID according to the settings you have entered, and it appears in the Routers view after several seconds.*

Related Topics

- Routers View
- Router Configuration
- Name Router and Create Workgroup
- Manually Assign IP Address to Router
- Properties

Options

- Click **Tools** / **Options** from the main drop-down menu to open the Options window:



⊟ General	
Minimise To Tray	False
⊟ Start Up	
Connect On Start Up	False
Workgroup	
⊟ Time Synchronisation	
Synchronise Time	False
⊟ Network Settings	
⊟ Automatically Select Network Connection	True
⊞ Network Interface	10.254.254.7 - Desk
IPv4 Broadcast Address	255.255.255.255
Enabled Background Polling	False
⊟ Security Settings	
Password Level 1	
Password Level 2	
Password Level 3	**
⊟ Scene Editing	
Show Confirmation	True
⊟ Logging, Diagnostics & Caching	
Repository Path	C:\Users\Jones_Oliver\Documents\Helvar Designer
⊟ Log & History Status	
Event Log	Logging to Window Only
Diagnostic Log	Logging to Window Only
Emergency Log	Logging to Window and File
Workgroup History	Logging to Window and File
Router History	Logging to Window Only
Dali History	Logging to Window and File
⊟ Emergency Logging	
Log Starts	True
Log Stops	True
Log Passes	True
Log Failures	True
Log Inhibits	True
Log Rests	True
Cache Database	Enabled

Minimise to Tray

By default, when you minimise Designer, the application appears in the Taskbar.

If you wish Designer to minimise to the tray instead:

1. In the **General** section, click in the **Minimise To Tray** field.
2. Click and select 'True'.

Connect to Workgroup on Start Up

By default, upon start up of the application, Designer is in offline mode.

If you wish to connect to a Workgroup (go online) upon start up (RECOMMENDED):

1. In the **Start Up** section, click in the **Connect On Start Up** field.
2. Click and select 'True'.
3. Click in the **Workgroup** field and enter the name of the Workgroup to which you wish to connect.

Time Synchronisation

Time synchronisation is on by default, which means that the time on all routers is synchronised to your *PC Stands for Personal Computer.* 's time.

If you wish this not to be the case (NOT RECOMMENDED):

1. In the **Time and Location** section, click in the **Synchronise Time** field.
2. Click and select 'False'.

Network Settings

1. In the **Network Settings** section, click in the **Automatically Select Network Connection** field. *Notice that the field is set to 'True' by default.*
2. If you wish to change the network interface connection, click and select 'False'.
3. Click and select another network card from the drop-down menu (if there is one).

Security Settings

See Security Settings for details.

Scene Editing Dialogue

When you edit the level of a scene, the ***Scene*** *Collection of lighting levels for each channel assigned to the same group as the scene.* **Editing Confirmation** dialogue appears by default.

To stop this dialogue from appearing:

1. In the **Scene Editing** section, click in the **Show Confirmation** field.
2. Click and select 'False'.

Repository Path

In the **Logging, Diagnostics & Caching** section you can configure the way Designer logs messages.

Select the repository location where the files will be saved.

Note:

- By default this is within the 'Helvar Designer' folder automatically added to **My Documents** when Designer is installed.

Log and History Status

From this section you can determine where the messages are logged i.e. in the log window, stored to file, or both, or it can be disabled.

Event Log

By default, the Event Log is logged to the Event Log window (view) only. If you wish to change the status of the Event Log:

1. Click in the **Status** field and click .
2. Select either 'Logging Disabled' or 'Logging to Window and File'.

Diagnostic Log

By default, the Diagnostic Log is logged to the Event Log window (view) only. If you wish to change the status of the Diagnostic Log:

1. Click in the **Status** field and click .
2. Select either 'Logging Disabled' or 'Logging to Window and File'.

Emergency Log

By default, the Emergency Log is shown in the Event Log window (view) and is stored in the window and in the file repository. If you wish to change the status of the Emergency Log:

1. Click in the **Status** field and click .
2. Select either 'Logging Disabled' or 'Logging to Window Only'.

Workgroup History

By default, the Workgroup History is shown in the Event Log window (view) and is stored in the window and in the file repository. If you wish to change the status of the Workgroup History:

1. Click in the **Status** field and click .
2. Select either 'Logging Disabled' or 'Logging to Window Only'.

Router History

By default, the Router History is shown in the Event Log window (view) and the Router History is stored to window only. If you wish to change the status of the Router History:

1. Click in the **Status** field and click .
2. Select either 'Logging Disabled' or 'Logging to Window and File'.

DALI History

By default, the DALI History is shown in the Event Log window (view) and is stored in the window and in the file repository. If you wish to change the status of the DALI History:

1. Click in the **Status** field and click .
2. Select either 'Logging Disabled' or 'Logging to Window Only'.

Emergency Logging

In the **Emergency Logging** section, you can configure the way the Emergency Log operates:

Logging Options

The following events are, by default, shown in the Emergency Log, but you can hide them by clicking in the relevant field, clicking and selecting 'False':

- Emergency Test Starts ('Log Starts' field). *When 'True', shows all Emergency Tests which have been started.*
- Emergency Test Stops ('Log Stops' field). *When 'True', shows all Emergency Tests which have been stopped.*
- Emergency Test Passes ('Log Passes' field). *When 'True', shows all Emergency Tests which have passed.*
- Emergency Test Failures ('Log Failures' field). *When 'True', shows all Emergency Tests which have failed.*
- Emergency Test Inhibits ('Log Inhibits' field). *When 'True', shows all Emergency Test inhibits.*
- Emergency Test Rests ('Log Rests' field). *When 'True', shows all Emergency Test rests.*

Cache Database

If you wish to change the default directory path where the cache databases are saved to:

1. Click in the **Repository Path** field and enter the new directory path.

Note:

- It is possible to remove the cache database by deleting the .designerCDB file from its

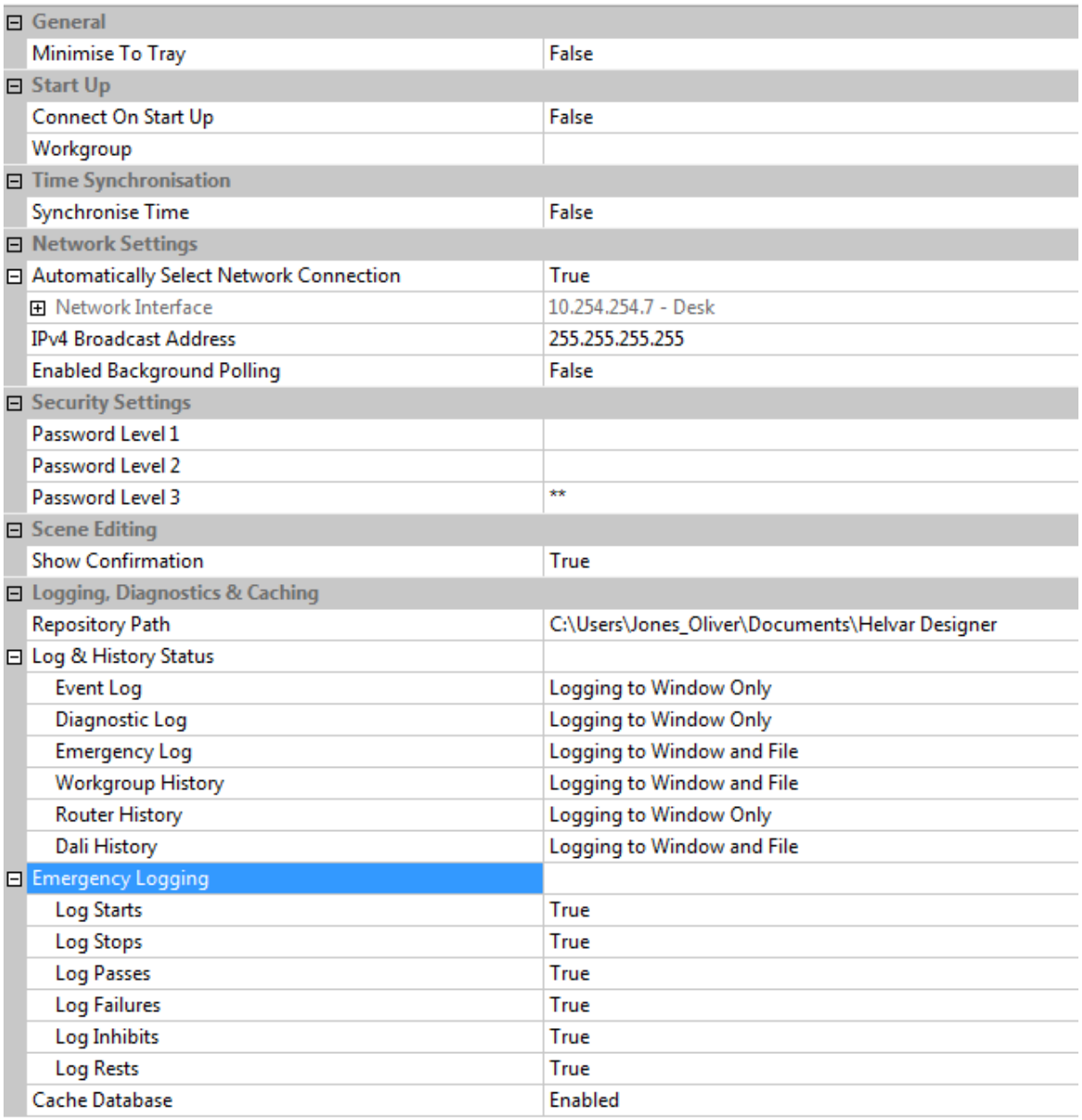
workgroup directory in the Repository path.

Related Topics

- Security Settings
- Dates and Times
- Longitude and Latitude
- Time Zones
- Event Log
- Connect to a Workgroup
- Scenes

Options

- Click **Tools** / **Options** from the main drop-down menu to open the Options window:



General	
Minimise To Tray	False
Start Up	
Connect On Start Up	False
Workgroup	
Time Synchronisation	
Synchronise Time	False
Network Settings	
Automatically Select Network Connection	True
Network Interface	10.254.254.7 - Desk
IPv4 Broadcast Address	255.255.255.255
Enabled Background Polling	False
Security Settings	
Password Level 1	
Password Level 2	
Password Level 3	**
Scene Editing	
Show Confirmation	True
Logging, Diagnostics & Caching	
Repository Path	C:\Users\Jones_Oliver\Documents\Helvar Designer
Log & History Status	
Event Log	Logging to Window Only
Diagnostic Log	Logging to Window Only
Emergency Log	Logging to Window and File
Workgroup History	Logging to Window and File
Router History	Logging to Window Only
Dali History	Logging to Window and File
Emergency Logging	
Log Starts	True
Log Stops	True
Log Passes	True
Log Failures	True
Log Inhibits	True
Log Rests	True
Cache Database	Enabled

Minimise to Tray

By default, when you minimise Designer, the application appears in the Taskbar.

If you wish Designer to minimise to the tray instead:

1. In the **General** section, click in the **Minimise To Tray** field.
2. Click and select 'True'.

Connect to Workgroup on Start Up

By default, upon start up of the application, Designer is in offline mode.

If you wish to connect to a Workgroup (go online) upon start up (RECOMMENDED):

1. In the **Start Up** section, click in the **Connect On Start Up** field.
2. Click and select 'True'.
3. Click in the **Workgroup** field and enter the name of the Workgroup to which you wish to connect.

Time Synchronisation

Time synchronisation is on by default, which means that the time on all routers is synchronised to your *PC Stands for Personal Computer.* 's time.

If you wish this not to be the case (NOT RECOMMENDED):

1. In the **Time and Location** section, click in the **Synchronise Time** field.
2. Click and select 'False'.

Network Settings

1. In the **Network Settings** section, click in the **Automatically Select Network Connection** field. *Notice that the field is set to 'True' by default.*
2. If you wish to change the network interface connection, click and select 'False'.
3. Click and select another network card from the drop-down menu (if there is one).

Security Settings

See Security Settings for details.

Scene Editing Dialogue

When you edit the level of a scene, the ***Scene*** *Collection of lighting levels for each channel assigned to the same group as the scene.* **Editing Confirmation** dialogue appears by default.

To stop this dialogue from appearing:

1. In the **Scene Editing** section, click in the **Show Confirmation** field.
2. Click and select 'False'.

Repository Path

In the **Logging, Diagnostics & Caching** section you can configure the way Designer logs messages.

Select the repository location where the files will be saved.

Note:

- By default this is within the 'Helvar Designer' folder automatically added to **My Documents** when Designer is installed.

Log and History Status

From this section you can determine where the messages are logged i.e. in the log window, stored to file, or both, or it can be disabled.

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1. Click in the **Status** field and click .
2. Select either 'Logging Disabled' or 'Logging to Window and File'.

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Emergency Log

By default, the Emergency Log is shown in the Event Log window (view) and is stored in the window and in the file repository. If you wish to change the status of the Emergency Log:

1. Click in the **Status** field and click .
2. Select either 'Logging Disabled' or 'Logging to Window Only'.

Workgroup History

By default, the Workgroup History is shown in the Event Log window (view) and is stored in the window and in the file repository. If you wish to change the status of the Workgroup History:

1. Click in the **Status** field and click .
2. Select either 'Logging Disabled' or 'Logging to Window Only'.

Router History

By default, the Router History is shown in the Event Log window (view) and the Router History is stored to window only. If you wish to change the status of the Router History:

1. Click in the **Status** field and click .
2. Select either 'Logging Disabled' or 'Logging to Window and File'.

DALI History

By default, the DALI History is shown in the Event Log window (view) and is stored in the window and in the file repository. If you wish to change the status of the DALI History:

1. Click in the **Status** field and click .
2. Select either 'Logging Disabled' or 'Logging to Window Only'.

Emergency Logging

In the **Emergency Logging** section, you can configure the way the Emergency Log operates:

Logging Options

The following events are, by default, shown in the Emergency Log, but you can hide them by clicking in the relevant field, clicking and selecting 'False':

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Cache Database

If you wish to change the default directory path where the cache databases are saved to:

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workgroup directory in the Repository path.

Related Topics

- Security Settings
- Dates and Times
- Longitude and Latitude
- Time Zones
- Event Log
- Connect to a Workgroup
- Scenes

Modes of Operation

Designer has several modes of operation, offering several ways to work on the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*. Modes of operation are paired into single icons on the Main Toolbar so that their selection toggles between modes. In this way you can toggle between **Online and Offline modes**, **Editor and Monitor modes**, and **Live and Blind modes**.

When you launch the Designer software, you are in Offline, Monitor and Blind mode by default. You can change modes by clicking on them in the File drop-down menu or by clicking on the relevant icon in the Main Toolbar (*see below*).

Click on the picture item that you want to learn more about.

Online and Offline modes

In Online mode, Designer is connected to a Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* . This allows you to work with or monitor a real lighting system . However, changes that you make to light levels will not be seen in the lighting system, unless you are also in Live Mode. *To learn more about the various ways to connect to a Real Workgroup, see Connecting To The Lighting System.*

In Offline mode, Designer is not connected to a Real Workgroup. In this mode, you can start a new Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* or load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* an existing one. Most lighting system design work is carried out in this mode, as it is safe and the lighting system can be tested before installation or implementation begins.

Editor and Monitor modes

In Editor mode, you can make configuration changes (device *A physical item with which you can interact, either directly or via Designer.* properties changes, scene *Collection of lighting levels for each channel assigned to the same group as the scene.* settings, insertion of routing entries etc.) to the Workgroup Design or Real Workgroup, but the way channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* level changes and scene calls take effect depends on whether Designer is in Live or Blind mode.

In Monitor mode, you cannot make configuration changes to the Workgroup Design or Real Workgroup, but when in Live Mode (and therefore Online Mode) as well as Monitor Mode, you can change channel levels and call scenes in real time on the real lighting system (the Real Workgroup).

Live and Blind modes

Only available in Online mode.

In Live mode, channel level changes or scene calls are actioned immediately (in real time) on the real lighting system.

In Blind mode, channel level changes or scene calls are shown in Designer but are not actioned on the real lighting system.

Mode of Operation Security

Designer utilises three levels of security, each one granting access to different modes of operation. You need to provide a Level 1 password, or higher, to enter Live mode and a Level 2 password, or higher, to enter Editor mode. *To learn more about Designer security, see Security.*

Related Topics

- Editor and Monitor Modes
- Online and Offline Modes
- Live and Blind Modes
- Connect to the Lighting System
- Main Toolbar
- Security
- Password Entry

Modes of Operation

Designer has several modes of operation, offering several ways to work on the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*. Modes of operation are paired into single icons on the Main Toolbar so that their selection toggles between modes. In this way you can toggle between **Online and Offline modes**, **Editor and Monitor modes**, and **Live and Blind modes**.

When you launch the Designer software, you are in Offline, Monitor and Blind mode by default. You can change modes by clicking on them in the File drop-down menu or by clicking on the relevant icon in the Main Toolbar (*see below*).

Click on the picture item that you want to learn more about.

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In Online mode, Designer is connected to a Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* . This allows you to work with or monitor a real lighting system . However, changes that you make to light levels will not be seen in the lighting system, unless you are also in Live Mode. *To learn more about the various ways to connect to a Real Workgroup, see Connecting To The Lighting System.*

In Offline mode, Designer is not connected to a Real Workgroup. In this mode, you can start a new Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* or load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* an existing one. Most lighting system design work is carried out in this mode, as it is safe and the lighting system can be tested before installation or implementation begins.

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Only available in Online mode.

In Live mode, channel level changes or scene calls are actioned immediately (in real time) on the real lighting system.

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Mode of Operation Security

Designer utilises three levels of security, each one granting access to different modes of operation. You need to provide a Level 1 password, or higher, to enter Live mode and a Level 2 password, or higher, to enter Editor mode. *To learn more about Designer security, see Security.*

Related Topics

- Editor and Monitor Modes
- Online and Offline Modes
- Live and Blind Modes
- Connect to the Lighting System
- Main Toolbar
- Security
- Password Entry

Online and Offline Modes

In **Online** Mode, Designer is connected to a Real Workgroup. This allows you to work with or monitor a real *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . However, changes that you make to light levels will not be seen in the lighting system, unless you are also in Live Mode.

In **Offline** Mode, Designer is not connected to a *Real Workgroup A specific group of devices in the Lighting System, and its representation in Designer.* . In this mode, you can start a new *Workgroup Design A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* or *load For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* an existing one. Most lighting system design work is carried out in this mode, as it is safe and the lighting system can be tested before installation or implementation begins.

Switch to Online Mode

1. Click on the Main Toolbar.
2. The **Connect to Workgroup** dialogue appears. Choose a Real Workgroup to connect to from the 'Available systems' list. *To learn more about the various ways to connect to a Real Workgroup, see Connecting to the Lighting System.*
3. Click 'Connect'.

Notes:

- When you switch to Offline Mode while also in Live Mode, Designer will switch to Blind Mode automatically. This is because you cannot be in Live Mode and Offline Mode simultaneously.
- If no Workgroups are listed, but you expected to see some, then you may have a firewall running that is preventing Designer from seeing available Workgroups. Ensure that, if a firewall is in use, it is configured to allow Designer to communicate freely with the lighting system. If your computer is connected to the lighting system via a computer network, then the network server may also be using a firewall. *To learn more see Firewall.*

Switch to Offline Mode

1. Click on the Main Toolbar.
2. You will be prompted to save the Real Workgroup to a Workgroup Design file. *To learn more see Saving a Real Workgroup.*

Note:

- When you switch to Offline Mode whilst in Live Mode, Designer will switch to Blind Mode automatically. This is because you cannot be in Live Mode and Offline Mode simultaneously.

Related Topics

- Connect to a Real Workgroup
- Connect to the Lighting System
- Modes of Operation

- Editor and Monitor Modes
- Live and Blind Modes
- Main Toolbar
- Upload
- Firewall
- Workgroups

Editor and Monitor Modes

In Editor Mode, you can make configuration changes (*device A physical item with which you can interact, either directly or via Designer.* properties changes, *scene Collection of lighting levels for each channel assigned to the same group as the scene.* settings, insertion of routing entries etc.) to the *Workgroup Design A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* or *Real Workgroup A specific group of devices in the Lighting System, and its representation in Designer.* , but the way *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* level changes and scene calls take effect depends on whether Designer is in Live or Blind mode.

In Monitor Mode, you cannot make configuration changes to the Workgroup Design or Real Workgroup, but when in Live Mode as well as Monitor Mode, you can change channel levels and call scenes in real time on the real *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* (the Real Workgroup).

Switch to Editor Mode

- Click on the Main Toolbar. *You must enter the Level 2 password to enter this mode, see Security and Password Entry.*

Switch to Monitor Mode

- Click on the Main Toolbar. *This mode does not require a password.*

Related Topics

- Modes of Operation
- Online and Offline Modes
- Live and Blind Modes
- Main Toolbar
- Security
- Password Entry

Live and Blind Modes

Live Mode and Blind Mode are available only in Online Mode. Whether in Live or Blind Mode, configuration changes (*device A physical item with which you can interact, either directly or via Designer.* properties changes, *scene Collection of lighting levels for each channel assigned to the same group as the scene.* settings, insertion of routing entries etc.) are effected immediately on the real *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*

In Live Mode, *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* level changes or scene calls are actioned immediately on the real lighting system.

In Blind Mode, channel level changes or scene calls are shown in Designer but are not actioned on the real lighting system.

Switch to Live Mode

1. If not already in Online Mode, switch to Online Mode. *See Switch to Online Mode.*
2. Click on the Main Toolbar. *You must enter the Level 1 password to enter this mode (see Security and Password Entry).*

Switch to Blind Mode

1. If not already in Online Mode, switch to Online Mode. *See Switch to Online Mode.*
2. Click on the Main Toolbar. *This mode does not require a password.*

Related Topics

- Modes of Operation
- Online and Offline Modes
- Editor and Monitor Modes
- Main Toolbar
- Security
- Password Entry

Drop-down Menu

These are the drop-down menus at the top of the application window:

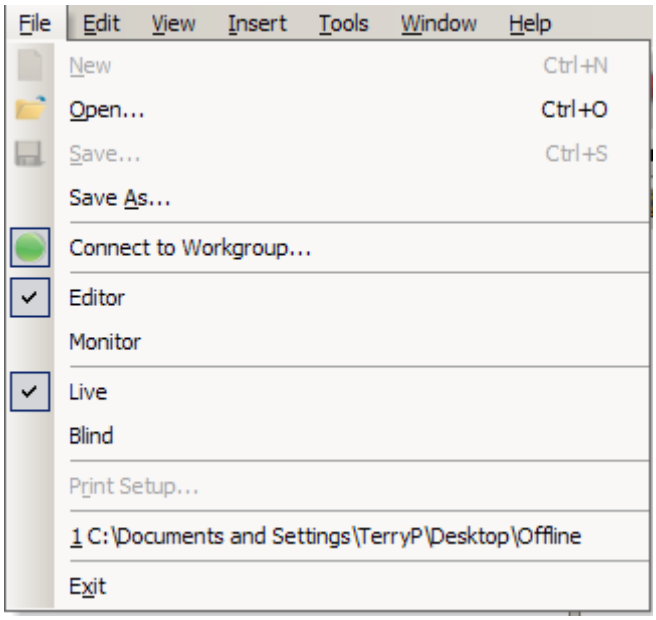
Note:

- Menu items that appear in grey do not apply to the current selection or task, and therefore cannot be selected.

Using the drop-down menu

1. Click on the required drop-down menu from the Menu bar.
2. Click on a menu item to select it, or point cursor on it to navigate to a submenu.

Drop-down menu indications



A tick appears beside a drop-down menu item to indicate that the feature is currently enabled. This applies to the major components of Designer, and to modes of operation (*see diagram on the left)*. In the case of 'Connect to Workgroup', as you can see from the diagram shown left, the icon next to the 'Connect to Workgroup' item has a blue outline around it (as with the ticks) to indicate you are connected to a Workgroup.

Related Topics

- Main Toolbar

Main Toolbar

The Main Toolbar consists of the modes and tools required to monitor, test, design, configure and use your *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . It provides access to various tools at the click of an icon.

Click on the picture icon that you want to learn more about.

Switch between Online and Offline Modes

Click to switch between **Online Mode** and **Offline Mode**. *To learn more see Online and Offline Modes.*

Switch between Editor and Monitor Modes

Click to switch between **Editor Mode** and **Monitor Mode**. *To learn more see Editor and Monitor Modes.*

Switch between Live and Blind Modes

Click to switch between **Live Mode** and **Blind Mode**. *To learn more see Live and Blind Modes.*

New

Click to start a new Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* . *To learn more see Start a New Workgroup Design.*

Open

Click to open a Workgroup Design file.

When working in **Offline Mode**, the Workgroup Design is loaded and displayed in Designer.

When working in **Online Mode**, the Workgroup Design is uploaded to the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* . *To learn more see Open a Workgroup Design.*

Repository Folder

Click to open the Repository Folder where logged, diagnostic and cached Designer messages are stored. *To learn more about logging see Options.*

Save

Click to save the current Workgroup to a file. *To learn more see Save a Workgroup.*

Add

Click to add an item to the selected part of the Device *A physical item with which you can interact, either directly or via Designer.* Tree, or view the relevant controls or devices toolbar. *To learn more see Insert Items.*

Properties

Click to view the Properties dialogue for the selected item in the Device Tree. *To learn more see Properties.*

Delete

Click to delete the selected item. *To learn more see Delete an Item.*

Cut

Click to cut the selected item to clipboard.

Copy

Click to copy the selected item to clipboard.

Paste

Click to paste the item from clipboard to the selected location.

Go To

Click to recall a specific scene *Collection of lighting levels for each channel assigned to the same group as the scene.* or go to a channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* . *To learn more see Go To.*

Devices

Click to view the Device Tree. *To learn more see Devices Tree.*

Channel Graph

Click to view the Channel Graph. *To learn more see Channel Graph.*

Scene Table

Click to view the Scene Table. *To learn more see Scene Table.*

Scheduler

Click to view the Scheduler. *To learn more see Scheduler.*

Routing Entries

Click to view the Routing Entries. *To learn more see Routing Entries.*

Conditions

Click to switch the Conditions view on. *To learn more see Conditions.*

Identify

Click to open the Identify Device view (to identify devices, right-click on a device and select 'Identify' from the menu). *To learn more see Identify.*

History

Click to view the History window. *To learn more see History Log.*

Upload

Click to open Upload view. *To learn more see Upload.*

Emergency Summary

Click to run Emergency Summary. *To learn more see Emergency Reports*

Zoom by Dragging

Click to enable zoom in by dragging mode for navigating plans view.

Related Topics

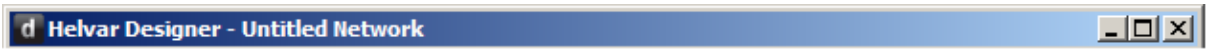
- Drop-down Menu

Title and Window Bars

Title Bar

The Title Bar appears at the top of the main Designer window. It indicates the filename of the current lighting project.

Designer Title Bar



If no lighting project has been loaded, or the current project has not yet been saved, the name in the title bar defaults to "**Untitled Network**".

Title Bar Buttons

The buttons at the far right end of the Title Bar are provided by the operating system. They allow you to control the state of the application window.

	Maximize Designer on the operating system desktop.
	Minimize Designer to the operating system desktop task bar.
	Exit Designer.

Related Topics

- Exit Designer
- Window Bar
- Main Toolbar
- Drop-down Menu

Window Bar

Window Bar

The Window Bar appears at the top of every application pane. It indicates the name of the application open in view (e.g. Event Log).

Window Bar Buttons

There are buttons at the far right end of the Window Bar. They allow you to control the state of the *application pane Application Panes are sub sections of the main Designer Window. The default active panes on start up are Router, Properties and Devices. More panes can be added via the Toolbar.*.

Auto-hide. Click to hide the window (only if it is nested in the main Designer window). When the window is hidden, a tab to the window is visible in the nearest window pane; hover over the tab or click on it to view the window.

Auto-show. Appears when the window is hidden; click to show the window automatically.

Close. Click to close the window.

Related Topics

- Title Bar
- Status Bar
- Main Toolbar
- Drop-down Menu
- Adjusting Layout

Adjusting Layout

The layout of the Designer Window can be fully customized in a number of ways according to the needs of the user.

Such adaptation is possible by using the Float, Dock, Autohide and Move functions.

Floating Panes

Application panes can operate (float) outside the main window of Designer allowing the user more flexibility in the view of their display. To make the *application pane Application Panes are sub sections of the main Designer Window. The default active panes on start up are Router, Properties and Devices. More panes can be added via the Toolbar.* float:

1. Select the application pane you wish to move by clicking the required Window Bar e.g. Properties

Note:

- The selected application pane will be highlighted orange once selected.

2. Click **Menu / Float**

The application pane will automatically detach from the main Designer window and can be moved anywhere the user wishes. It is even possible to move the floating window to the desktop while Designer is not running in full screen mode.

Docking Panes

In order to dock a floating application pane:

1. Select the pane you wish to dock.

2. Click **Menu / Dock**

The pane will dock to in the previous area of the screen where it was docked in Design Window

Note:

- The Float and Dock options will be automatically saved when the program is shut down.

When Designer is reopened, the application panes will be located in their last remaining position.

Moving Application Panes

It is possible to move the application panes of Designer to different areas of the Design screen by 'dragging and dropping'.

To do this:

1. Left-Mouse click and hold the chosen application pane. The application pane will highlight blue.

2. Drag the application pane to a new area of the screen.

Note:

- Only one pane may be moved at a time.

3. The following icons will appear while the application panes are being dragged. These icons allow the user to visualize where the application pane may be located.

4. Drag the selected application pane over the icons in order to place the application pane in a certain area of the screen.

5. Drop the application pane in the chosen location.

Tip:

- Experiment with layout by moving the application panes around at will. It is possible to reset the layout of the application pane at any time.

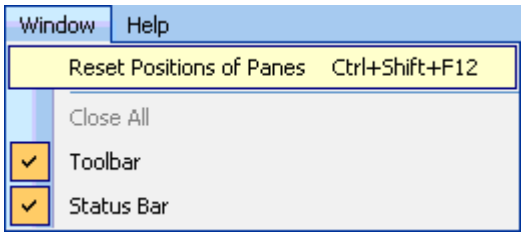
Resetting Layout Application Panes.

It is possible to reset the positions of all application panes to default at any time.

To do this:

1. Click **Window** in the main Drop down menu of Designer

2. Click **Reset Position of Panes**, or shortcut Ctrl+Shift+F12



3. A Reset Pane Position warning screen will open with 2 options:

Click **Reset Pane Positions** to return the panes to their original position.

Do Not Reset Pane Positions leaves the pane in its current selected position.

Close Application Pane

To close an application pane, click .

Related Topics:

- Drop-down Menu
- Window Bar
- View or Hide the Status Bar
- Main Toolbar

Status Bar

Status Bar

The Status Bar appears at the bottom of the main Designer window. It provides inline help and operating mode information.

The left side of the Status Bar provides a description of the drop-down menu item, context menu or toolbar icon that the mouse pointer is hovering over. If the mouse pointer is elsewhere then this part of the Status Bar describes how to access the online help.

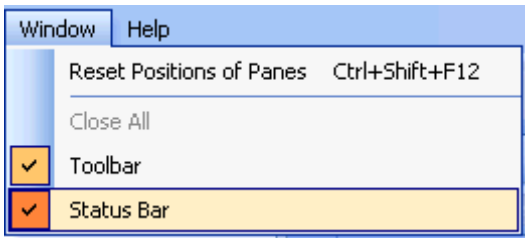
The right side of the Status Bar indicates the current operating mode and the date and time, according to the system. The operating mode is set via the Main Toolbar and the date and time is set to the same as the *PC Stands for Personal Computer.* running Designer.

Related Topics

- View or Hide the Status Bar
- Main Toolbar
- Drop-down Menu
- Modes of Operation
- Dates and Times

View or Hide the Status Bar

1. Click the **Window** drop-down menu.
2. Click **Status Bar** to view or hide it. (If the status bar is currently visible, a tick is shown beside it).



Related Topics

- Status Bar

Names and Conventions

Designer's built-in naming convention provides a unique name for each item in the Workgroup Design. You may change the name of any item to suit your preferences and to conform to the names used for such items elsewhere in a project. Designer's naming convention provides a descriptive name for each item type, followed by a unique identifying number (in the case of a *scene Collection of lighting levels for each channel assigned to the same group as the scene.*) or address (in the case of physical devices and subdevices).

Router, Subnet and Device Names

Every *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* , *subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* , *device A physical item with which you can interact, either directly or via Designer.* and subdevice has a default name (the item name), followed by the item's unique address.

It can be useful to rename important items to indicate their location or function in the system. This helps you to organise the *Workgroup Design A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.*. For example, if a router controls the lighting for a restaurant, renaming it to **Restaurant** makes its function more obvious.

Names can be up to 43 characters long, and may contain any characters.

Tip:

- Designer manages the address of each item automatically and independently of the naming convention you use. However, you can change device addresses if you wish. *To learn more see Change a Device Address.*

Scene Names

By default, each scene in a *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* has a unique name, composed of the group to which it belongs and the scene block and scene number to which it relates. Scene names can be edited to make them easier for you to identify and remember their purpose in the lighting system. Names can be up to 43 characters long, and may contain any characters. *See Rename a Scene.*

Naming Conventions

A variety of naming conventions are used in the lighting design. These vary from simple numbering of devices to using codes that identify a component, its location, power, and so on. If you are working with a lighting design that has been provided to you, it makes sense to use the chosen convention.

If you have the opportunity to choose a naming convention, we suggest you use an acronym or abbreviation for each item in the lighting system. For example, use the letter **D** to indicate a **Downlight**, **P** to indicate a **Panel** and so on. By using such a code with a sequential numbered suffix for each item, you can identify items in a way that makes it easy to cross-reference your Workgroup Design with the various floor plans and specifications for the project.

Related Topics

- Rename a Router, Subnet or Device
- Rename a Scene
- Rename a Workgroup Design

- Rename a Real Workgroup
- Addresses
- Change a Device Address

Names and Conventions

Helvar

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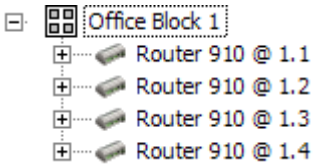
Related Topics

- Rename a Router, Subnet or Device
- Rename a Scene
- Rename a Workgroup Design
- Rename a Real Workgroup

- Addresses
- Change a Device Address

Workgroups



Within the context of a lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* , a Workgroup is a collection of routers that work together and communicate with each other. Every lighting system must contain at least one Workgroup.

A lighting system is normally just a single Workgroup. However, on some sites there may be more than one Workgroup. e.g. Each building on a campus could be a separate Workgroup.

You can view an entire Workgroup in the Device Tree.

Workgroup size limits

A Workgroup can include up to 100 routers:

- Each router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* (*Digidim 905, Digidim 910* and *Imagine 920*) can have up to 128 DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* / Digidim devices connected to it, via the two DALI subnets. (Each DALI subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* can have 64 addresses (max 250mA per subnet).
- The *Imagine 920 Router* can support 128 SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.* devices, within the limits of 252 SDIM addresses (SDIM subnet).
- The *Imagine 920 Router* can support 252 channels in from one DMX *Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* source, such as a lighting desk, or can drive up to 252 DMX output channels/addresses (DMX subnet). *Each 920 Router can either be set for DMX input or DMX output, but not both as these share the same connector.*

Tip:

- Monitoring and controlling the complete system in Live or Blind mode requires an instance of Designer for each Workgroup. Each instance of Designer must be run on a different computer.

Related Topics

- Workgroup Configuration
- Start a new Workgroup Design
- Load a Workgroup Design
- Rename a Workgroup Design
- Create a Workgroup
- Save a Workgroup

- Device Tree
- DALI Subnet
- SDIM Subnet
- DMX Subnet

Designing a Workgroup

Start a New Workgroup Design

Notes:

- You must be in Offline mode to start a new Workgroup Design. (*See Modes of Operation.*)

Tip:

- When Designer starts, it creates a new Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* automatically.

1. Click to start new design.
2. If a Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* or Workgroup Design is already open, then you are prompted to save it before the new Workgroup Design is started. *To learn more see Save a Workgroup.*
3. Create your design, as required, by inserting items.

Related Topics

- Workgroups
- Rename a Workgroup Design
- Save a Workgroup Design
- Load a Workgroup Design
- Design Your Lighting System
- Insert Items
- Device Tree

Load a Workgroup Design

1. Click . *The **Open Design File** dialogue appears.*
2. Browse for the Workgroup Design file to load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* , and then click **Open**. *The design loads into Designer.*

Related Topics

- Workgroups
- Start a Workgroup Design
- Save a Workgroup
- Connect to a Real Workgroup
- Device Tree

Rename a Workgroup Design

Notes:

- You must be in Editor mode to rename a Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* . (*See Modes of Operation*.)

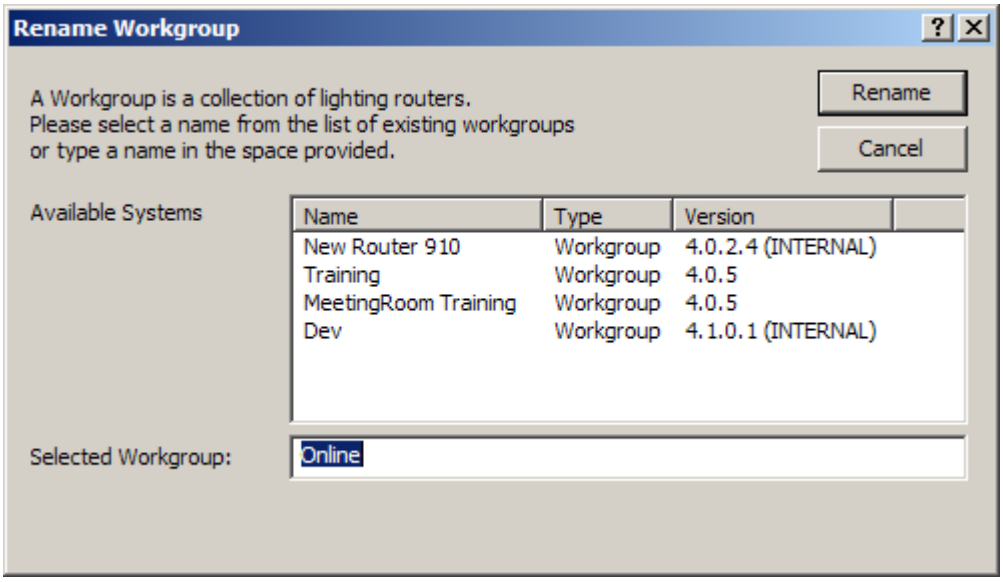
There are two ways to rename a Workgroup Design: via Properties or the context menu.

Via Properties

1. In the Device Tree, click on the Workgroup to select it.
2. In the **Common** section of the Properties view, click and drag to highlight the text in the **Name** field.
3. Enter the new name of the Workgroup.
4. Click .

Via Context Menu

1. In the Devices Tree *A hierarchical view of all devices, subdevices and subnets in a Workgroup.* , right-click on the Workgroup. *This displays the context menu.*
2. Click **Rename**. *The **Rename Workgroup** dialogue appears.*



3. In the **Selected Workgroup** field, type in a new Workgroup name, or select a Workgroup name from the **Available Systems** list.

Notes:

- Workgroup names are case- and space-sensitive. If you want to associate the Workgroup with an available Workgroup, we suggest you either select it from the **Available Systems** list, or use 'copy and paste' to ensure the Workgroup name is consistent.
- The **Available Systems** list contains the names of all Real Workgroups that have been discovered by Designer when this dialogue is opened.

4. Click **Rename**.

Related Topics

- Workgroups
- Rename a Workgroup
- Naming Conventions
- Rename a Router, Subnet or Device
- Device Tree
- Properties

Assigning Routers to a Workgroup

Create a Workgroup

Notes:

- You must be in Offline mode to assign routers to a Workgroup. (*See Modes of Operation.*)

1. Click **View / Routers** to open the Routers view.
2. Click to highlight the router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* which you wish to assign to a Workgroup.
3. Click if Properties view is not already open.
4. In the **Discovery & IP Settings** section of the Properties table, click in the **Workgroup Name** field.

Discovery & IP Settings	
Serial Number	12644
Hardware Revision	1
Workgroup Name	
IP Address	10.254.15.1
Cluster Settings	
Cluster ID	15
Cluster Member ID	1

5. Type a Workgroup name for the router.
6. Click . *The router restarts (it disappears in Routers view and re-appears after a short period of time to reflect the changes).*

Related Topics

- Workgroups
- Save a Real Workgroup
- Connect to a Real Workgroup
- Rename a Real Workgroup
- Properties
- Routers
- Properties
- Device Tree

Connecting to a Real Workgroup

Connect to a Real Workgroup

This is the process of going online to an existing Workgroup, to view or edit it:

1. Switch to Online Mode. *The **Go Online** dialogue appears.*
2. From the **Go Online** dialogue, select the Workgroup to connect to and click **Connect** to continue.

Related Topics

- Workgroups
- Create a Real Workgroup
- Save a Real Workgroup
- Load a Workgroup Design
- Connect to the Lighting System
- Online and Offline Modes - Switch to Online Mode

Workgroup Configuration

Note:

- You must be in Online and in Editor mode to configure a Workgroup.

The Workgroup is at the top-level of the Device Tree hierarchy. To configure a Workgroup:

1. Click on the Workgroup in the Device Tree.
2. If Properties view is not already open, click .

Common	
Description	Local Workgroup
Name	Terry's 920
GTIN Code	00000000000000
Status	Normal
Information	Local Workgroup Terry's 920 Local IP Address 10.254.254.2 (TERRYP)
Latitude	N 00°00'00"
Longitude	E 000°00'00"
Time Zone	GMT
Daylight Savings	Winter Time
IP Address	10.254.254.2

Configure Workgroup

In Properties, the only settings you can configure for the Workgroup are the *longitude An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* and *latitude An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* co-ordinates.

Rename Workgroup

See Rename a Real Workgroup for steps on how to do this.

Longitude and Latitude Settings

For more information on global positioning, see Longitude and Latitude.

1. In the **Latitude** field, enter the latitude co-ordinates of your location.
2. In the **Longitude** field, enter the longitude co-ordinates of your location.
3. Click to set the co-ordinates of your global position.

Related Topics

- Workgroups
- Create a Workgroup
- Save a Workgroup
- Device Tree
- DALI Subnet
- SDIM Subnet

- DMX Subnet
- Device Tree
- Properties

Rename a Workgroup

Notes:

- You must be in Offline mode to rename a Real Workgroup. (*See Modes of Operation.*)

1. Open Routers view (click **View / Routers** from the pull-down menu).
2. Click on the router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* in Routers view to select it.
3. In Properties view, click in the **Workgroup Name** field of the **Discovery & IP Settings** section.
4. Enter a new Workgroup name.
5. Click ok to save the changes. *The router restarts and the Real Workgroup A specific group of devices in the Lighting System, and its representation in Designer. name has been changed.*

Related Topics

- Rename a Workgroup Design
- Workgroups
- Create a Workgroup
- Connect to a Workgroup
- Routers
- Properties
- Device Tree

Save a Workgroup

Save is used to backup a Workgroup Design or *Real Workgroup A specific group of devices in the Lighting System, and its representation in Designer.* to a design file.

Save a Workgroup Design

Tip:

- Always create a backup of your Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* before entering Upload Mode. This is because the Workgroup Design may be modified during the Upload process.

1. Click *If it is an existing Workgroup Design, Designer saves the changes to the previously stored design file.*
2. *If the Workgroup Design is a new design, then the **Save As** dialogue appears.* Browse for a folder and type in a different filename, if required, then click **Save** to save the Workgroup Design.

Save a Real Workgroup

Tip:

- Always keep a backup copy of the Real Workgroup in a design file. If the lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* fails, you can use the backup copy to restore it to working condition.

1. Connect to the Real Workgroup that you wish to backup. *To learn more see Connect to a Real Workgroup.*
2. Click to save the Real Workgroup. *The **Save As** dialogue appears.*
3. Browse for a folder and type in a different filename, if required, then click **Save** to save a design file of the Real Workgroup.

Tip:

- If you are making a backup before replacing a faulty device *A physical item with which you can interact, either directly or via Designer.* , save it to a new file, as the backup may not include data that was stored in the faulty device.

Note:

- We recommend that you make regular backups of each Real Workgroup in the network, so that, if the system fails, you can use the backup to restore the system to working condition.

Related Topics

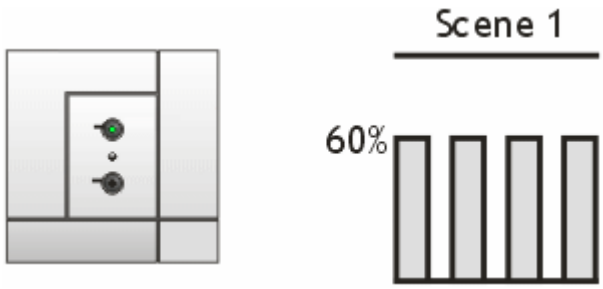
- Connect to a Real Workgroup

- Load a Workgroup Design
- Rename a Workgroup Design
- Rename a Real Workgroup
- Workgroups
- Upload

Scenes

In its simplest sense, a *scene Collection of lighting levels for each channel assigned to the same group as the scene.* is a set of levels. A scene can be assigned to a control panel button so that, when the *button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* is pressed, the levels defined in the scene are set.

The following example shows a two-button control panel (121). Each button has a scene assigned to it, so that, when each button is pressed, that scene is (re)called.



In Designer, a scene also includes a scene name and a fade time. *To learn more about these, see Naming Conventions and Fade Times.*

To learn how to select a scene, see Select a Scene.

Channel Levels

Although a scene can make use of every *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* in a group, most scenes need to affect only a few of the channels. Where you want to affect the level of a channel, give it a value in the scene (**0-100**), or enter **L** (for the last level before power off). Where you want to ignore a channel, give it an ignore value, ***** (asterisk). *To learn more about editing scenes and including/excluding channels, see Edit a Scene in Scene Table.*

Note:

- Scene selection may be overridden by a Routing Entry. *To learn more about this, see Routing Entries.*

Related Topics

- Select a Scene
- Edit a Scene in Scene Table
- Naming Conventions
- Scene Numbers and Blocks
- Fade Times
- Routing Entries

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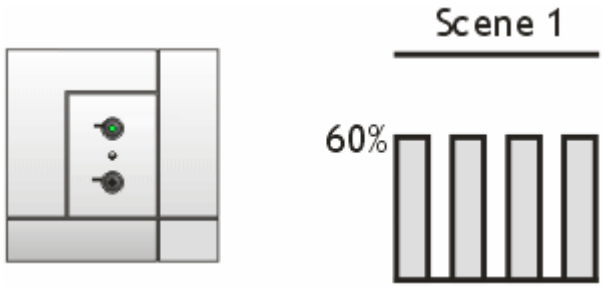

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Related Topics

- Select a Scene
- Edit a Scene in Scene Table
- Naming Conventions
- Scene Numbers and Blocks
- Fade Times
- Routing Entries

Select a Scene

Helvar

Via Device Tree

- Double-click on a subdevice in Device Tree. *The scenes associated with it are displayed in the Channel Graph.*

Via Scene Table

- Click beside the scene you want to call. *The scene channels appear in the Channel Graph. To learn more see Scene Table.*

Via Go To

To learn how to do this, see Go To.

Via the Real Workgroup

This method is only available in Live/Editor mode.

- Press a scene recall button on a control panel, or trigger an input to which a scene is assigned. *The scene channels appear in the Channel Graph.*

Note:

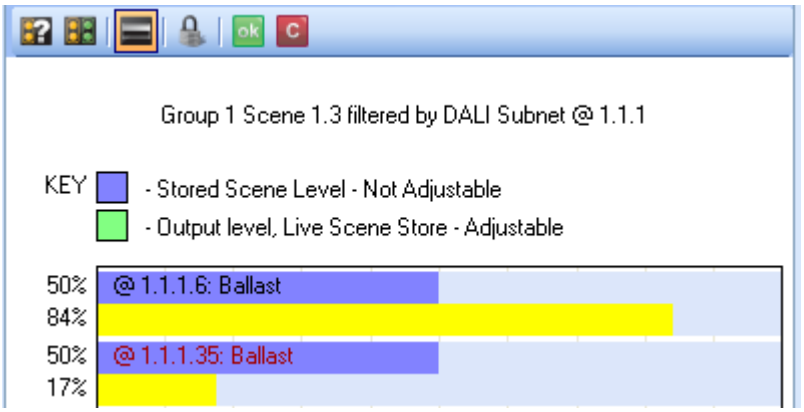
- Scene selection is overridden by Routing Entries in all cases, except when selection is made via the Scene Table.

Related Topics

- Device Tree
- Scene Table
- Edit a Scene in Scene Table
- Channel Graph
- Monitor and Edit a Scene in Channel Graph
- Go To
- Connect to a Real Workgroup
- Routing Entries

Monitor and Edit a Scene in Channel Graph

In this mode you can display and adjust the levels of the selected scene.

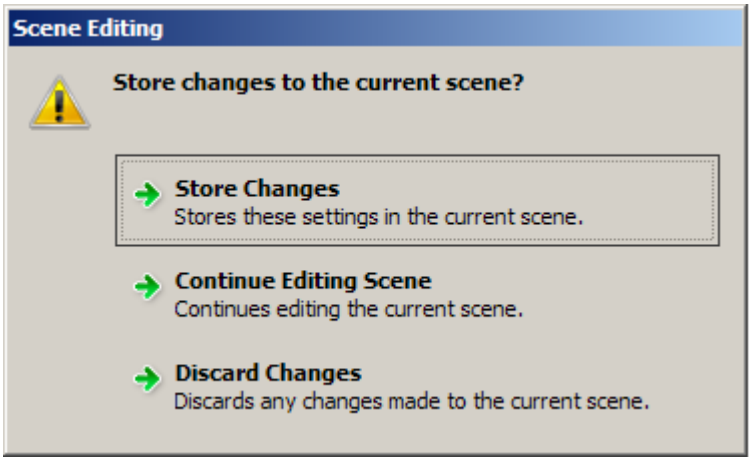


Adjust levels

Notes:

- You must be in Online and in Editor mode to adjust the levels of a scene *Collection of lighting levels for each channel assigned to the same group as the scene.* in the Channel Graph.
- In Monitor / Live mode, you can adjust current light levels, but NOT scene levels.

1. Select the scene for which you want to edit the levels. *See Select a Scene for the various steps in which you can do this.*
2. In the Channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* Graph, click and drag on the output level (the green bar), which is underneath the stored scene level (the blue bar) of your desired level. *The bar turns yellow when you click on it and remains so until you apply the changes.*
3. Click ok to apply changes and exit level adjust mode. *If you click on a different scene in the Scene Table without saving the changes, the **Scene Editing** dialogue appears, where you are asked to store the changes.*



Note:

- You cannot use the Channel Graph to include or exclude channels from a scene. To do this you must edit the scene in the Scene Table. *To learn more see Edit a Scene in Scene Table*.

Related Topics

- Channel Graph
- Scenes
- Scene Table
- Edit a Scene in Scene Table
- Device Tree

Scene Numbers and Blocks

There are 16 scenes in a *scene Collection of lighting levels for each channel assigned to the same group as the scene.* block, and the scenes are defined as follows:

1 - **12** On scenes

13 Automatic off (called by PIR *PIR: Passive Infra-Red detector. A type of presence detector, contained within the 311 Ceiling PIR Detector and the 312 Multisensor Module.*). *See PIR Configuration - Timeouts.*

14 Transition (minimum level) scene.

15 & **16** Manual off (button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* press)

Scene Numbers

Scene numbers are used to uniquely identify each scene in each group. The number of scenes is imposed by the number of groups in the Workgroup:

- There can be a total of 128 scenes in each group (16 scenes x 8 scene blocks).
- There can be a total of 16,384 groups in the Workgroup.
- There can be a total of 2,097,152 scenes in the Workgroup (16,384 groups x 128 scenes)

Scene Blocks

The *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* standard specifies that the subdevices in a *device A physical item with which you can interact, either directly or via Designer.* (e.g. buttons in a panel) may be assigned only to scenes within the same scene block. This is why it is necessary to choose a scene block, rather than choose any scene in the group.

Scene blocks are sets of 16 scenes, numbered sequentially from Group 1 Scene 1.1 onwards. There can be 8 scene blocks per group (the first scene in the first scene block being scene 1.1, and the last scene in the last scene block being scene 8.16).

Scene blocks provide a way to ensure that the LEDs on control panels, which are assigned to the same scene block, always correspond to the current scene selection. For example, you may have two Button 125 control panels in a room, with the scene selection buttons of both panels assigned to the same scenes in the same scene block. This means that, if you press scene selection button 1 on one of the control panels, scene selection button 1 on the other control panel also illuminates (control panels using scenes outside of this scene block are not affected).

We recommend that you confine the use of each scene block to a particular room or space, so that control panels controlling the lights in each area work together.

Related Topics

- Scenes
- Select a Scene
- Subdevice Configuration
- Workgroups

Fade Times

A fade time is the time taken to make the transition between one light level and another. As a scene may contain several levels, the fade time also determines the time taken to make the transition from one *scene Collection of lighting levels for each channel assigned to the same group as the scene.* to another.

Set a Fade Time

Note:

- You must be in Editor mode to set a fade time.
- All DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* devices before or at version 4.1 have a maximum fade time of 90 seconds, no matter what is configured in Designer.

Fade times are displayed and set in the **Fade Time** field of the Properties view of a *subdevice A physical object that forms part of another device, with which you can interact, either directly or via Designer.* .

1. Click on the subdevice whose fade time you wish to change. *See Subdevice Configuration to learn how to configure a subdevice.*
2. If Properties is not visible, click **View** / **Properties** or .
3. Click in the **Fade Time** field to edit it.
4. Type in a new fade time, in the format **hh**:**mm**:**ss**.**th** (hours:minutes:seconds:tenths and hundredths of seconds).
5. Press to save the change, or press to discard the change.

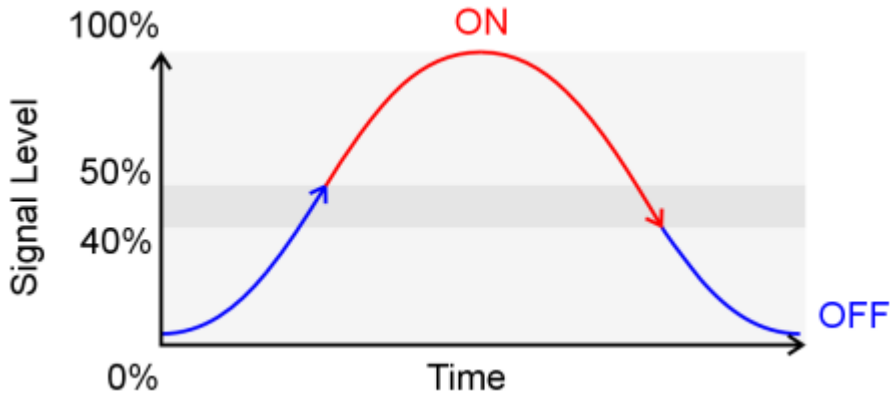
Related Topics

- Scenes
- Scene Table
- Properties
- Subdevice Configuration

Hysteresis

In Designer, it can be useful to interpret an analogue signal as one of two logical states: ON and OFF, or *BUTTON A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* PRESSED and BUTTON NOT PRESSED. Unlike digital signals, which are already confined to these two states, analogue signals may vary in value. To obtain two states from such a signal, we define signal levels that, when reached, we will regard as a change in logical states. We do this using a technique called *Hysteresis (Only used in S-DIM devices) Hysteresis is used to affect the level at which the channel switches off. When hysteresis is on, the switch off level is 80% of the switch on level. At or below the switch off level, the channel will be off.*.

The following diagram shows a simple analogue signal that rises from almost 0% value to 100% and then falls to almost 0% over time. Such a curve may be produced by reading the values from a *slider A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).* control.



To interpret this signal as one of two logical states it is necessary to define values that mark a change of logical state. In this example, the logical states are ON and OFF but, depending on the application, could be any values that have bivalence (i.e. two logical states). When the signal rises to 50% we switch the logical state from OFF to ON. The signal remains in this state until it falls to 40%, at which point we switch the logical state from ON to OFF. Notice that these values are dependent upon whether the signal is rising or falling. In this example the signal rises through 40% but this does not trigger a change of state as the 40% point is only effective when the signal is falling.

Hysteresis offers other important benefits. If the analogue signal fluctuates around 50%, the logical state will also fluctuate between ON and OFF. To prevent this, we set the second value to 40% - lower than the first value. This means that, once the signal has been interpreted as a logical ON, it remains this way until it falls significantly below 50% (i.e. 40%). This ensures that the analogue input signal is interpreted consistently and without erratic results.

All S-DIM devices support hysteresis. For S-DIM devices, the signal value at which we switch from OFF to ON state is called the **Switch On %**; and the signal value at switch we switch from ON to OFF state is calculated automatically by Designer (normally 80% of the **Switch On %** value).

Some Digidim controls support hysteresis (such as the Input 942). These controls implement hysteresis differently, allowing you to set the **Rising %** and **Falling %** values independently.

Tips:

- Always set the **Falling %** value less than the **Rising %** value.
- You can test the effect of your hysteresis settings quickly by using the Mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* for the affected device *A physical item with which you can interact, either directly or via Designer.* and subdevice. *To learn more see Analogue Input Unit (942) Mimic and Mini Input Unit (444) Mimic.*

Related Topics

- Analogue Input Unit (942)
- Analogue Input Unit (942) Mimic

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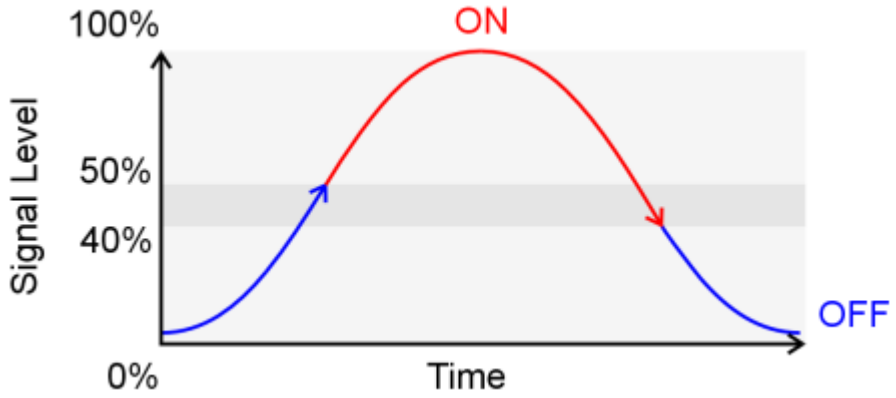

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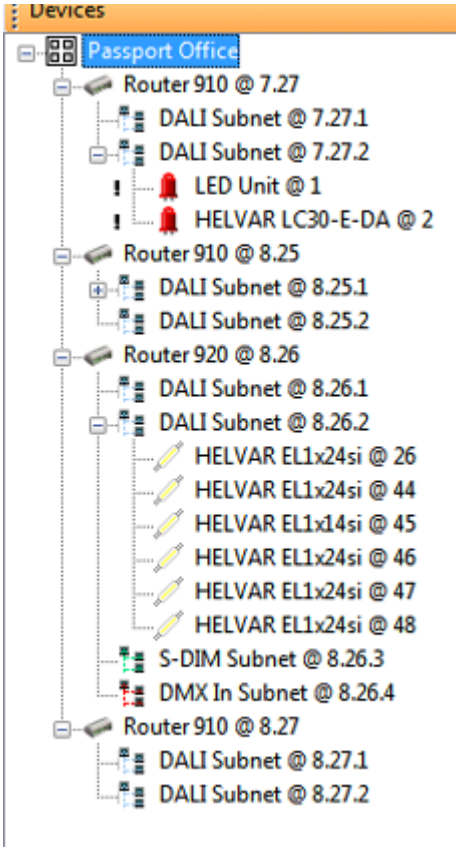
Related Topics

- Analogue Input Unit (942)
- Analogue Input Unit (942) Mimic

Views

Device Tree

Device Tree



The Device Tree provides a graphical view of all items in a Workgroup.

Each item (sometimes referred to as a **Node** *An object in the Devices Tree. Specifically, the end point of a Cadence Line.*) is represented by a pictogram and caption.

Cadence lines show which items belong together.

Device Tree Items

Parent *An object in the level above a given level in the Devices Tree.*

An item that has other items belonging to it. For example, a router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* has subnets belonging to it.

Child *An item in the next level below a given level in the Devices Tree.*

Any item, other than a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* , that belongs to another item. For example, the DALI subnet is a child of a Digidim Router.

Descendent *An item in any level below a*

A child item, and all child items of this item.

given level in the Devices Tree.

Subdevice An item that you can interact with, but which forms part of another item. *To learn more see Subdevice Configuration.*

Device Alerts

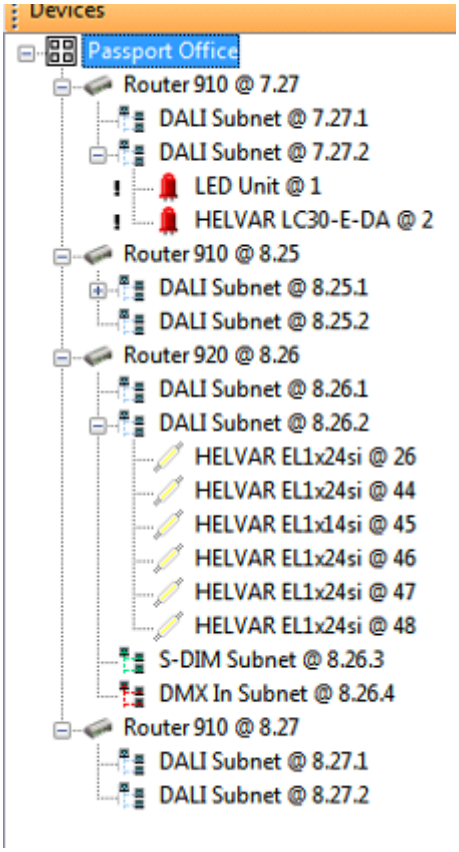
If an item is disabled or a problem has been detected, then a pictogram will appear beside it in the Device Tree, or its icon in the Device Tree will change.

	The router, subnet or device in the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* is missing and is therefore virtual.
	Lamp failure.
	The item is currently being synchronised.
	The router is not synchronised. To re-synchronise, go offline then online.
	Helvar control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* sends its type name to the router. However, some older models of control gear do not support this feature, so are shown as generic in the Device Tree.

Related Topics

- View, Hide or Close the Device Tree
- Expand/Collapse the Device Tree
- Edit Items in the Device Tree
- Device Addresses
- Upload
- Client Computer
- Mimics
- Insert an Item
- Delete an Item
- Workgroups

Device Tree



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Descendent *An item in any level below a given level in the Devices*

A child item, and all child items of this item.

Tree.

Subdevice An item that you can interact with, but which forms part of another item. *To learn more see Subdevice Configuration.*

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- Insert an Item
- Delete an Item
- Workgroups

View, Hide or Close the Device Tree

View the Device Tree

Upon start-up of the application, the Device Tree is in view by default. If it is closed or hidden:

- Click or select **View** / **Devices**.

Hide the Device Tree

- Refer to Window Bar for details on hiding views.

Close the Device Tree

- Refer to Window Bar for details on closing views.

Related Topics

- Window Bar
- Device Tree

Expand or Collapse the Device Tree

Expand the Device Tree

- Click ⊞ to expand the child *An item in the next level below a given level in the Devices Tree.* level of the Device Tree, or press → on your keyboard.

Collapse the Device Tree

- Click ⊟ to collapse the descendent *An item in any level below a given level in the Devices Tree.* levels of the tree, or press ← on your keyboard.

Expand or Collapse the Device Tree

- Double-click an item to expand or collapse the tree. *Note: Double-clicking control devices will open the device A physical item with which you can interact, either directly or via Designer. mimic instead.*

Tip:

- If an item does not have a ⊞ or ⊟ beside it, then there are no further levels to expand or collapse.

Related Topics

- Navigating with a Wheel Mouse
- Selecting Items in the Device Tree
- Device Tree

Insert Controls or Devices

Note:

- You must be in Editor mode to insert an item.

Every *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* , *control device A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.* or *control gear For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* has default functionality so that, when it is installed, it works immediately with the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . Similarly, when you insert an item into a Workgroup, it has the same default functionality. Designer allows you to insert a single item or several simultaneously (by pressing and holding shift+click), with options applied.

Tip:

- Insert routers at the Workgroup and insert control devices and control gear at the subnets.

You can insert an item in three ways:

- Via the Main Toolbar
    1. In the Device Tree, click on the Workgroup or subnet to which you want to add an item.
    2. Click and the **Insert** drop-down menu appears. Browse the submenus (if necessary) to locate the item you want to insert.
    3. Click on the item you want to insert (to insert multiple items, press and hold 'Shift' then click on the item).
- Via the Insert drop-down menu
    1. In the Device Tree, click on the Workgroup or subnet to which you want to add a device.
    2. Click the **Insert** drop-down menu, then browse the submenus (if necessary) to locate the item you want to insert.
    3. Click on the item you want to insert (to insert multiple items, press and hold 'Shift' then click on the item).
- *Via the Device Tree context menu*
    1. In the Device Tree, right-click on the Workgroup or subnet to which you want to add an item. *The context menu appears.*
    2. Select the **Insert** item, then browse the submenus (if necessary) to locate the item that you want to insert.
    3. Click the item that you want to insert (to insert multiple items, press and hold 'Shift' and then click on the item).

Insert Multiple Items

It is possible to insert multiple items at once using the 3 processes discussed above by holding **'Shift'** on your keyboard and clicking each item you wish to insert individually.

Related Topics

- Device Tree
- Edit Items in the Device Tree
- Delete an Item
- Naming Conventions
- Workgroups
- Properties
- Device Configuration
- Subdevice Configuration
- Control Gear Configuration
- Addresses

Selecting Items in the Device Tree

Select a single item

- Click on an item in the Device Tree.

Select a sequential range of items

1. Click on the first item in the range.
2. Shift+click on the last item in the range. The first and last item, and all items in between are selected.

Select a non-sequential range of items

1. Click on the first item in the range.
2. Ctrl+click on the next item in the range.
3. Repeat step 2 (above) to select or deselect items.

Related Topics

- Device Tree
- Expand/Collapse the Device Tree

Rename a Digidim Router, Subnet or Device

Note:

- You must be in Editor mode to rename an item.

1. In the Device Tree, right-click on the item and click **Rename**.
2. Type in a new name for the item and press **Enter**. *To restore the default name, see Restore the Default Name of an Item.*

Note:

- The address is not part of the item name. Designer appends the address to the name automatically.

Related Topics

- Restore the Default Name of an Item
- Rename a Workgroup
- Rename a Scene
- Names and Conventions
- Device Tree

Restore the Default Name of a Digidim Router, Subnet or Device

Note:

- You must be in Editor mode to restore the default name of an item.

1. In the Device Tree, right-click on the item and click **Rename**.
2. Press **Delete** and **Enter**. *The default item name is restored.*

Related Topics

- Rename an Item
- Rename a Real Workgroup
- Rename a Workgroup Design
- Rename a Scene
- Names and Conventions
- Device Tree

Configure Items in the Device Tree

Note:

- You must be in Editor mode to edit an item.

1. Click on the relevant item in the Device Tree.
2. Click . *The Properties dialogue appears.*
3. Edit the properties as required. *See Properties, Device Configuration and Control Gear Configuration.*
4. Click to accept the changes.

Tip:

- The Properties dialogue content and usage varies according to the item being configured. *To learn more about configuring a particular item, select it in the Device Tree and then press F1 for help.*

Related Topics

- Properties
- Device Tree
- Device Configuration
- Subdevice Configuration
- Control Gear Configuration

Delete a Control or Device

Note:

- You must be in Editor mode to delete an item.
- When in Online mode, you can only delete an item if it is virtual i.e. is shown as missing from the Real Workgroup (lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*).

1. In the Device Tree, click on the item that you want to delete.
2. Click . *The confirmation dialogue appears.*
3. Click **Delete**.

Related Topics

- Insert an Item
- Device Tree

Addresses

An address is a number or sequence of numbers used to identify a *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* , *subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* , *device A physical item with which you can interact, either directly or via Designer.* or subdevice in a *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*. Each item has a unique address that is either defined automatically (by Designer or the router), or defined manually (by the user with Designer or at the physical device).

Address Structure for Items

Each address is made up of up to five numbers in the format:

Cluster ID.Cluster Member ID.Subnet.Device.Subdevice

Router Address Format

Routers have an address in the format of **Cluster ID.Cluster Member ID**

Subnet Address Format

Subnets have an address in the format of **Cluster ID.Cluster Member ID.Subnet**

Device Address Format

Devices have an address in the format of **Cluster ID.Cluster Member ID.Subnet.Device**

Subdevice Address Format

Subdevices have an address in the format of **Cluster ID.Cluster Member ID.Subnet.Device.Subdevice**

Related Topics

- Change a Device Address
- Device Tree

Change a Device Address

Note:

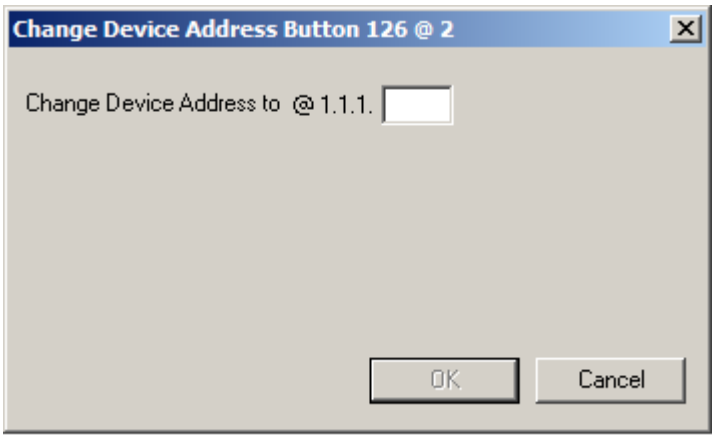
- You must be in Editor mode to change a device *A physical item with which you can interact, either directly or via Designer.* address.
- Only control device *A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.* and control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* addresses can be changed.

It is possible to change the address of a device in a Real Workgroup, *Workgroup Design A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* or Upload Design.

The addresses of all DALI subnet devices (but not subdevices) can be changed.

To Change the Address of a Device

1. In the Device Tree, right-click on a device. *The context menu appears.*
2. Click **Change Device Address**. *The **Change Device Address** dialogue appears.*



3. In the **Change Device Address to** field, type in a new address. *The address must be a positive integer within the range permitted by the subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. , or Workgroup, to which the device belongs.*
4. If you type in the address of an existing device, then two options become available: Select **Swap with existing device** to swap the addresses of the two existing devices, or select **Move existing device to Address** to change the address to the next available address. *To learn more see the example below.*

Example

You may select a Button 126 device with address **@1.1.1.1** and type in a new address of **2** (making the new full address **Button 126 @ 1.1.1.2**). We can see that a device, Button 126 @ 2, is using that address already. Select **Swap with existing device** to swap the addresses of the two devices, so that Button 126@1.1.1.1 now has address **Button 126@1.1.1.2**, and Button 126@2 has address

Button 126@1.1.1.1; or select **Move existing device to Address** to change the existing address of Button 126@**2** to the next available address, which in this example is **3** (or **1.1.1.3**).

5. Click **OK** to accept the change.

Related Topics

- Addresses
- Device Tree
- DALI Subnet

Change the Serial Number of a Device

Note:

- You must be in Offline and in Editor mode to change the serial number of a device *A physical item with which you can interact, either directly or via Designer.* . *See Modes of Operation*.
- You can change the serial number of routers, control devices and control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* .

1. Click on the relevant device in Device Tree.
2. In Properties, click in the **Serial Number** field.
3. Enter the new serial number and click . *The serial number has been changed.*

Related Topics

- Edit Items in the Device Tree
- Device Tree
- Properties

Client Computer

Client Computer

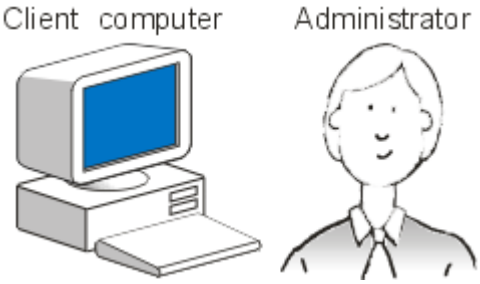
A Client Computer is a computer used with a Helvar *Router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* system. If such a computer (other than your own computer) is connected to the Workgroup you are working with, then it is shown in the Device Tree. Although Client Computers are displayed in the *Device A physical item with which you can interact, either directly or via Designer.* Trees, they are otherwise ignored by Designer.

Client Computers are displayed in the Device Tree to alert you to the possibility of conflicts if both computers try to change settings on the same Helvar Router.

Related topics

- Client Computer Configuration
- Chat Window
- Device Tree
- Workgroups

Client Computer Configuration



A Client Computer is a PC *Stands for Personal Computer.* that is connected to the network (lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*) and configured to communicate with routers via Designer.

Note:

- Ensure Designer is not running before you configure a Client Computer.

Check Client Computer Network Card Addresses

1. On the Windows Start menu click **Start** / **Run**.
2. In the **Open** field type **command** and then click **OK**. This will start a DOS session.
3. At the command prompt type **ipconfig** and the press Enter. The settings of each network card in the computer will be listed.
4. To obtain more information, type **ipconfig/all**.
5. Type **exit** and press **Enter** to close the DOS session.

Note:

- On some computers, the ability to start a DOS session may have been disabled. If this is the case please contact your system administrator for advice.

Configure Network Address

Windows XP

1. From the Windows desktop, select **Start** / **Control Panel** or **Start / Settings / Control Panel**.
2. Double-click **Network Connections**.
3. Select the named network that you want to use with the lighting system.
4. Right-click on network and select **Properties**.
5. Select **Internet Protocol (TCP/ IP)** for the network settings you want to configure, and click **Properties**. The **Internet Protocol (TCP/ IP)** window appears, in which you can configure the network settings.

   Make a note of the current network settings, as these may be valid settings which you can return to later.
6. Click the check box next to **Use the following IP address:**.
7. Enter a valid IP Address. *See Network Address Format.*
8. Enter a valid Subnet Mask. *See Network Address Format.*
9. You will need to enter the correct IP **Gateway** *A generic term for an inter-networking system. Gateways can be implemented completely in software, completely in hardware, or as a combination of the two. Depending on their implementation, gateways can operate at any level of the OSI model from application protocols to low-level signaling. A Gateway is not required on a single network, but is required if communicating across subnets.* setting. If you do not have this, speak to your network administrator. *The default is 0.0.0.0 which means no gateway is used. For further information see Network Address Format.*

10. Click **OK** to accept the changes or **Cancel** to discard them.

Vista

1. From the Vista desktop, select **Start** / **Control Panel**
2. Double-click **Network and Internet**.
3. In the **Network and Sharing Center** section, double-click **View Network Status and Tasks**.
4. Double-click **Manage Network Connections** on the left-hand side of the page.
5. Select the named network that you want to use with the lighting system.
6. Right-click on network and select **Properties**.
7. A warning appears. Select **Continue**.
8. Select **Internet Protocol Version 4 (TCP/IPv4)** for the network settings you want to configure, and click **Properties**. The **Internet Protocol Version 4 (TCP/IPv4) Properties** window appears, in which you can configure the network settings.

   Make a note of the current network settings, as these may be valid settings which you can return to later.
9. Enter a valid IP Address. *See Network Address Format.*
10. Enter a valid Subnet Mask. *See Network Address Format.*
11. You will need to enter the correct IP **Gateway** *A generic term for an inter-networking system. Gateways can be implemented completely in software, completely in hardware, or as a combination of the two. Depending on their implementation, gateways can operate at any level of the OSI model from application protocols to low-level signaling. A Gateway is not required on a single network, but is required if communicating across subnets.* setting. If you do not have this, speak to your network administrator. *The default is 0.0.0.0 which means no gateway is used. For further information see Network Address Format.*
12. Click **OK** to accept the changes or **Cancel** to discard them.

Windows 7

1. From the Windows 7 desktop, select **Start** / **Control Panel**
2. Double-click **Network and Internet**.
3. In the **Network and Sharing Center** section, double-click **View Network Status and Tasks**.
4. Double-click **Change Adaptor Settings** on the left-hand side of the page.
5. Select the named network that you want to use with the lighting system.
6. Right-click on network and select **Properties**.
7. A warning appears. Select **Continue**.
8. Select **Internet Protocol Version 4 (TCP/IPv4)** for the network settings you want to configure, and click **Properties**. The **Internet Protocol Version 4 (TCP/IPv4) Properties** window appears, in which you can configure the network settings.

   Make a note of the current network settings, as these may be valid settings which you can return to later.
9. Enter a valid IP Address. *See Network Address Format.*
10. Enter a valid Subnet Mask. *See Network Address Format.*
11. You will need to enter the correct IP **Gateway** *A generic term for an inter-networking system. Gateways can be implemented completely in software, completely in hardware, or as a combination of the two. Depending on their implementation, gateways can operate at any level of the OSI model from application protocols to low-level signaling. A Gateway is not required on a single network, but is required if communicating across subnets.* setting. If you do not have this, speak to your network administrator. *The default is 0.0.0.0 which means no gateway is used. For further information see Network Address Format.*
12. Click **OK** to accept the changes or **Cancel** to discard them.

Time Settings for Client Computers

Only one Client Computer can set *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* clocks in a Real Workgroup (the times on all routers are synchronised to the Client PC's time). *To learn more about this, see Options and Dates and Times.*

Related Topics

- Router Configuration
- Manually Assign IP Address to Router
- Network Address Format
- Network Installation
- Client Computer
- Edit a Router's / PC's Connection
- Network Topology

DALI Subnet

DALI Subnet

Note:

- Both the Digidim 910 and Imagine 920 Routers have two DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* connectors and can therefore support two DALI subnets each.

A DALI subnet is a collection of DALI devices, all connected on one cable, which are connected to a *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* . Each router can support two DALI subnets.

DALI Subnet Communication

The DALI protocol is used to communicate between DALI devices on a DALI subnet. DALI *device A physical item with which you can interact, either directly or via Designer.* addresses are automatically set by the router system.

Up to 64 devices can be connected to each DALI subnet, provided that the power requirement of the devices does not exceed the subnet power supply limit of 250mA. *See Allocate Channels and Devices to Routers for more information.*

Tip:

- It is recommended that you use up to 63 of the available 64 addresses. This is because, when connected to a Workgroup, the DALI subnet needs at least one free address before it looks for unaddressed devices. This means that if you have more than 64 addresses on the system and then reduce the number to exactly 64, the system will still report as if it has more than 64 devices, until the router is restarted. *Note: The system still behaves as expected, but just reports that there are too many devices on the subnet.*

To learn more about these limits and how they may affect your lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. , contact Helvar Customer Support.

DALI Subnet Configuration

To learn how to configure a DALI subnet, see DALI Subnet Configuration.

Insert Devices on the DALI Subnet

See Insert an Item.

Related Topics

- Workgroups
- Properties
- Insert Items
- DALI Subnet Configuration

DALI Subnet Configuration

Note:

- You must be in Editor mode to configure a DALI subnet.

To configure a *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* *subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* :

1. Click on the DALI Subnet in the Device Tree.
2. If Properties view is not already open, click .

Common	
Address	@ 2.1.1
Description	DALI Subnet
Name	
Software Version	4.26
Status	Normal
Information	
DALI Subnets	
Current Consumption (mA)	29
Allow Auto Healing	True

Configure Subnet

Name

It may be useful to name the subnet:

1. In the **Common** section, enter a name in the **Name** field.
2. Click . *The subnet is renamed in the Device Tree .*

Current Consumption

This field tells you the total current consumption (in mA) of all the devices on the subnet.

Allow Auto-healing

Auto-healing is the process by which newly-connected device(s) are given the same address as devices of the same type which are missing on the system i.e. they replace the missing device.

A device will typically auto heal if the same device returns at a different short address, a new device has to be pre-allocated with the correct short address, or there is a 'one for one' replacement.

Auto-healing is set per subnet.

There are 3 types of auto healing:

1. *By Type*

   If, when a new device is discovered, a single configured device of the same type (same class not necessarily the exact same type of device) is missing then it will auto heal.
2. *By Short Address*

   If a new device is discovered that is of the same class at the same short address of a missing device then it will auto heal.
3. By Long Address of Loads **or** Serial Number of Controls

If a new device of the same class and long address (serial number) is discovered at a different short address then it will auto heal.

Auto-healing is enabled by default. If you wish to disable auto-healing:

1. Click in the **Allow Auto Healing** field, in the **DALI Subnets** section.
2. Click and select 'False'.
3. Click .

Auto-healing setting for installation

During installation, it is sometimes useful to turn off auto-healing, in order to prevent items from 'dropping out'.

Auto-healing setting for router firmware upgrades

Before updating router firmware, it is recommended to enable auto-healing for the appropriate subnets.

Note:

- When it is not possible to determine which device is being replaced, the new device is placed at an available address.

Related Topics

- DALI Subnet
- Insert an Item
- Device Tree
- Properties
- Workgroups
- Addresses

DALI Control Gear

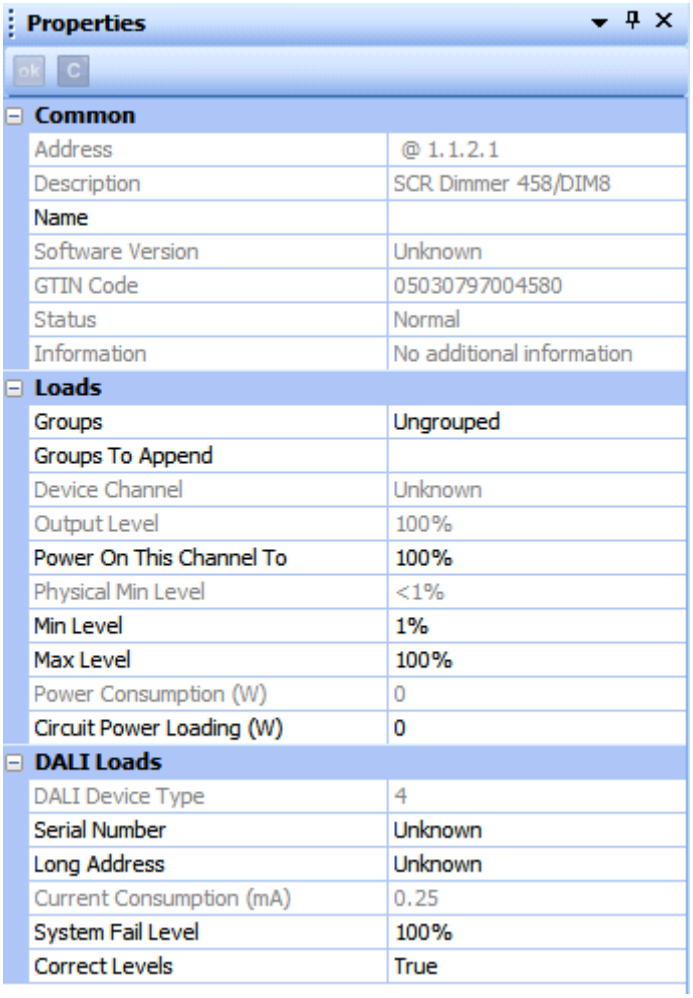
DALI_Control Gear Configuration

Note:

- You must be in Editor mode to configure control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* .

Configure Item

1. Click on the DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* control gear item in the Device Tree.
2. If not already open, click to view Properties for the item.



Name

It is useful to name the item e.g. according to its location or purpose:

1. In the **Common** section, click in the **Name** field.
2. Enter a name for the device *A physical item with which you can interact, either directly or via Designer.* .

3. Click . *The device is renamed in the Device Tree.*

Assign to Group

1. Click in **Groups** field.
2. Enter the group to be assigned to the item. *If you wish to assign more than one group, insert a comma after each Group number e.g.* ***1, 3, 7*** *(or enter more groups in the* ***Groups To Append*** *field, see below).*
3. Click .

Groups to Append

1. In the **Loads** section, click in **Groups To Append** field.
2. Enter the group to be assigned to the item. This will maintain the current grouping. *If you wish to assign more than one group, insert a comma after each Group number e.g.* ***1, 3, 7***
3. Click .

Power On this Channel To

This is the level/ *scene Collection of lighting levels for each channel assigned to the same group as the scene.* that the *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* will go to when the *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* and/or control gear is powered on.

You can set this channel to power on to a specific scene, level, last level before fail, off, or the minimum, maximum or system fail levels.

Note:

- A value in the range of 0-100 and 'Last Level Before Fail' apply when either the router or the control gear is repowered. *Note that non-Helvar loads do not have the capability of repowering to 0 or 'Last Level Before Fail'.*
- Values of 'Off', 'Minimum Level', Maximum Level', 'System Fail Level' and a scene are only used when the router is repowered.

1. Click in the **Power On This Channel To** field.
2. Click and select a lighting setting for the channel to power on to.
3. Click .

Minimum Level

This is the minimum level that the channel will achieve, no matter what scene is called or level is set. For example, if you set a minimum level of 50% and call scene 4 (at 25% level), the channel output level will be 50%.

1. Click in the **Min Level** field.
2. Enter a percentage value (1-100%).
3. Click .

Maximum Level

This is the maximum level that the channel will achieve, no matter what scene is called or level is set. For example, if you set a maximum level of 50% and call scene 2 (at 75% level), the channel output level will be 50%.

1. Click in the **Max Level** field.
2. Enter a percentage value (1-100%).
3. Click .

Note:

- Levels above 50% may be subject to a 1% swing when returning levels due to the DALI standard logarithmic dimming curve *DALI standard logarithmic curve for defining dim levels of DALI units*. E.g. setting the level of a DALI ballast to 93% in Designer will cause the router to actually return a level of 92% when queried using Ethernet I/O. This is because 93% is not accounted for in the DALI logarithmic dimming curve. The router always assigns the closest dimming curve level to the level set in Designer. *For further information see DALI Logarithmic Dimming Levels*

Circuit Power Loading

Digidim / DALI control gear does not measure its own power consumption. Calculate the total power consumption of all the lamps connected to the *load For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* and enter this amount in this field (this will be an estimation of the total power consumption of the device).

1. Click in the **Circuit Power Loading** field.
2. Enter a value in the range of 0 to 16384 W (0.25 W resolution).
3. Click ok.

Emergency Ballast Address

Note:

- This field only appears for ballasts.

Enter the short address of the emergency ballast to be used in case of ballast failure.

1. Click in the **Emergency Ballast Address** field.
2. Enter the short address of the emergency ballast, connected to the same tube.
3. Click ok.

System Fail Level

The channel is set to this level in the event of a DALI power supply failure.

1. Click in the **System Fail Level** field.
2. Enter a percentage value (0-100%) or click and select 'Ignore'.
3. Click ok.

Output Mode

Note:

- This field only appears for controller modules such as the 458 CTR8 Ballast Controller, Options Module (458/OPT4) and 474 DIN-Rail 4 Channel Ballast Controller.

To configure the **Output Mode** field:

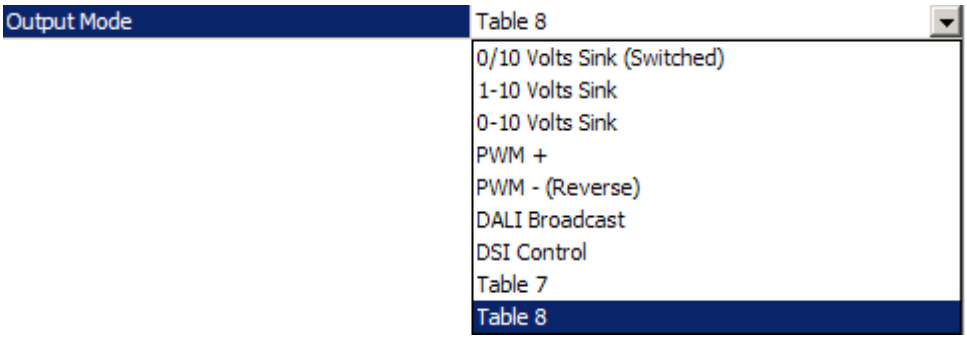
1. In Properties, click in the **Output Mode** field.
2. Click and select the mode of operation for the output. *Choose from '0/10 V Sink 'Sink' means that an output hasn't got drive capability (Switched)', '1-10 V Sink', '0-10 V Sink', ' PWM Stands for Pulse Width Modulation. PWM can be used to reduce the total amount of power delivered to a load, without losses normally incurred when a power source is limited by resistive means. +', 'PWM - (Reverse)', ' DALI Broadcast' or ' DSI Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI. Control'. Note: 'Table 7' and 'Table 8' are not used in the standard release of the software; they are 'spare' options which can be implemented, if necessary, in a customised build of the software.*

1.

Note:

- Not all controller modules have '*Sink 'Sink' means that an output hasn't got drive capability*' functionality for output modes i.e. 474 DIN Rail 4 Channel Ballast Controller. *For product specific information please see documentation supplied with the device.*

2.



0/10 V Sink (Switched)

Select this mode for a 0 V or 10 V analogue output signal. The 10 V signal is through a 'pull-up' resistor. The output used with this mode is either ON or OFF (switched).

1-10 V Sink

Select this mode for a 1-10 V analogue output signal. The 10 V signal is through a 'pull-up' resistor. This mode can be used for controlling ballasts, for example.

0-10 V Sink

Select this mode for a 0-10 V analogue output signal.

PWM +

PWM Stands for Pulse Width Modulation (see Glossary).

This mode generates high pulse signals from low values (low levels). It allows a full range of values (0-100%). It generates a low level signal for 0% level and adjusts (pulse width modulates) high pulses up to 100%.

PWM - (Reverse)

PWM stands for Pulse Width Modulation (see Glossary).

This mode generates low pulse signals from high values (high levels). It allows a full range of values (0-100%). It generates a high level signal for 0% level and adjusts (pulse width modulates) low pulses up to 100%.

DALI Broadcast

DALI stands for Digital Addressable Lighting Interface (see Glossary).

Select this mode so that the output communicates with all DALI (Digidim) loads.

DSI Control

DSI stands for Digital Signal Interface (see Glossary). Tridonic were the originators of the DSI standard.

This mode is used for Tridonic ballasts, ballasts which accept the DSI protocol, and also control devices which communicate to DSI ballasts using the DSI protocol. Note: This mode is NOT usable with DALI interfaces.

3. Click

Notes:

- In Designer, it is **only** possible to set the output mode for channels that are paired using simple pairing. Channels using complex pairing must be set manually on the unit itself. *See Channel Pairing*
- Conventionally, channels are paired using a simple, one to one setup. *To set your unit to a more complex pairing scheme, please refer to the installation and user guide for the relevant unit.*

The device is now configured and ready for use in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. .

Related Topics

- Device Configuration
- Device Tree
- Edit Items in the Device Tree
- Properties
- DALI Logarithmic Dimming Levels
- Channel Pairing

DALI Emergency Lighting

Emergency Lighting

Notes:

- You must be Online to start or stop Emergency Tests, or perform any other Emergency Test function.

Tips:

- You can automatically test emergency lighting using Scheduler. *See Scheduled Emergency Function Test and Scheduled Emergency Duration Test.*
- The Emergency Test option comes equipped with some 'out-of-box', pre-configured scheduled Emergency Tests which are fully functional. *See 'Out-of-box' Scheduled Emergency Tests.*

DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear). emergency lighting is in place in case of a mains power failure to your *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . The DALI emergency lighting ballast is fitted with a battery which is kept charged by the mains supply.

There are two types of emergency lighting: maintained and non-maintained.

- **Maintained** emergency lighting is always on and stays on when there is a power failure.
- **Non-maintained** emergency lighting turns on only when there is a power failure.

There are two types of emergency ballast: switchable and dimmable.

- **Switchable** emergency ballasts can be turned on and off at any time and can be maintained or non-maintained.
- **Dimmable** emergency ballasts can be dimmed at any time and can be maintained or non-maintained.

Note:

- DALI LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* units may be connected to the DALI emergency ballasts and they can be integrated into the fitting or separate from the ballast. These contain status LEDs that indicate the status of the ballast e.g. lamp failure, charging, Emergency Function Test, Emergency Duration Test, battery failure, normal operation (not in test) etc. *Refer to the manufacturer's operating instructions for definitions of the LED states of the emergency ballast.*

Related Topics

- Emergency Ballast Configuration
- Emergency Test Functions
- Scheduled Emergency Function Test
- Scheduled Emergency Duration Test
- 'Out-of-box' Scheduled Emergency Tests

- Emergency Logging

Emergency Ballast Configuration

Notes:

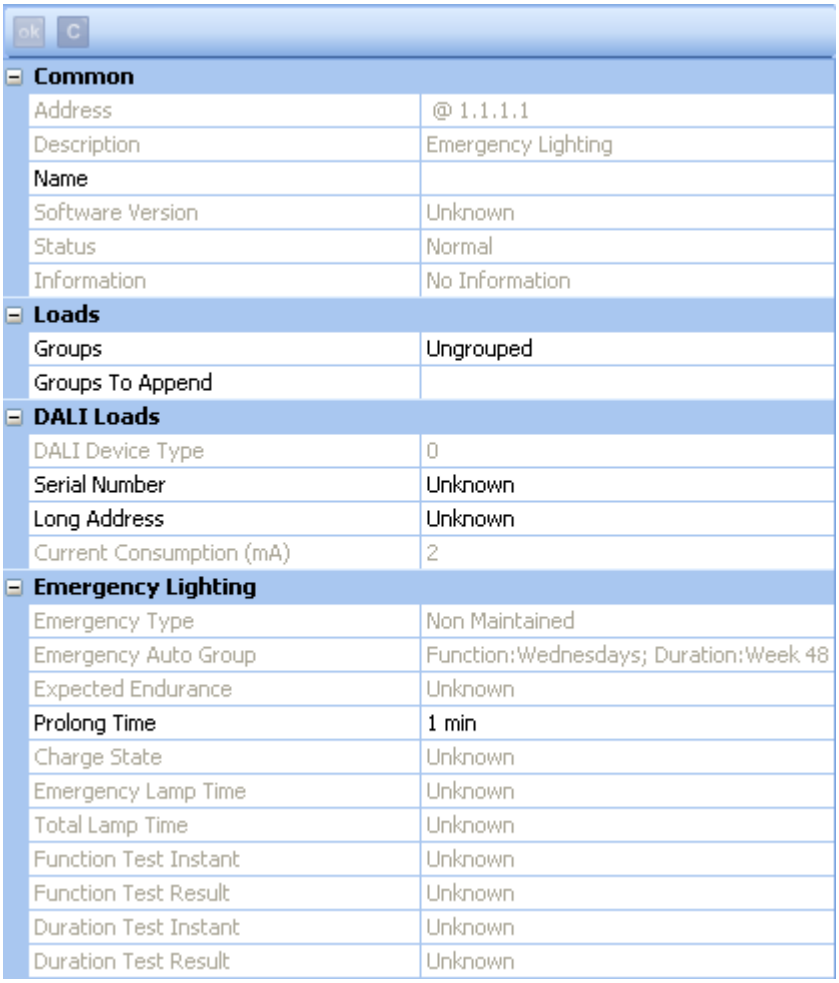
- You must be Online to start or stop Emergency Tests, or perform any other Emergency Test function.
- You must be in Editor mode to configure a DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* emergency ballast.
- Some DALI ballasts do not support some of the emergency lighting features displayed in Properties. If this is the case the field states 'Not used' or 'Unknown'.

Tips:

- You can automatically test emergency lighting using Scheduler. *See Scheduled Emergency Function Test and Scheduled Emergency Duration Test.*
- The Emergency Test option comes equipped with some 'out-of-box', pre-configured scheduled Emergency Tests which are fully functional. *See 'Out-of-box' Scheduled Emergency Tests.*

Configure Item

1. Click on the Emergency Lighting ballast in the Device Tree.
2. If not already open, click to view Properties for the item.



Common	
Address	@ 1.1.1.1
Description	Emergency Lighting
Name	
Software Version	Unknown
Status	Normal
Information	No Information
Loads	
Groups	Ungrouped
Groups To Append	
DALI Loads	
DALI Device Type	0
Serial Number	Unknown
Long Address	Unknown
Current Consumption (mA)	2
Emergency Lighting	
Emergency Type	Non Maintained
Emergency Auto Group	Function:Wednesdays; Duration:Week 48
Expected Endurance	Unknown
Prolong Time	1 min
Charge State	Unknown
Emergency Lamp Time	Unknown
Total Lamp Time	Unknown
Function Test Instant	Unknown
Function Test Result	Unknown
Duration Test Instant	Unknown
Duration Test Result	Unknown

Name

It is useful to name the item e.g. according to its location or purpose:

1. In the **Common** section, click in the **Name** field.
2. Enter a name for the device *A physical item with which you can interact, either directly or via Designer.* .
3. Click . *The device is renamed in the Device Tree.*

Assign to Group

1. Click in **Groups** field.
2. Enter the group to be assigned to the item. *If you wish to assign more than one group, insert a comma after each Group number e.g.* ***1, 3, 7*** *(or enter more groups in the* ***Groups To Append*** *field, see below).*
3. Click .

Groups to Append

1. In the **Loads** section, click in **Groups To Append** field.
2. Enter the group to be assigned to the item. This will maintain the current grouping. *If you wish to assign more than one group, insert a comma after each Group number e.g.* ***1, 3, 7***
3. Click .

Note:

- For all other general control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action*

e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both. configuration instructions, see DALI Control Gear Configuration.

Prolong Time

Note:

- The prolong time can only be entered in 30 second steps e.g. If you enter a prolong time of 1 min 29 secs, this will be rounded down to 1 minute.

The prolong time is the time after power returns before the ballast returns to normal (mains) operation. This is useful as when mains power initially returns, it can be volatile and power surges can occur in the system, causing the lights to flicker.

If you wish to change the default prolong time:

1. Click in the **Prolong Time** field.
2. Enter a time (in mins).
3. Click .

The device is now configured and ready for use in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. .

Related Topics

- DALI Emergency Lighting
- Emergency Test Functions
- Scheduled Emergency Function Test
- Scheduled Emergency Duration Test
- 'Out-of-box' Scheduled Emergency Tests
- DALI Control Gear Configuration
- Emergency Logging

Emergency Test Functions

Note:

- You must be Online to start or stop Emergency Tests, or perform any other Emergency Test function.

Tips:

- You can automatically test emergency lighting using Scheduler. *See Scheduled Emergency Function Test and Scheduled Emergency Duration Test.*
- The Emergency Test option comes equipped with some 'out-of-box', pre-configured scheduled Emergency Tests which are fully functional. *See 'Out-of-box' Scheduled Emergency Tests.*

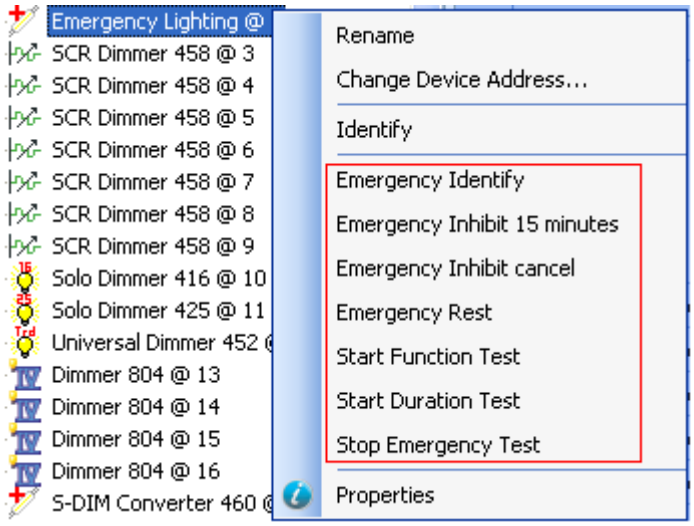
There are various Emergency Test functions which you can perform:

- **Emergency Identify**. *Identifies the emergency ballast in the system.*
- **Emergency Inhibit 15 minutes**. *Inhibits Emergency Tests for 15 minutes.*
  The Inhibit function is useful, for example, in high-integrity buildings. In the event of an emergency, procedure may be to evacuate the building and (amongst other things) activate 'Emergency inhibit' for the lighting system. This switches off the emergency lighting and preserves battery life for when the building is re-occupied (and lighting systems returned to normal operation).
- **Emergency Inhibit cancel**. *Cancels the Emergency Inhibit.*
- **Emergency Rest**. *When in an Emergency Test, stops the test and the ballast goes back to using the mains supply (it 'rests' the battery of the emergency ballast).*
- **Start Function Test**. *Starts an Emergency Function Test.*
- **Start Duration Test**. *Starts an Emergency Duration Test.*
- **Stop Emergency Test**. *Stops an Emergency Test.*

These functions can be performed via the emergency ballast context menu or via certain subdevices.

Via Emergency Ballast Context Menu

1. In the Device Tree , right-click on the Emergency Lighting ballast. *You will see the context menu, listing the Emergency Test functions.*



2. Click on the function you wish to perform.

Via Subdevice

Certain subdevices can be configured to perform any of the Emergency Test functions. These include:

- Control Panel buttons
- IR *Stands for Infrared. Infrared radiation is a form of light that is invisible to the human eye, and is often used as a medium to send information between two devices.*-enabled subdevices
- Subdevices of the Analogue Input Unit (942) and Mini Input Unit (444)
- Multisensor external switches

For example, you can configure a *button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* of a Button Panel (126) to start an Emergency Duration Test when it is pressed:

1. Click ⊞ to expand the device in the Device Tree.
2. Click on the subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* .
3. If not already open, click to view Properties for the subdevice.

Common	
Address	@ 1.1.1.1.1
Description	Group 1 Scene 1.1
Name	
Status	Normal
Information	No Information
Keys	
Mode	Single Press
Use Main Set	Always
Main Set	
Group	1
Scene Block	1
Press	
Function	Recall Scene (Fixed Light)
Scene Number	1
Fade Time	00:00:02
Condition	Always

4. In the **Press** section, click in the **Function** field.
5. Click and select 'Start Emergency Function Test' from the drop-down menu.
6. Click . *The subdevice will now start an Emergency Function Test when pressed.*

Related Topics

- DALI Emergency Lighting
- DALI Emergency Ballast Configuration
- Scheduled Emergency Function Test
- Scheduled Emergency Duration Test
- 'Out-of-box' Scheduled Emergency Tests
- Subdevice Configuration
- Emergency Logging

Scheduled Emergency Function Test

Note:

- To create a scheduled Emergency Function Test, see Create a Schedule.
- You must be in Editor mode to create a scheduler entry.

Tip:

- The Emergency Test option comes equipped with some 'out-of-box', pre-configured scheduled Emergency Tests which are fully functional. *See 'Out-of-box' Scheduled Emergency Tests.*

The scheduled Emergency Function Test is used to ensure that the emergency lighting works. This should be done at regular intervals e.g. once a week to suit local regulations.

Common	
Address	@ T.62
Description	Scheduled Emergency Function Test
Name	
GTIN Code	00000000000170
Status	Enabled, Enabled At Startup
Information	At 01:00:00 Emergency Function Test On Group 1
Scheduler Entry	
Scheduler Entry Type	Scheduled Emergency Function Test
Trigger Time	
Time Style	Clock Time
Time	01:00:00
Today	Dawn 06:09:52 Dusk 18:11:02
Condition	Monday
Scheduler Entry Action	
Group	1
Emergency Time Window	200

Configure Scheduled Emergency Function Test

To configure a scheduled Emergency Function Test, ensure that the scheduler entry is selected in Scheduler view, and in Properties do the following to configure the entry:

Trigger Time

Time Style

1. Click in the **Time Style** field and click .
2. Select either 'Clock Time' (for 24-hour clock time), 'Dawn Time' or 'Dusk Time' (to set activation of the Emergency Test relative to the pre-determined dusk or dawn times).

Time

Tips:

- If you select a dusk or dawn time, you can set activation of the test to be at an interval before or after the dusk or dawn time, by clicking in the **Offset** field and entering the time (in minutes).
- To configure the offset to be before the dusk or dawn time, enter minus (-) and then the number of minutes.
- When specifying times relative to dawn or dusk, remember that these times are dependent on the longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* and latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* settings within Designer and may not be suitable for use on a ship, due to the ship's movements. *To learn more about this, see Longitude and Latitude, Dates and Times and Time Zones.*
- Today's official dawn and dusk times are shown in the **Today** field. These are calculated using latitude, longitude and date.

If you chose 'Clock Time' in the **Time Style** field, set the time at which the test is started:

1. Click in the **Time** field and click .
2. Enter the time (in hh:mm:ss) at which to start the test.
3. Click to apply the changes.

Offset (for Dusk / Dawn Time)

If you chose 'Dusk Time' or Dawn Time' in the **Time Style** field, set the time at which the test is started, relative to the dusk / dawn time:

1. Click in the **Offset** field and click .
2. Enter the time (in mins), before or after the dusk / dawn time, at which to start the test.
3. Click to apply the changes.

Condition

If you wish to apply a condition to the scheduler entry:

1. Click in the **Condition** field and click .
2. Select a condition from the drop-down menu.
3. Click to apply the changes.

Assign Group

1. Click in the **Group** field and enter the group to which to assign the entry.
2. Click to apply the changes.

Emergency Test Time Window

The Emergency Test Time Window is the period in which a Scheduled Emergency Test will not be performed on emergency ballasts after an Emergency Test has already been completed.

The Emergency Function Test will be started on each emergency ballast in the group that has not already completed this test within the specified number of days. It will not perform tests on ballasts which have already completed the test within this time.

Note:

- By default, a value of 0 is set here which indicates that the test should always be performed on all emergency ballasts in the group, regardless.

1. Click in the **Emergency Time Window** field and enter the number of days to ignore tests.
2. Click to apply the changes.

Related Topics

- Scheduled Emergency Duration Test
- 'Out-of-box' Scheduled Emergency Tests
- DALI Emergency Lighting
- DALI Emergency Ballast Configuration
- Emergency Test Functions
- Emergency Logging
- Scheduler
- Create a Schedule
- Longitude and Latitude
- Time Zones
- Dates and Times
- Properties
- Conditions

Scheduled Emergency Duration Test

Note:

- To create a scheduled Emergency Duration Test, see Create a Schedule.
- You must be in Editor mode to create a scheduler entry.

Tip:

- The Emergency Test option comes equipped with some 'out-of-box', pre-configured scheduled Emergency Tests which are fully functional. *See 'Out-of-box' Scheduled Emergency Tests.*

The scheduled Emergency Duration Test is used to test the emergency lighting and the endurance of the battery. This should not be done as regularly as the scheduled Emergency Function Test, as it drains the battery for the emergency lighting power.

Common	
Address	@ T.63
Description	Scheduled Emergency Duration Test
Name	
GTIN Code	00000000000170
Status	Enabled, Enabled At Startup
Information	At 01:00:00 Emergency Duration Test On Group 1 If Week 52 (Sunday)
Scheduler Entry	
Scheduler Entry Type	Scheduled Emergency Duration Test
Trigger Time	
Time Style	Clock Time
Time	01:00:00
Today	Dawn 06:09:52 Dusk 18:11:02
Condition	Week 52
Scheduler Entry Action	
Group	1
Emergency Time Window	200

Configure Scheduled Emergency Duration Test

To configure a scheduled Emergency Duration Test, ensure that the scheduler entry is selected in Scheduler view, and in Properties do the following to configure the entry:

Trigger Time

Time Style

1. Click in the **Time Style** field and click .
2. Select either 'Clock Time' (for 24-hour clock time), 'Dawn Time' or 'Dusk Time' (to set activation of the Emergency Test relative to the pre-determined dusk or dawn times).

Time

Tips:

- If you select a dusk or dawn time, you can set activation of the test to be at an interval before or after the dusk or dawn time, by clicking in the **Offset** field and entering the time (in minutes).
- To configure the offset to be before the dusk or dawn time, enter minus (-) and then the number of minutes.
- When specifying times relative to dawn or dusk, remember that these times are dependent on the longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* and latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* settings within Designer and may not be suitable for use on a ship, due to the ship's movements. *To learn more about this, see Longitude and Latitude, Dates and Times and Time Zones.*
- Today's official dawn and dusk times are shown in the **Today** field. These are calculated using latitude, longitude and date.

If you chose 'Clock Time' in the **Time Style** field, set the time at which the test is started:

1. Click in the **Time** field and click .
2. Enter the time (in hh:mm:ss) at which to start the test.
3. Click to apply the changes.

Offset (for Dusk / Dawn Time)

If you chose 'Dusk Time' or Dawn Time' in the **Time Style** field, set the time at which the test is started, relative to the dusk / dawn time:

1. Click in the **Offset** field and click .
2. Enter the time (in mins), before or after the dusk / dawn time, at which to start the test.
3. Click to apply the changes.

Condition

If you wish to apply a condition to the scheduler entry:

1. Click in the **Condition** field and click .
2. Select a condition from the drop-down menu.
3. Click to apply the changes.

Assign Group

1. Click in the **Group** field and enter the group to which to assign the entry.
2. Click to apply the changes.

Emergency Test Time Window

The Emergency Test Time Window is the period in which a Scheduled Emergency Test will not be performed on emergency ballasts after an Emergency Test has already been completed.

The Emergency Duration Test will be started on each emergency ballast in the group that has not already completed this test within the specified number of days. It will not perform tests on ballasts which have already completed the test within this time.

Note:

- By default, a value of 0 is set here which indicates that the test should always be performed on all emergency ballasts in the group, regardless.

1. Click in the **Emergency Time Window** field and enter the number of days to ignore tests.

2. Click to apply the changes.

Related Topics

- Scheduled Emergency Function Test
- 'Out-of-box' Scheduled Emergency Tests
- DALI Emergency Lighting
- DALI Emergency Ballast Configuration
- Emergency Test Functions
- Emergency Logging
- Scheduler
- Create a Schedule
- Longitude and Latitude
- Time Zones
- Dates and Times
- Properties
- Conditions

'Out-of-box' Scheduled Emergency Tests

Note:

- To create your own scheduled tests, group the emergency ballasts and create a schedule. *See Scheduled Emergency Function Test and Scheduled Emergency Duration Test for steps on how to do this.*
- Week numbering in relation to schedules adheres to ISO8601 (international standard for the representation of dates and times).

Designer comes equipped with an 'out-of-box', pre-configured scheduled Emergency Function Test and an Emergency Duration Test. The purpose of this is to regularly test the battery of ungrouped emergency ballasts.

The *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* will automatically perform these tests on ungrouped emergency ballasts only, by providing them with an Emergency Auto Group based on their long address. The emergency ballasts are automatically assigned a day of the week - for every week - to perform a Function Test, and a week of the year to perform a Duration Test. The day of the Function Test and the week number of the Duration Test is shown in the properties of the emergency ballast. The Function Test will occur at 1am on the allocated day and the Duration Test will occur at 2am on the Sunday of the allocated week. The schedule is fixed and uneditable. If you wish to use a different schedule, group the devices and create a schedule. *See Scheduled Emergency Function Test and Scheduled Emergency Duration Test for steps on how to do this.*

Related Topics

- Scheduled Emergency Function Test
- Scheduled Emergency Duration Test
- DALI Emergency Lighting
- DALI Emergency Ballast Configuration
- Emergency Test Functions
- Emergency Logging
- Scheduler
- Create a Schedule

Emergency Logging

See Options - Emergency Logging to learn how to configure the Emergency Log.

Related Topics

- DALI Emergency Lighting
- Emergency Ballast Configuration
- Emergency Test Functions
- Scheduled Emergency Function Test
- Scheduled Emergency Duration Test
- 'Out-of-box' Scheduled Emergency Tests

DALI Control Devices

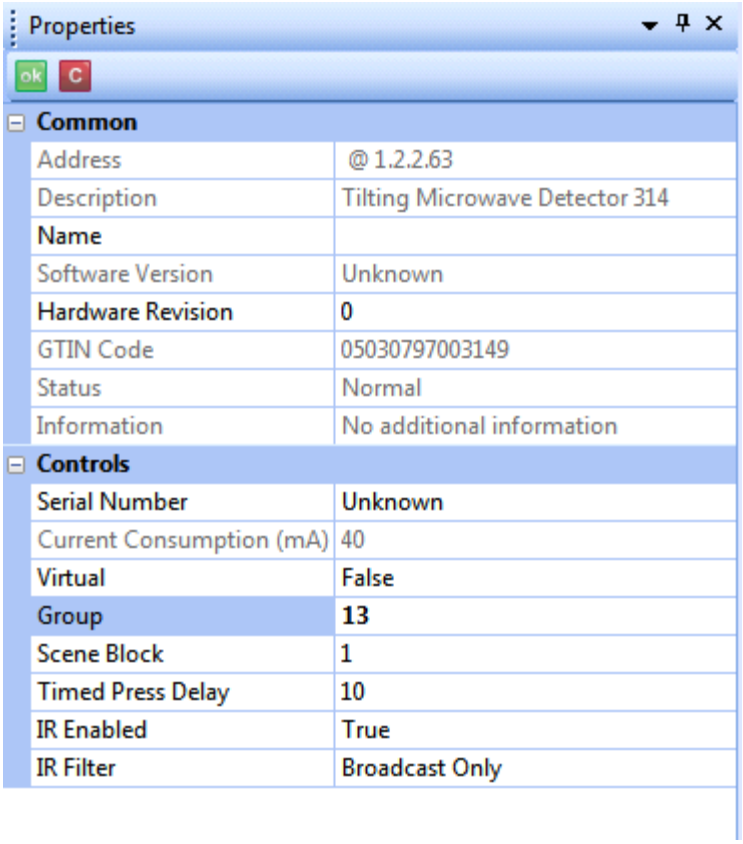
Control Device Configuration

Note:

- You must be in Editor mode to configure a control device *A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.* .

Configure Device

1. Click on the device in the Device Tree.
2. If not already open, click to view Properties for the device.



Name

It may be useful to name the device e.g. according to its location or purpose:

1. In the **Common** section, click in the **Name** field.
2. Enter a name for the device.
3. Click . *The device is renamed in the Device Tree .*

Virtual

Select if the device is treated as Virtual or Real.

Assign to Group

1. In the **Controls** section, click in **Group** field.
2. Enter the group to which you wish the device to be assigned. *(**0** = Ungrouped).*

3. Click .

Assign to Scene Block

1. In the **Controls** section, click in **Scene** *Collection of lighting levels for each channel assigned to the same group as the scene.* **Block** field. *Notice that the scene block is set to **1** by default.*
2. Enter the scene block to which you wish the device to be assigned.
3. Click .

Set Timed Press Delay

If you set the mode of the *subdevice A physical object that forms part of another device, with which you can interact, either directly or via Designer.* to 'Timed Press' (*see Subdevice Conguration - Timed Press Configuration*), this is the time (in seconds) that you have to press and hold the *button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* for the long press function to activate. For sensors, the button is a Helvar 303 remote control handset button. For example, with Timed Press Delay set to 7, to store the current levels to scene 1 using the 303 handset, you need to hold button 1 for seven seconds.

1. In the **Controls** section, click in **Timed Press Delay** field.
2. Enter the timed press delay value (in seconds) that you wish to assign to the device. *The number must be a positive integer from **1-25**.*
3. Click .

Enable Infrared Communication

To enable infrared communication from a Helvar remote control handset:

1. In the **Controls** section, click in the **IR** *Stands for Infrared. Infrared radiation is a form of light that is invisible to the human eye, and is often used as a medium to send information between two devices.* **Enabled** field. *Notice how the state is set to 'False' by default, which means infrared is disabled.*
2. Click and select 'True' from the drop-down menu.
3. Click . *Infrared is now enabled for the device, which means the device can receive instructions from the Remote Control Handset, via infrared.*

IR Filter

For control devices (such as sensors) to accept IR commands from the Helvar 303 remote control handset, the IR Filter number must be the same as the rotary switch setting ('0' in the diagram below).

See Remote Control Handset Configuration for more information.

Tip:

- Note that the **IR Filter** field is set to '**Broadcast Only**' by default, which means it will only accept infrared signals from Remote Control Handsets which are set to **0**.

To assign an IR filter value to the device:

1. In the **Controls** section, click in the **IR Filter** field.

2. Click and select an IR filter value from the drop-down menu.
3. Click . *The infrared filter value is now assigned.*

The device is now configured and ready for use in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. .

Related Topics

- Subdevice Configuration
- Remote Control Handset
- Remote Control Handset Configuration
- Infra-Red Remote Control Sensor
- IR Remote Control Sensor Configuration
- Control Gear Configuration
- Device Tree
- Edit Items in the Device Tree
- Properties

Addresses

Note:

- You must be in Editor mode to configure a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* .
- *To configure a subdevice when in analogue input mode (indicated by in the Device Tree), see Analogue Input Configuration.*
- *To configure a subdevice when in edge mode (indicated by in the Device Tree), see Edge Mode Configuration.*
- *To configure a rotary subdevice (indicated by in the Device Tree), see Rotary Switch Configuration.*
- *To configure a slider A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s). subdevice (indicated by in the Device Tree), see Slider Configuration.*

Configure Subdevice

1. Click ⊞ to expand the device in the Device Tree .
2. Click on the subdevice.
3. If not already open, click to view Properties for the subdevice.

Common	
Address	@ 1.1.1.1.1
Description	Group 1 Scene 1.1
Name	
Status	Normal
Information	No Information
Keys	
Mode	Single Press
Use Main Set	Always
Main Set	
Group	1
Scene Block	1
Press	
Function	Recall Scene (Fixed Light)
Scene Number	1
Fade Time	00:00:02
Condition	Always

Name

It may be useful to name the subdevice:

1. In the **Common** section, enter a name in the **Name** field.
2. Click . *The subdevice is renamed in the Devices Tree.*

Mode

You can change the way most subdevices operate, setting any of the available functions to a subdevice (but there are some exceptions):

Single Press

Denotes a single *button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* press to perform a function.

Timed Press

Two functions for the same button: a short press function and a long press (press and hold) function, and both can perform different actions.

Toggle Block

On/off by default, but can perform any three functions for the *scene Collection of lighting levels for each channel assigned to the same group as the scene.* block.

Toggle Solo

On/off by default, but can perform any three functions for the scene.

Modifier

Up/down by default, but can perform any two functions to the light levels in the group, scene or last scene called in the scene block.

Touch Dim Block

Can perform any two functions, and lower / raise levels, for the scene block.

Touch Dim Solo

Can perform any two functions, and lower / raise levels, for the scene.

To change the mode of a subdevice:

1. In the **Keys** section, click in the **Mode** field.
2. Click and select the mode from the drop-down menu.
3. Click .

Apply Condition to Subdevice

If you wish the subdevice to perform the set of functions according to a certain condition, and if the condition is not met then to use an alternative set of functions (*see* Conditions):

Note:

- If you choose a condition for the main set of functions of the subdevice, then an **Alternative Set** section appears, where you must configure an alternative set of functions to be performed if the condition is not met.

1. In the **Keys** section, click in the **Use Main Set** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

Assign Subdevice to Group

Tip:

- Assign the subdevice to the same group as the load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* (s) that you wish to affect.

1. In the **Main Set** section, click in the **Group** field.

2. Enter the group to which you wish the subdevice to be assigned. ***(0** = Ungrouped).*
3. Click .

Assign Subdevice to Scene Block

The *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* standard specifies that the subdevices in a device may be assigned only to scenes within the same scene block. This is why it is necessary to choose a scene block, rather than choose any scene in the *Workgroup Design A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* .

Tip:

- Assign the subdevice to the same scene block as the load(s) that you wish to affect.

1. In the **Main Set** section, click in the **Scene Block** field.
2. Enter the scene block to which you wish the subdevice to be assigned.
3. Click .

Note:

- Before a control panel button or other input can be used in a lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* , its functionality must be assigned. For example, each control panel button has a function so that, when it is pressed, a scene is selected or a level is set.

The next steps depend on the mode you have chosen for the subdevice. (*Click to view for each mode).*

Application Note: Direct Proportion Function

When you change the function of the subdevice to 'Direct Proportion', this value relates to a proportion of the difference between the last recalled scene level or direct level and the output limits of the device.

If you set a positive value, this is a proportion of the difference of said level and 100% level. For example, if the last recalled scene level or direct level is 44% and you send a ‘Direct Proportion at 50%’ command, then the level rises from 44% to 72% (100 - 44 = 56 x 50% = 28 + 44 = 72).

If you set a negative proportion value, this is a proportion of the difference of the last recalled scene or direct level and 0%, which so happens to be a proportion of the level itself. For example, if the level is at 44% and you send a command to perform the ‘Direct Proportion’ function at -50%, then the level decreases to 22% (i.e. 50% of 44%).

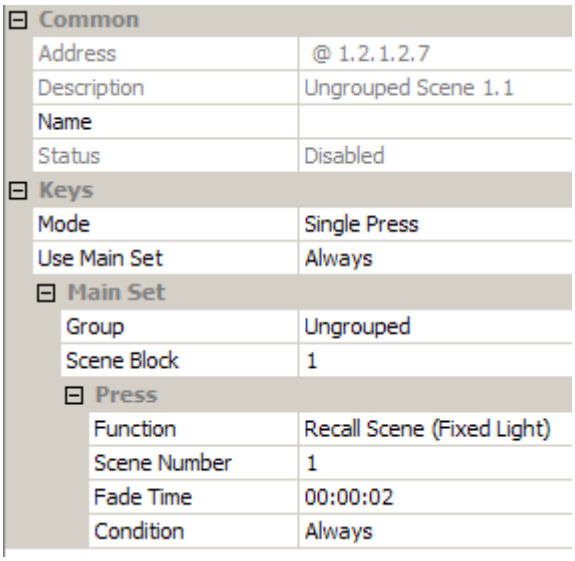
Notes:

- The range for the ‘Direct Proportion’ function is -100% to 100%.
- Any succeeding ‘Direct Proportion’ commands will also use the last recalled scene or direct level as a base mark.

Single Press Configuration

Single Press Configuration

Single Press mode is set to call a fixed light scene by default but, like any other mode, can be configured to perform any function.



Function

To change the function of the mode:

1. In the **Press** section, click in the **Function** field. *Notice that the function is set to 'Recall Scene (Fixed Light)' by default.*
2. Click and select your desired function from the drop-down menu.
3. Click .

Scene Number

To change the scene to call:

1. In the **Press** section, click in the **Scene Number** field.
2. Enter the scene which you wish to call upon the button press.
3. Click .

Fade Time

The fade time is the time it takes the channel(s) to change from one scene to another.

1. In the **Press** section, click in the **Fade Time** field. *Notice that it is set to 2 seconds by default.*
2. Enter the fade time for the function.
3. Click .

Assign Condition to Function

If you wish the subdevice to perform the function according to a certain condition (*see Conditions*):

1. In the **Press** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

Addresses

An address is a number or sequence of numbers used to identify a *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* , *subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* , *device A physical item with which you can interact, either directly or via Designer.* or subdevice in a *lighting system A network of Client PCs, Routers, Control Devices,*

Control Gear and lamps.. Each item has a unique address that is either defined automatically (by Designer or the router), or defined manually (by the user with Designer or at the physical device).

Address Structure for Items

Each address is made up of up to five numbers in the format:

Cluster ID.Cluster Member ID.Subnet.Device.Subdevice

Router Address Format

Routers have an address in the format of **Cluster ID.Cluster Member ID**

Subnet Address Format

Subnets have an address in the format of **Cluster ID.Cluster Member ID.Subnet**

Device Address Format

Devices have an address in the format of **Cluster ID.Cluster Member ID.Subnet.Device**

Subdevice Address Format

Subdevices have an address in the format of **Cluster ID.Cluster Member ID.Subnet.Device.Subdevice**

Related Topics

Short Press

- Click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
- Click and select the condition from the drop-down menu.
- Click .
- **Long Press**

  Set and configure the function of the long button press (press and hold).

  #### Function

  You can change this function of the mode:

  1. In the **Long Press** section, click in the **Function** field. *Notice that the function is set to 'Recall Scene (Fixed Light)' by default.*
  2. Click and select your desired function from the drop-down menu.
  3. Click .

  #### Scene Number

  You can change the scene to call:

  1. In the **Press** section, click in the **Scene Number** field.
  2. Enter the scene which you wish to call upon the button press.
  3. Click .

  #### Fade Time

  The fade time is the time it takes the channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.*(s) to change from one scene to another:

  1. In the **Long Press** section, click in the **Fade Time** field. *Notice that it is set to 2 seconds by default.*
  2. Enter the fade time for the function.
  3. Click .

Condition

If you wish the subdevice to perform the function according to a certain condition (*see Conditions*):

1. In the **Long Press** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

Toggle Block/Solo Configuration

Toggle Block/Solo Configuration

The Toggle Block is, by default, an On/Off button and therefore has two functions, but you can set and configure any three functions to the this button mode.

Common	
Address	@ 1.2.1.2.17
Description	Ungrouped Toggle Block
Name	
Status	Disabled
Keys	
Mode	Toggle Block
Use Main Set	Always
⊟ Main Set	
Group	Ungrouped
Scene Block	1
⊟ On Function 1	
Function	Recall Scene (Fixed Light)
Scene Number	15
Fade Time	00:00:02
Condition	Always
⊟ On Function 2	
Function	Not Used
Condition	Always
⊟ Off Function	
Function	Recall Scene (Fixed Light)
Scene Number	1
Fade Time	00:00:02
Condition	Always

When all three functions are used, the Toggle Block operates as per the following:

1. First button press performs **On Function 1**.
2. Second button press performs **On Function 2**.
3. Third button press performs **Off Function**.

-

Note:

- The **On Function** means that the LED turns ON when the button is pressed, and the **Off Function** means that the LED turns OFF when the button is pressed; the wording has no relevance to the lights turning on or off.

- **On Function 1**

  Function

To change this function of the mode:

1. In the **On Function 1** section, click in the **Function** field. *Notice that the function is set to 'Recall Scene (Fixed Light)' by default.*
2. Click and select your desired function from the drop-down menu.
3. Click .

Scene Number

To change the scene to call:

1. In the **Press** section, click in the **Scene Number** field.
2. Enter the scene which you wish to call upon the button press.
3. Click .

Fade Time

The fade time is the time it takes the channel(s) to change from one scene to another.

1. In the **On Function 1** section, click in the **Fade Time** field. *Notice that it is set to 2 seconds by default.*
2. Enter the fade time for the function.
3. Click .

Condition

If you wish the subdevice to perform the function according to a certain condition (*see Conditions*):

1. In the **On Function 1** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

On Function 2

Function

By default, this function is not used, but you can set this function of the mode:

1. In the **On Function 2** section, click in the **Function** field. *Notice that the function is set to 'Not Used' by default.*
2. Click and select your desired function from the drop-down menu.
3. Click .

Off Function

Function

To change this function of the mode:

1. In the **Off Function** section, click in the **Function** field. *Notice that the function is set to 'Recall Scene (Fixed Light)' by default.*
2. Click and select your desired function from the drop-down menu.
3. Click .

Scene Number

To change the scene to call:

1. In the **Press** section, click in the **Scene Number** field.

2. Enter the scene which you wish to call upon the button press.
3. Click ok.

Fade Time

The fade time is the time it takes for the channel(s) to change from one scene to another.

1. In the **Off Function** section, click in the **Fade Time** field. *Notice that it is set to 2 seconds by default.*
2. Enter the fade time for the function.
3. Click ok.

Condition

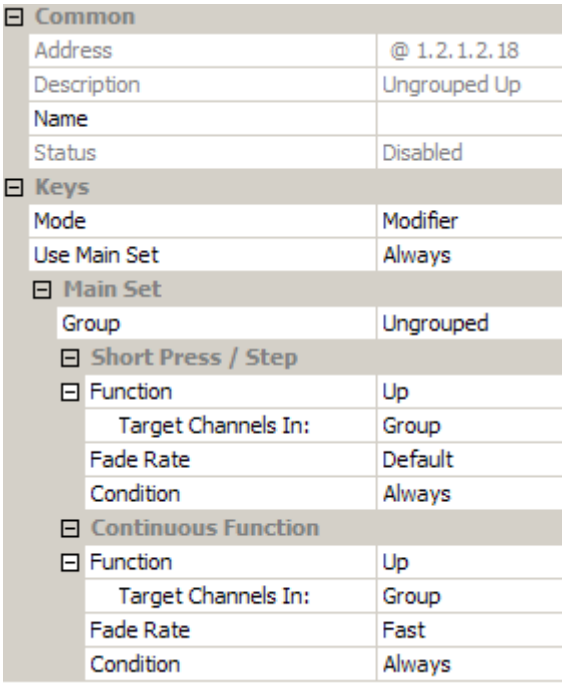
If you wish the subdevice to perform the function according to a certain condition (*see Conditions*):

1. In the **Off Function** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click ▼ and select the condition from the drop-down menu.
3. Click ok.

Modifier Configuration

Modifier Configuration

Typically, the Modifier mode is used for up and down buttons, used to raise and lower light levels respectively, but, like any other mode, you can set and configure any function to this mode



You can set and configure two functions of the mode: short press and long press (press and hold).

Short Press

Function

To change this function of the mode:

1. In the **Short Press / Step** section, click in the **Function** field. *Notice that the function is set to 'Up' by default.*
2. Click and select your desired function from the drop-down menu.
3. Click .

Target Channels In

By default, this mode affects all channels (loads) in the group, but can be configured to affect just the channels used in a specific scene, or the channels used in the last selected scene.

-

Tip:

- If a channel is not used in a scene then there will be an asterisk (*) in it's column in the Scene Table, against the relevant scene. This means that the channel will not be affected if the mode is set to target channels in that specific scene.
- Setting the target channel to 'Last Scene Called In Block' will affect all channels which are used in the scene which was last called.

-

1. In the **Short Press / Step** section, click in the **Target Channels In** field. *Notice that the field is set to 'Group' by default, which means it will affect all channels in the Group.*
2. Click and select your desired set from the drop-down menu.
3. Click .

-

Note:

- If you select 'Scene' from the **Target Channels In** field, then the **Scene Number** field appears below, where you must enter a scene number wherein the target channels will be affected.

- **Fade Rate**

To set the fade rate (the rate at which levels will change):

1. In the **Short Press / Step** section, click in the **Fade Rate** field. *Notice that the fade rate is set to 'Default'.*
2. Enter the fade rate for the function.
3. Click .

Condition

If you wish the subdevice to perform the function according to a certain condition (*see Conditions*):

1. In the **Short Press / Step** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

Continuous Function

This function is used when you press and hold the button.

*In the **Continuous Function** section, repeat the steps for Short Press function above.*

Touch Dim Block/Solo Configuration

Touch Dim Block/Solo Configuration

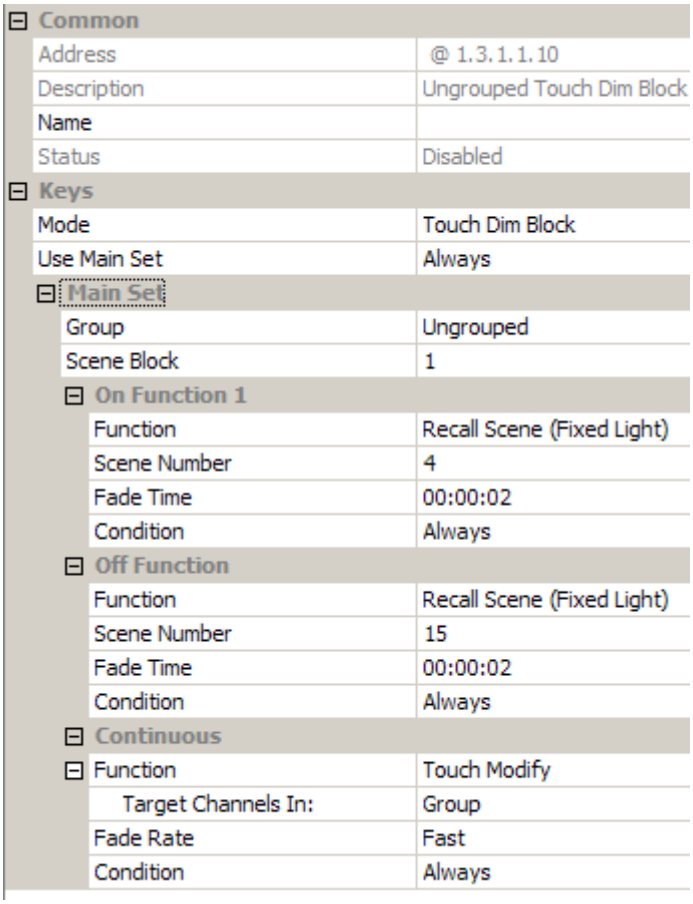
Touch Dim Block/Solo mode allows you to configure three functions for the same subdevice (button): an on function, an off function and a continuous (press and hold) function. You can set and configure any three functions to the button mode.

-

Note:

- The **On Function** means that the LED turns ON when the button is pressed, and the **Off Function** means that the LED turns OFF when the button is pressed; the wording has no relevance to the lights turning on or off.

-



On Function 1

Function

To change the function of the mode:

1. In the **On Function 1** section, click in the **Function** field. *Notice that the function is set to 'Last Level' by default.*

2. Click and select your desired function from the drop-down menu.
3. Click .

Scene Number

To change the scene to call:

1. In the **Press** section, click in the **Scene Number** field.
2. Enter the scene which you wish to call upon the button press.
3. Click .

Fade Time

The fade time is the time it takes the channel(s) to change from one scene to another.

1. In the **On Function 1** section, click in the **Fade Time** field. *Notice that it is set to 2 seconds by default.*
2. Enter the fade time for the function.
3. Click .

Condition

If you wish the subdevice to perform the function according to a certain condition (*see Conditions*):

1. In the **Off Function** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

Off Function

Function

To change the function of the mode:

1. In the **Off Function** section, click in the **Function** field. *Notice that the function is set to 'Recall Scene (Fixed Light)' by default.*
2. Click and select your desired function from the drop-down menu.
3. Click .

Scene Number

To change the scene to call:

1. In the **Press** section, click in the **Scene Number** field.
2. Enter the scene which you wish to call upon the button press.
3. Click .

Fade Time

The fade time is the time it takes the channel(s) to change from one scene to another.

1. In the **Off Function** section, click in the **Fade Time** field. *Notice that it is set to 2 seconds by default.*
2. Enter the fade time for the function.
3. Click .

Condition

If you wish the subdevice to perform the function according to a certain condition (*see Conditions*):

1. In the **Off Function** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu..
3. Click .

Continuous

Function

-

Note:

- The Touch Modify function will lower the light levels on the first long button press (press and hold), and raise the levels on the second long press.
- When the levels are in an 'off' state, and you press and hold a button set to the 'Touch Modify' function, then the levels are raised to 100%, and then lowered according to how long you press the button.

-

You cannot change this function of the mode, you can only disable the function:

1. In the **Continuous** section, click in the **Function** field. *Notice that the function is set to 'Touch Modify' by default.*
2. If you wish to not use the touch modify function, click and select 'Not Used' from the drop-down menu.
3. Click .

Target Channels In

-

Note:

- By default, this mode affects all channels (loads) in the Group, but can be configured to affect just the channels used in a specific scene / scene block or the channels used in the last selected scene in the scene block.

-

-

Tip:

- If a channel is not used in a scene then there will be an asterisk (*) in it's column in the Scene Table, against the relevant Scene. This means that the channel will not be affected if the mode is set to target channels in that specific scene.
- Setting the target channel to 'Last Scene Called In Block' will affect all channels which are used in the scene which was last called.

-

1. In the **Continuous** section, click in the **Target Channels In:** field. *Notice that the function is set to 'Group' by default, which means it will affect all channels in the Group.*
2. Click and select your desired set from the drop-down menu.
3. Click .

-

Note:

- If you select 'Scene' from the **Target Channels In** field, then **Scene Number** field appears below, where you must enter a scene number wherein the target channels will be affected.

- **Fade Rate**

The fade time is the time it takes for the channel(s) to change from one scene to another.

1. In the **Continuous** section, click in the **Fade Rate** field. *Notice that the fade rate is set to 'Default'.*
2. Enter the fade rate for the function.
3. Click .

Condition

If you wish the subdevice to perform the function according to a certain condition (*see Conditions*):

1. In the **Continuous** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

The subdevice is now configured and ready for use in the lighting system.

Related Topics

-
- Device Tree
- Edit Items in the Device Tree
- Properties
- Scenes
- Scene Numbers and Blocks
- Conditions
- Analogue Input Configuration
- Edge Mode Configuration
- Rotary Switch Configuration
- Slider Configuration

Partially Supported and Unsupported Digidim Products

Partially-supported or Unsupported Products

The Digidim range of control devices pre-dates the new *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* systems. Older control devices are not designed to work with the new router systems. Designer still recognises the older control devices, and if the devices are not fully-supported then this is indicated in Properties.

Partially-supported products

When a product is usable on the system, but not fully-supported, this is indicated by the P icon at the top-right of the Properties view.

- For Digidim control devices before version 4.24, infrared remote control receiver buttons, if configured as modifiers, fail to stop issuing commands promptly upon release of the button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* on the Remote Control Handset.
- For the Analogue Input Unit (942) and Mini Input Unit (444) before version 4.20, if an input is set to modifier *A control used to modify a level, such as a fade button on a control panel.* or touch dim mode, then this input does not work correctly and therefore is unusable.

Unsupported products

When a product is not usable on the system, this is indicated in Properties by the U icon.

- Digidim control devices before version 4.0 cannot be used on the system, and as such cannot be configured.
- The Input Unit 440 is unsupported.
- Multisensor 312's before 4.04 are unsupported.
- Multisensor 301 and 302's are not supported.
- Older Tridonic emergency ballasts (before EZ Pro), and other non-DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* compliant emergency ballasts, are unsupported.

Note:

- Unsupported device *A physical item with which you can interact, either directly or via Designer.* properties can be viewed and set. However, during upload they cannot be matched or used.

Contact Helvar Customer Support for more information.

Related Topics

- Device Configuration
- Control Gear Configuration
- Device Tree

- Properties

Mimics

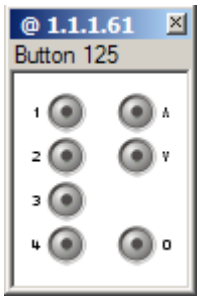
A *mimic* *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* is a virtual representation of a DALI subnet control device.

It replicates the functionality of the device, so that you can interact with it and test and monitor its behaviour.

To open a mimic, double-click a control device in the Designer device tree.

The examples below show the mimics for a Button (125) control panel and for the Remote control handset.

Example 1: 125 Mimic



Click the mimic buttons to replicate pressing the buttons of the physical panel.

The buttons illuminate accordingly.

The mimic title bar shows the address of the device.

The grey area below the title bar shows the name of the device (long device names are truncated).

Example 2: Remote control handset mimic

To display this mimic, Click IR on any mimic of a device that supports infrared remote control.

Click on a scene *Collection of lighting levels for each channel assigned to the same group as the scene.* selection button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to replicate it being pressed.

Position the mouse pointer on a button to view a tooltip that gives the name and setting of the button.

Click ⊠ to close the Remote Control Handset Mimic.

Related Topics

- Open/Close a Mimic
- Minimize/Maximise a Mimic
- Device Tree
- DALI Subnet

Minimise/Maximise a Mimic

Minimise a Mimic

1. To minimize a mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.*, right-click the title bar. *This displays the context menu.*
2. Click **Minimize**. *The mimic minimises to a bar at the bottom of the Designer application window.*

Maximise a Mimic

- Double-click a minimised mimic to maximise it.

Related Topics

- Mimics
- Open/Close a Mimic
- Device Tree
- DALI Subnet

View/Hide a Mimic

Note:

- This topic does not apply to the Remote Control Handset Mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* . *See Remote Control Handset Mimic for details on how to open and close the handset mimic.*

Open a Mimic

- Double-click on a control device *A physical item with which you can interact, either directly or via Designer.* in the Device Tree.

Close a Mimic

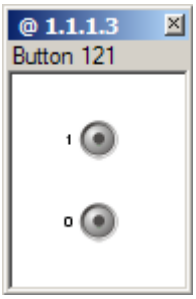
- Click in the mimic title bar.

Related Topics

- Mimics
- Minimize/Maximise a Mimic
- Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Button Panels

Button 121 Mimic

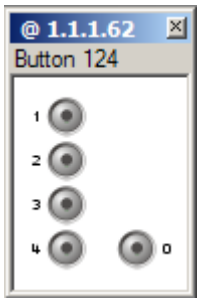


- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Related Topics

- 12x Series Button Panels
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Button 124 Mimic

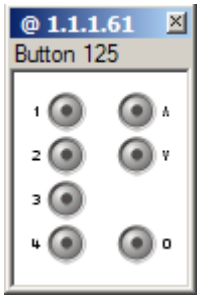


- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Related Topics

- 12x Series Button Panels
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Button 125 Mimic

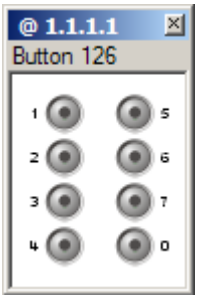


- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Related Topics

- 12x Series Button Panels
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Button 126 Mimic

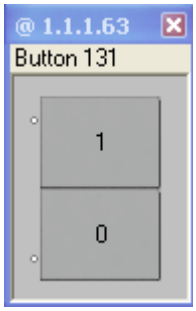


- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Related Topics

- 12x Series Button Panels
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Button 131 Mimic

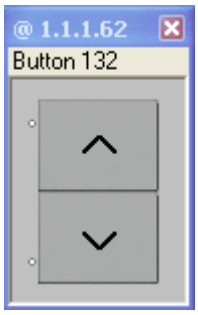


- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Related Topics

- 13x Series Button Panels
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Button 132 Mimic



- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click to view the Infrared Remote Control Handset Mimic.

Related Topics

- Button 132
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Button 134 Mimic

- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Related Topics

- Button (134)
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Button 135 Mimic

- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Related Topics

- Button (135)
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

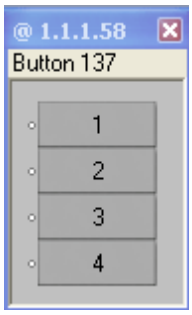
Button 136 Mimic

- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Related Topics

- Button (136)
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Button 137 Mimic



- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click ® to view the Infrared Remote Control Handset Mimic.

Related Topics

- Button (137)
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Button 138 Mimic

- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

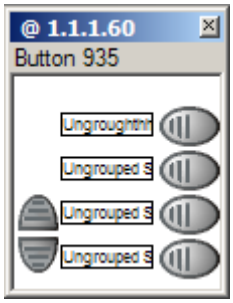
Note:

- As Button 138 is set aside for custom built control modules there may be less than 8 buttons to your particular custom module. Designer will only mimic the buttons that are present on your custom module. This means that if there are 4 buttons on your custom panel then that is what Designer will show.

Related Topics

- Button (138) Custom
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

button 935 mimic

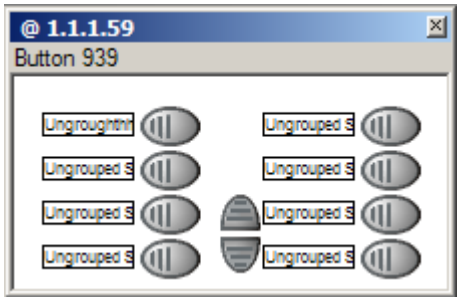


- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Related Topics

- Button (935)
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Button 939 Mimic



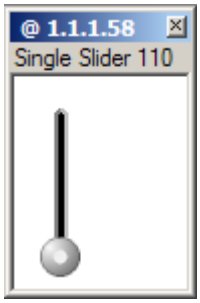
- Click on a button to replicate it being pressed.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click to view the Infrared Remote Control Handset Mimic.

Related Topics

- Button (939)
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Sliders

Slider 110 Mimic

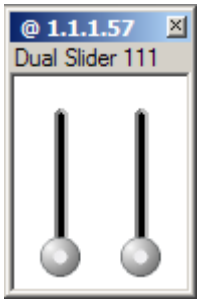


- Click and drag the slider button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to replicate the slider *A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).* being used to adjust the level.
- Position the mouse pointer on a button to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Related Topics

- Slider (110)
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Slider 111 Mimic



- Drag and drop the slider buttons to replicate the slider *A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).* being used to adjust each level.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click to view the Infrared Remote Control Handset Mimic.

Related Topics

- Slider (111)
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Infrared Remote Control Handset Mimic
- Device Tree
- DALI Subnet

Sensors

312 Multisensor Mimic

Helvar

Note:

- only appears in the Multisensor mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* when you are Online. This is because you can only simulate the Multisensor presence detection when you are connected to a real system.

- Click to replicate movement (occupancy) detection by the Multisensor.
- Click to replicate use of the Switch Input (also known as Manual Off). It normally calls the 15th scene *Collection of lighting levels for each channel assigned to the same group as the scene.* in the Scene Block.
- Click to skip the Delay time and trigger the Transition Scene (Scene 14) immediately. *To define these times, see PIR Configuration - Timeouts.*
- Click to skip the Transition Time and trigger the Off Scene (the 13th scene in the Scene Block) immediately.
- Click to extend the Exit Delay.
- Click EXIT to skip the Exit Delay time.
- Position the mouse pointer on a button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to view a tooltip that gives the name and setting of the button.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Replicating the Multisensor

1. Click to replicate movement detection by the Multisensor. This triggers the 1st scene in the Scene Block. *From this point on you can click to replicate using the Switch Input, which will cause the Multisensor to resume motion detection.*
2. appears, indicating that the Multisensor is counting down to the moment when it will trigger the 14th scene in the Scene Block.
3. Click to replicate the end of the countdown and trigger the 14th scene in the Scene Block.
4. appears, indicating that the Multisensor is counting down to the moment when it will trigger the 13th scene in the Scene Block.
5. Click to replicate the end of the countdown and trigger the 13th scene in the Scene Block immediately. *The Multisensor resumes presence detection.*

Replicating the Multisensor with Switch Input

1. Click to simulate movement detection by the Multisensor 312. This triggers the 1st scene in the Scene Block.
2. appears, indicating that the Multisensor is counting down to the moment when it will trigger the 14th scene in the Scene Block.
3. Click to simulate using the Switch Input. This triggers the 15th scene in the Scene Block.
4. and appear and the Exit Delay countdown begins.
5. Click to replicate extending the Exit Delay.
6. Click to replicate the end of the Exit Delay countdown. *The Multisensor resumes presence detection.*

Related Topics

- Multisensor (312)
- Multisensor (312) Configuration
- Mimics
- Open/Close a Mimic
- Minimise/Maximise a Mimic
- Device Tree
- DALI Subnet

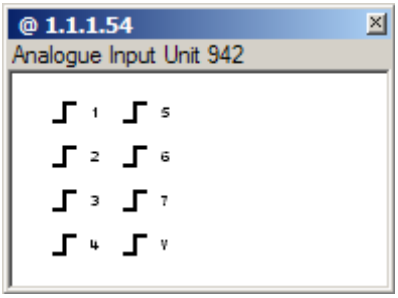
Inputs

Input Unit 942 Mimic

The Analogue Input Unit has eight inputs, each of which is represented on the mimic as an icon. Inputs 1, 2, 3 and 4 can be configured as analogue inputs, and all inputs can be configured for digital input.

In *Button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* mode, each input can cause a *scene Collection of lighting levels for each channel assigned to the same group as the scene.* recall when the button is pressed momentarily, allowing use with non-latching switches. When a switch is clicked it remains closed for as long as the mouse button is pressed, but opens when the mouse button is released.

In Edge mode, each input can cause a scene recall on the rising and/or falling edge, allowing use with latching switches.



- Click on an input to replicate its use.
- Position the mouse pointer on a button to view a tooltip that gives the name and setting of the button.
- Configuration of inputs is done via Properties, *see Subdevice Configuration*.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.

Related Topics

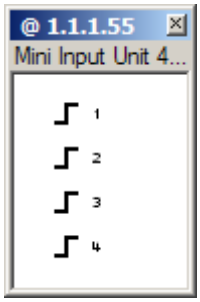
- Analogue nput Unit (942)
- Mimics
- Open/Close a Mimic
- Minimize/Maximize a Mimic
- Subdevice Configuration
- Hysteresis
- Device Tree
- DALI Subnet

Mini Input Unit 444 Mimic

The Mini Input Unit has four inputs, each of which is represented on the mimic as an icon. Each input can be configured for Edge mode or *Button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* mode, and this affects the way the buttons of the *Mimic A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* operate.

In Button mode each input can cause a *scene Collection of lighting levels for each channel assigned to the same group as the scene.* recall when the button is pressed momentarily, allowing use with non-latching switches. When a switch is clicked it remains closed for as long as the mouse button is pressed, but opens when the mouse button is released.

In Edge mode each input can cause a scene recall on the rising and/or falling edge, allowing use with latching switches.



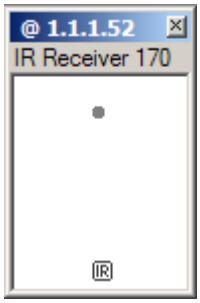
- Click on an input to replicate its use.
- Position the mouse pointer on a button to view a tooltip that gives the name and setting of the button.
- Configuration of inputs is done via Properties, *see Subdevice Configuration*.
- Right-click on the mimic title bar to view the context menu.

Related topics

- Mini Input Unit (444)
- Mimics
- Open/Close a Mimic
- Minimize/Maximize a Mimic
- Subdevice Configuration
- Hysteresis
- Device Tree
- DALI Subnet

Miscellaneous

Infra-red Receiver 170 Mimic

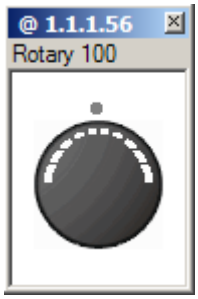


- Use the Infrared Remote Control Handset Mimic to replicate scene *Collection of lighting levels for each channel assigned to the same group as the scene.* selection.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click to view the Infrared Remote Control Handset Mimic.

Related Topics

- Infrared Receiver (170)
- Mimics
- Infrared Remote Control Handset Mimic
- Open/Close a Mimic
- Minimize/Maximize a Mimic
- Device Tree
- DALI Subnet

Rotary 100 Miimic



- Click on a scene *Collection of lighting levels for each channel assigned to the same group as the scene.* selection button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to replicate it being pressed.
- Click and hold on different sections of the rotary to raise or lower the channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* levels at different rates (a tooltip appears when you position the mouse pointer at the section to tell you what rate it will raise/lower the levels).
- Position the mouse pointer on a button to view a tooltip that gives the name and setting of the button.
- Right-click on the mimic *A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* title bar to view the context menu.
- If infrared is enabled for the device *A physical item with which you can interact, either directly or via Designer.* , click IR to view the Infrared Remote Control Handset Mimic.

Related Topics

- Rotary (100)
- Mimics
- Infrared Remote Control Handset Mimic
- Open/Close a Mimic
- Minimize/Maximize a Mimic
- Device Tree
- DALI Subnet

Remote Control Handset Mimic

The IR Remote Control Handset is a useful component of a Digidim *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*. However, the *IR Stands for Infrared. Infrared radiation is a form of light that is invisible to the human eye, and is often used as a medium to send information between two devices.* Remote Control Handset does not appear in Designer as a *device A physical item with which you can interact, either directly or via Designer.* that can be added to the system design. Instead, each item that has an infrared input can, when enabled, simulate the IR Remote Control Handset. This simulation allows you to interact with the IR Remote Control Handset controls in the same way as with the physical device.

In a lighting system , signals from a Remote Control Handset may be received by several IR-enabled devices at the same time. However, this is not convenient behaviour when you are developing a Workgroup Design. To simplify this behaviour the Remote Control Handset mimic is always docked with a panel. This is the only panel to which its signals will be sent.

To reflect the mobile nature of the Remote Control Handset, its *mimic A representation of a device, generated by Designer to mimic the functionality of the real device in the lighting system. It is used to aid lighting system testing.* can be dragged and dropped to dock it with a different panel mimic. When the Remote Control Handset mimic is dragged close to the bottom of the mimic of a panel that is IR-enabled, it will snap to the panel mimic.

- Click IR on any mimic of a device that supports infrared remote control.
- Click on a scene *Collection of lighting levels for each channel assigned to the same group as the scene.* selection button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* to replicate it being pressed.
- Position the mouse pointer on a button to view a tooltip that gives the name and setting of the button.
- Click ⊠ to close the Remote Control Handset Mimic.

Related Topics

- Remote Control Handset
- Mimics
- Open/Close a Mimic
- Minimize/Maximize a Mimic
- Device Tree
- DALI Subnet

SDIM Subnet

SDIM Subnet

Note:

- Only the Imagine 920 Router has an SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.* subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* connector and can therefore support one SDIM subnet.

An SDIM subnet allows the Imagine 920 *Router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* to drive *control gear For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* such as the Imagine range of dimmers, relay units and ballast controllers, or Digidim loads with SDIM capability. The router has one SDIM subnet which can support up to 128 SDIM devices, within the limits of 252 SDIM addresses. *To learn more about these limits and how they may affect your lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. , contact Helvar Customer Support.*

SDIM Subnet Communication

SDIM is an internal Helvar protocol used to communicate between SDIM devices (control gear) on an SDIM subnet. Unlike *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* devices, whose addresses are automatically set by the router system, SDIM addresses are set at the *device A physical item with which you can interact, either directly or via Designer.* by a *DIL Stands for Dual Inline. A small two-state switch used on electronic devices, normally used to set device configuration settings.* switch or menu selection. There can be one or more addresses, depending on how many channels the device has.

SDIM Subnet Configuration

To learn how to configure an SDIM subnet, see SDIM Subnet Configuration.

Insert Devices on the SDIM Subnet

See Insert an Item.

Related Topics

- Workgroups
- Properties
- Insert Items
- SDIM Subnet Configuration
- SDIM Control Gear Configuration

SDIM Subnet Configuration

Note:

- You must be in Editor mode to configure an SDIM subnet.

To configure an *SDIM Stands for Serial DIMming communication. It is a Helvar communication protocol. subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* :

1. Click on the SDIM Subnet in the Device Tree.
2. If Properties view is not already open, click .

Common	
Address	@ 1.1.3
Description	S-DIM Subnet
Name	S-DIM
Status	Normal
Information	Maximum Number of Channels 252
S-DIM Subnets	
Max Number of Channels	252

Configure Subnet

Name

It may be useful to name the subnet:

1. In the **Common** section, enter a name in the **Name** field.
2. Click . *The subnet is renamed in the Device Tree .*

Related Topics

- SDIM Subnet
- SDIM Control Gear Configuration
- Insert an Item
- Device Tree
- Properties
- Workgroups
- Addresses

SDIM Load Configuration

Note:

- You must be in Editor mode to configure control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* .

Configure Item

1. Click on the SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.* control gear item in the Device Tree.
2. If not already open, click to view Properties for the item.

Properties

ok C

Common	
Address	@ 1.1.3.1
Description	Universal Dimmer 458/UNI8
Name	
Software Version	Unknown
GTIN Code	05030797064584
Status	Normal
Information	
Loads	
Groups	Ungrouped
Groups To Append	
Output Level	100%
Power On This Channel To	Last Level Before Fail
Min Level	2%
Max Level	100%
Power Consumption (W)	0
Circuit Power Factor	1
Minimum Expected Power (W)	0
Maximum Expected Power (W)	0
S-DIM Loads	
S-DIM Device Type	232
Load Table And Minimum Fade Time Set At Device	True
Load Table	Unknown
Minimum Fade Time	1s
Override Set At Device	False
Override Level	100%
Switch On And Hysteresis Set At Device	False
Switch On Level	2%
Hysteresis	False
Switch Off Level	1%
Lock Settings	False
Expected Device Type	Universal Dimmer 458/UNI8

Name

It is useful to name the item e.g. according to its location or purpose:

1. In the **Common** section, click in the **Name** field.
2. Enter a name for the device *A physical item with which you can interact, either directly or via Designer.* .
3. Click . *The device is renamed in the Devices Tree.*

Assign to Group

1. Click in **Groups** field.
2. Enter the group to be assigned to the item. *If you wish to assign more than one group, insert a comma after each Group number e.g.* ***1, 3, 7*** *(or enter more groups in the* ***Groups To Append*** *field, see below).*
3. Click .

Groups to Append

1. In the **Loads** section, click in **Groups To Append** field.
2. Enter the group to be assigned to the item. This will maintain the current grouping. *If you wish to assign more than one group, insert a comma after each Group number e.g.* ***1, 3, 7***
3. Click .

Power On this Channel To

This is the level/ *scene Collection of lighting levels for each channel assigned to the same group as the scene.* that the *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* will go to when the *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* and/or control gear is powered on.

You can set this channel to power on to a specific scene, level, last level before fail, off, or the minimum, maximum or system fail levels.

Note:

- A value in the range of 0-100 and 'Last Level Before Fail' apply when either the router or the control gear is repowered. *Note that non-Helvar loads do not have the capability of repowering to 0 or 'Last Level Before Fail'*.
- 'Off', 'Minimum Level', Maximum Level', 'System Fail Level' and a scene are only used when the router is repowered.

1. Click in the **Power On This Channel To** field.
2. Click and select a lighting setting for the channel to power on to.
3. Click .

Minimum Level

Notes:

- If the switch on level *(see* ***Switch On Level*** *section below)* is set higher than the minimum level, then the channel will not switch on if it goes to the minimum level.

This is the minimum level that the channel will achieve, no matter what scene is called or level is set. For example, if you set a minimum level of 50% and call scene 4 (at 25% level), the channel output level will be 50%.

1. Click in the **Min Level** field.
2. Enter a percentage value (1-100%).
3. Click .

Maximum Level

This is the maximum level that the channel will achieve, no matter what scene is called or level is set. For example, if you set a maximum level of 50% and call scene 2 (at 75% level), the channel output level will be 50%.

1. Click in the **Max Level** field.
2. Enter a percentage value (1-100%).
3. Click .

Circuit Power Loading

Note:

- This field only appears for devices which do **not** measure their own power consumption.

The circuit power loading can be set when a device does not calculate its own power consumption. Calculate the total power consumption of all the lamps connected to the device and enter this amount in this field (this will be an estimation of the total power consumption of the *load For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.*).

1. Click in the **Circuit Power Loading** field.
2. Enter a value in the range of 0 to 16384 W (0.25 W resolution).
3. Click .

Circuit Power Factor

Note:

- This field only appears for devices which measure their own power consumption.

The circuit power factor can be set when a device measures its own power consumption. The Imagine *SCR Stands for Silicon-Controlled Rectifier. The most common type of thyristor. See the entry for Thyristor.* Dimmer (HES9200), Sine Wave Dimmer (HES92060), Imagine Transistor Dimmer (HES92220) and Current Monitor Unit calculate their own power consumption.

The power factor of an AC electrical circuit is defined as the ratio of the **real power** to the **apparent power**.

- **Real power** is the capacity of the circuit for performing work in a particular time. The unit is Watts (W).
- **Apparent power** is the product of the current and voltage of the circuit. The unit is Volt-Ampere (VA).

Due to energy stored in the load (control gear) and returned to the source, or due to a non-linear load that distorts the wave shape of the current drawn from the source, the apparent power can be greater than the real power.

In an electric power system, a load with a low power factor draws more current than a load with a high power factor, for the same amount of useful power transferred. The higher currents increase the energy lost in the distribution system, and require larger wires and other equipment. Because of the costs of larger equipment and wasted energy, electrical utilities will usually charge a higher cost to industrial or commercial customers where there is a low power factor.

1. Click in the **Circuit Power Factor** field.
2. Enter a value between 0 and 2.55.
3. Click .

Minimum Expected Power

Note:

- This field only appears for devices which measure their own power consumption.

This field is used to flag a problem if the power consumption falls below this value, when the output level is at 100%. For example, if 1kW of mains tungsten lamps are installed on this channel, a good value for minimum expected power may be 800 W.

1. Click in the **Minimum Expected Power** field.
2. Enter a value between 0 and the maximum expected power value (which is in the range of 0 to 16383.75 W, see below).
3. Click .

Maximum Expected Power

Note:

- This field only appears for devices which measure their own power consumption.

This field is used to flag a problem if the power consumption rises above this value, when the output level is at 100%. For example, if 1kW of mains tungsten lamps are installed on this channel, a good value for maximum expected power may be 1200 W.

1. Click in the **Maximum Expected Power** field.
2. Enter a value between the minimum expected power value and a value up to 16383.75 W.
3. Click .

Enable the Load Table and Minimum Fade Time to be Set

By default, the load table and minimum fade time are set at the device. To enable the load table and minimum fade time to be set in Designer:

1. Click in the **Load Table and Minimum Fade Time Set At Device** field.
2. Click and select 'False'.
3. Click .

Load Table

The following table shows the load table for all products:

Old products	Current monitor unit	HES92220 Transistor dimmer	Output unit	HES92000/ HES92020 SCR dimmer	Ambience 4 SCR dimmer	458 SCR dimmer	458/OPT4 options module
Non-dim	Table 0	Non-dim	Switched 0/10 Volts sink *'Sink' means that an output hasn't got drive capability*	Non-dim	Non-dim	Non-dim	Switched 0/10 Volts sink
Tungsten Linear	Table 1	Tungsten Linear	Analogue 1-10 Volts sink	Tungsten Linear	Tungsten Linear	Tungsten Linear	Analogue 1-10 Volts sink
Tungsten Square	Table 2	Tungsten Square	Analogue 0-10 Volts sink	Tungsten Square	Tungsten Square	Tungsten Square	Analogue 0-10 Volts sink
Tungsten S-Law	Table 3	Tungsten S-Law	PWM *Stands for Pulse Width Modulation. PWM can be used to reduce the total amount of power delivered to a load, without losses*	Tungsten S-Law	Tungsten S-Law	Tungsten S-Law	PWM+

			normally incurred when a power source is limited by resistive means.				
EL-FD pulse	Table 4	El tx with lamp warm	Analogue 3.5-10 Volts	EL-FD pulse	EL-FD pulse	DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* logarithmic	PWM-
EL-FD	Table 5	Electronic transformer	PWM switched	EL-FD	EL-FD	Old 452	DALI broadcast
Cold cathode	Table 6	Tungsten low power	DSI *Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI.*	Cold cathode	Cold cathode	Reserved	DSI
Reserved	Table 7	Reserved	DSI switched	Reserved	Reserved	Reserved	Reserved
3 Wire	Table 8	El tx switched	PWM with relay delay	3 Wire	3 Wire	Reserved	Reserved

The load table can only be set when the **Load Table and Minimum Fade Time Set At Device** field is set to 'False' (see above).

1. Click in the **Load Table** field.
2. Click and select a load type.

3. Click .

Minimum Fade time

Note:

- The minimum fade time can only be set when the **Load Table and Minimum Fade Time Set At Device** field is set to 'False' (see above).

1. Click in the **Minimum Fade Time** field.
2. Click and select a minimum fade time from 20 milliseconds, 150 milliseconds, 500 milliseconds and 1 second. *Note that the default is 1 second.*
3. Click .

Enable Override to be Set at Device

By default, override is set in Designer. To enable override to be set at the device:

1. Click in the **Override Set At Device** field.
2. Click and select 'True'.
3. Click .

Override Level

Note:

- This level can only be set when the **Override Set At Device** field is set to 'False' (see above).

1. Click in the **Override Level** field.
2. Enter a value between 1% and 100%.
3. Click .

Enable Switch On and Hysteresis to be Set at Device

By default, switch on and *hysteresis (Only used in S-DIM devices) Hysteresis is used to affect the level at which the channel switches off. When hysteresis is on, the switch off level is 80% of the switch on level. At or below the switch off level, the channel will be off.* is set in Designer. To enable override to be set at the device:

1. Click in the **Switch On And Hysteresis Set At Device** field.
2. Click and select 'True'.
3. Click .

Note:

- The **Enable Switch On and Hysteresis to be Set at Device** function is unavailable for certain devices . Please refer to individual product user documentation for further information.

Switch On Level

Notes:

- This level can only be set when the **Switch On And Hysteresis Set At Device** field is set to 'False' (see above).
- If the switch on level is set higher than the minimum level *(see 'Minimum Level' section above)*, then the channel will not switch on if it goes to the minimum level.

The channel will not switch on unless it receives a command to go to or above this level. *See related Hysteresis section below.*

To set the switch on level:

1. Click in the **Switch On Level** field.
2. Enter a value between 2% and 64%, in 2% steps.

3. Click .

Hysteresis

Note:

- Hysteresis can only be set when the **Switch On And Hysteresis Set At Device** field is set to 'False' (see above).

Hysteresis is used to affect the level at which the channel switches off. When hysteresis is on, the switch off level is 80% of the switch on level. At or below the switch off level, the channel will be off. For example, if the switch on level is 50%, and the signal rises to this level or above to turn the channel on, then if the signal falls to 40% or below, the channel turns off.

To enable Hysteresis:

1. Click in the **Hysteresis** field.
2. Click and select 'True'.
3. Click .

Lock Settings

To lock the load table, minimum fade time, override, switch on and hysteresis settings, so that they cannot be changed at the device:

1. Click in the **Lock Settings** field.
2. Click and select 'True'.
3. Click .

Expected Device Type

You can change the type of device that is expected to be found at this address.

1. Click in the **Expected Device Type** field.
2. Click and select from all the valid SDIM device types.
3. Click .

The device is now configured and ready for use in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. .

Related Topics

- SDIM Subnet
- SDIM Subnet Configuration
- Device Tree
- Edit Items in the Device Tree
- Properties

SDIM Control Gear

Sine Wave Dimmer

This item provides a single channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* of sine wave dimming which can be controlled by the following methods:

- Local Control (Integral Control Panel).
- SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.*Data Highway.
- Analogue Control Input.

The HES92060 sine wave dimmer functions as an electronic variac by smoothly scaling the natural input sine wave usually supplied to the dimmer, giving out the same natural sine wave, but of a smaller amplitude. The HES92060 is suitable for use with all mains dimmable lamp loads.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

SCR Dimmer

This item is a rack mounted dimmer. It contains two identical leading edge thyristor *A semiconductor device used to switch or control large amounts of power using a small triggering current or voltage. The most common type is an SCR. See the entry for SCR.* dimmers within a moulded case and is designed as an exchangeable module for fitting into ESR dimmer cabinets.

The dimmer is for use with incandescent lamps and low voltage lamps via wire-wound transformers. It is suitable for use with electronic transformers, if transformer manufacturer approves use. With convection cooling the maximum load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* is 10 A per channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* and increases to 20 A per channel when fan cooled.

The dimmer is provided with a three-digit LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* display, normally indicating the current output level and four push buttons for manual operation and address setting.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

Transistor Dimmer

This item is a rack mounted dimmer. It contains two identical trailing edge transistor dimmers within a moulded case and is interchangeable with the HES92020 Thyristor *A semiconductor device used to switch or control large amounts of power using a small triggering current or voltage. The most common type is an SCR. See the entry for SCR.* dimmer module for fitting into ESR dimmer cabinets.

The dimmer is for use with incandescent lamps and low voltage lamps via electronic transformers, if the transformer manufacturer approves use. With convection cooling the maximum load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* is 6 A per channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* and increases to 20 A per channel when fan cooled.

The dimmer is provided with a three-digit LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* display, normally indicating the current output level as a percentage and four push buttons for manual operation and address setting.

- To learn more about this product, see the Helvar Website.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

4 Wall Mount Dimmer Pack

This item is used to control levels for LV Tungsten, cold cathode and dimmable fluorescent loads. Dimmer curves are selectable for each load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* type, including non-dim (for switched loads). There are several models of Ambience Dimmer, each comprising 4 dimming channels.

In Designer, we are concerned only with the number of dimming channels, not with the choice of dimmer that will provide the channels.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

12 Wall Mount Dimmer Pack

Wall mounted twelve channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* thyristor *A semiconductor device used to switch or control large amounts of power using a small triggering current or voltage. The most common type is an SCR. See the entry for SCR.* (leading edge) dimmer suitable for use with tungsten, tungsten halogen, wire-wound (inductive) fed low voltage tungsten halogen or neon lighting loads. The unit is fitted with incoming circuit protection on each circuit and on the control electronics.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

Output Unit

This item is a rack mounted control module. It contains two identical output units within a moulded case and is interchangeable with the HES92020 Thyristor *A semiconductor device used to switch or control large amounts of power using a small triggering current or voltage. The most common type is an SCR. See the entry for SCR.* dimmer module for fitting into ESR dimmer cabinets. It can be connected to 0-10V, 1-10V and DSI *Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI.* electronic ballasts. The dimmer is provided with a three-digit LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* display, normally indicating the current output level and four push buttons for manual operation and address setting.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

Current Monitor

This *device A physical item with which you can interact, either directly or via Designer.* is used for monitoring current. It is to be used in conjunction with Imagine relay units, to allow current feedback to be sent to the 920 *Router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* / Designer.

Configure Device

You can configure this device via the Properties view. *See SDIM Control Gear Configuration*.

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

458/DIM8 Dimmer

The 458/DIM8 is an 8-channel thyristor dimmer module, for leading-edge dimming of resistive and inductive loads. The module has 8 channels rated at 10 A each, with a total current capacity of 48 A.

The module has DALI, DMX, and S-DIM interfaces for integration into DIGIDIM and Imagine systems. The optional 458/OPT4 module allows 4 dimmed channels to be converted to 4 ballast control channels.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- Dimmers
- DALI Control Gear Configuration
- SDIM Control Gear Configuration

458/CTR8_8-Channel Ballast Controller

The 458/CTR8 is an 8-*channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* digital ballast controller module, capable of controlling either 0-10V, 1-10V, *DSI Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI.*, *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* broadcast or PWM loads. It has both a DALI and an S-DIM/*DMX Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* interface, and therefore can be fully integrated into a Digidim or an Imagine router system.

It can also be used on the TouchPanel, or used on standalone DALI or Digidim systems.

The module has 8 high inrush relays, rated at 16 A per channel.

The front of the module is equipped with an LCD display with intuitive cursor control, to set some basic configuration parameters and provide basic manual control.

Further details are on the Helvar website.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- Converters

458/SW8_8-Channel Switching Module

The 458/SW8 is an 8-channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* switching module. The module contains 8 relay channels (normally open), capable of switching 10 A per channel. It uses high inrush relays to withstand short-lived high peak current inrush when switching on loads. It has both a DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* and an SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.* interface, therefore it can be fully integrated into a Digidim or an Imagine router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* system.

The front of the module is equipped with an LCD display with intuitive cursor control, to set some basic configuration parameters and provide basic manual control.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- Switching Units

Relay Unit (498)

The DIGIDIM 498 is an 8-channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* relay unit fitted with high inrush specification relays. This means that the short-lived, high peak current inrush caused when switching on loads, such as electronic ballasts, is handled by a set of pre-make contacts which close before the main contacts of the relay. This allows more high inrush loads to be switched from one relay, where the limiting factor with standard relays was inrush current.

It is DIN-rail mounted (horizontal orientation) and has:

- Mains connector: 4-way terminal block
- Relay connectors: 2-way terminal block, arranged as 4 sets of 4 terminals (2 relays per 4-way connector)
- SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.* : 5 pole, 2-part connector (includes termination)
- DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* : 2 pole 2-part connector
- Override: 2 pole, 2-part connector

It allows:

- Wired override input
- Relays to operate either individually (8x1), or as four sets of two (4x2), or as two sets of four (2x4). Relays have normally open contacts (SPST) only.

- To learn more about this product, see the Helvar Website.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration
- DALI Control Gear Configuration
- Switching Units

474 DIN Rail 4 Channel Ballast Controller

The Digidim 474 is a 4-*channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* ballast controller fitted with high inrush relays rated at 16 A per channel, which handle short-lived high peak currents during switch-on of loads.

The outputs can be configured to match common ballast control loads including 0/1-10 V, *DSI Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI.*, *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* broadcast and PWM.

The outputs can be configured independent of, or paired with relay channels; meaning 4 additional outputs can be utilized if required.

The 474 ballast controller can operate with either a Helvar Digidim or Imagine lighting control system. It is a DIN-rail mounted *device A physical item with which you can interact, either directly or via Designer.* for ease of installation.

Further details are on the Helvar website.

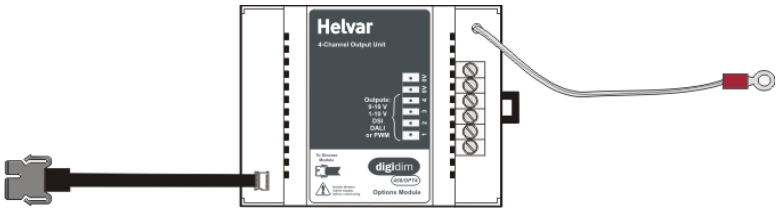
Configure Device

You can configure this device via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- Switching Units

Options Module (458/OPT4)



The Options Module (458/OPT4) is a DIN-rail mounted output unit, for mounting inside the 458 Dimmer chassis box, with a flying lead which plugs into a connector of the 458 Dimmer module. It works in conjunction with the 458 Dimmer, and provides 4 output channels which can be configured as any of the following:

- (0-)1-10V (sink *'Sink' means that an output hasn't got drive capability* only, 50 ballast drive)
- DSI *Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI.* (10 ballast drive)
- DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* Broadcast, with no feedback (10 ballast drive)
- PWM *Stands for Pulse Width Modulation. PWM can be used to reduce the total*

amount of power delivered to a load, without losses normally incurred when a power source is limited by resistive means. (10 ballast drive)

The outputs:

- have common 0V;
- are screw terminal output connectors;
- are double-isolated from the 458's SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.* , Override, TouchPanel and DALI connections;
- and can be paralleled with dimmer channels, or be additional channels.

The Options Module can use a dimmer channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* to switch a load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* . It is most useful for switching 1-10 V ballasts to switch their supply off.

- To learn more about this product, see the Helvar Website.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated,*

based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. *the device is connected to).*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- 8-Channel Thyristor Dimmer (458)

DMX Subnet

DMX Subnet

Note:

- Only the Imagine 920 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* has a DMX *Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* connector and can therefore support one DMX subnet.
  The Imagine 920 Router's DMX connections are as follows:
  0 V: 0 volts
  SC: Screen
  Term: Termination
  A: + (plus)
  B: - (minus)

DMX (**D**immer **M**ultiple**X**) is a communications protocol developed by USITT (United States Institute for Theatre Technology), commonly used to control stage lighting and effects.

The standard is intended for *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* and entertainment system designers who wish to integrate systems of lighting equipment and accessories, including dimmers, with controllers made by different manufacturers.

DMX Subnet Communication

DMX512 is designed to carry repetitive control data from a single controller to one or more receivers. This protocol is intended to be used to control dimmers, other lighting devices and related non-hazardous effects equipment.

Note:

- A DMX Lighting Control Console (or Lighting Desk) controls the levels of channels in the range of 0-255. When the DMX subnet is in DMX 'Out' operation, if you send a command to set a DMX channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* to 100% then the channel goes to 255 on the DMX device *A physical item with which you can interact, either directly or via Designer.* (all other levels are scaled proportionally). When in DMX 'In' operation, and you send a command to set a DMX channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* to 100%, the controlled SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.* channel goes to 100%.

DMX 'In'

If the subnet is in this operation, then the SDIM and/or DALI devices are controlled channels (inputs) on their controlled SDIM and/or DALI subnets. These subnets can support up to 512 channels in from one DMX source.

DMX 'Out'

If the subnet is in this operation, then the DMX devices on the subnet operate as loads (*control gear For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level.*

Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.).
This subnet can drive up to 512 DMX output channels.

DMX Subnet Configuration

To learn how to configure a DMX subnet, see DMX Subnet Configuration.

Insert Devices on the DMX Subnet

See Insert an Item.

Related Topics

- DMX Subnet Configuration
- DMX 'In' Device Configuration
- DMX 'Out' Device Configuration
- Insert an Item
- Device Tree
- Properties
- Workgroups
- Addresses

DMX Subnet configuration

Note:

- You must be in Editor mode to configure a DMX subnet.

To configure a *DMX Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control. subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* :

1. Click on the DMX Subnet in the Device Tree.
2. If Properties view is not already open, click .

Common	
Address	@ 1.1.4
Description	DMX Out Subnet
Name	
Status	Normal
Information	DMX Subnet is enabled
DMX Subnets	
Direction	Out
Enabled	True
Condition	Always

Configure Subnet

Name

It may be useful to name the subnet:

1. Enter a name in the **Name** field.
2. Click . *The subnet is renamed in the Device Tree .*

Direction

The DMX subnet can operate as DMX 'In' (input) or DMX 'Out' (output). *If you wish to control SDIM Stands for Serial DIMming communication. It is a Helvar communication protocol. and/or DALI devices from the DMX lighting desk, then select 'In'; if you wish DMX devices to operate as control gear For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both. , then select 'Out'.*

Select the operation of the DMX subnet. *Notice that the operation is set to 'Out' by default.*

1. Click in the **Direction** field and click .
2. Select either 'In' or 'Out' for the DMX subnet operation.
3. Click .

Enablement

By default, the DMX subnet is enabled. To disable the subnet:

1. Click in the **Enabled** field and click .
2. Select 'False' to disable the subnet.

3. Click .

Condition

By default, the DMX subnet always performs it's functions. To apply a condition to the subnet:

1. Click in the **Condition** field and click .
2. Select a condition from the drop-down menu.
3. Click .

Related Topics

- DMX Subnet
- DMX 'Out' Device Configuration
- DMX 'In' Device Configuration
- Insert an Item
- Device Tree
- Properties
- Workgroups
- Addresses

DMX 'Out' Device Configuration

Note:

- You must be in Editor mode to configure a DMX *Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* device *A physical item with which you can interact, either directly or via Designer.* .

1. Click on the DMX *Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* device in the Device Tree.
2. If not already open, click to view Properties for the item.

Common	
Address	@ 1.1.4.1
Description	DMX Channel
Name	
Software Version	Unknown
Status	Normal
Information	No Information
Loads	
Groups	Ungrouped
Groups To Append	
Output Level	100%
Power On This Channel To	100%
Physical Min Level	1%
Min Level	1%
Max Level	100%
Circuit Power Loading (W)	0

Name

It is useful to name the item e.g. according to its location or purpose:

1. In the **Common** section, click in the **Name** field.
2. Enter a name for the device .
3. Click . *The device is renamed in the Device Tree.*

Assign to Group

1. In the **Loads** section, click in **Groups** field.
2. Enter the group to be assigned to the item. *If you wish to assign more than one group, insert a comma after each Group number e.g.* ***1, 3, 7*** *(or enter more groups in the* ***Groups To Append*** *field, see below).*
3. Click .

Groups to Append

1. In the **Loads** section, click in **Groups To Append** field.
2. Enter the group to be assigned to the item. This will maintain the current grouping. *If you wish to assign more than one group, insert a comma after each Group number e.g.* ***1, 3, 7***
3. Click .

Power On this Channel To

This is the level or *scene Collection of lighting levels for each channel assigned to the same group as the scene.* that the *channel A channel pertaining to a Load (also known as Control Gear or LIU), see*

entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels. will go to when the *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* is powered on.

You can set this channel to power on to a specific scene, level, last level before failure, off, or the minimum, maximum or system fail levels.

Note:

- When setting this field to 'Last Level Before Fail', only the first 128 channels will go to the last level before power failure.

1. Click in the **Power On This Channel To** field.
2. Click and select a lighting setting for the channel to power on to.
3. Click .

Minimum Level

This is the minimum level that the channel will achieve, no matter what scene is called or level is set. For example, if you set a minimum level of 50% and call scene 4 (at 25% level), the channel output level will be 50%.

1. Click in the **Min Level** field.
2. Enter a percentage value (1-100%).
3. Click .

Maximum Level

This is the maximum level that the channel will achieve, no matter what scene is called or level is set. For example, if you set a maximum level of 50% and call scene 2 (at 75% level), the channel output level will be 50%.

1. Click in the **Max Level** field.
2. Enter a percentage value (1-100%).
3. Click .

Circuit Power Loading

Because a DMX device does **not** calculate its own power consumption, the circuit power loading can be set here. Calculate the total power consumption of all the lamps connected to the device and enter this amount in this field (this will be an estimation of the total power consumption of the *load For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.*).

1. Click in the **Circuit Power Loading** field.
2. Enter a value in the range of 0 to 16384 W (0.25 W resolution).
3. Click .

The device is now configured and ready for use in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. .

Related Topics

- DMX Subnet
- DMX Subnet Configuration
- DMX 'In' Device Configuration
- Device Tree
- Edit Items in the Device Tree

- Properties

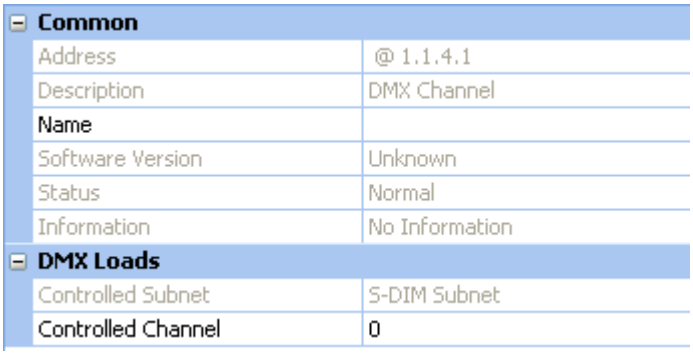
DMX Device Configuration

Note:

- You must be in Editor mode to configure a DMX *Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* device *A physical item with which you can interact, either directly or via Designer.* .

Configure Item

1. Click on the DMX 'In' device in the Device Tree.
2. If not already open, click to view Properties for the item.



Name

It is useful to name the item e.g. according to its location or purpose:

1. In the **Common** section, click in the **Name** field.
2. Enter a name for the device .
3. Click . *The device is renamed in the Device Tree.*

Controlled Channel

Allocate which *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* on the controlled *SDIM Stands for Serial DIMming communication. It is a Helvar communication protocol.* and/or DALI *subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* is controlled by this DMX 'In' device:

1. In the **DMX Loads** section, click in the **Controlled Channel** field.
2. Enter a channel (from 1 to 252).
3. Click .

The device is now configured and ready for use in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. .

Related Topics

- DMX Subnet
- DMX Subnet Configuration
- DMX 'Out' Device Configuration

- Device Tree
- Edit Items in the Device Tree
- Properties

Properties

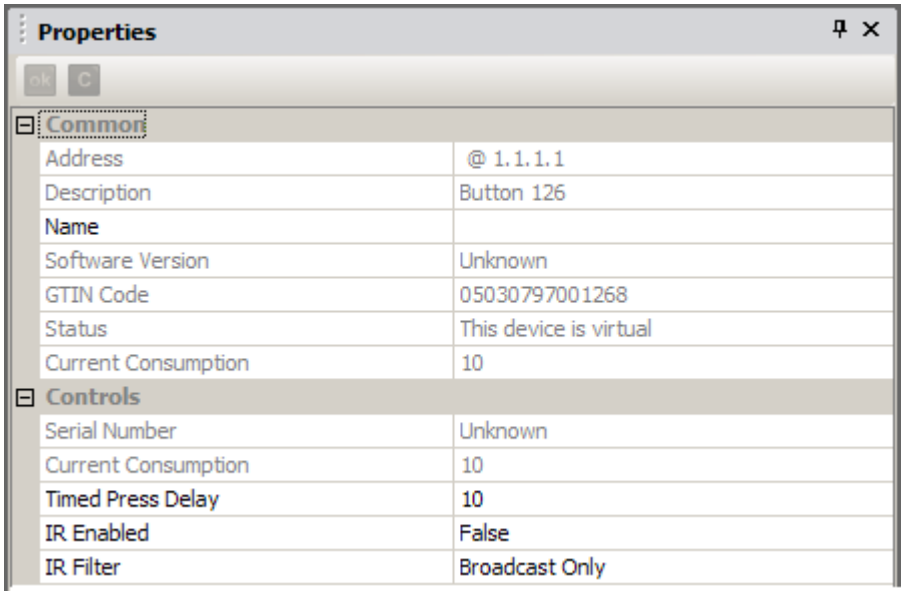
Properties

Properties define the functionality and show the current state of items.
Properties of various items can be shown, for example:

- the Workgroup (system)
- routers
- subnets
- devices (e.g. ballasts, button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* panels)
- subdevices (e.g. individual buttons of a button panel)
- schedules
- routing entries
- conditions

View Properties

- Click or **View / Properties**, or right-click on an item and select **Properties**. *The Properties view appears.*



The **OK** and **Cancel** buttons are located at the top left-hand side of the view:

ok Applies the changes.

C Cancels the changes and reloads the old properties.

Tips:

- To view the properties of items quickly, leave the Properties view open and click on

another item in the Device Tree . *The Properties view content changes accordingly.*

- To view the properties of several items, select multiple items in the Device Tree and view and configure their properties simultaneously.

Related Topics

- Edit Items in the Device Tree
- Device Configuration
- Subdevice Configuration
- Router Configuration
- Control Gear Configuration
- Routing Entries
- Scheduler
- Conditions
- Upload Mode

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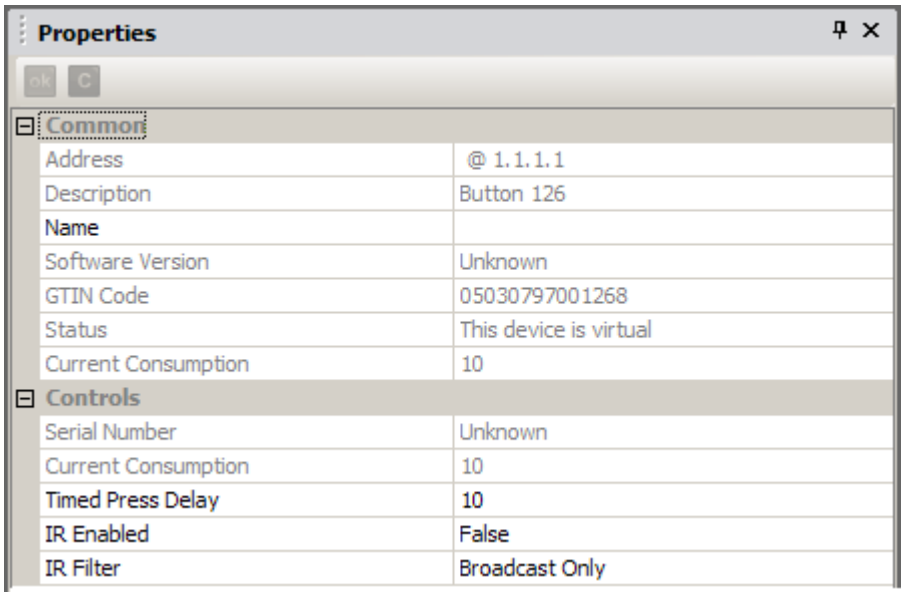

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Related Topics

- Edit Items in the Device Tree
- Device Configuration
- Subdevice Configuration
- Router Configuration
- Control Gear Configuration
- Routing Entries
- Scheduler
- Conditions
- Upload Mode

Upload Mode

Upload Mode

Tips:

- Always create a backup of your Workgroup Design before entering Upload Mode, in case the upload is not desirable. *To learn more see Save a Workgroup Design.*
- Always keep a backup copy of the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* in a design file. If your lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* fails to work properly, you can use the backup copy to restore it to working condition. *To learn more see Save a Real Workgroup.*

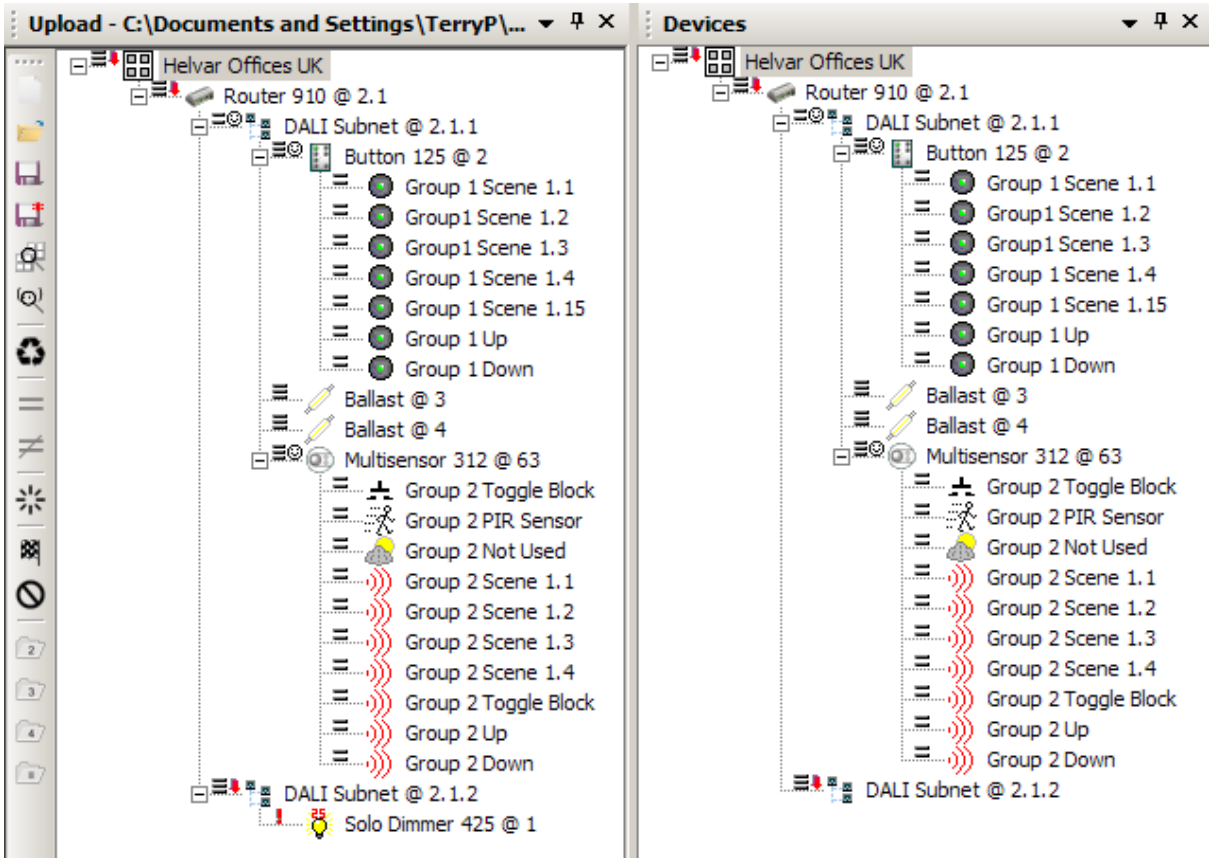
Use Upload Mode to prepare all, or part, of a *Workgroup Design A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* , for uploading to the Real Workgroup or another Workgroup Design. The purpose of upload can be either or both of the following:

- Matching of pairs of items between the Workgroup Design which you are uploading (the Upload Design) and the Real Workgroup or Workgroup Design.
- Creation of virtual control device and control gear items - that exist in the Upload Design - in the Real Workgroup or Workgroup Design.

Open Upload View

- Click or **View / Upload**. *The Upload view appears.*

Click on the picture item that you want to learn more about.



To learn how to upload a Workgroup Design, see Upload a Workgroup Design.

Device Alerts

When you attempt to *match An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* a pair of items, then a pictogram (a *device A physical item with which you can interact, either directly or via Designer.* alert) appears beside them in the trees to indicate the status of the attempted match (as shown here, for example:).

Device Alert	Meaning
	At least one descendent *An item in any level below a given level in the Devices Tree.* item is not matched.
	This item and the item with which it is matched are equivalent.
	This item and the item with which it is matched are not equivalent.
	This item and the item with which it is matched are equivalent, and at least one child *An item in the next level below a given level in the Devices Tree.* item is not matched.

	This item and the item with which it is matched are not equivalent, and at least one child item is not matched.
	This item is not matched with another item, or is missing from the real lighting system.
	This item has had a copy created for it in the Real Workgroup / Workgroup Design during this Upload session, and the two items are matched.
	All items in this branch are matched.
	This item and the item with which it is matched are equivalent, and all child items are matched.

Match and Equivalent Items

The terms match and equivalent have special meanings that you should be aware of:

Match Two items that are sufficiently similar to be associated with each other. (Nothing else is implied by this relationship between the items).

Equivalent A pair of matched items that have identical properties. Child items of the pair are not considered.

Related Topics

- Upload a Workgroup Design
- Upload Toolbar
- Device Tree
- Workgroups

Upload a Workgroup Design

Tips:

- Always create a backup of your Workgroup Design before entering Upload Mode, in case the upload is not desirable. *To learn more see Save a Workgroup Design.*
- Always keep a backup copy of the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* in a design file. If your lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* fails to work properly, you can use the backup copy to restore it to working condition. *To learn more see Save a Real Workgroup.*

You can upload in two ways:

- Upload a Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* to a Real Workgroup (and therefore a real lighting system).
- Upload a Workgroup Design to another Workgroup Design.

Note:

- You must be in Editor mode to upload a design to a Real Workgroup / Workgroup Design.

Stage 1: Start the Upload Process

1. Connect to the Real Workgroup (go Online to the system), **or** open (load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.*) a Workgroup Design into the Device Tree .
2. Click **View** / **Upload**, or click , to open the Upload view.
3. Click in the Upload toolbar to open a design for upload.

Stage 2: Match the Upload Design to the Real Workgroup / Workgroup Design

Having opened the Workgroup Design to be uploaded (the Upload Design), *match An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* the items in the design to corresponding items in the Real Workgroup or Workgroup Design.

When matching items in the Upload Design to items in the Real Workgroup / Workgroup Design, begin by matching the Workgroup, then routers and subnets, then progress to matching items in each *subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* . Even though Designer prevents the creation of invalid matches, this method ensures that you will not inadvertently try to create such matches.

Note:

- You can only match items if their parent *An object in the level above a given level in the Devices Tree.* items have already been matched to each other. For example, you cannot match two modular panels if the routers to which they belong have not been matched to each other.

Use the following tools to establish matches:

- Compare Items

- Compare Schedules, Routing Entries and Conditions
- Match Items

Tip:

- It is not necessary to match all devices in the Workgroup Design. This allows you to upload certain parts of the Workgroup Design, as you desire.

Stage 3: Create new devices in the Real Workgroup

If you want to create an item (that exists in the Upload design) in the Real Workgroup / Workgroup Design, use the following tool:

- Create Matched Items

Stage 4: Upload the matched Workgroup Design

This is the final stage of the Upload process. The properties data for all matched items in the Upload Design will be uploaded to the items in the Real Workgroup / Workgroup Design, when you finish the upload:

- Finish Upload

Related Topics

- Upload Mode
- Upload Toolbar
- Compare Items
- Compare Schedules, Routing Entries and Conditions
- Match Items
- Break Matches
- Restore Previous Matches
- Create Items
- Finish Upload
- Device Tree
- Workgroups

Upload Toolbar

Helvar

Click on the picture item that you want to learn more about:

New Upload Design

Create a new Workgroup Design for upload into the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* / Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* .

Open a Design for Upload

Open an existing Workgroup Design for upload into the Real Workgroup / Workgroup Design.

Save Upload Design

Save the Upload Design (Workgroup Design for upload)

Save Upload Design As

Save the Upload Design in a different name and/or location

Compare *An attempt to automatically match corresponding items, and their descending items, in an Upload Design and a Workgroup Design / Real Workgroup.*

Click to compare an item (and all child *An item in the next level below a given level in the Devices Tree.* items) in the Upload Design with an item (and all child items) in the Real Workgroup / Workgroup Design.

To learn more about this tool see Compare Items.

Compare Schedules, Routing Entries and Conditions

Click to compare schedules, routing entries and conditions in the Upload Design with those in the Real Workgroup / Workgroup Design.

To learn more about this tool see Compare Schedules, Routing Entries and Conditions.

Restore Previous Matches

Restores the previous matches which were broken.

To learn more about this tool see Restore Matches.

Match *An attempt to match corresponding items in an Upload Design and a Workgroup*

Design / Real Workgroup.

Click to force a match between an item in the Upload Design and an item in the Real Workgroup / Workgroup Design.

To learn more about this tool see Match Items.

Break Match

Click to break a match between an item in the Upload Design and an item in the Real Workgroup / Workgroup Design.

To learn more about this tool see Break Matches.

Create

Click to create an item in the Real Workgroup (even though it has not been discovered by Designer) or the Workgroup Design.

This is useful if you want to include an item, from your Upload Design, that is not currently present in the Real Workgroup / Workgroup Design. When such a device *A physical item with which you can interact, either directly or via Designer.* has been created, the item in the Upload Design is matched automatically with the new item created in the Real Workgroup / Workgroup Design.

To learn more about this tool see Create Items.

Finish

Click to upload the Upload Design to the Real Workgroup / Workgroup Design, according to the matches that have been established using the Upload tools.

To learn more about this tool see Finish Upload.

Cancel

Click to discard all existing matches.

Expand Trees to Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* **Level**

Expand both Device Trees to router level.

Expand Trees to Subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* **Level**

Expand both Devices Trees to subnet level.

Expand Trees to Device Level

Expand both Devices Trees to device level.

Expand Trees to Non-equivalent Level

Expand both Devices Trees to router, subnet and device level.

Related Topics

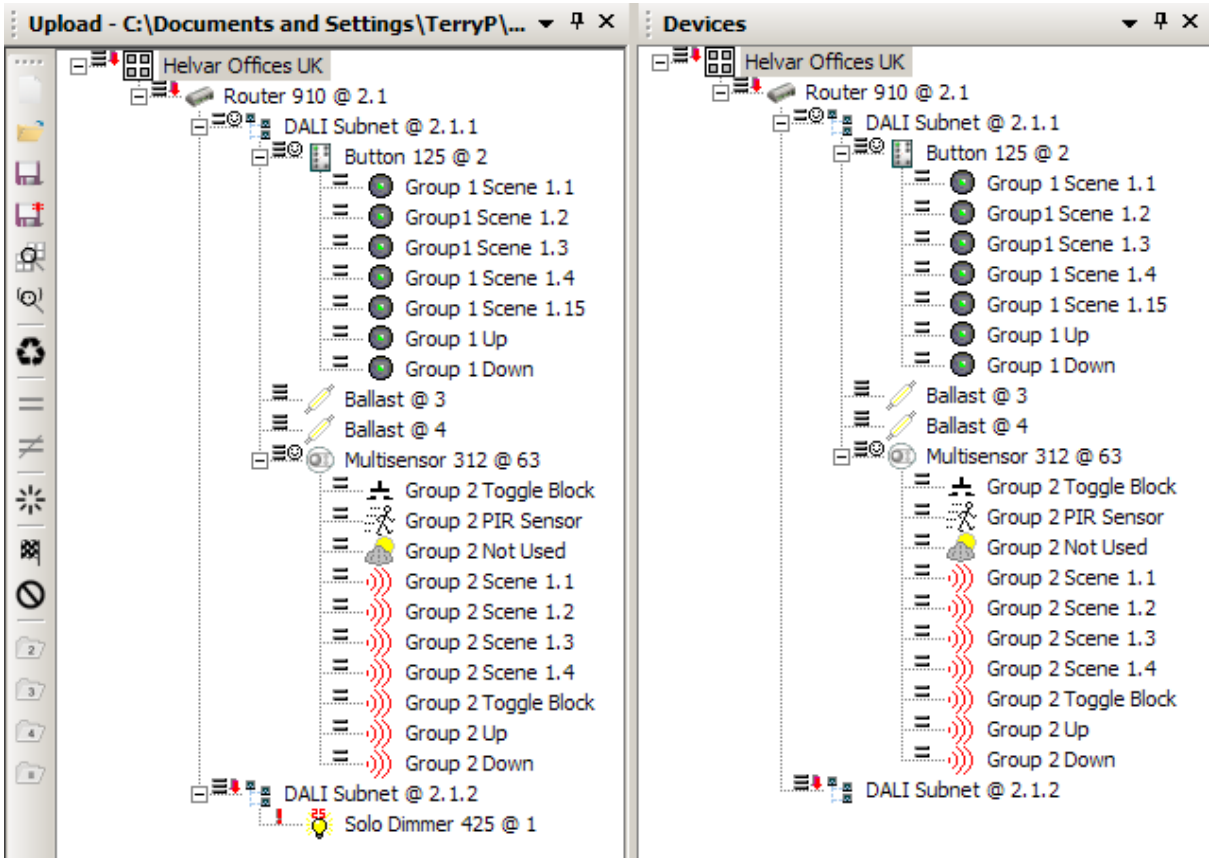
- Upload Mode
- Upload a Workgroup Design
- Compare Items
- Compare Schedules, Routing Entries and Conditions
- Match Items
- Break Matches
- Restore Matches
- Create Items
- Finish Upload
- Device Tree
- Workgroups
- Scheduler
- Routing Entries
- Conditions

Compare

Note:

- You must be in Editor mode to compare *An attempt to automatically match corresponding items, and their descending items, in an Upload Design and a Workgroup Design / Real Workgroup.* items.

Compare is an automatic matching tool. This means that it attempts to match *An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* the selected items, and all child *An item in the next level below a given level in the Devices Tree.* and descendant items, between the Upload Design and the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* / Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* . *If you select the Workgroups in both trees, for example, then all corresponding items in each Workgroup are matched, where possible (see picture below).*



1. Select an item in the Upload Design tree.
2. Select an item in the Real Workgroup / Workgroup Design tree. *If the selected items can be matched, the* *icon is enabled.*

Tips:

- Workgroups can only be matched with Workgroups; routers can only be matched with

routers; and subnets can only be matched with subnets.

- Control devices can only be matched with control devices of an identical type.
- Control Gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* (loads) have a certain amount of flexibility when matching, due to their generic nature. i.e. You can match different types of ballasts, different types of dimmers and different types of relay units.

3. To attempt to match these items and all child items, from this point forward in this branch, click .
4. Check the device alerts beside the paired devices to ascertain if further matches need to be made, or if a problem exists in this part of the tree. Make more matches, if necessary.

Notes:

- When using the Compare tool, Designer uses a cross-matching process. It first tries to match the selected items by serial number. If this fails, then it tries to match the items by address.
- If a pair has been matched using the Match tool, then you cannot override that match by using Compare.

Related Topics

- Compare Schedules, Routing Entries and Conditions
- Match Items
- Break Matches
- Upload Mode
- Upload Toolbar
- Upload a Workgroup Design
- Workgroups
- Device Tree

Compare Schedules, Routing Entries and Conditions

Note:

- You must be in Editor mode to compare *An attempt to automatically match corresponding items, and their descending items, in an Upload Design and a Workgroup Design / Real Workgroup.* schedules, routing entries and conditions.

Compare Schedules, Routing Entries and Conditions is an automatic matching tool. This means that it attempts to match *An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* all schedules, routing entries and conditions between the Upload Design and the Real Workgroup / Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* .

1. With both the Upload Design and the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* / Workgroup Design open, click .

Tip:

- It is not necessary to select any items in either Device Trees to perform a compare of this type.

Designer makes a comparison of all the schedules, routing entries and conditions between both designs, and then a confirmation dialogue appears saying that the comparison is complete.

2. Click **OK**.

Related Topics

- Compare Items
- Scheduler
- Routing Entries
- Conditions
- Upload Mode
- Upload Toolbar
- Upload a Workgroup Design
- Workgroups
- Device Tree

Match

Note:

- You must be in Editor mode to match *An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* pairs of items.

Match is a single item matching tool.

Tips:

- You can only match items which already have their parent *An object in the level above a given level in the Devices Tree.* items matched to each other. For example, you cannot match two modular panels if the routers to which they belong have not been matched to each other.
- If you click and drag an item from the Upload Design to the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* / Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* , and the parents are not matched to each other, then Designer asks if you wish to attempt to automatically match the parents and ancestors of the selected items.

1. Select an item in Upload Design tree.
2. Drag it to the desired item in the Real Workgroup / Workgroup Design tree. *If the items cannot be matched, then 'click and drag' is not possible.*

OR

1. Select an item in the Upload Design tree.
2. Select an item in the Real Workgroup / Workgroup Design tree. *If the selected items can be matched, the icon is enabled.*

Tips:

- Only similar items can be selected. i.e. Workgroups can only be matched with Workgroups; routers can only be matched with routers; and subnets can only be matched with subnets.
- Control devices can only be matched with control devices of an identical type.
- Control Gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* (loads) have a certain amount of flexibility when matching, due to their generic nature. i.e. You can match different types of ballasts, different types of dimmers and different types of relay units.

3. To match these items, click .

Note:

- You can cross-match (match items on different addresses), but for DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing*

communication between control devices and LIUs (control gear). devices, the system (Real Workgroup) / Workgroup Design addresses are changed to match the Upload Design addresses; and for SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.* devices, the Upload Design addresses are changed to match the Real Workgroup / Workgroup Design addresses.

4. Check the device alerts beside the matched items to ascertain if further matches need to be made, or if a problem exists in this part of the tree.
5. To match more of the Upload Design to the Real Workgroup / Workgroup Design, repeat this process from **step 1**, as required.

Tips:

- Match takes precedence over Compare. If a pair has been matched using Compare *An attempt to automatically match corresponding items, and their descending items, in an Upload Design and a Workgroup Design / Real Workgroup.* , then you can override that match by using the Match tool, but you must break the match first.
- If two routers are matched, then scene *Collection of lighting levels for each channel assigned to the same group as the scene.* information will be uploaded to that router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* .

Related topics

- Break Matches
- Restore Matches
- Compare Items
- Compare Schedules, Routing Entries and Conditions
- Upload Mode
- Upload Toolbar
- Upload a Workgroup Design
- Device Tree
- Workgroups

Break Match

Note:

- You must be in Editor mode to break a match *An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* .

Break Match is a match-breaking tool. This means that it will break a pair of matched items, and also break all child *An item in the next level below a given level in the Devices Tree.* item matches.

1. Select a matched item in either of the Workgroup Design trees.
2. If the selected item is matched, the ≠ icon will be enabled.
3. To break this match and child item matches, click ≠. *Note that the parent An object in the level above a given level in the Devices Tree. items remain matched.*
4. To break more matches, repeat this process from **step 1**, as required.

Note:

- If you use the Create tool to create an item in the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* / Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* , and then use Break Match on that pair, the item in the Real Workgroup / Workgroup Design will be deleted.

Related Topics

- Match Items
- Restore Matches
- Compare Items
- Compare Schedules, Routing Entries and Conditions
- Create Items
- Upload Mode
- Upload Toolbar
- Upload a Workgroup Design
- Workgroups
- Device Tree

Restore Previous Matches

Note:

- You must be in Editor mode to restore matches.

Restore is a tool used for restoring all previous matches. When you break matches, you can restore those matches by using the Restore tool.

- Click on (the Restore tool) from the Upload toolbar. *All previous broken matches are re-matched*.

Tip:

- If an Upload Design, which contains previous matches, is loaded, then the Restore tool can be used to re-instate those matches.

Related Topics

- Break Matches
- Match Items
- Create Matched Items
- Upload Mode
- Upload Toolbar
- Upload a Workgroup Design
- Workgroups
- Device Tree

Create

Helvar

Note:

- You must be in Editor mode to create matched items.

Use the Create tool to create an item (that exists in the Upload Design) in the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* / Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* .

This is useful for uploading virtual devices, which relate to real devices that have not yet been installed in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps..

Notes:

- You can only create an item if the Workgroup and router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* have already been matched, and the selected item has not already been matched.
- When the upload is complete, the created device *A physical item with which you can interact, either directly or via Designer.* will be shown as missing (! appears next to it in the Device Tree). It will be shown this way until the device has been installed in the real lighting system (Real Workgroup).

1. Select an unmatched item in the Upload Design tree.
2. Click to create a copy of this item in the Real Workgroup / Workgroup Design. *If you have selected a subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. then an attempt will be made to create all unmatched devices.*

Notes:

- When a new item is created, it is matched automatically with the item of which it is a copy.
- To delete a created match *An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* , then use Break Match on that pair and the item in the Real Workgroup / Workgroup Design will be deleted.

Related Topics

- Match Items
- Restore Matches
- Break Matches
- Upload Mode
- Upload Toolbar

- Upload a Workgroup Design
- Workgroups
- Device Tree

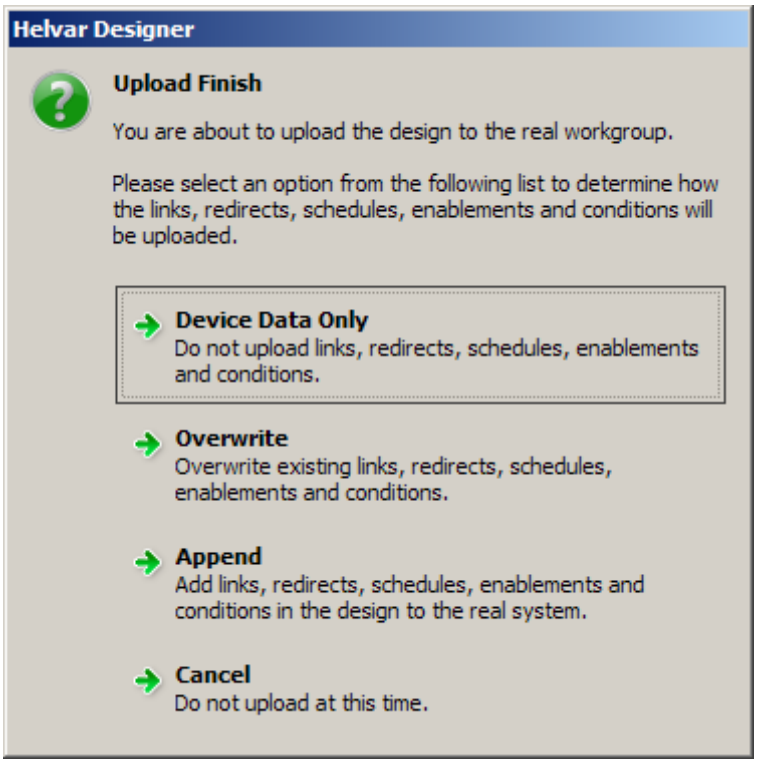
Finish

Note:

- You must be in Editor mode to upload the device *A physical item with which you can interact, either directly or via Designer.* data to the Real Workgroup / Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* .

Upload the Upload Design item properties data to the items in the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* / Workgroup Design, according to the matches that have been established using the Upload tools. You can also choose to upload links, redirects, schedules, enablements and conditions.

1. Click . *The **Upload Finish** dialogue appears.*



2. Choose from one of the four options above.

Tips:

- During uploading, only non-equivalent matched items have their data uploaded. This means that only changes are uploaded, which reduces uploading time.
- If you have previously uploaded a schedule to the router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* , the schedule will be stopped during uploading, and the updated or new schedule will be started automatically after uploading.

- The Overwrite and Append options only appear if you have compared schedules, routing entries and conditions.

3. If you chose to upload click **OK**.

   If connected to a Real Workgroup, the upload re-programmes each item in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. that is represented in the Real Workgroup, and which has been matched with an item in the Upload Design.

   If uploading to another Workgroup Design, Designer overwrites and adds the data, as necessary, from the Upload Design to the Workgroup Design.

Notes:

- You cannot abort the upload once it has started.

Related Topics

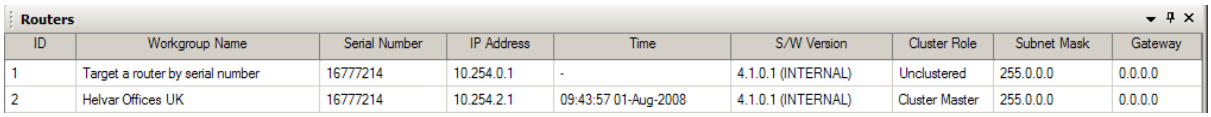
- Routing Entries
- Upload Mode
- Upload Toolbar
- Upload a Workgroup Design
- Workgroups
- Device Tree
- Routing Entries
- Links
- Redirects
- Schedules
- Conditions

Routers

Routers

The Routers view displays information and data about the routers and Client PCs connected to your system.

- Click **View / Routers** to open the Routers view:



ID	Workgroup Name	Serial Number	IP Address	Time	S/W Version	Cluster Role	Subnet Mask	Gateway
1	Target a router by serial number	16777214	10.254.0.1	-	4.1.0.1 (INTERNAL)	Unclustered	255.0.0.0	0.0.0.0
2	Helvar Offices UK	16777214	10.254.2.1	09:43:57 01-Aug-2008	4.1.0.1 (INTERNAL)	Cluster Master	255.0.0.0	0.0.0.0

To learn how to configure a router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets. , see Router Configuration.

To learn how to locate a router (if an invalid IP address Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address. has been assigned and it doesn't appear in Routers view), see Locate Router by Serial Number.

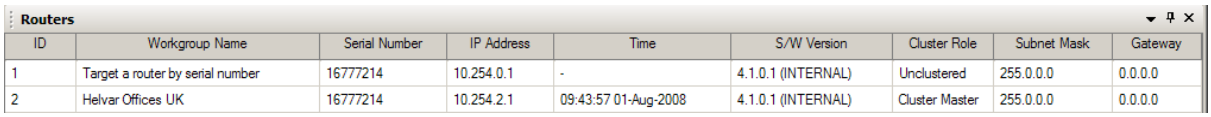
Related Topics

- Router Configuration
- Rename a Router
- Digidim 905 Router
- Digidim 910 Router
- Imagine 920 Router
- Locate Router by Serial Number
- Upgrade Router Firmware

Routers

The Routers view displays information and data about the routers and Client PCs connected to your system.

- Click **View / Routers** to open the Routers view:



To learn how to configure a router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets. , see Router Configuration.

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Related Topics

- Router Configuration
- Rename a Router
- Digidim 905 Router
- Digidim 910 Router
- Imagine 920 Router
- Locate Router by Serial Number
- Upgrade Router Firmware

Router Configuration

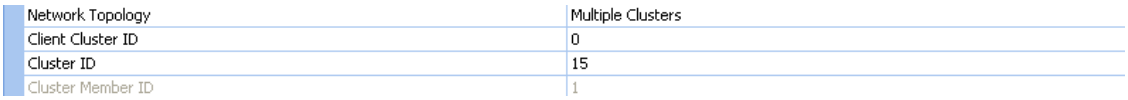
Tip:

- Designer automatically assigns IP addresses for Helvar routers, giving them the next available IP address *Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* in sequential order. However, you can set your own IP addresses to make them compatible with the components in your existing network, or if you are replacing routers, or if it is not possible to have all routers connected. If any of these are applicable, then manually enter an IP address (*see Manually Assign IP Address to Router*). You are then responsible for assigning the router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* an available IP address, by checking the IP addresses of existing routers connected to the lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* .

Note:

- Ensure that all routers which you wish to configure are connected to the lighting system and powered on, otherwise Designer could assign duplicate addresses.
- Designer automatically assigns IP addresses for routers, giving them the next available IP address in sequential order.
- Ensure you are Offline and in Editor mode before you configure a router . It is impossible to go online with a router until you assign an IP address.

1. Click **View / Routers** to open the Routers view.
2. In Routers view, click to highlight the router which you wish to configure.
3. Click to view Properties, if necessary.
4. In the **Cluster Settings** section of Properties, click in the **Network Topology** field to select **Single Cluster** or **Multiple Cluster** network topology.



5. Click in the **Cluster ID** field. Enter a Cluster ID number for the router. This must be a positive integer from **1** to **253**, although for small systems **1** is usually sufficient.

   254 is the default Cluster ID for multiple-cluster systems. This Cluster ID can also be configured to suit any particular network. *(See Network Topology and Network Address Format). The Cluster Member ID is set automatically.*

Note:

- The Cluster ID is the third part of the IP address and the Cluster Member ID is the last part. *See Network Address Format*
- The Workgroup Name can be assigned at the same time as the Cluster ID. *See Assign Routers to a Workgroup.*

6. Click to save the changes. *Designer assigns an IP address automatically and the configuration settings are sent via Ethernet to the selected router, which stores the settings in its flash memory. Designer restarts the router automatically so that it uses the new configuration. Whilst this happens, the router disappears from the Routers view for a while, but reappears when restarted and detected by Designer.*

IMPORTANT:

- Wait until the previous router has reappeared in Routers view before configuring the next router.

7. Repeat from step 2 (above) for each router in the system, ensuring that each IP address used is unique.

OR To assign all routers to the same cluster simultaneously:

1. In Routers view, shift-click to select multiple routers.
2. In Properties view, enter a Cluster ID (and Workgroup Name) which is assigned to all selected routers.

To learn more about Ethernet network addressing see Network Address Format.

Note:

- Cluster Member IDs are generated automatically and cannot be changed in the **Cluster Member ID** field, only in the **IP Address** field. *See Manually Assign IP Address to Router if you wish to do this.*

Changing Cluster ID

To change the Cluster ID, you CANNOT just simply type in a new number in the **Cluster ID** field. The router must first be removed from the cluster and then a new Cluster ID number entered:

1. Enter **0** in the **Cluster ID** field and click . *Wait for the router to restart in Routers view.*
2. Enter a new Cluster ID number and click . *The router is assigned to the new cluster.*

Related Topics

- Routers
- Rename a Router
- Digidim 910 Router
- Imagine 920 Router
- Manually Assign IP Address to Router
- Client Computer Configuration
- Network Address Format
- Locate Router by Serial Number
- Network Installation
- Properties
- Edit a Router's / PC's Connection
- Upgrade Router Firmware
- Network Topology

Rename a Router

Note:

- You must in Online and in Editor mode to rename a router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* .

A router name is the name by which a router is known in the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . It may be helpful to name the router according to its function and/or location.

To Assign a Router Name

1. Click **View / Routers** to open the Routers view.
2. Click to highlight the router which you wish to rename.
3. Click if Properties view is not already open.
4. In the **Common** section of the Properties table, click in the **Name** field.

Common	
Address	@ 1.1
Description	Router 910
Name	
Software Version	4.0.3
GTIN Code	05030797009103
Status	Normal

5. Enter a name for the router.
6. Click .

Related Topics

- Routers
- Properties
- Rename a Real Workgroup
- Rename a Workgroup Design
- Locate Router by Serial Number
- Upgrade Router Firmware

Update Router Firmware

IMPORTANT:

- Make a backup of your system before upgrading router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* firmware *Software that is embedded in a hardware device that allows reading and executing of the software, but does not allow modification.*. *See Save a Real Workgroup.*
- To upgrade firmware you will require a password. Please contact your Helvar representative for this.

Each Helvar router contains software stored in its hardware that allows it to perform its various tasks. Such software is known as firmware . The firmware can be upgraded to provide new features or to allow it to work with a newer version of Designer. All routers in the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* must have the same firmware version.

The router also stores the configuration of the lighting system as set up by the customer / installer.

It is vitally important that the programming of the Workgroup's routers is backed up before starting the router firmware upgrade process. Not only does this ensure you have all the settings in a design file, ready to be uploaded into your system once the router's firmware has been upgraded, but it also provides a precaution in case of an unexpected failure during the process, resulting in data loss.

Notes:

- Updated firmware is included in Designer. In some instances, Helvar may require you to provide the router serial number(s) and current firmware version. You can obtain the serial number and firmware version number of a router from the Routers view.
- It is important to remember that a router cannot function without properly installed firmware. In common with updating the firmware of any such device *A physical item with which you can interact, either directly or via Designer.*, failure of the upgrade will render the device inoperable until the firmware has been installed.
- Install only firmware designed for use with your router.
- Before updating router firmware, it is recommended to enable auto-healing for the appropriate subnets (see DALI subnet configuration for details).

Before upgrading the router firmware, you must perform certain procedures, illustrated in the upgrade router firmware procedures diagram below, which shows an example of upgrading firmware from version 4.0.x and 4.1.x to version 4.2.x.

Workgroup designs of the same minor version maintain compatibility. In the event of upgrading/downgrading between designs saved in different major versions, it will be necessary to open the design in each intermediate major version of Designer and re-save it to generate a workgroup design file that can be uploaded back into the system in the event of problems. This ensures the integrity of the lighting system's settings and programming during the upgrade process and that the process runs smoothly. For example, to use a design file from version 4.0.7 with version 4.2.1, first open it and save it in Designer 4.1.1, before opening in version 4.2.1.

Note:

- Major version differences are indicated by the two most significant version digits being different. For example, **4.0**.4 and **4.0**.7 are considered minor version differences, and **4.0**.7

and **4.1**.1 are major version differences.

Example - Upgrading from 4.1.1 to 4.2.1

For example, if you have been using Designer version 4.1.1 and wish to upgrade to 4.2.1, then you only need to:

1. Start Designer 4.1.1
2. Go Online to your lighting system
3. Save the Real Workgroup (real lighting system) design file (using File / Save As) from Designer 4.1.1 (giving the version number in the file name)
4. Close Designer 4.1.1
5. Start Designer 4.2.1
6. Upgrade each router's firmware to 4.2.1 (see Upgrade router firmware below)
7. Check the settings and operation of system

Example - Upgrading from 4.0.7 to 4.2.1

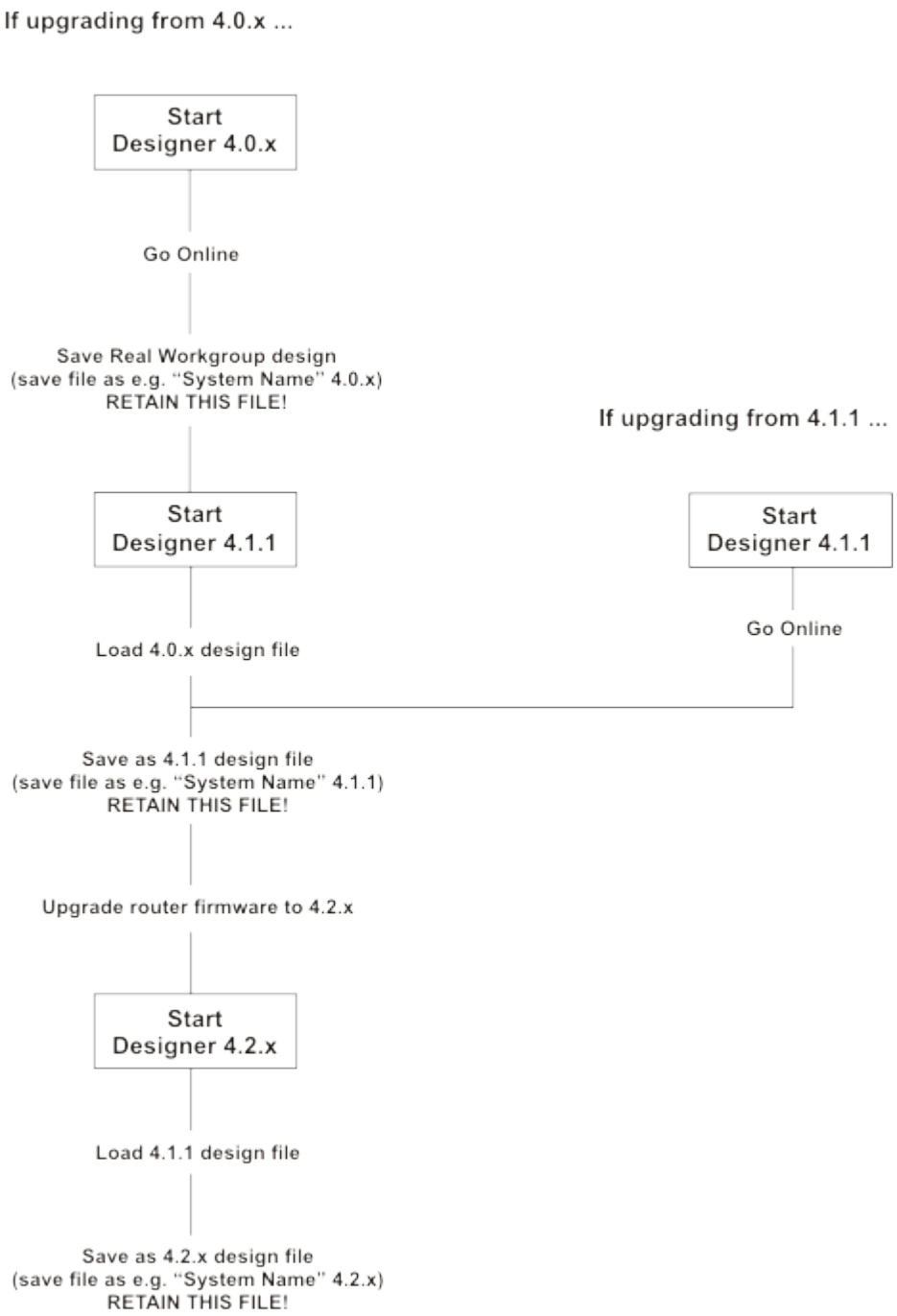
However, if you have been using Designer version 4.0.7 and wish to upgrade to 4.2.1, then you must:

1. Start Designer 4.0.7
2. Go Online to your lighting system
3. Save the Real Workgroup design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* file (using File / Save As and giving the version number in the file name)
4. Close Designer 4.0.7
5. Start Designer 4.1.1
6. Load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* the design file into Designer 4.1.1
7. Save the design file (using File / Save As) from Designer 4.1.1 (giving the new version number in the file name)
8. Close Designer 4.1.1
9. Start Designer 4.2.1
10. Upgrade each router's firmware to 4.2.1 (see Upgrade router firmware below)
11. Check the settings and operation of system

Tip:

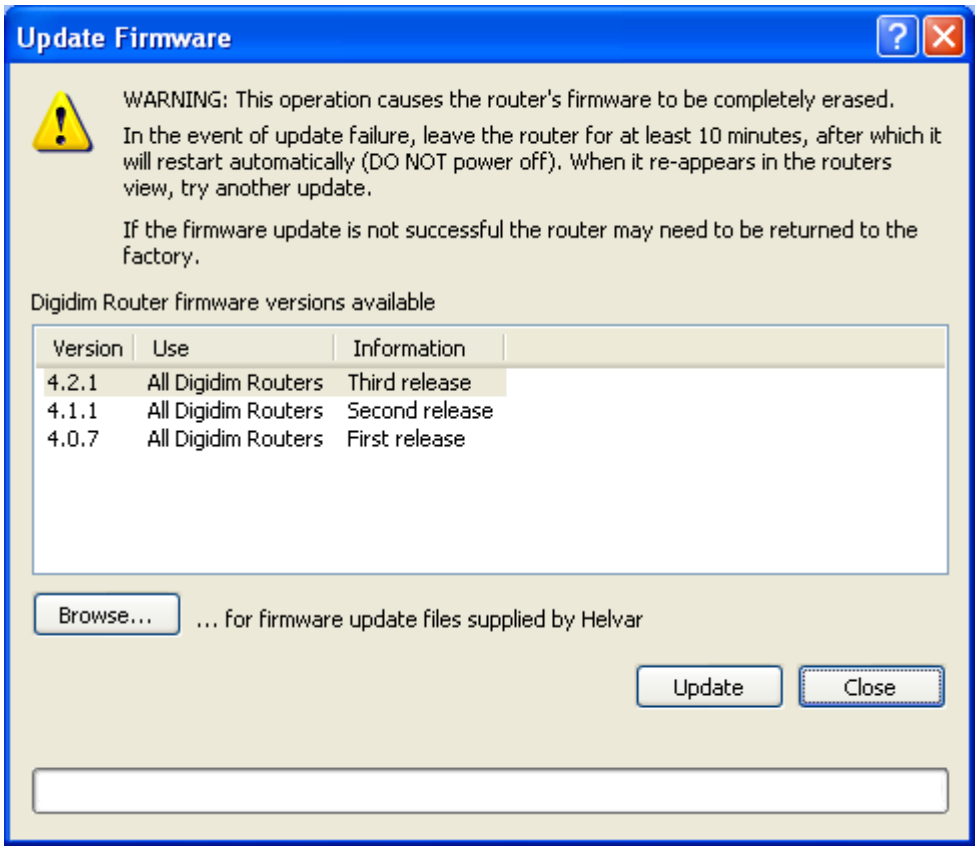
- For each version of Designer in which you backup your Real Workgroup (system), save every design, naming it clearly with the version number. This makes it easier for you to decipher which design needs to be loaded / uploaded into the next version of Designer.

Upgrade router firmware procedures



Upgrade router firmware

1. Go Offline.
2. Click **View / Routers** to open the Routers view.
3. Check the firmware version of the routers in the **S/W Version** field to see which ones require upgrading.
4. In Routers view, right-click on the router that requires upgraded firmware (or multi-select routers and right-click).
5. Click **Upgrade Firmware**.
6. Enter the password provided by your Helvar representative in the dialogue provided. *The **Update Firmware** dialogue will appear.*



7. From the list, choose the required firmware version to upgrade to.

   OR if you have been provided with an upgrade file by your Helvar representative, click **Browse** to search for and select the firmware file.
   *The firmware is stored in an upgrade file called **Designer.huf**. This can only be used on routers with particular serial numbers.*

8. Click **Update** to start the upgrade. *The firmware is installed on the router(s).*
9. *The **Firmware update successful** dialogue appears.* Click **OK**.
10. Click **Close** to close the **Update Firmware** dialogue.
11. Wait for the router(s) to restart and reappear in routers view. *DO NOT TURN OFF THE ROUTER(S).*

Downgrade router firmware

Note:

- Contact Helvar Customer Support for more guidance.

Using the version of Designer corresponding to the current firmware version:

1. Back up the system design file.
2. Unplug subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* connectors on router.
3. Erase router settings (In Routers view, select all routers, right-click then select **Erase Flash**. *Note: You must be in Editor mode to do this*).
4. Downgrade firmware using the supplied HUF file or BIN file.

5. Configure router in Routers view.
6. Go Online.
7. Configure lighting system settings as required.

Related Topics

- Routers
- Router Firmware Upgrade Has Failed
- Router Incompatible
- Router Configuration
- Save a Real Workgroup

Router LED States

905/910/920 LED States During Normal Operation

During normal operation the 905, 910 and 920 *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* LEDs flash in the following ways.

Label	LED	Power Up Sequence	Normal Operation	Software Error	Hardware Error
Power / Status		Lit from power up, then flashes rapidly for a few seconds while the software version number blinks on the DALI1, DALI2 and DMX *Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* LEDs	Stays ON except for a short OFF period every 5 to 10 second. If the network cable is not connected this LED flashes rapidly.	Continuous rapid flashing indicates a software error or disconnected network cable. The error number is indicated by the flashing of the DALI1, DALI2 and DMX LEDs	-
DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* **1**		Flashes first digit of software version number	Stays ON except when there is activity on the DALI1 bus, e.g. button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* presses on panels, when it will blink OFF	Flashes first digit of error number	Goes off when DALI1 subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated,*

					based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. is in line fault state
S-DIM **(not labelled on 910 but may be fitted)**		-	Stays OFF unless there is activity on the S-DIM bus. The more devices that are connected the more often the LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* will blink ON	-	-
DALI 2		Flashes second digit of software version number	Stays ON except when there is activity on the DALI2 bus, e.g. button presses on panels, when it will blink OFF	Flashes second digit of error number	Goes off when DALI2 subnet is in line fault state
DMX **(not labelled on 910 but may be fitted)**		Flashes third digit of software version number	For DMX-IN the LED will flash on once approximately every 5 seconds. If the gap between packets becomes large or packets are corrupted or stop altogether the LED will remain off.	Flashes third digit of error number	-

			For DMX-OUT the LED will flash on twice approximately every 5 seconds		
Link / Activity		-	Shows Ethernet traffic. In the absence of Ethernet traffic the LED will remain ON. The more activity there is the longer and more often the LED will blink OFF	-	-

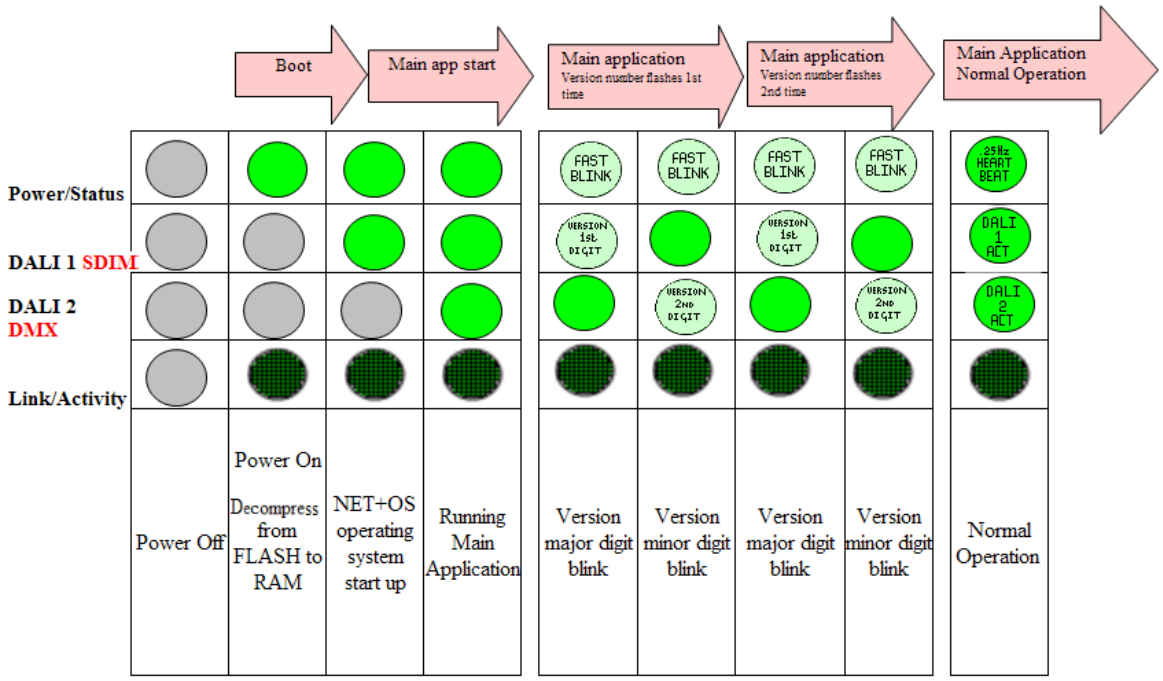
For further information regarding LED status, flash codes and error numbering, see 905/910/920 LED Flash Codes After Detection Of An Error State, 905/910/920 LED States During Power Up, 910 LED States During Power Up and 905/910/920 LED States During Identify.

Related Topics

- Helvar Customer Support
- Digidim 905 Router
- Digidim 910 Router
- Imagine 920 Router
- 905/910/920 LED Flash Codes After Detection Of An Error State
- 905/910/920 LED States During Power Up
- 905/910/920 LED States During Identify

905/910/920 LED States During Power Up

From *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* version 4.2.0 onwards (including the bootloader created at that point version) the *LED A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* sequence at power up should run as follows



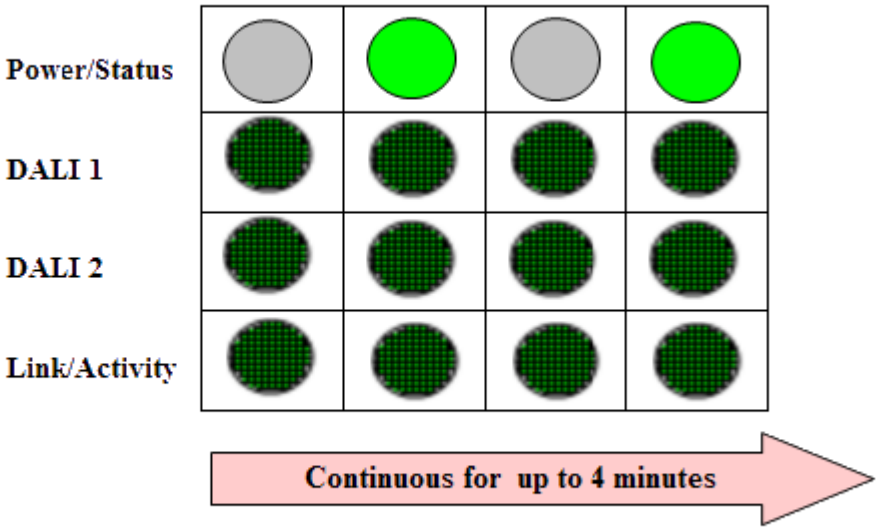
Related Topics

- Helvar Customer Support
- Digidim 905 Router
- Digidim 910 Router
- Digidim 920 Router
- 905/910/920 LED States During Normal Operation
- 905/910/920 LED Flash Codes After Detection Of An Error State
- 905/910/920 LED States During Power Up
- 905/910/920 LED States During Identify

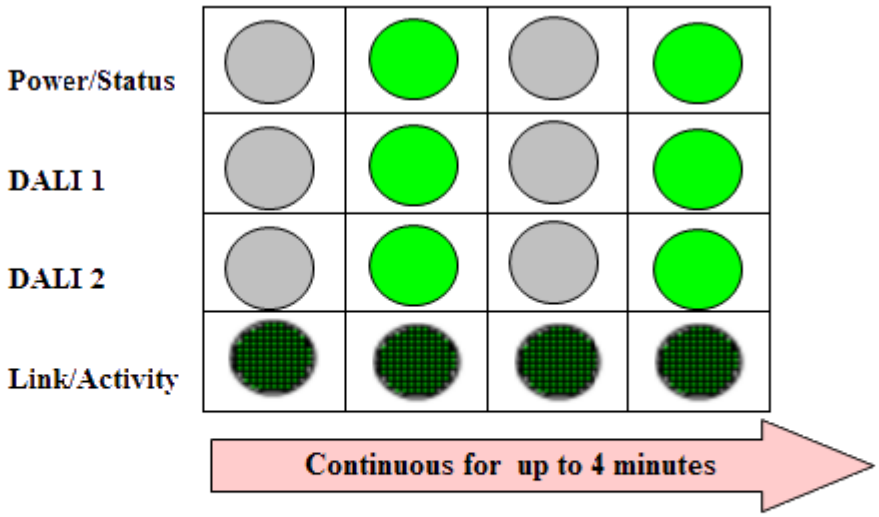
905/910/920 LED States During Identify

The amount of LEDs that flash on the *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* during identify depends on the version issue of the router motherboard. As of version 4.1 the following should be seen:

ISSUE A/B One LED flashes for up to 4 minutes



ISSUE C/D/E: Three LEDs flash for up to 4 minutes



Note:

- All routers with motherboards from issue C to G (those manufactured from Spring 2007 to date) should flash all three LEDs during identify.

Related Topics

- Helvar Customer Support
- Digidim 905 Router
- Digidim 910 Router
- Imagine 920 Router
- 905/910/920 LED States During Normal Operation
- 905/910/920 LED Flash Codes After Detection Of An Error State
- 905/910/920 LED States During Power Up

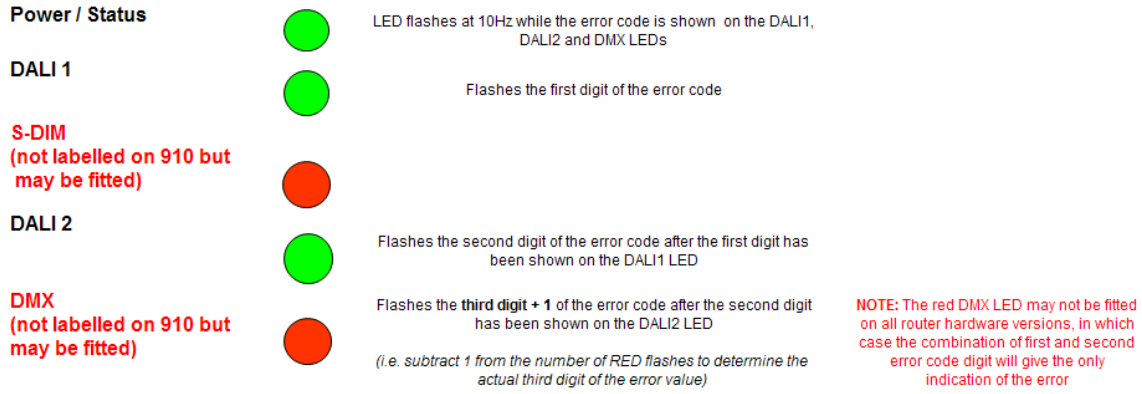
905/910/920 LED Flash Codes After Detection of an Error State

In an error state the *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* LEDs will flash a pre programmed set of colours to signify abnormal behaviour.

The steps for identifying the errors are detailed below:

General Application Error

In these cases the router will flash in the following manner:



The *LED A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* error codes and their descriptions for errors are as follows:

ERROR DETAILS	ERROR CODE	ERROR DESCRIPTION
ERROR_FLASHFTPLOAD	311	A flash programming error occurred during FTP upload
ERROR_FLASHWRITE	312	An error occurred during the verify cycle of flash writing
ERROR_FLASHERASE	313	An error occurred during the verify cycle of flash erasing
ERROR_UDPBADCOMMAND	321	Received bad UDP *Stands for User Datagram Protocol. UDP is one of the core*

		members of the Internet Protocol Suite, the set of network protocols used for the Internet. With UDP, computer applications can send messages, in this case referred to as datagrams, to other hosts on an Internet Protocol (IP) network, without requiring prior communications to set up special transmission channels or data paths. command
ERROR_UDPBADPRODUCTTESTCMD	325	Received bad sub command of UDP:ProductionTest command
ERROR_TCPTXINCOMPLETE	331	Ethernet transmission didn't complete
ERROR_TCPTXBADSOCK	332	Ethernet transmission didn't complete
ERROR_TCPRXINCOMPLETE	333	Ethernet reception didn't complete
ERROR_TCPSELECTFAIL	334	Ethernet select() call failed
ERROR_TCPSELECTTFAIL	335	Ethernet select() call timeout failed
ERROR_TCPUDPBRDCASTERR	336	Ethernet UDP broadcast failed
ERROR_IC2PROBS	341	I2C Error
ERROR_MESSAGEINQFULL	351	MessageIn queue full
ERROR_CIRCULARREDIRECT	411	Circular redirect *Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled.* detected

Operating System Error

If the error relates to operating system software, the router will flash in the following manner:

Power / Status		LED blinks on at 5Hz for a number of flashes corresponding to the errors below, Followed by a period in which the LED remains off

Note:

- Only the Power / Status LED will flash if operating system errors occur. All other LEDs will remain off

The LED error codes and their descriptions for errors relating to the operating system are as follows:

ERROR DETAILS	ERROR CODE
ERROR_POST_FAILED 1	1
ERROR_IRQ_TABLE	3
ERROR_SNMP_MIB	4
ERROR_SNMP_MIB1213	5
ERROR_RAM_FAILURE	6
ERROR_SERIAL_DRIVER	8
ERROR_ETHERNET_DRIVER	9
ERROR_PPP	10
ERROR_FILEIO	11
ERROR_ROOSTER_THREADX	12
ERROR_ROOSTER_CRITICAL	13
ERROR_CHECKSUM	14
ERROR_MAMAPI	15
ERROR_OUT_OF_MEMORY	16
ERROR_ASSERT_FAILED	17
ERROR_LCD_DRIVER	18
ERROR_POWERSAVE	19
ERROR_MMU	20
ERROR_TIMER	21

ERROR_PARALLEL	22
ERROR_MII	23
ERROR_USB_DEVICE	24
ERROR_GPIO_MUX	25
ERROR_SNMP_AGENT	26
ERROR_PANIC	27
ERROR_SDIO	28
ERROR_CAN	29
ERROR_BOOTLOADER	30

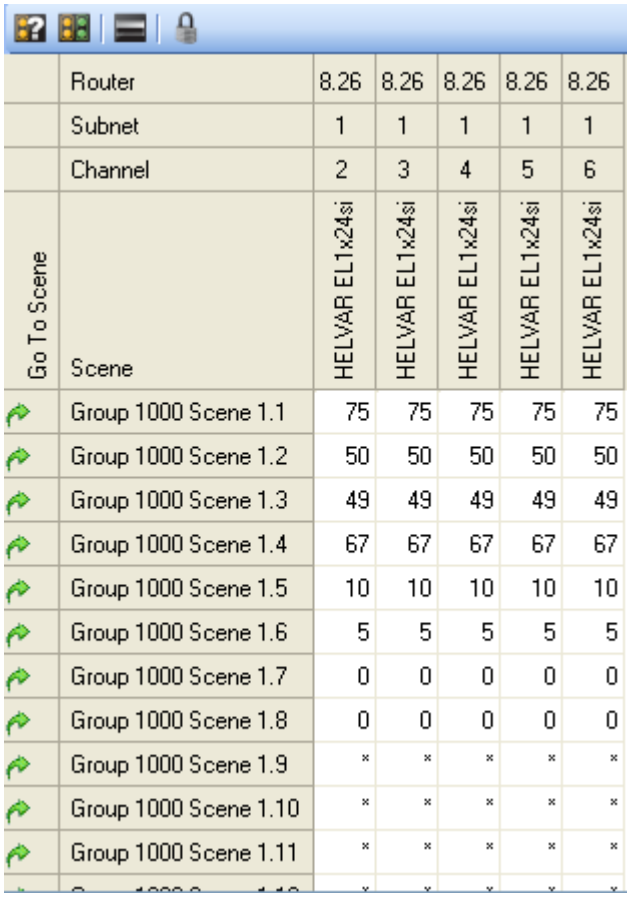
Related Topics

- Helvar Customer Support
- Digidim 905 Router
- Digidim 910 Router
- Imagine 920 Router
- 905/910/920 LED States During Normal Operation
- 905/910/920 LED States During Identify
- 905/910/920 LED States During Power Up

Scene Table

Scene Table

The *Scene Collection of lighting levels for each channel assigned to the same group as the scene.* Table is an editable table containing details of all scenes available in the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . For each *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* , there can be a maximum of 8 scene blocks and 16 scenes per block, totalling 128 scenes.



Go To Scene	Scene	HELVAR EL1x24si	HELVAR EL1x24si	HELVAR EL1x24si	HELVAR EL1x24si	HELVAR EL1x24si
	Router	8.26	8.26	8.26	8.26	8.26
	Subnet	1	1	1	1	1
	Channel	2	3	4	5	6
	Group 1000 Scene 1.1	75	75	75	75	75
	Group 1000 Scene 1.2	50	50	50	50	50
	Group 1000 Scene 1.3	49	49	49	49	49
	Group 1000 Scene 1.4	67	67	67	67	67
	Group 1000 Scene 1.5	10	10	10	10	10
	Group 1000 Scene 1.6	5	5	5	5	5
	Group 1000 Scene 1.7	0	0	0	0	0
	Group 1000 Scene 1.8	0	0	0	0	0
	Group 1000 Scene 1.9	*	*	*	*	*
	Group 1000 Scene 1.10	*	*	*	*	*
	Group 1000 Scene 1.11	*	*	*	*	*

Note: * = *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* is not used in scene.

Key:

Filter Group Select

Click to view scenes in the selected group:

1. In the Devices Tree *A hierarchical view of all devices, subdevices and subnets in a Workgroup.* , double-click on the Workgroup, router or subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between*

hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. to display the available groups for the item in the **Select A Group** dialogue.

2. Click on .
3. In the **Select A Group** dialogue, click on a group and click **Select**. *The stored scene levels for the channels in that group are displayed.*

Filter by Group

Filter view by Group.

Filter by Workgroup / Router / Subnet

Filter view by Workgroup, router or subnet.

View Lock (ignore external scene calls)

When this is enabled, the Scene Table will not view any scenes which have been called, but stay in view of the scene when was clicked.

Go to the selected scene

Double-click to display the selected scene in the Channel Graph. When a scene is being edited, this icon changes to . If in Online and Live modes, the scene will be recalled on the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* .

To learn more, see Go To.

Accept changes

Cancel changes

Scene

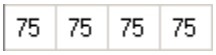
Scene Name

Double-click to edit the scene name. *To learn more, see Rename a Scene.*

Router, Subnet and Channel

Address of channel

Each channel is associated with a particular subnet of a router within the Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* . *To learn more, see Addressing.*



Scene Levels

Each scene comprises levels, an L for last scene in block, or an ignore (*****) for

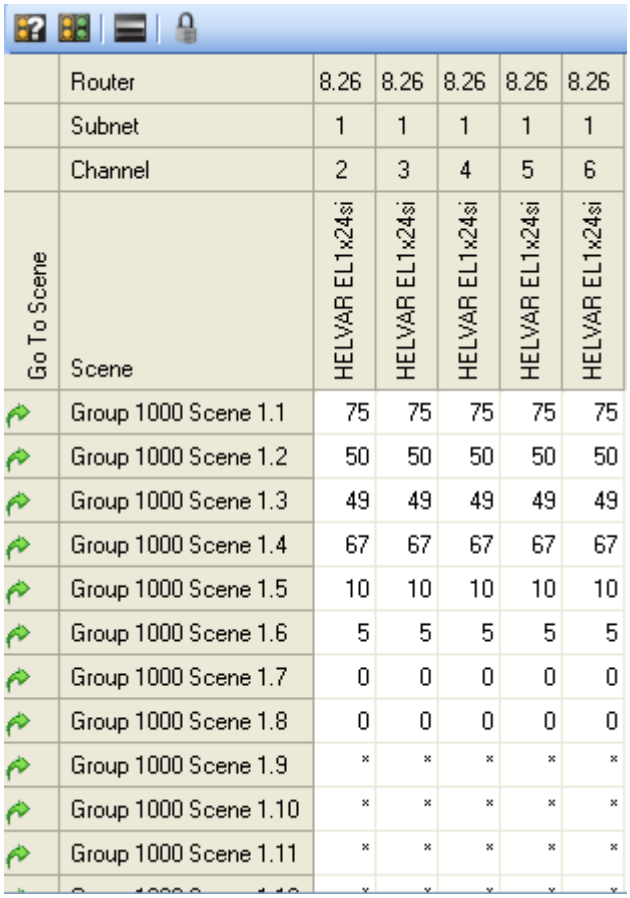
each channel in the Workgroup. *To learn more, see Edit a Scene in Scene Table.*

Related Topics

- Scenes
- View, Hide or Close the Scene Table
- Edit a Scene in Scene Table
- Select a Scene
- Go To
- Fade Times
- Naming Conventions
- Scene Numbers and Scene Blocks
- Channel Graph

Scene Table

The *Scene Collection of lighting levels for each channel assigned to the same group as the scene.* Table is an editable table containing details of all scenes available in the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . For each *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* , there can be a maximum of 8 scene blocks and 16 scenes per block, totalling 128 scenes.



Go To Scene	Scene	HELVAR EL1x24si	HELVAR EL1x24si	HELVAR EL1x24si	HELVAR EL1x24si	HELVAR EL1x24si
	Router	8.26	8.26	8.26	8.26	8.26
	Subnet	1	1	1	1	1
	Channel	2	3	4	5	6
	Group 1000 Scene 1.1	75	75	75	75	75
	Group 1000 Scene 1.2	50	50	50	50	50
	Group 1000 Scene 1.3	49	49	49	49	49
	Group 1000 Scene 1.4	67	67	67	67	67
	Group 1000 Scene 1.5	10	10	10	10	10
	Group 1000 Scene 1.6	5	5	5	5	5
	Group 1000 Scene 1.7	0	0	0	0	0
	Group 1000 Scene 1.8	0	0	0	0	0
	Group 1000 Scene 1.9	*	*	*	*	*
	Group 1000 Scene 1.10	*	*	*	*	*
	Group 1000 Scene 1.11	*	*	*	*	*

Note: * = *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* is not used in scene.

Key:

Filter Group Select

Click to view scenes in the selected group:

1. In the Devices Tree *A hierarchical view of all devices, subdevices and subnets in a Workgroup.* , double-click on the Workgroup, router or subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By*

organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. to display the available groups for the item in the **Select A Group** dialogue.

2. Click on .
3. In the **Select A Group** dialogue, click on a group and click **Select**. *The stored scene levels for the channels in that group are displayed.*

Filter by Group

Filter view by Group.

Filter by Workgroup / Router / Subnet

Filter view by Workgroup, router or subnet.

View Lock (ignore external scene calls)

When this is enabled, the Scene Table will not view any scenes which have been called, but stay in view of the scene when was clicked.

Go to the selected scene

Double-click to display the selected scene in the Channel Graph. When a scene is being edited, this icon changes to . If in Online and Live modes, the scene will be recalled on the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* .

To learn more, see Go To.

Accept changes

Cancel changes

Scene

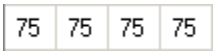
Scene Name

Double-click to edit the scene name. *To learn more, see Rename a Scene.*

Router, Subnet and Channel

Address of channel

Each channel is associated with a particular subnet of a router within the Workgroup Design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* . *To learn more, see Addressing.*



Scene Levels

Each scene comprises levels, an L for last scene in block, or an ignore (*****) for each channel in the Workgroup. *To learn more, see Edit a Scene in Scene*

Table.

Related Topics

- Scenes
- View, Hide or Close the Scene Table
- Edit a Scene in Scene Table
- Select a Scene
- Go To
- Fade Times
- Naming Conventions
- Scene Numbers and Scene Blocks
- Channel Graph

View, Hide or Close the Scene Table

View the Scene Table

Upon start-up of the application, the Scene Table is in view by default. If it is closed or hidden:

1. Click **View** / **Scene** *Collection of lighting levels for each channel assigned to the same group as the scene.* **Table** or click .

Hide the Scene Table

- Refer to Window Bar for details on hiding windows.

Close the Scene Table

- Refer to Window Bar for details on closing windows.

Related Topics

- Scene Table

Rename a Scene

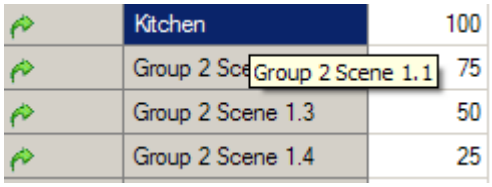
Note:

- You must be in Editor mode to edit a scene in the Scene Table.

Each *scene Collection of lighting levels for each channel assigned to the same group as the scene.* in a *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* has a unique name, composed of a the scene type and scene number. Scene names can be edited to make them easier for you to identify, and to remember their purpose in the lighting system.

If you edit a scene name, the information that was in the default scene name can still be useful. For this reason, the default scene name can be displayed in a tooltip if you hold the mouse pointer over a scene name in the Scene Table.

The following example shows a renamed scene in the Scene Table, with the default name shown in the tooltip.



Edit a scene name

1. If the Scene Table is not visible, click **View** / **Scene Table** or click on the Main Toolbar.
2. Right-click on a scene name and select **Rename** (or double-click) to edit.
3. Type in a new scene name. This name does not have to be unique.
4. Press **Enter** to save the changes, or press **Esc** to cancel the changes.

Restore the default scene name

1. If the Scene Table is not visible, click **View** / **Scene Table** or click on the Main Toolbar.
2. Double-click on a scene name to edit.
3. Press **Delete**.
4. Press **Enter**. *The default name is restored.*

Related Topics

- Scenes
- Scene Numbers and Blocks
- Names and Conventions

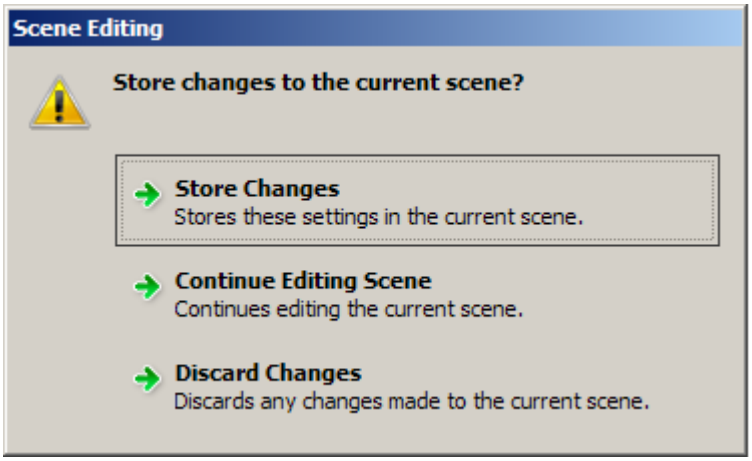
Edit a Scene in Scene Table

Note:

- You must be in Editor mode to edit a scene in the Scene Table.

1. Select a scene *Collection of lighting levels for each channel assigned to the same group as the scene.* to edit. *To learn more see Select a Scene.*
2. Type in new value for the channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* that you want to change. *To exclude a channel from the scene, set its value to ***** (asterisk).*
3. Click ok, or click c to cancel the changes.
4. Repeat steps **2** and **3** for each channel, as necessary.

*If you edit a scene then click on a different scene in Scene Table without saving or discarding the changes, then the **Scene Editing** dialogue appears, where you are asked to store the changes.*



Tips:

- To ignore a channel in a scene, set its level to ***** (asterisk).
- To make a channel in a scene, upon power on, go to the last level before power off, set its level to **L**.
- A quick way to set a level to **0** is to select the level and press **Delete**.
- You can also edit scene levels via Channel Graph. *To learn more see Monitor and Edit a Scene in Channel Graph.*
- You can also copy and paste levels from a spreadsheet, such as Excel.

Note:

- Scene selection by a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* may be overridden by a Routing Entry. *To learn more see Routing Entries.*

Related Topics

- Scene Table

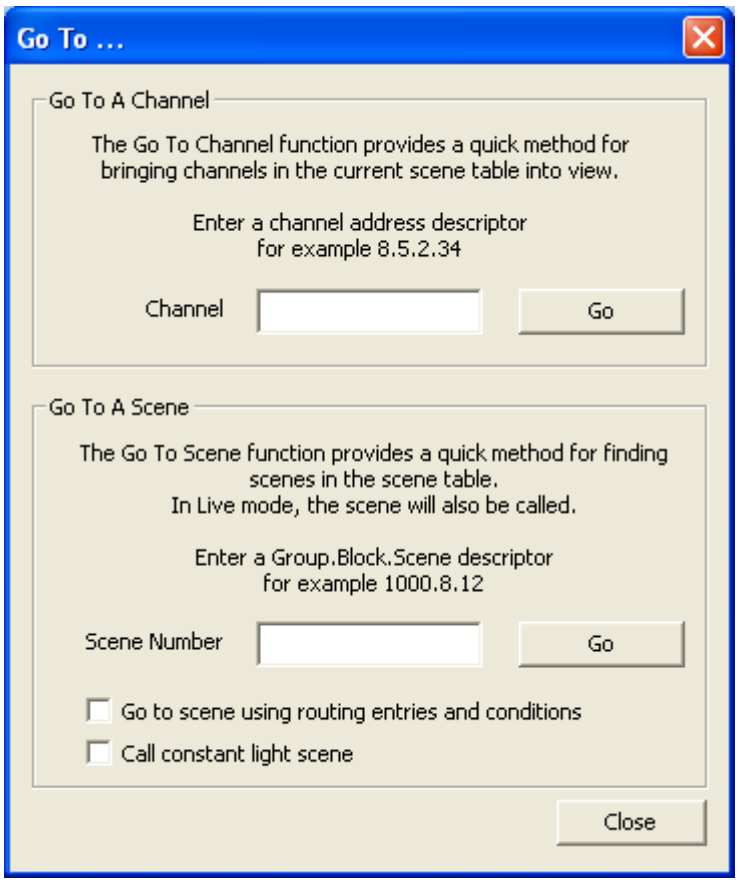
- Routing Entries
- Scene Numbers and Blocks
- Monitor and Edit a Scene in Channel Graph
- Channel Graph

Go To

'Go To' allows you to find a scene or a dimmer, and recall and display it in the Channel Graph and Scene Table.

Using 'Go To' via the Main Toolbar

- Click from the Main Toolbar. The **Go To** dialogue appears.



'Go To' a Channel

1. In **Go To A Channel** *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* section, enter the channel address in the **Channel** field. *See Addresses for more information.*
2. Click **Go**. *If the item is found, the Scene Collection of lighting levels for each channel assigned to the same group as the scene. Table scrolls so that the region containing the device A physical item with which you can interact, either directly or via Designer. is visible.*
3. Click **Close** to close the dialogue, or return to step **1**, above, to find another item.

'Go To' a Scene

Note:

- In Live mode the scene recall affects the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.* (and therefore the real lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*), but in Blind mode it affects only the Workgroup Design *A simulation of a Lighting System,*

which may or may not correspond to the devices in a Real Workgroup. .

1. Click from the Main Toolbar to view the 'Go To' dialogue.
2. In **Go To A Scene** section, enter the scene address (in the format of **Group.Scene Block.Scene**) in the **Scene** field. *See Scene Numbers and Blocks for more information.*
3. Click the **Go** button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* . *If the scene is found, it is displayed in the Scene Table, and, if in Live mode, the scene is called.*
4. Click **Close**.

Using 'Go To' to Call a Constant Light Scene

Note:

- If you do not tick the **Call constant light scene** check box then you will just call a fixed light scene, not a constant light scene.
- Provided that the Constant Light Routing Entries are set up, the target levels (in the Properties of the constant light routing entries) are not set to 'Fixed Light', and the scene recalls are set to 'Constant Light', then constant light scenes can be called. *Calling scenes from 'Go To' before this has been done will just call a fixed light scene.*

To call a constant light scene:

- Click to tick the **Call constant light scene** check box.

You can now call constant light scenes from either the 'Go To' dialogue or from the Scene Table.

'Go To' Scene and apply Routing Entries and Conditions

To call a scene using Routing Entries and Conditions which have been applied in configuration:

- Click to tick the **Go to scene using routing entries and conditions** check box.

Using Go To via the Scene Table

- In the Scene Table, double-click beside the scene you want to go to. *The scene is called and appears in the Channel Graph.*

View Scenes from a Specific Group in the Scene Table

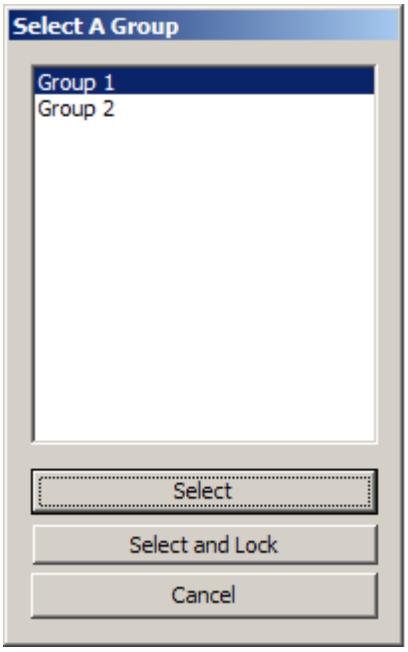
Note:

- ONLY once you have ticked the **Call Constant Light Scene** and/or **Go To Scene and apply Routing Entries and Conditions** check box in the 'Go To' dialogue and clicked **Go To**, can you call constant light scenes and/or scenes with Routing Entries and Conditions from the Scene Table.
- For Constant Light, provided that the Constant Light Routing Entries are set up and the target levels are not set to 'Fixed Light', and the scene recalls are set to 'Constant Light', then constant light scenes can be called. *Calling scenes from the Scene Table before this has been done will just call a fixed light scene.*

1. Click to open the Scene Table.
2. In the Device Tree, double-click on the Workgroup, router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* or subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them,*

subnetting, network security and performance can be improved. to display the available groups (according to Workgroup, router or subnet) in the **Select A Group** dialogue.

3. Click to select a group. *The **Select A Group** dialogue appears.*



3. Click on the group whose Scenes you wish to view in the Scene Table and click **Select**. *The scenes for the chosen Group appear in the Scene Table.*

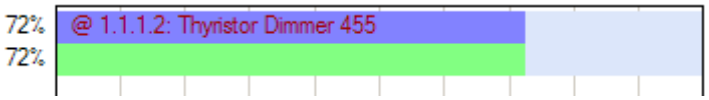
Related Topics

- Addressing
- Scenes
- Scene Numbers and Blocks
- Channel Graph
- Scene Table
- Device Tree

Channel Graph

Channel Graph

The *Channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* Graph displays a graph representing each level in the selected *scene Collection of lighting levels for each channel assigned to the same group as the scene.* or Workgroup / *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* / *subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* / *device A physical item with which you can interact, either directly or via Designer.* , and, for each channel, indicates whether faults have been detected.



Each horizontal bar represents a channel. The graph background includes 9 vertical lines, marking 10% graduations in level. Left of each bar is the exact value of the level.

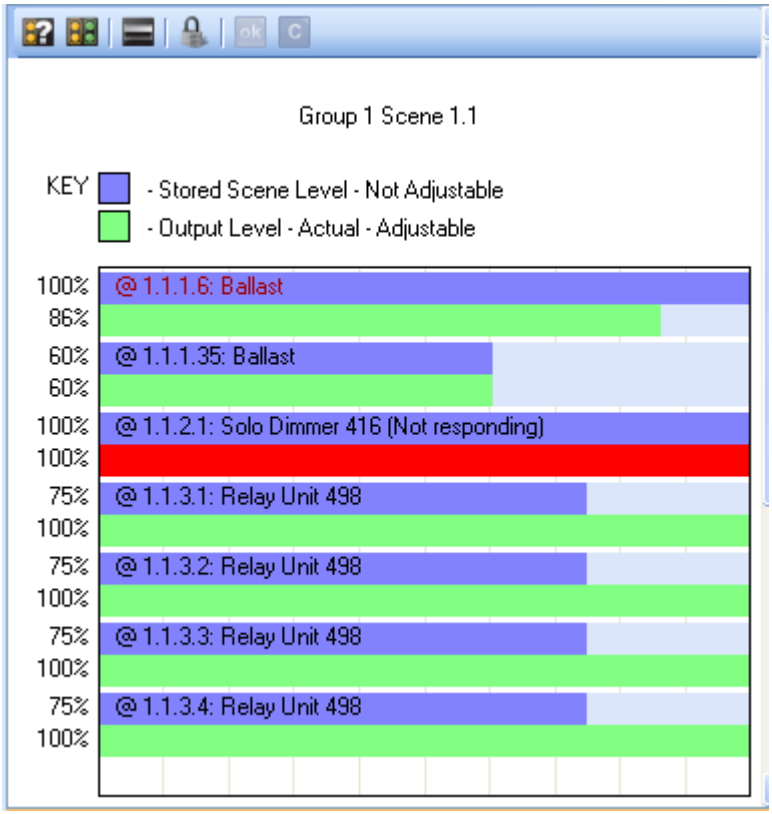
Scene in Channel Graph

The Channel Graph provides a graphical representation of the stored scene levels, plus the current output levels of channels, in the selected scene.

When a scene is called, the Channel Graph shows all the channels affected by the scene recall. *See Select a Scene for the various methods of recalling a scene.*

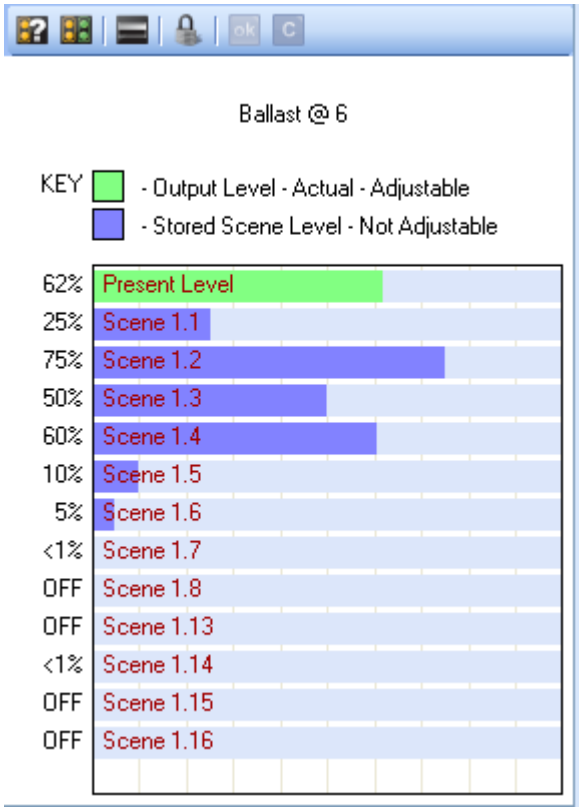
Note:

- To adjust a scene or level in the Channel Graph, see Monitor and Edit a Scene in Channel Graph.



Control Gear (Load) in Channel Graph

You can also view the current output level and stored scene levels of a channel by double-clicking on the item in the Device Tree.



Display Output Levels of Channels in Workgroup / Router / Subnet

You can also display the channel outputs in the Workgroup, router or subnet by double-clicking on the item in the Device Tree.

Toolbar

The toolbar allows you to control the mode and extent of the display, and indicates the presence of faults in the displayed channels.

Filter Group Select

Click to view scenes in the selected group:

1. In the Device Tree , double-click on the Workgroup, router or subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* to display the available groups for the item in the **Select A Group** dialogue.
2. Click on .
3. In the **Select A Group** dialogue, click on a group and click **Select** or **Select and Lock**. *The stored scene and output levels for the channels in that group are displayed.*

Filter By Group.

Filter view by Group.

Filter By Workgroup / Router / Subnet.

Filter view by Workgroup, router or subnet.

View Lock (ignore external scene calls)

When this is enabled, the Channel Graph will stay in view of the scene when was clicked.

Channel Graph Key

Green	Channel level. This is the level that is currently stored in the control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.*.
Red	The channel is not present, or has an error or fault.
Blue	Stored scene level.
Yellow	The scene level adjustment has not yet been sent to the control gear.

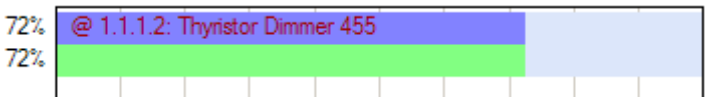
Related Topics

- Monitor and Edit a Scene in Channel Graph
- View, Hide or Close the Channel Graph
- Scenes
- Scene Table
- Go To
- Device Tree

Channel Graph

Helvar

The *Channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* Graph displays a graph representing each level in the selected *scene Collection of lighting levels for each channel assigned to the same group as the scene.* or Workgroup / *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* / *subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* / *device A physical item with which you can interact, either directly or via Designer.* , and, for each channel, indicates whether faults have been detected.



Each horizontal bar represents a channel. The graph background includes 9 vertical lines, marking 10% graduations in level. Left of each bar is the exact value of the level.

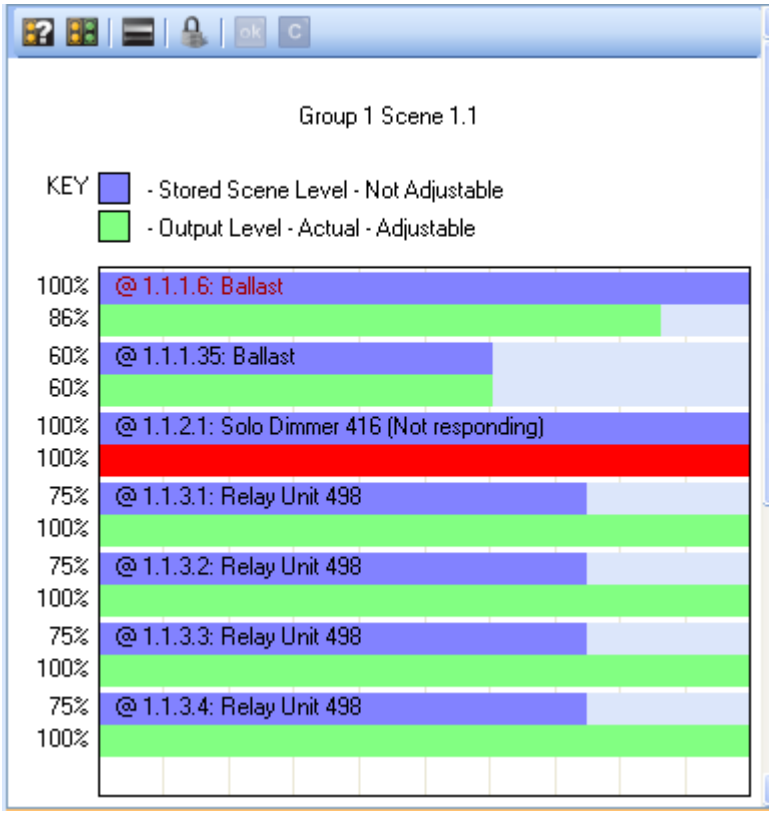
Scene in Channel Graph

The Channel Graph provides a graphical representation of the stored scene levels, plus the current output levels of channels, in the selected scene.

When a scene is called, the Channel Graph shows all the channels affected by the scene recall. *See Select a Scene for the various methods of recalling a scene.*

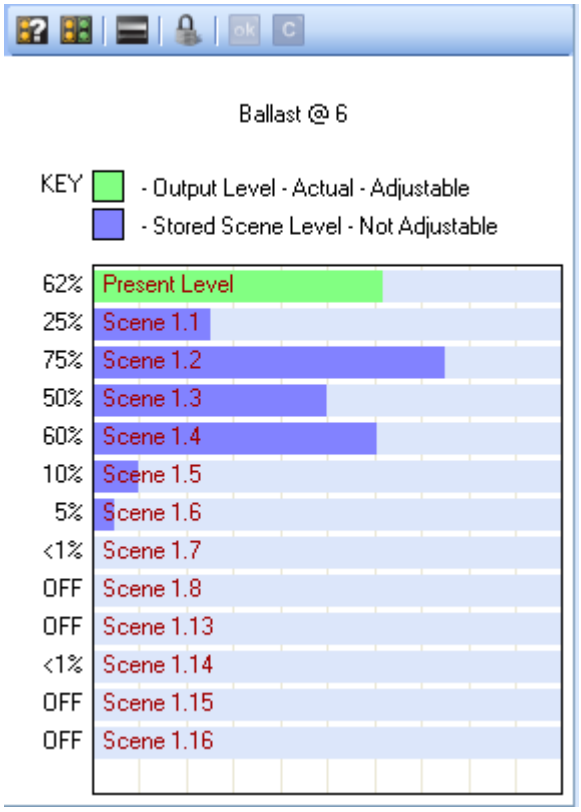
Note:

- To adjust a scene or level in the Channel Graph, see Monitor and Edit a Scene in Channel Graph.



Control Gear (Load) in Channel Graph

You can also view the current output level and stored scene levels of a channel by double-clicking on the item in the Device Tree.



Display Output Levels of Channels in Workgroup / Router / Subnet

You can also display the channel outputs in the Workgroup, router or subnet by double-clicking on the item in the Device Tree.

Toolbar

The toolbar allows you to control the mode and extent of the display, and indicates the presence of faults in the displayed channels.

Filter Group Select

Click to view scenes in the selected group:

1. In the Device Tree , double-click on the Workgroup, router or subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* to display the available groups for the item in the **Select A Group** dialogue.
2. Click on .
3. In the **Select A Group** dialogue, click on a group and click **Select** or **Select and Lock**. *The stored scene and output levels for the channels in that group are displayed.*

Filter By Group.

Filter view by Group.

Filter By Workgroup / Router / Subnet.

Filter view by Workgroup, router or subnet.

View Lock (ignore external scene calls)

When this is enabled, the Channel Graph will stay in view of the scene when was clicked.

Channel Graph Key

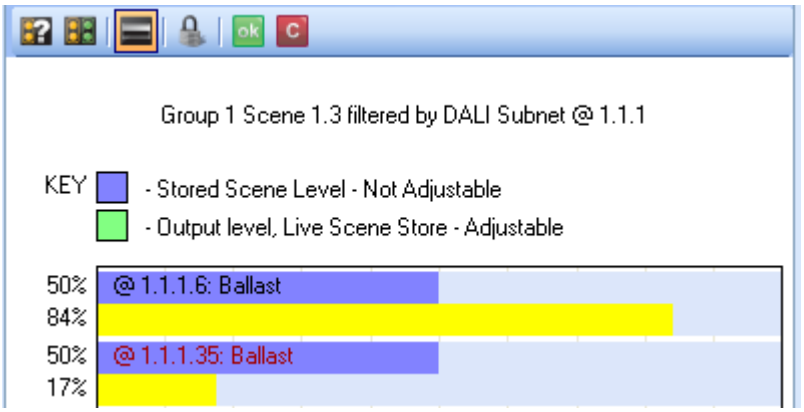
Green	Channel level. This is the level that is currently stored in the control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.*.
Red	The channel is not present, or has an error or fault.
Blue	Stored scene level.
Yellow	The scene level adjustment has not yet been sent to the control gear.

Related Topics

- Monitor and Edit a Scene in Channel Graph
- View, Hide or Close the Channel Graph
- Scenes
- Scene Table
- Go To
- Device Tree

Monitor and Edit a Scene in Channel Graph

In this mode you can display and adjust the levels of the selected scene.

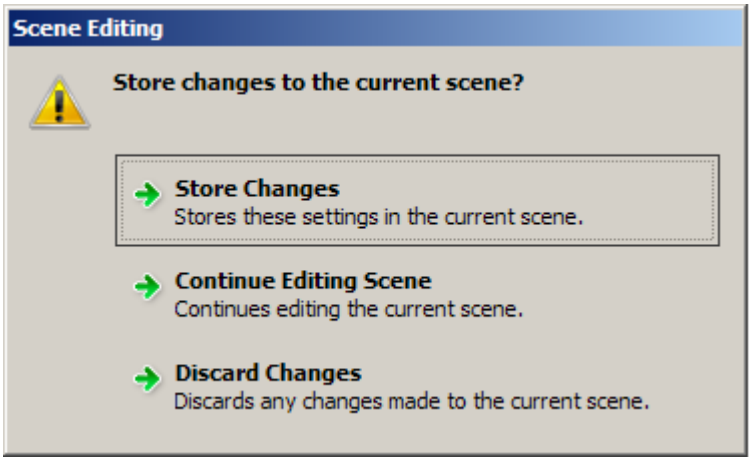


Adjust levels

Notes:

- You must be in Online and in Editor mode to adjust the levels of a scene *Collection of lighting levels for each channel assigned to the same group as the scene.* in the Channel Graph.
- In Monitor / Live mode, you can adjust current light levels, but NOT scene levels.

1. Select the scene for which you want to edit the levels. *See Select a Scene for the various steps in which you can do this.*
2. In the Channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* Graph, click and drag on the output level (the green bar), which is underneath the stored scene level (the blue bar) of your desired level. *The bar turns yellow when you click on it and remains so until you apply the changes.*
3. Click ok to apply changes and exit level adjust mode. *If you click on a different scene in the Scene Table without saving the changes, the **Scene Editing** dialogue appears, where you are asked to store the changes.*



Note:

- You cannot use the Channel Graph to include or exclude channels from a scene. To do this you must edit the scene in the Scene Table. *To learn more see Edit a Scene in Scene Table*.

Related Topics

- Channel Graph
- Scenes
- Scene Table
- Edit a Scene in Scene Table
- Device Tree

View, Hide or Close the Channel Graph

View the Channel Graph

Upon start-up of the application, the Channel Graph will be in view by default. If it is closed or hidden:

- Click **View** / **Channel** *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* **Graph** or click .

Hide the Channel Graph

- Refer to Window Bar for details on hiding windows.

Close the Channel Graph

- Refer to Window Bar for details on closing windows.

Related Topics

- Window Bar
- Channel Graph

Event Log

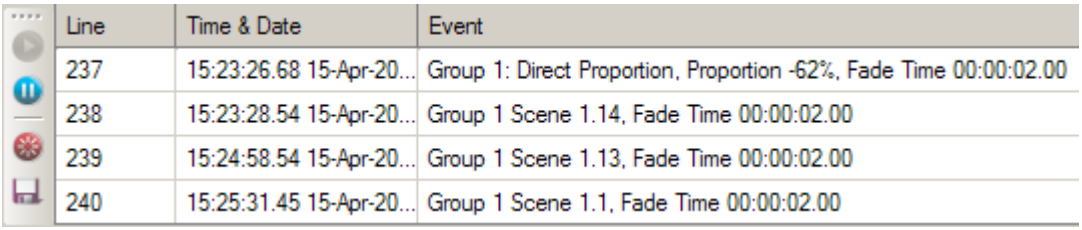
Event Log

Events are actions by the users, such as *scene Collection of lighting levels for each channel assigned to the same group as the scene.* recalls, movement causing PIR triggers, automatic adjustment of light level by constant light control, scheduler actions etc.

The Event Log stores a record of all events performed, with the time and date, and a description of the event.

Note:

- The Event Log view has a limited storage capacity. Once reached, the oldest events are overwritten by new events. Logging to a CSV *Stands for Comma Separated Values. A way to store information in a file so that it can be used by other applications (e.g. Microsoft Excel).* file avoids this loss of information. *See Event Log Configuration for information on logging to a file.*



Line	Time & Date	Event
237	15:23:26.68 15-Apr-20...	Group 1: Direct Proportion, Proportion -62%, Fade Time 00:00:02.00
238	15:23:28.54 15-Apr-20...	Group 1 Scene 1.14, Fade Time 00:00:02.00
239	15:24:58.54 15-Apr-20...	Group 1 Scene 1.13, Fade Time 00:00:02.00
240	15:25:31.45 15-Apr-20...	Group 1 Scene 1.1, Fade Time 00:00:02.00

Line	This is the event number. Each event is given a unique number for easy identification. If an event has occurred twice in quick succession, then they are concatenated into one event, with the number of repetitions in brackets.
Time & Date	When the event occurred.
Event	Brief explanation of the event.
Start History	On by default and can only be used when you pause the history. *To learn more see Pause and Resume the Event Log Display.*
Pause History	Pauses the Event Log display so that any event which happens whilst pause is on will not be displayed, but will be shown once is clicked. *To learn more see Pause and Resume the Event Log Display.*
Clear History	Clears the Event Log of all previous events. *To learn more see Clear the Event Log.*
Save to .csv	Converts the information in the Event Log into a Microsoft Excel Comma Separated Values file. *To learn more see Export the Event Log.*

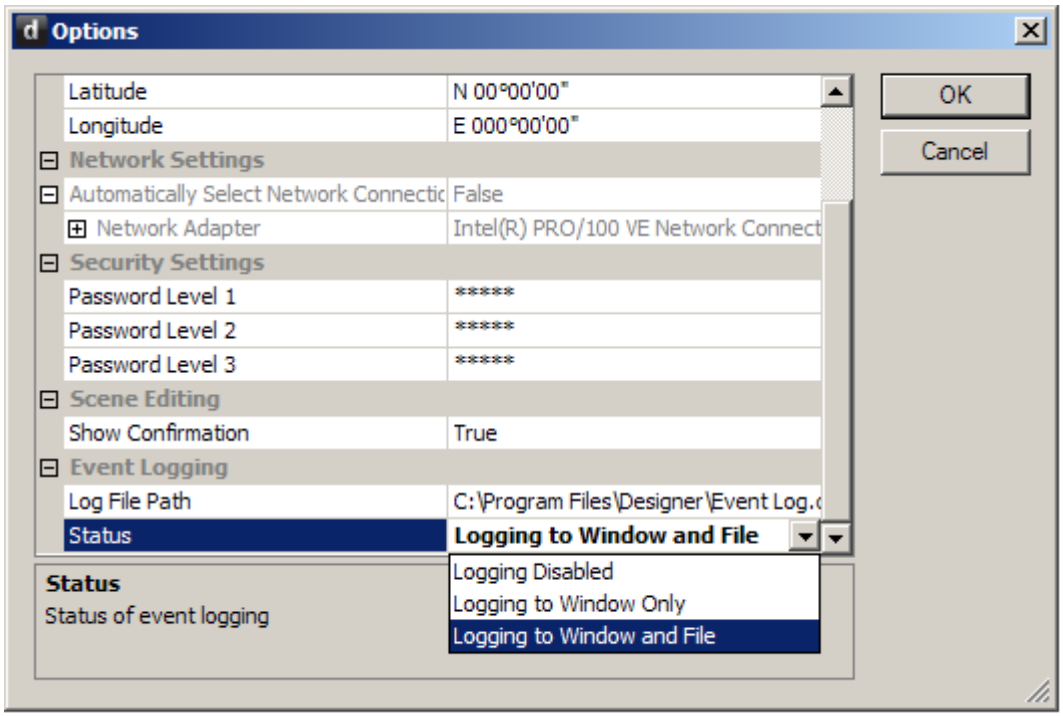
Related Topics

- Event Log Configuration
- View or Hide the Event Log
- Clear the Event Log
- Export the Event Log
- Event Log Configuration

Event Log Configuration

The Event Log creates a record of all *scene Collection of lighting levels for each channel assigned to the same group as the scene.* recalls and modifications generated by the user or Scheduler. Event logging is supported in Live, Blind, Offline or Online mode. *See Modes of Operation.*

The Event Log is stored in a *CSV Stands for Comma Separated Values. A way to store information in a file so that it can be used by other applications (e.g. Microsoft Excel).* file. This is a portable format, so the log can be viewed in other applications, such as Excel.



Configure the Event Log

1. Click **Tools / Options** and scroll down to the **Event Logging** section.
2. In the **Log File Path** field, the default location is **C:\Program Files\Designer\Event Log.csv**. To can change this location click in the field, highlight the text and overwrite with a new location.

Notes:

- The log file limit is 0.5 MB *Megabyte. One million bytes of computer memory or disk space.* . When this limit is reached a new log file is started automatically, using a timestamp as the filename, until a maximum of 100 log files exist or until there is insufficient disk space to create another log file. On reaching this limit, the oldest log file is overwritten by a new log file.
- The log file location must have at least 1 MB free space. This allows for a minimum of two log files to co-exist, and for the log file overwriting process described above to occur.

3. In the **Status** field, select how the log will operate. Three modes of operation are available:

Note:

- The default mode is 'Logging to Window Only'.

Logging Disabled	Event logging is disabled.
Logging to Window Only	Events are logged in the event log screen only.
Logging to Window and File	Events are logged in the event log screen and to the log file.

4. Click **OK** to accept the changes, or **Cancel** to reject them.

Related Topics

- Event Log
- Export the Event Log
- View, Hide or Close the Event Log
- Clear the Event Log
- Pause and Resume the Event Log
- Options

View or Hide the event Log

View the Event Log

- To view the Event Log, click **View** / **Event Log**.

Hide the Event Log

- Click in the Event Log title bar.
- When hidden, to show the Event Log view in the application window, view it by clicking on the tab in the window pane and then click in the Event Log title bar.

Close the Event Log View

- Click in the Event Log title bar.

Related Topics

- Event Log
- Clear the Event Log
- Export the Event Log
- Pause and Resume the Event Log
- Event Log Configuration

Clear the Event Log

The Event Log can be deleted. You may want to do this if the log has become very large, or is redundant, or to start a new log.

Delete the Event Log

1. Ensure that the Event Log is visible. *See View the Event Log.*
2. Click to delete the Event Log. *A confirmation dialogue appears*.
3. Click **Yes** to delete the log.

Related Topics

- Event Log
- View, Hide or Close the Event Log
- Export the Event Log
- Pause and Resume the Event Log
- Event Log Configuration

Export the Event Log

The Event Log can be exported to a *CSV Stands for Comma Separated Values. A way to store information in a file so that it can be used by other applications (e.g. Microsoft Excel).* file. This is a portable format for the data, so that can it be viewed in other applications that support CSV, such as Microsoft Excel.

Export the Event Log to a CSV file

1. Ensure that the Event Log is visible. *See View the Event Log.*
2. Click . *The **Save As** dialogue appears.*
3. Browse for a location for the log file.
4. In the **File name** field, type in a name for the log file.
5. Click **Save**. *The log is saved as a CSV file.*

Related Topics

- Event Log
- View, Hide or Close the Event Log
- Clear the Event Log
- Pause and Resume the Event Log
- Event Log Configuration

Pause and Resume the Event Log

When an event occurs, the Event Log display is updated. This can make it difficult to examine a particular part of the log. However, it is possible to pause and resume the log window so you can examine the log, uninterrupted by updates.

- Ensure that the Event Log is visible. *See View the Event Log.*

Pause the Event Log Display

- Click to pause the Event Log display.

Resume the Event Log Display

- Click to resume the Event Log display.

Tip:

- No information is lost by pausing the log display. When is clicked, logging continues in the background but the log display does not update. When is clicked, the log display is updated with all events that occurred whilst it was paused..

Related Topics

- Event Log
- View, Hide or Close the Event Log Window
- Clear the Event Log
- Export the Event Log
- Event Log Configuration

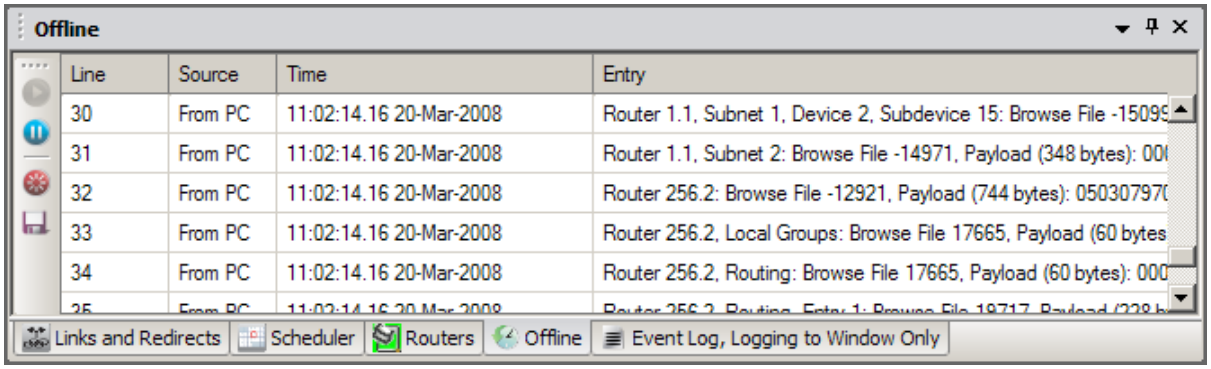
History Log

History

Helvar

Designer maintains a continuous log of the messages that pass between the Client Computer and routers in the Real Workgroup. This is known as the History Log.

The History Log is a diagnostic tool, used to help identify and resolve technical issues.



Line — Message number. Each communication is given a unique number for easy identification.

Source — The source of the message. **From PC** *Stands for Personal Computer.* means this computer originated the message. A number means a router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* originated the message.

Time — Date and time at which the message was sent.

Entry — English-language interpretation of the message content.

Count — Total number of messages logged.

Start History — Resume the History Log display. *To learn more see Pause and Resume the History Log Display.*

Pause History — Pause the History Log display. *To learn more see Pause and Resume the History Log Display.*

Clear History — Delete the History Log. *To learn more see Clear the History Log.*

Save to .csv *Stands for Comma Separated Values. A way* — Export the History Log. *To learn more see Export the History Log.*

to store information in a file so that it can be used by other applications (e.g. Microsoft Excel).

Related Topics

- Open the History Log
- View or Hide the History Log
- Export the History Log
- Clear the History Log
- Pause and Resume the History Log

Open the History Log

Open the History Log via the Main Toolbar

1. In the Device Tree, select the Workgroup.
2. Click .

Open the History Log via the Context Menu

1. In the Devices Tree *A hierarchical view of all devices, subdevices and subnets in a Workgroup.* , right-click on the Workgroup. *The context menu appears.*
2. Select **History**.

Related Topics

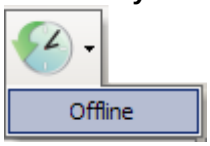
- History Log
- View or Hide the History Log
- Export the History Log
- Clear the History Log
- Pause and Resume the History Log
- Device Tree
- Workgroups

View or Hide the History Log

View the History Log

If the History Log is already open, but not in view, then do one of the following to view it:

- Click **View** / **History** and then select the Workgroup to view it's History Log.
- Click **History** icon drop-down menu, from the Main Toolbar, and select History Log



.

- Click on the History view tab on the application window pane.

Hide the History Log

- Click in the History view title bar.
- When hidden, to show the History Log view in the application window, view it and then click in the History Log view title bar.

Close the History Log

- Click in the History view title bar.

Related Topics

- History Log
- Open the History Log
- Export the History Log
- Clear the History Log
- Pause and Resume the History Log
- Workgroups

Clear the History Log

The History Log can be deleted. You may want to do this if the log has become very large, or is redundant, or if you wish to start a new log.

Delete the History Log

1. Ensure that the History Log is visible. *See View the History Log.*
2. Click to delete the History Log. *A confirmation dialogue appears*.
3. Click **Yes** to delete the log.

Related Topics

- History Log
- Export the History Log
- Pause and resume the History Log
- View, Hide or Close the History Log
- Open the History Log

Export the History Log

The History Log can be exported to a *CSV Stands for Comma Separated Values. A way to store information in a file so that it can be used by other applications (e.g. Microsoft Excel).* file. This is a portable format for the data, so that can it be viewed in other applications that support CSV, such as Microsoft Excel.

Export the History Log to a CSV file

1. Ensure that the History Log is visible. *See View the History Log.*
2. Click . *The **Save As** dialogue appears.*
3. Browse for a location for the log file.
4. In the **File name** field, type in a name for the log file.
5. Click **Save**. *The log is saved as a CSV file.*

Related Topics

- History Log
- Clear the History Log
- Pause and Resume the History Log
- Open the History Log
- View or Hide the History Log Window

Pause and Resume the History Log

When an event occurs, the History Log display is updated. This can make it difficult to examine a particular part of the log. However, it is possible to pause and resume the log view so you can examine the log, uninterrupted by updates.

- Ensure that the History Log view is visible. *See View the History Log.*

Pause the History Log Display

- Click to pause the History Log display.

Resume the History Log Display

- Click to resume the History Log display.

Tip:

- No information is lost by pausing the log display. When is clicked, logging continues in the background but the log display does not update. When is clicked, the log display is updated with all events that occurred whilst it was paused..

Related Topics

- History Log
- Export the History Log
- Clear the History Log
- View or Hide the History Log

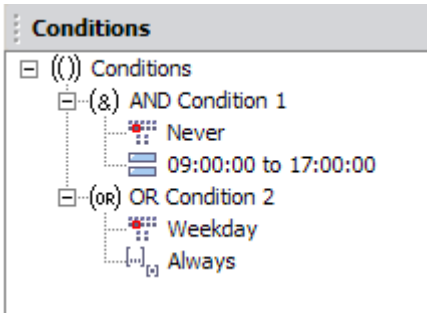
Conditions

Conditions

Conditions allow you make controls (buttons, sliders, rotaries etc.), scheduler events, and routing entries conditional on one or many factors. For example, you may use conditions to ensure that a scene is enabled only on weekdays, or only on weekends; or to prevent a *redirect Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled.* from happening while the room affected by it is locked (if you have an appropriate input unit connected). You can also inter-*link Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled, but only after a defined delay.* conditions to meet the requirements of multi-purpose environments (such as a conference hall), or to meet security requirements.

A condition comprises one or more **terms**, and may contain up to 32 terms. A *term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* is a single statement that, at any given time, may be TRUE or FALSE. For example, a term may specify a day of the week, such as Monday. On Monday, this term is TRUE, but on all other days it is FALSE.

Conditions can be viewed, created, edited and deleted via the Conditions view.



	Click to view conditions.
	Click to add a condition or term. *To learn more see Create a Condition.*
	Click to view the Properties dialogue for the selected condition or term. *To learn more see Edit a Condition.*
	Click to delete the selected condition or term. *To learn more see Delete a Condition.*
	The Conditions collection.
	Condition.

Related Topics

- Boolean Logic and Conditions
- Create a Condition or Term

- View or Edit a Condition or Term
- Delete a Condition or Term
- Scenes
- Scheduler
- Routing Entries
- Subdevice Configuration

Boolean Logic and Conditions

Helvar

Boolean Algebra is a form of mathematics concerned with resolving logical problems. It was devised by an English mathematician, George Boole (1815-1864), as a tool to study philosophical and mathematical problems, but has been adopted for use in expressing logical and conditional problems. In Designer, a constituent of Boolean Algebra called *Boolean Logic Boolean Logic is used to quantify and resolve logical statements that may be TRUE or FALSE, as part of Conditions. It does this by relating items to each other using keywords. Designer uses four such keywords: AND, OR, NAND and NOR.* , is used to quantify and resolve logical statements that may be TRUE or FALSE, as part of conditions. It does this by relating items to each other using keywords. Designer uses four such keywords: **AND**, **OR**, **NAND** and **NOR**. These are explained later in this topic.

How to use Boolean Logic in Designer

Designer uses Boolean Logic to assess the TRUE or FALSE state of a **condition** and its constituent **Terms**. A condition is a collection of **Terms**. A *Term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* is a single statement that, at any given time, may be TRUE or FALSE. For example, a term may specify a day of the week, such as Monday. If the current day is Monday, then this term is TRUE, but on all other days it is FALSE.

To determine if a condition state is TRUE or FALSE, we must assess the TRUE or FALSE state of all the terms within it. To do this, we *link Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled, but only after a defined delay.* all the terms together using the Boolean Operator associated with the condition. These links, their possible states and their results are usually shown in what we call a *Truth Table A table used to show all possible logical states of a Boolean expression. In Designer, these are used to show the possible states of a Condition and its Terms.* . The following Truth Tables use two terms (term 1 and term 2), but any number of terms can be assessed in this way.

AND

This Operator means that the condition is only TRUE if all terms in the condition are TRUE.

Term 1	Term 2	AND condition
TRUE	TRUE	TRUE
TRUE	FALSE	FALSE
FALSE	TRUE	FALSE
FALSE	FALSE	FALSE

OR

This Operator means that the condition is only TRUE if any terms in the condition are TRUE.

Term 1	Term 2	OR condition
TRUE	TRUE	TRUE
TRUE	FALSE	TRUE
FALSE	TRUE	TRUE

FALSE	FALSE	FALSE

NAND

This Operator means NOT AND. It is the opposite of AND. The condition is only TRUE if one or all of the terms in the condition is FALSE.

Term 1	Term 2	NAND condition
TRUE	TRUE	FALSE
TRUE	FALSE	TRUE
FALSE	TRUE	TRUE
FALSE	FALSE	TRUE

NOR

This Operator means NOT OR. It is the opposite of OR. The condition is only TRUE if all terms in the condition are FALSE.

Term 1	Term 2	NOR condition
TRUE	TRUE	FALSE
TRUE	FALSE	FALSE
FALSE	TRUE	FALSE
FALSE	FALSE	TRUE

Related Topics

- Conditions

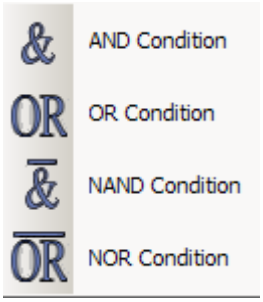
Create a Condition or Term

Note:

- You must be in Editor mode to create a condition or term *A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* .

Create a Condition

1. To open Conditions view, click or select **View** / **Conditions**.
2. Click on Conditions in the Conditions Tree.
3. Click (or right-click on Conditions in the Conditions Tree and select **Insert**). *A list of Boolean condition types appear.*
4. Click to select a condition logic type. *This adds a condition to the Conditions Tree.*



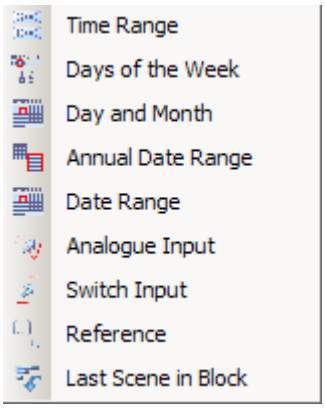
Create a Term

Note:

- You can create up to 32 terms for a condition.

A term is a statement about a time, date or event that, at any given time, may be TRUE or FALSE. For example, a term may specify a day of the week, such as Monday. On Monday, this statement is TRUE, but on all other days it is FALSE. Links, Redirects, Scheduled Events and Enablements can be made conditional, on the basis that a given term statement within the Condition is TRUE or FALSE. How you proceed depends on the type of term you choose.

1. Click on the condition to which you wish to add the term.
2. Click . *A drop-down menu appears, listing the available terms.*



Click on a term on the left to learn how to configure it.

3. Select desired term. *The term appears in the Conditions Tree.*

Invert the Logical State of a Term

In the **Condition** section of the Properties view, notice the **Invert** field. This is set to 'False' by default, which means that the state of the term is not inverted, therefore the condition definition is TRUE.

Tip:

- Notice the **Is Met** field underneath the **Invert** field. This tells you whether or not the condition is met at this moment in time, and therefore is not an editable field. If the condition is met now, this field is 'True'; if the condition is not met now, this field is 'False'.

Inverting the logical state of a term can be convenient for some things, but essential for other things.

Tip:

- For example, if you wish to set a condition for every day of the week apart from Sunday, then you can just insert a Days of the Week term, set it for Sunday, and invert the state of the term to become FALSE on Sunday.

To reverse the logical state of a term, do the following:

1. Click on the term in the Conditions Tree.
2. In Properties, click in the **Invert** field in the **Condition** section.
3. Click and select 'True'.
4. Click . *Notice that 'NOT' appears before the term in the Conditions Tree. This means that the term has become FALSE.*

Related Topics

- Conditions
- Boolean Logic and Conditions
- Edit a Condition or Term
- Delete a Condition or Term
- Name a Condition or Term
- Editor Mode
- Properties

Delete a Condition or Term

Note:

- You must be in Editor Mode to delete a condition or term *A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* .

1. If Conditions view is not visible, click or select **View** / **Conditions**.
2. Select the condition or term you want to delete.
3. Click .
4. At the confirmation dialogue, click **Delete** to proceed.

Related Topics

- Create a Condition or Term
- Edit a Condition or Term
- Name a Condition or Term
- Editor Mode
- Conditions
- Boolean Logic and Conditions
- Editor Mode
- Properties

Name a Condition or Term

Note:

- You must be in Editor Mode to name a condition or term *A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* .

1. If Conditions view is not visible, click or select **View** / **Conditions**.
2. Click on the condition or term in the Conditions Tree.
3. Click to view Properties.
4. In the **Common** section of Properties, click in the **Name** field and enter your desired name for the Condition or Term.
5. Click to apply changes.

Related Topics

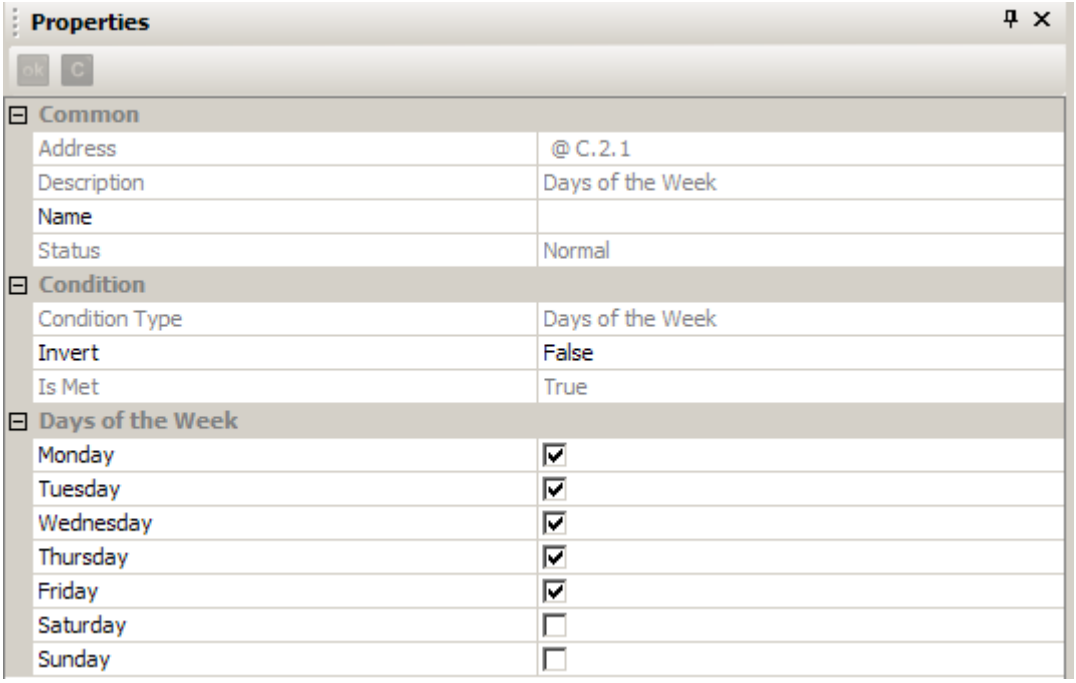
- Conditions
- Boolean Logic and Conditions
- Create a Condition or Term
- Edit a Condition or Term
- Delete a Condition or Term
- Editor Mode
- Properties

Edit a Condition or Term

Note:

- You must be in Editor Mode to edit a condition or term *A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* .

1. Click or **View / Conditions**.
2. Click on the condition or term to select it.
3. If not already open, click to view the properties of the condition or term.
4. Edit the condition or term in the Properties view, accordingly and click to apply the changes.



Related Topics

- Conditions
- Boolean Logic and Conditions
- Create a Condition or Term
- Name a Condition or Term
- Delete a Condition or Term
- Editor Mode
- Properties

Terms

Terms - Time Range

This *term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* allows you to set a range of times, during which the condition is met. This is useful when creating a condition for a 24-hour period (where the period may span two days).

Common	
Address	@ C.1.1
Description	Time Range
Name	
Status	Normal
Condition	
Condition Type	Time Range
Invert	False
Is Met	True
Time Range	
From	
Time Style	Clock Time
Time	09:00:00
Today	Dawn 06:27 Dusk 19:26
To	
Time Style	Clock Time
Time	17:00:00
Today	Dawn 06:27 Dusk 19:26

Create Term

Note:

- You must be in Editor Mode to create a term.

To add a Time Range term to a condition, see Create a Term.

Invert State of Term

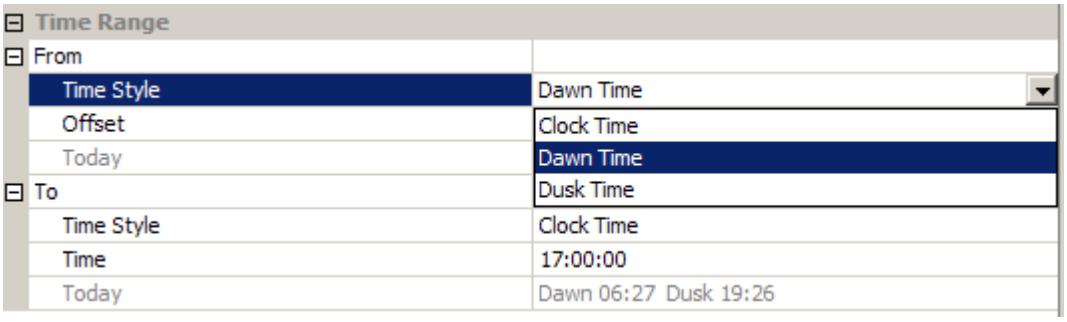
To reverse the logical state of the term, see Invert a Term.

Enter Time Range

Time Style

Select the Time Range term in Conditions view, and, in Properties, set the time style in both the **From** and **To** sections:

1. Click in the **Time Style** field and click .
2. From the drop-down menu, select either 'Clock Time' (for 24-hour clock time), 'Dawn Time' or 'Dusk Time' (to set the condition to be met relative to the pre-determined dusk or dawn times).



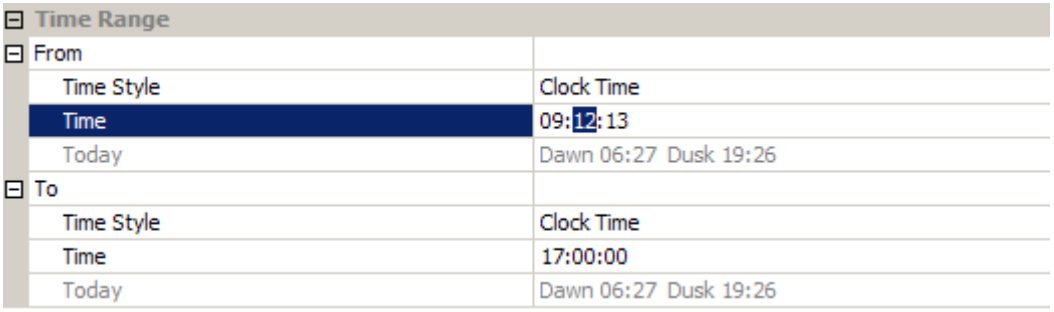
Tips:

- If you select a dusk or dawn time, you can set the condition to be met at an interval before or after the dusk or dawn time, by clicking in the **Offset** field and entering the time (in minutes).
- To configure the offset to be before the dusk or dawn time, type minus (-) and then the number of minutes.

Time

To set the time at which the condition starts and ends:

1. In the **From** section, enter the time at which the range will begin. *This can be an exact time, or a time relative to dawn or dusk.*



2. In the **To** section, enter the time at which the range will end. *This can be an exact time, or a time relative to dawn or dusk.*

Tips:

- The times you specify are always in chronological order. This means that the time in the **To** section is always after the time in the **From** section. For example, if you set a time range **From** 10 minutes before dawn **To** 30 minutes before dawn then the time range will be from 10 minutes before dawn on the current day, to 30 minutes before dawn on the following day. This allows you to set a time range that includes midnight, so you can create a trigger for overnight events.
- When specifying times relative to dawn or dusk, remember that these times are dependent on the longitude and latitude settings within Designer and may not be suitable for use on a ship, due to the ship's movements. *To learn more about this, see Longitude and Latitude, Dates and Times and Time Zones.*
- Today's official dawn and dusk times are shown in the **Today** field. These are calculated using latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* , longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* and date.

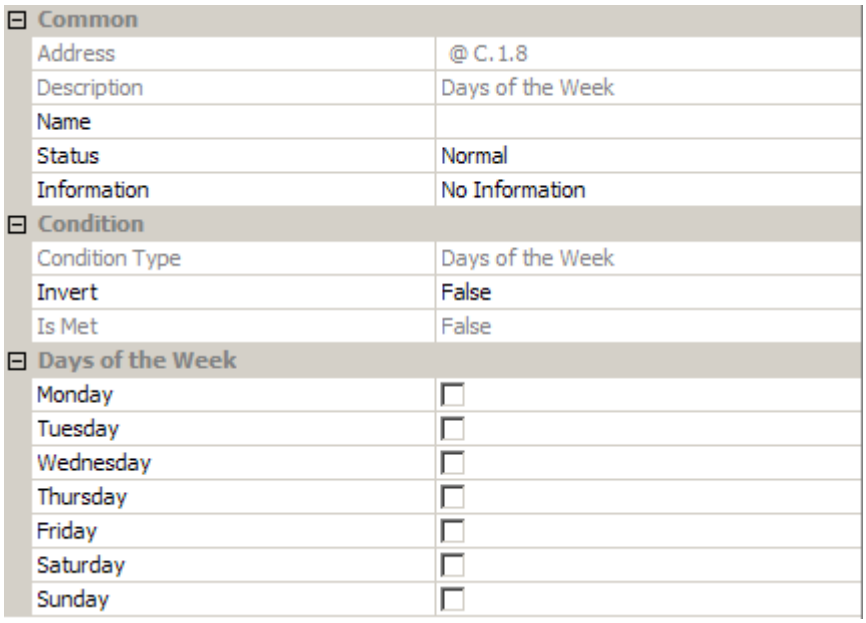
3. Click ok to apply the changes. *The name of the term changes to reflect the type of condition you have specified.*

Related Topics

- Create a Condition and Term
- Edit a Condition or Term
- Delete a Condition or Term
- Name a Condition or Term
- Conditions
- Boolean Logic and Conditions
- Properties
- Dates and Times
- Time Zones
- Longitude and Latitude

Terms - Days of the Week

This *term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* allows you to set a range of days, during which the condition is met.



Create Term

Note:

- You must be in Editor Mode to create a term.

To add a Days of the Week term to a condition, see Create a Term.

Invert State of Term

To reverse the logical state of the term, see Invert a Term.

Enter Days of the Week

1. Select the Days of the Week term in Conditions view.
2. In the **Days of the Week** section of Properties, tick the relevant boxes to select the days of the week that you want to include in the term.
3. Click ok to apply the changes. *The name of the term changes to reflect the type of condition you have specified.*

Related Topics

- Create a Condition and Term
- Edit a Condition or Term
- Delete a Condition or Term
- Name a Condition or Term

- Conditions
- Boolean Logic and Conditions
- Properties

Terms - Day and Month

This *term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* allows you to set a day of a month (or every month), during which the condition is met.

Common	
Address	@C.1.7
Description	Days and Month
Name	
Status	Normal
Information	No Information
Condition	
Condition Type	Day and Month
Invert	False
Is Met	True
Day and Month	
Day and Month	
Month	April
Day	21st

Create Term

Note:

- You must be in Editor Mode to create a term.

To add a Day and Month term to a condition, see Create a Term.

Invert State of Term

To reverse the logical state of the term, see Invert a Term.

Enter Day and Month

1. Select the Day and Month term in Conditions view.
2. In the **Day and Month** section of Properties, click in the **Month** field.
3. Click and select the month that you want to include in the term. *If you want the term to use every month, then select 'Every Month'.*
4. In the **Day** field, click and select the day of the month that you want to include in the term. *If you want the term to use every day, then select 'Every Day'.*
5. Click to apply the changes. *The name of the term changes to reflect the type of condition you have specified.*

Related Topics

- Create a Condition and Term
- Edit a Condition or Term
- Delete a Condition or Term
- Name a Condition or Term
- Conditions

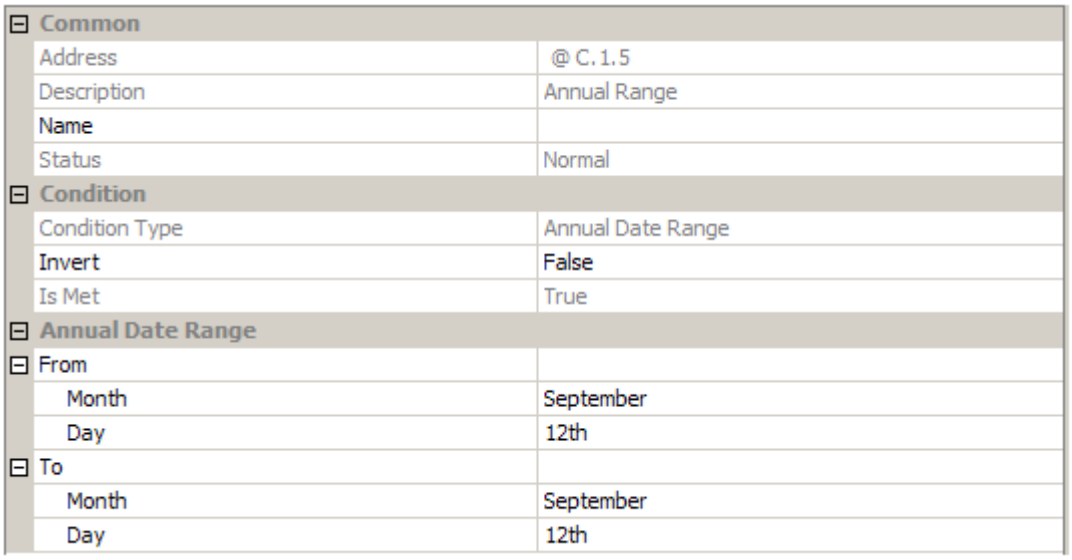
- Boolean Logic and Conditions
- Properties

Terms - Annual Date Range

This *term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* allows you to set a range of dates, for every year, during which the condition is met.

Notes:

- The range of dates are within the same year, and the **To** date cannot be before the **From** date. *If you wish to set a range spanning more that one year, see Date Range Term.*



Common	
Address	@ C.1.5
Description	Annual Range
Name	
Status	Normal
Condition	
Condition Type	Annual Date Range
Invert	False
Is Met	True
Annual Date Range	
From	
Month	September
Day	12th
To	
Month	September
Day	12th

Create Term

Note:

- You must be in Editor Mode to create a term.

To add an Annual Date Range term to a condition, see Create a Term.

Invert State of Term

To reverse the logical state of the term, see Invert a Term.

Enter Annual Date Range

Tip:

- The date in the **To** section is always on or after the date in the **From** section. If you select a date in the **To** section that predates your selection in the **From** section, then the **From** date is corrected automatically to match *An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* the **To** date, and vice versa.

1. Select the Annual Date Range term in Conditions view.
2. In the **From** section of Properties, select the day and month upon which the range will begin.
3. In the **To** section, select the day and month upon which the range will end.

4. Click to apply the changes. *The name of the term changes to reflect the type of condition you have specified.*

Related Topics

- Create a Condition and Term
- Edit a Condition or Term
- Delete a Condition or Term
- Name a Condition or Term
- Conditions
- Boolean Logic and Conditions
- Properties

Terms - Date Range

This *term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* allows you to set a range of dates spanning any number of years, during which the condition is met.

Common	
Address	@C.1.6
Description	Date Range
Name	
Status	Normal
Information	No Information
Condition	
Condition Type	Date Range
Invert	False
Is Met	False
Date Range	
From	18/04/2008
To	18/04/2008

Create Term

Note:

- You must be in Editor Mode to create a term.

To add a Date Range term to a condition, see Create a Term.

Invert State of Term

To reverse the logical state of the term, see Invert a Term.

Enter Date Range

Tip:

- The time in the **To** section is always on or after the date in the **From** section. If you select a date in the **To** section that predates your selection in the **From** section, then the **From** date is corrected automatically to match *An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* the **To** date, and vice versa.

1. Select the Date Range term in Conditions view.
2. In the **From** section of Properties, click and select the date upon which the range will begin.
3. In the **To** section, click and select the date upon which the range will end.
4. Click to apply the changes. *The name of the term changes to reflect the type of condition you have specified.*

Related Topics

- Create a Condition and Term
- Edit a Condition or Term
- Delete a Condition or Term

- Name a Condition or Term
- Conditions
- Boolean Logic and Conditions
- Properties

Terms - Analogue Input

This *term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* allows you to set a range of input percentage values, for input from an Analogue Input (942) *device A physical item with which you can interact, either directly or via Designer.* , during which the condition is met. This is useful when creating a condition for a variable input, such as temperature.

Common	
Address	@ C.1.4
Description	Analogue Input
Name	
Status	Normal
Condition	
Condition Type	Analogue Input
Invert	False
Is Met	True
Percentage	Unknown
Input	
Group	Ungrouped
Input Source	Not Used
Input Range	
From	0%
To	100%

Create Term

Note:

- You must be in Editor Mode to create a term.

To add a Analogue Input term to a condition, see Create a Term.

Invert State of Term

To reverse the logical state of the term, see Invert a Term.

Enter Input

Assign Input to Group

1. Select the Analogue Input term in Conditions view.
2. In the **Input** section of Properties, click in the **Group** field.
3. Enter the group number to which you wish the Analogue Input to belong.

Input	
Group	1
Input Source	Not Used

Input Source

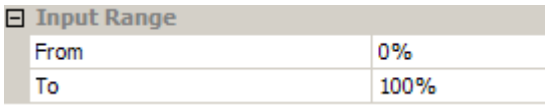
The **Input Source** is the address of the Analogue Input (942).

1. Click in the **Input Source** field.
2. Enter the input address; a value in the range of **1** to **65535**. (Enter **0** or press **Delete** to set to 'Not Used').

3. Click ok to apply the changes. *The name of the term changes to reflect the type of condition you have specified.*

Input Range

This is the range (in %) at which this term will be true.



From

Set the minimum percentage value at which this term will be true. For example, if you want this Term to be true when the input percentage is at least 10%, type 10 in this field.

1. Click in the **From** field and highlight existing percentage value (which is 0%).
2. Enter new value, which is a number from 0 to 100.

To

Set the maximum percentage value at which this term will be true. For example, if you want this Term to be TRUE when the input percentage is at a value up to 90%, type 90 in this field. This Term will be TRUE while the input is between the **From** and **To** range.

1. Click in the **To** field and highlight existing percentage value (which is 100%).
2. Enter new value, which is a number from 0 to 100. *Note that the maximum percentage value should be equal to, or greater than, the minimum percentage value*.
3. Click ok to apply changes.

Note:

- Take care to avoid assigning a digital input to an Analogue Input condition, as the condition may not behave as expected.

Related Topics

- Create a Condition and Term
- Edit a Condition or Term
- Delete a Condition or Term
- Name a Condition or Term
- Conditions
- Boolean Logic and Conditions
- Properties

Terms - Switch Input

This *term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* allows you to set switches, for input from a Mini Input Unit (444) or Analogue Input Unit (942), so that when a switch is closed the condition is met. This is useful when creating a condition for a two-state input, such as the ON/OFF states of a switch or the OPEN/CLOSED states of a lock.

Common	
Address	@ C.2.2
Description	Switch Input
Name	
Status	This device is virtual
Information	No Information
Condition	
Condition Type	Switch Input
Invert	False
Is Met	True
Input	
Group	Ungrouped
Input Source	Not Used

Create Term

Note:

- You must be in Editor Mode to create a term.

To add a Switch Input term to a condition, see Create a Term.

Invert State of Term

To reverse the logical state of the term, see Invert a Term.

Enter Input

Assign Input to Group

1. Select the Switch Input term in Conditions view.
2. In the **Input** section of Properties, click in the **Group** field.
3. Enter the group number to which you wish the input to belong.

Input	
Group	1
Input Source	Not Used

Input Source

The **Input Source** is the address of the input *device A physical item with which you can interact, either directly or via Designer.* . For example, if the input's address (shown in the Device Tree) is 1.1.1.3, then type 3 in this field.

1. Click in the **Input Source** field.
2. Enter the input address.
3. Click ok to apply the changes. *The name of the term changes to reflect the type of condition you have specified.*

Related Topics

- Create a Condition and Term
- Edit a Condition or Term
- Delete a Condition or Term
- Name a Condition or Term
- Conditions
- Boolean Logic and Conditions
- Properties

Terms - Reference

This *term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* allows you to set a reference to another condition in the Conditions Tree, so that this condition is met only when all terms in the referenced condition are true. This is useful if you want the two conditions to be the opposite (by inverting the Referenced term), while only needing to edit the referenced condition.

Common	
Address	@ C.2.3
Description	Condition Reference
Name	
Status	Normal
Information	No Information
Condition	
Condition Type	Condition Reference
Invert	False
Is Met	True
Condition Reference	
Condition	Always

Create Term

Note:

- You must be in Editor Mode to create a term.

To add a Reference term to a condition, see Create a Term.

Invert State of Term

To reverse the logical state of the term, see Invert a Term.

Enter Condition Reference

1. Select the Reference term in Conditions view.
2. In the **Condition Reference** section of Properties, click in the **Condition** field.
3. Click and select the condition to reference.
4. Click to apply the changes. *The name of the term changes to reflect the type of condition you have specified.*

Note:

- Take care to avoid circular condition references. A circular condition reference occurs when two conditions contain condition references that refer to each other. This logical construct is FALSE by default and can never become TRUE.

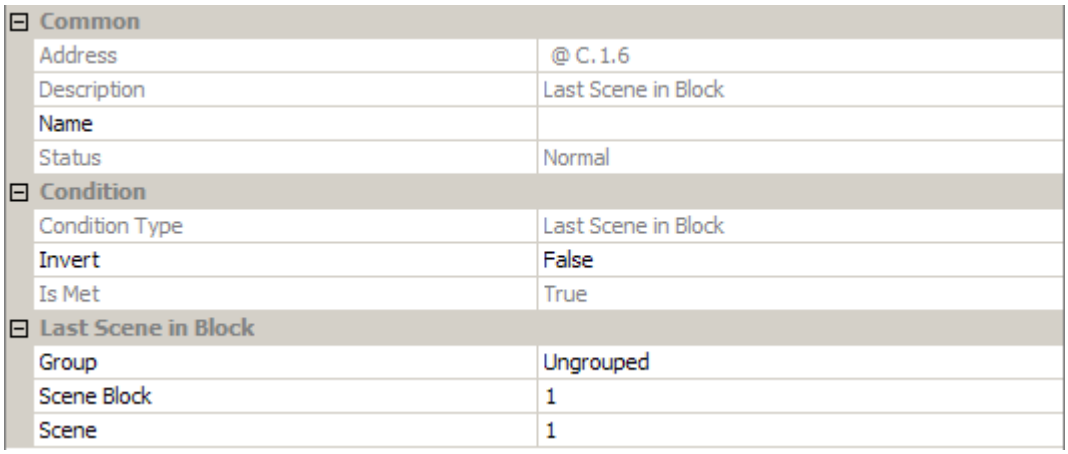
Related Topics

- Create a Condition and Term
- Edit a Condition or Term
- Delete a Condition or Term

- Name a Condition or Term
- Conditions
- Boolean Logic and Conditions
- Properties

Terms - Last Scene in Block

This *term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* allows you to set a condition that is true, if the scene defined in the term is the last *scene Collection of lighting levels for each channel assigned to the same group as the scene.* recalled in the scene block.



Common	
Address	@ C.1.6
Description	Last Scene in Block
Name	
Status	Normal
Condition	
Condition Type	Last Scene in Block
Invert	False
Is Met	True
Last Scene in Block	
Group	Ungrouped
Scene Block	1
Scene	1

Create Term

Note:

- You must be in Editor Mode to create a term.

To add a Last Scene in Block term to a condition, see Create a Term.

Invert State of Term

To reverse the logical state of the term, see Invert a Term.

Enter Last Scene Called in Block

1. Select the Last Scene in Block term in Conditions view.
2. In the **Last Scene in Block** section of Properties, enter the group, scene block and scene that you want to use in the term.
3. Click ok to apply the changes. *The name of the term changes to reflect the type of condition you have specified.*

Related Topics

- Create a Condition and Term
- Edit a Condition or Term
- Delete a Condition or Term
- Name a Condition or Term
- Conditions
- Boolean Logic and Conditions
- Scene Numbers and Blocks
- Properties

Routing

Routing Entries

A routing entry provides a means of routing scene recall commands to perform different actions. For example, when a *button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* is pressed and a *scene Collection of lighting levels for each channel assigned to the same group as the scene.* is called, you can redirect it to another scene, by inserting a *redirect Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled.* routing entry.

You can also set scene conditions - so that the scene is called only under certain circumstances - and set conditions for the routing entries to occur.

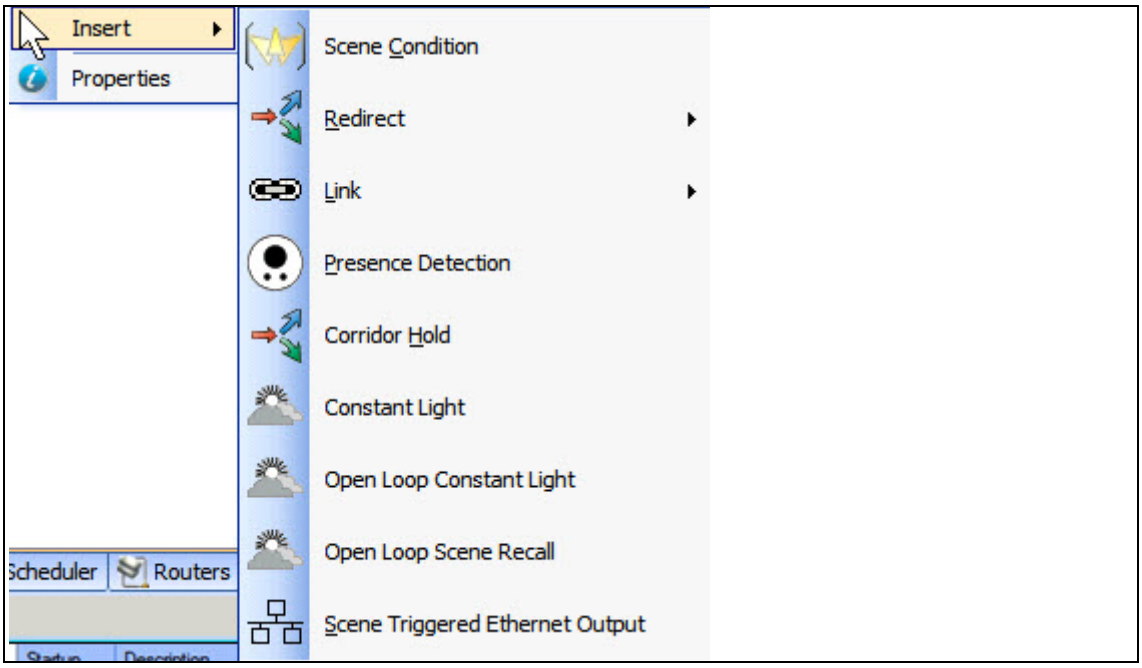
Create a routing entry

Note:

- You must be in Editor mode to create a routing entry.

To create a routing entry, right-click in the Routing Entries window:

1. Open Routing Entries view, by clicking or selecting **View / Routing Entries** .
2. With Routing Entries view selected, click or right-click in Routing Entries view, select **Insert** and select a routing entry type.



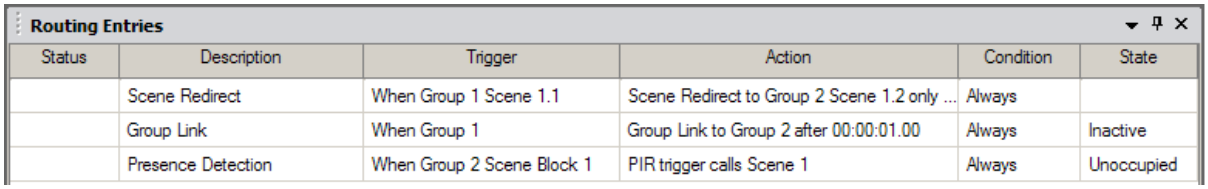
These types of routing entries are available:

- Scene Condition
- Redirect (Group Redirect; Block Redirect; Scene Redirect)
- Link (Group Link; Block Link; Scene Link)

- Presence Detection
- Corridor Hold
- Constant Light
- Open Loop Constant Light
- Open Loop Scene Recall
- Scene Triggered Ethernet Output

View Routing Entries

- Click or **View / Routing Entries**. *The Routing Entries view appears.*



Related Topics

- Properties
- Conditions
- Editor Mode

Scene Condition

Note:

- To create a scene *Collection of lighting levels for each channel assigned to the same group as the scene.* condition, see Creating a Routing Entry.
- You must be in Editor mode to configure a routing entry.

You can apply conditions to any of the scenes in the Workgroup, from this type of routing entry.

Common	
Address	@ R.1
Description	Ungrouped Scene 1.1
Name	
Status	Enabled, Enabled At Startup
Information	Ungrouped Scene 1.1 Fade Time 00:00:02.00 Always
Routing Entry	
Routing Entry Type	Scene Condition
Called At Power Up	False
Condition	Always
Routing Entry Trigger	
Group	Ungrouped
Scene Block	1
Scene Number	1

Configure Scene Condition

To configure a scene condition, ensure that the routing entry is selected in Routing Entries view, and in Properties do the following:

Call Scene at Power Up

If you wish the scene to be called upon power up:

1. In the **Routing Entry** section, click in the **Called At Power Up** field.
2. Click and select 'True'.

Condition

Apply a condition to the scene:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

Select Group, Scene Block and Scene Number of scene to affect

In the **Routing Entry Trigger** section:

1. In the **Group** field, enter the group of the scene to which you wish to apply the condition.
2. In the **Scene Block** field, enter the scene block of the scene to which you wish to apply the condition.
3. In the **Scene Number** field, enter the scene number of the scene to which you wish to apply the condition.
4. Click to apply the changes.

Related Topics

- Routing Entries
- Creating a Routing Entry
- Conditions
- Scenes
- Properties

Redirect

Notes:

- To create a redirect *Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled.* , see Create a Routing Entry.
- You must be in Editor mode to configure a routing entry.
- It is recommended not to use redirects and links together, as the consequences may be undesirable.

When *scene* *Collection of lighting levels for each channel assigned to the same group as the scene.* recall commands are to be sent to a group, scene block or scene, they can be redirected to another group, scene block or scene.

Common	
Address	@ R.2
Description	Scene Redirect
Name	
Status	Enabled, Enabled At Startup
Information	When Ungrouped Scene 1.1 Scene Redirect to Ungrouped Scene 1.2 only and cancel Trigger Scene
Routing Entry	
Routing Entry Type	Scene Redirect
Cancel Trigger Scene Recall	True
Allow Further Routing	False
Enable LED Tellback	False
Condition	Always
Routing Entry Trigger	
Group	Ungrouped
Scene Block	1
Scene Number	1
Routing Entry Action	
Group	Ungrouped
Scene Block	1
Scene Number	2

Note:

- By default, scene recall commands are not sent to the group, scene block or scene to which they are configured originally. You can configure the redirect so that commands are sent to this group/scene block/scene, as well as the group/scene block/scene to which the command is redirected. (In the **Cancel Trigger Scene Recall** field, select 'False').

There are three types of redirect:

Group Redirect

This routing entry redirects scene recall commands to another group.

Configure Group Redirect

To configure a group redirect, ensure that the routing entry is selected in Routing Entries view, and in Properties do the following:

Trigger Scene Recall

If you wish the scene recall command to be sent to the initial group:

1. In the **Routing Entry** section, click in the **Cancel Trigger Scene Recall** field.
2. Click and select 'False'.

Allow Further Routing

If you wish to permit further routing entries to occur:

1. In the **Routing Entry** section, click in the **Allow Further Routing** field.
2. Click and select 'True'.

Enable LED Tellback

If you wish the LED on the button of the panel (control device) to indicate the scene called upon the redirect:

1. In the **Routing Entry** section, click in the **Enable LED Tellback** field.
2. Click and select 'True' from the drop-down menu.

Condition

Apply a condition to the redirect:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

Routing Entry Trigger

1. In the **Routing Entry Trigger** section, click in the **Group** field.
2. Enter the group from which you wish to redirect the command.

Routing Entry Action

1. In the **Routing Entry Action** section, click in the **Group** field.
2. Enter the group to which you wish the command to be redirected, and the action performed.
3. Click to apply the changes.

Block Redirect

This routing entry redirects scene recall commands to another scene block.

Configure Block Redirect

To configure a block redirect, ensure that the routing entry is selected in Routing Entries view, and in Properties do the following:

Trigger Scene Recall

If you wish the scene recall command to be sent to the initial scene block:

1. In the **Routing Entry** section, click in the **Cancel Trigger Scene Recall** field.
2. Click and select 'False'.

Allow Further Routing

If you wish to permit further routing entries to occur:

1. In the **Routing Entry** section, click in the **Allow Further Routing** field.
2. Click and select 'True'.

Enable LED Tellback

If you wish the LED on the button of the panel (control device) to indicate the scene called upon the redirect:

1. In the **Routing Entry** section, click in the **Enable LED Tellback** field.

2. Click and select 'True' from the drop-down menu.

Condition

Apply a condition to the redirect:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

Routing Entry Trigger

Enter the group and scene block from which you wish to redirect the command.

1. In the **Routing Entry Trigger** section, click in the **Group** field and enter the group
2. Click in the **Scene Block** field and enter the scene block.

Routing Entry Action

Enter the group and scene block to which you wish the command to be redirected, and the action performed.

1. In the **Routing Entry Action** section, click in the **Group** field and enter the group.
2. Click in the **Scene Block** field and enter the scene block.
3. Click to apply the changes.

Scene Redirect

This routing entry redirects scene recall commands to another scene.

Configure Scene Redirect

To configure a scene redirect, ensure that the routing entry is selected in Routing Entries view, and in Properties do the following:

Trigger Scene Recall

If you wish the scene recall command to be sent to the initial scene:

1. In the **Routing Entry** section, click in the **Cancel Trigger Scene Recall** field.
2. Click and select 'False'.

Allow Further Routing

If you wish to permit further routing entries to occur:

1. In the **Routing Entry** section, click in the **Allow Further Routing** field.
2. Click and select 'True'.

Enable LED Tellback

If you wish the LED on the button of the panel (control device) to indicate the scene called upon the redirect:

1. In the **Routing Entry** section, click in the **Enable LED Tellback** field.
2. Click and select 'True' from the drop-down menu.

Condition

Apply a condition to the redirect:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

Routing Entry Trigger

Enter the group, scene block and scene number from which you wish to redirect the command.

1. In the **Routing Entry Trigger** section, click in the **Group** field and enter the group
2. Click in the **Scene Block** field and enter the scene block.
3. Click in the **Scene Number** field and enter the scene.

Routing Entry Action

Enter the group, scene block and scene number to which you wish the command to be redirected, and the action performed.

1. In the **Routing Entry Action** section, click in the **Group** field and enter the group.
2. Click in the **Scene Block** field and enter the scene block.
3. Click in the **Scene Number** field and enter the scene.
4. Click to apply the changes.

Related Topics

- Routing Entries
- Corridor Hold
- Links
- Properties
- Conditions

Link

Notes:

- To create a link *Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled, but only after a defined delay.* , see Create a Routing Entry.
- You must be in Editor mode to configure a routing entry.
- It is recommended not to use links and redirects together, as the consequences may be undesirable.

When *scene Collection of lighting levels for each channel assigned to the same group as the scene.* recall commands are sent to a group, scene block or scene, a link can send the commands to another group, scene block or scene as well.

Common	
Address	@ R.1
Description	Scene Link
Name	
Status	Enabled, Enabled At Startup
Information	When Ungrouped Scene 1.1 Scene Link to Ungrouped Scene 1.2 after 00:00:01.00
Routing Entry	
Routing Entry Type	Scene Link
Link Duration	00:00:01
Fade Time	00:00:02
Cancel Trigger Scene Recall	False
Allow Further Routing	True
Condition	Always
Link Type	Complex
Routing Entry Trigger	
Group	Ungrouped
Scene Block	1
Scene Number	1
Routing Entry Action	
Group	Ungrouped
Scene Block	1
Scene Number	2

Note:

- By default, scene recall commands are sent to the group, scene block or scene to which they are configured originally. You can configure the link so that commands are not sent to this group/scene block/scene, only the group/scene block/scene to which the command is linked. (In the **Cancel Trigger Scene Recall** field, select 'True').

There are three types of links:

Group Link

When scene recall commands are sent to a group, this link sends the commands to another group.

Configure Group Link

To configure a group link, ensure that the routing entry is selected in Routing Entries view, and in Properties do the following:

Link Duration

This is the time it takes for the link to take effect.

1. In the **Routing Entry** section, click in the **Link Duration** field.
2. Enter the link duration time (in **hh:mm:ss.ms**)

Fade Time

The fade time is the time it takes the channel(s) to change from one scene to another.

1. In the **Routing Entry** section, click in the **Fade Time** field.
2. Enter the fade time (in **hh:mm:ss:ms)**

Cancel Trigger Scene Recall

If you wish the scene recall command not to be sent to the initial group:

1. In the **Routing Entry** section, click in the **Cancel Trigger Scene Recall** field.
2. Click and select 'True'.

Allow Further Routing

If you wish to permit further routing entries from occurring:

1. In the **Routing Entry** section, click in the **Allow Further Routing** field.
2. Click and select 'True'.

Condition

Apply a condition to the link:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

Routing Entry Trigger

1. In the **Routing Entry Trigger** section, click in the **Group** field.
2. Enter the group from which you wish to link the command.

Routing Entry Action

1. In the **Routing Entry Action** section, click in the **Group** field.
2. Enter the group to which you wish the command to be linked, and the action performed.
3. Click to apply the changes.

Block Link

When scene recall commands are sent to a scene block, this link sends the commands to another scene block.

Configure Block Link

To configure a block link, ensure that the routing entry is selected in Routing Entries view, and in Properties do the following:

Link Duration

This is the time it takes for the link to take effect.

1. In the **Routing Entry** section, click in the **Link Duration** field.
2. Enter the link duration time (in **hh:mm:ss:ms**)

Fade Time

The fade time is the time it takes the channel(s) to change from one scene to another.

1. In the **Routing Entry** section, click in the **Fade Time** field.

2. Enter the fade time (in **hh:mm:ss:ms)**

Cancel Trigger Scene Recall

If you wish the scene recall command not to be sent to the initial scene clock:

1. In the **Routing Entry** section, click in the **Cancel Trigger Scene Recall** field.
2. Click and select 'True'.

Allow Further Routing

If you wish to permit further routing entries from occurring:

1. In the **Routing Entry** section, click in the 'Allow Further Routing' field.
2. Click and select 'True'.

Condition

Apply a condition to the link:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

Routing Entry Trigger

Enter the group and scene block from which you wish to link the command.

1. In the **Routing Entry Trigger** section, click in the **Group** field and enter the group
2. Click in the **Scene Block** field and enter the scene block.

Routing Entry Action

Enter the group and scene block to which you wish the command to be linked, and the action performed.

1. In the **Routing Entry Action** section, click in the **Group** field and enter the group.
2. Click in the **Scene Block** field and enter the scene block.
3. Click to apply the changes.

Scene Link

When scene recall commands are sent to a scene, this link sends the commands to another scene.

Configure Scene Link

To configure a scene link, ensure that the routing entry is selected in Routing Entries view, and in Properties do the following:

Link Duration

This is the time it takes for the link to take effect.

1. In the **Routing Entry** section, click in the **Link Duration** field.
2. Enter the link duration time (in **hh:mm:ss:ms**)

Fade Time

The fade time is the time it takes the channel(s) to change from one scene to another.

1. In the **Routing Entry** section, click in the **Fade Time** field.
2. Enter the fade time (in **hh:mm:ss:ms**)

Cancel Trigger Scene Recall

If you wish the scene recall command not to be sent to the initial scene:

1. In the **Routing Entry** section, click in the **Cancel Trigger Scene Recall** field.
2. Click and select 'True'.

Allow Further Routing

If you wish to permit further routing entries from occurring:

1. In the **Routing Entry** section, click in the 'Allow Further Routing' field.
2. Click and select 'True'.

Condition

Apply a condition to the link:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

Link Type

When in complex mode, if a scene in the same block is called before the scene link happens, then the scene link is still performed afterwards.

When in simple mode, if a scene in the same block is called before the scene link happens, then the scene link is not performed.

1. In the **Routing Entry** section, click in the **Link Type** field. *Notice that 'Complex' is set by default.*
2. Click and select a link type from the drop-down menu.

Routing Entry Trigger

Enter the group, scene block and scene number from which you wish to link the command.

1. In the **Routing Entry Trigger** section, click in the **Group** field and enter the group
2. Click in the **Scene Block** field and enter the scene block.
3. Click in the **Scene Number** field and enter the scene.

Routing Entry Action

Enter the group, scene block and scene number to which you wish the command to be linked, and the action performed.

1. In the **Routing Entry Action** section, click in the **Group** field and enter the group.
2. Click in the **Scene Block** field and enter the scene block.
3. Click in the **Scene Number** field and enter the scene.
4. Click to apply the changes.

Related Topics

- Routing Entries
- Redirects
- Corridor Hold
- Properties
- Conditions

Presence Detection

Notes:

- The PIR *PIR: Passive Infra-Red detector. A type of presence detector, contained within the 311 Ceiling PIR Detector and the 312 Multisensor Module.* (a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* of the Multisensor; shown as in the Device Tree) must be configured for the Presence Detection Routing Entry to function (*see Subdevice Configuration for steps on how to do this).*
- To create a Presence Detection Routing Entry, see
-

-
-
- Create a Routing Entry
- PIR Configuration
- Properties
- Conditions

Corridor Hold

Notes:

- To create a redirect *Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled.* , see Create a Routing Entry.
- You must be in Editor mode to configure a routing entry.
- It is recommended not to use a Corridor Hold and links together, as the consequences may be undesirable.

This routing entry allows commands to be sent to a group / *scene Collection of lighting levels for each channel assigned to the same group as the scene.* block (by default, but can be configured otherwise, by cancelling the trigger scene recall), and then redirected to another group / scene block.

This entry is useful, for example, when a command is sent to a group in an office (e.g. presence is detected by the PIR Sensor in the office), and you wish the lights to be on in the corridor as well. A command is sent to the *PIR PIR: Passive Infra-Red detector. A type of presence detector, contained within the 311 Ceiling PIR Detector and the 312 Multisensor Module.* in the corridor, and it behaves as if it has detected presence in the corridor.

Note:

- By default, scene recall commands are sent to the group and scene block to which they are configured originally. You can configure the corridor hold so that commands are not sent to this group/scene block, only the group/scene block to which the command is redirected. (In the **Cancel Trigger Scene Recall** field, select 'True').

Configure Corridor Hold

To configure a hold redirect, ensure that the routing entry is selected in Routing Entries view, and in Properties do the following:

Cancel Trigger Scene Recall

If you wish the scene recall command not to be sent to the initial group / scene block:

1. In the **Routing Entry** section, click in the **Cancel Trigger Scene Recall** field.
2. Click and select 'True'.

Allow Further Routing

If you wish to permit further routing entries from occurring:

1. In the **Routing Entry** section, click in the **Allow Further Routing** field.
2. Click and select 'True'.

Enable LED Tellback

If you wish the *LED A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* on the *button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* of the panel (*control device A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.*) to indicate the scene called upon the redirect:

1. In the **Routing Entry** section, click in the **Enable LED Tellback** field.

2. Click and select 'True' from the drop-down menu.

Condition

Apply a condition to the redirect:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

Routing Entry Trigger

Enter the group and scene block from which you wish to redirect the trigger.

1. In the **Routing Entry Trigger** section, click in the **Group** field and enter the group
2. Click in the **Scene Block** field and enter the scene block.

Routing Entry Action

Enter the group and scene block to which you wish the trigger to be redirected, and the action performed.

1. In the **Routing Entry Action** section, click in the **Group** field and enter the group.
2. Click in the **Scene Block** field and enter the scene block.
3. Click to apply the changes.

Related Topics

- Routing Entries
- Redirects
- Links
- Properties
- Conditions

Open Loop Constant Light Configuration

The difference between Constant Light and Fixed Light is:

- **Constant Light** is where the load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* (ballast/dimmer) output is automatically adjusted to compensate for changes in ambient light.
- **Fixed Light** is where the load output is NOT adjusted by the Light Sensor.

The External Light Sensor can detect levels of ambient light (i.e. daylight) reflected off surfaces and adjust the light levels to compensate for changes in ambient light.

The sensor is indicated by in the Device Tree.

Notes:

- The Light Sensor is contained within the External Light Sensor (329) [for internal light sensing, use the Multisensor (312)] and is therefore displayed as a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* of the External Light Sensor in the Device Tree.
- You must be in Editor mode to configure the Light Sensor.

To learn more about Open Loop Constant Light, see Working with Open Loop Constant Light.

Configure the Light Sensor

See Subdevice Configuration for steps on how to configure the Light Sensor.

Configure Open Loop Constant Light

Open Loop Constant Light operation allows two groups:

- **Input Group.** The Light Sensor, and the control devices (push buttons, IR *Stands for Infrared. Infrared radiation is a form of light that is invisible to the human eye, and is often used as a medium to send information between two devices.* , PIR) which are required to recall or adjust Open Loop Constant Light, must be in this group.
- **Output Group.** The loads (ballasts/dimmers) must be in this group. This is the group that the Light Sensor will send direct proportion commands to, as it responds to changes in the external daylight.

Open Loop Constant Light adjusts output light levels (by affecting the loads in the **Output Group**), according to the daylight level measured by the External Light Sensor in the **Input Group**, following the Source Level for Direct Proportion table.

An Open Loop Constant Light Routing Entry defines the Input and Output Groups, as well as the values of the Source Levels (for Direct Proportion response).

Tips:

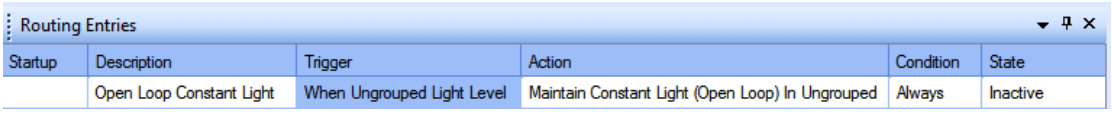
- In the simple case, with a sensor controlling Open Loop Constant Light in only one group of loads, the Input Group and Output Group may be the same. For more complex situations, where more than one Output Group is required, the Input Group and Output Groups must be different.
- Once you have configured Open Loop Constant Light, to call Open Loop Constant Light Scenes from a *control device* in the Input Group, you must set the function of the subdevice to 'Recall *Scene* (Constant Light)'. *See Subdevice Configuration.*

Notes:

- You must be in Editor mode to configure Open Loop Constant Light.
- You must be Online to activate and configure Open Loop Constant Light to the Light Sensor.
- You must be in Live mode to call and affect Constant Light Scenes in real time and in the real lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* (the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.*).

Open Loop Constant Light Routing Entry

1. Click to view Routing Entries.
2. Click in Routing Entries view and click or right-click and select 'Insert'.
3. Select Open Loop Constant Light. The Open Loop Constant Light Routing Entry appears in the Routing Entries view.



Tip:

- You can assign multiple Open Loop Constant Light Routing Entries to one sensor, assigning each entry to a different Out Group (i.e. to loads in different groups). This is useful if you wish the lights in different areas of the building (and therefore the lights assigned to different groups) to be affected by the same sensor. These outputs can have different scaling e.g. 50% scaling to the lights near the windows because there is more ambient light, 25% scaling to the next set of lights further in the room, then 10% to the set of lights in the centre of the room as there is the least ambient light there.

Note:

- In Online mode, the **Current Light Level** field appears in the Open Loop Constant Light Routing Entry Properties, which shows the level (0..200) of the light currently measured by the sensor.

To configure the Open Loop Constant Light Routing Entry, ensure that the entry is selected in Routing Entries view.

Name

You may wish to enter a name for the Open Loop Constant Light Routing entry, which relates to its function, for example.

1. In the **Common** section of Properties, enter a name in the **Name** field.
2. Click . *The Open Loop Constant Light Routing entry is renamed in Routing Entries.*

Assign Condition to Open Loop Constant Light

If you wish to apply a condition to the routing entry:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

3. Click .

Assign Open Loop Constant Light Routing Entry to Light Sensor Group (Input Group)

Tip: Enter the group to which the Light Sensor is assigned.

4. In Properties view, click in the **Group** field in the **Constant Light Sensor** section.
5. Enter the group number to which the Light Sensor is assigned.
6. Click .

Assign Constant Light Routing Entry to Loads (Output Group)

Tips:

- Enter the group of the loads that you wish the Open Loop Constant Light Routing Entry to affect. *You can assign the Light Sensor and loads to be in the same group, or in different groups, depending on what you want to achieve for this particular entry. Where there is only one group of loads to control, the Input Group and Output Group can be the same. For more complex systems, with graduated Constant Light, for example, then there must be more than one Output Group, and the Input and Output Groups must be different.*

7. In the **Controlled Loads** section, click in the **Group** field.
8. Enter the group number of the loads which you wish to affect.
9. Click .

Scaling

Scaling is the % of the Direct Proportion % at which the selected scene light levels are adjusted during Open Loop Constant Light operation, 100% being the specified proportion and 1% being 1% of the specified proportion. Setting 0% makes the proportion process ineffective and gives a fixed light scene.

Notes:

- For multiple Output Groups, the relative size of the scaling indicates the ratio by which one Output Group will vary in comparison to another Output Group. *For example, the lights in the Output Groups all start at 50%, and the first of the Output Groups has a scaling factor of 100% and the second a scaling factor of 50%, with the measured light level being at The Source Level for Direct Proportion of –60%. The lights in the first Output Group are reduced to a level of 20% (60% lower than their starting level), the lights in the second Output Group are changed by half (100/50) of this i.e. from 50% to 35% level (30% lower than their starting level)*.

1. Click in the **Percentage** field of the **Scaling** section.
2. Enter the percentage (0-100%) of scaling. *Notice that the default is 75%.*
3. Click .

Response Rates and Dead Band Size

Up Rate

This is the rate at which the Light Sensor adjusts the lighting when the measured light level has changed and requires the controlled lights to be increased in level. *The range is /10% to x10% and the default is x1%.*

1. Click in the **Up Rate** field and click .
2. Select a rate from the drop-down menu.
3. Click

Down Rate

This is the rate at which the Light Sensor adjusts the lighting when the measured light level has changed and requires the controlled lights to be reduced in level. *The range is /10% to x10% and the default is x1%.*

1. Click in the **Down Rate** field and click .
2. Select a rate from the drop-down menu.
3. Click

Dead Band

This defines the range within which the measured light level is considered to be stable and thereby not requiring further adjustment of the controlled lights. This is used to prevent the sensor searching in response to very small changes in light level. *The range is +/- 2% to +/- 10% and the default is +/- 4%.*

1. Click in the **Dead Band** field and click .
2. Select a range from the drop-down menu.
3. Click

Source Levels

You can set the source light levels for each of the Direct Proportion ratios. During Open Loop Constant Light operation, the level of the **Output Group** is modified by the direct proportion assigned to the measured light level. For intermediary light levels between the set points the direct proportion adjustment is linearly interpolated. This allows tailoring of the artificial lighting to suit daylight conditions for energy saving or aesthetic purposes. With suitable building profiling approximation to constant light control is possible .

Note:

- The source levels correspond to the measured light level.

Source Levels (0..200)	
Source Level for Direct Proportion -90%	200
Source Level for Direct Proportion -80%	180
Source Level for Direct Proportion -70%	160
Source Level for Direct Proportion -60%	140
Source Level for Direct Proportion -50%	120
Source Level for Direct Proportion -40%	100
Source Level for Direct Proportion -30%	80
Source Level for Direct Proportion -20%	60
Source Level for Direct Proportion -10%	50
Source Level for Direct Proportion -5%	40
Source Level for Direct Proportion -2%	30
Source Level for Direct Proportion -1%	20

The source level table is preset with default light values. The values can be edited to any value between 0 and 200 but the order sequence should be either ascending or descending only. Repeated values with give a “dead-band”.

1. In the **Source Levels** section, click in **Source Level for Direct Proportion...** field for the level you wish to adjust. *Notice that there is a default value for each proportion.*
2. Enter a number (0-200). Note that entering 0 (zero) gives 'Fixed Light' operation, observing the order sequence of values.
3. Click .

Calling Constant Light Scenes

- You can call Constant Light Scenes from buttons (subdevices) which are configured to recall Constant Light Scenes.
- You can also call Constant Light Scenes from Go To and the Scene Table. *See 'Go To' a Constant Light Scene for steps on how to call a Constant Light Scene from 'Go To' and the Scene Table.*

Related Topics

- Working with Open Loop Constant Light
- External Light Sensor (329)
- Subdevice Configuration
- Properties
- Go To
- Scene Table
- Device Tree

Open Loop Scene Recall Configuration

Configure the Light Sensor

This routing entry supports two types of light sensor:

- A light sensor from the Helvar Digidim system range

For steps on how to configure Helvar Digidim light sensors see the Configure subdevice section.

- An appropriate analogue light sensor when used in conjunction with a Helvar 942 Analogue input unit.

For steps on how to configure the Helvar 942 see Analogue Input Configuration*.*

Configure Open Loop Scene Recall

Open Loop Scene Recall operation allows two groups:

- **Light Sensor.** The Light Sensor which is required to operate the Open Loop Scene Recall, must be in this group.
- **Controlled Loads.** The loads (ballasts/dimmers) must be in this group. This is the group and block that scene recalls will be directed to in response to changes in the external daylight.

Open Loop Scene Recall Light adjusts output light levels (by affecting the loads in the **Output Group**), according to the daylight level measured by the External Light Sensor in the **Input Group**, following the thresholds set to trigger a specified scene recall. Thresholds for up to 16 scenes may be set.

Tips:

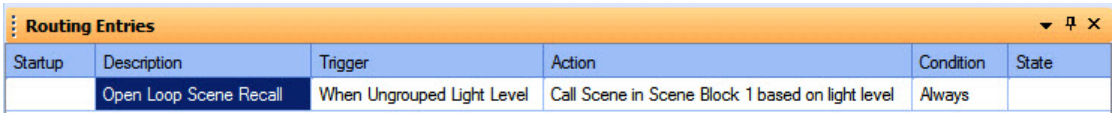
- In the simple case, with a sensor controlling Open Loop Scene Recall in only one group of loads, the Light Sensor Group and Controlled Loads Group may be the same. For more complex situations, where more than one Controlled Loads Group is required, the Light Sensor Group and Controlled Loads Groups must be different.

Notes:

- You must be in Editor mode to configure Open Loop Scene Recall.
- You must be Online to activate and configure Open Loop Scene Recall to the Light Sensor.
- You must be in Live mode to call and affect Scene Recall Light Scenes in real time and in the real lighting system.

Open Loop Scene Recall Routing Entry

1. Click to view Routing Entries.
2. Click in Routing Entries view and click or right-click and select 'Insert'.
3. Select Open Loop Scene Recall.
   The Open Loop Scene Recall Routing Entry appears in the Routing Entries view.



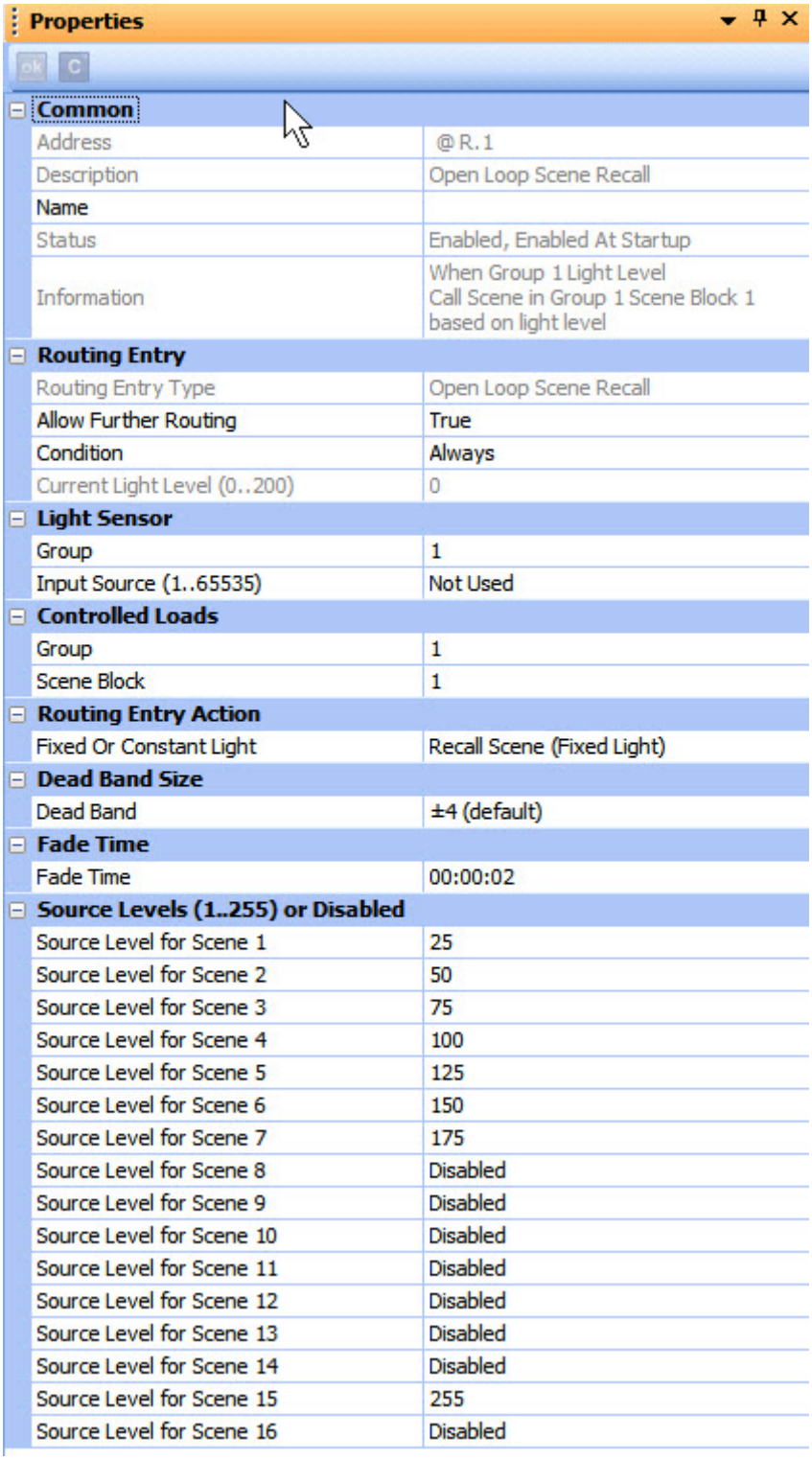
Tip:

- You can assign multiple Open Loop Scene Recall Routing Entries to one sensor, assigning each entry to a different Controlled Loads Group (i.e. to loads in different groups). This is useful if you wish the lights in different areas of the building (and therefore the lights assigned to different groups) to be affected by the same sensor.

Note:

- In Online mode, the **Current Light Level** field appears in the Open Loop Scene Recall Routing Entry Properties, which shows the level (0..255) of the light currently measured by the sensor.

To configure the Open Loop Scene Recall Routing Entry, ensure that the entry is selected in Routing Entries view.



Properties

Common	
Address	@ R.1
Description	Open Loop Scene Recall
Name	
Status	Enabled, Enabled At Startup
Information	When Group 1 Light Level Call Scene in Group 1 Scene Block 1 based on light level
Routing Entry	
Routing Entry Type	Open Loop Scene Recall
Allow Further Routing	True
Condition	Always
Current Light Level (0..200)	0
Light Sensor	
Group	1
Input Source (1..65535)	Not Used
Controlled Loads	
Group	1
Scene Block	1
Routing Entry Action	
Fixed Or Constant Light	Recall Scene (Fixed Light)
Dead Band Size	
Dead Band	±4 (default)
Fade Time	
Fade Time	00:00:02
Source Levels (1..255) or Disabled	
Source Level for Scene 1	25
Source Level for Scene 2	50
Source Level for Scene 3	75
Source Level for Scene 4	100
Source Level for Scene 5	125
Source Level for Scene 6	150
Source Level for Scene 7	175
Source Level for Scene 8	Disabled
Source Level for Scene 9	Disabled
Source Level for Scene 10	Disabled
Source Level for Scene 11	Disabled
Source Level for Scene 12	Disabled
Source Level for Scene 13	Disabled
Source Level for Scene 14	Disabled
Source Level for Scene 15	255
Source Level for Scene 16	Disabled

Name

You may wish to enter a name for the Open Loop Scene Recall Routing entry, which relates to its function, for example.

1. In the **Common** section of Properties, enter a name in the **Name** field.
2. Click ok. *The Open Loop Scene Recall Routing entry is renamed in Routing Entries.*

Assign Condition to Open Loop Scene Recall

If you wish to apply a condition to the routing entry:

1. In the Routing Entry section, click in the Condition field.
2. Click and select a condition from the drop-down menu. See Conditions for more information.
3. Click .

Assign Open Loop Scene Recall Routing Entry to Light Sensor Group

Tip: Enter the group to which the Light Sensor is assigned.

1. In Properties view, click in the **Group** field in the **Light Sensor** section.
2. Enter the group number to which the Light Sensor is assigned.
3. Click .

2.

Note:

- The steps below are necessary only when using a light sensor in conjunction with an Analogue Input Unit.
  When using Helvar Digidim light sensors the Input Source must be set to 'Not Used'.

3.
4. If using an analogue light sensor, click in the **Input Source** field
5. Enter the same input source number as given for this light sensors in the properties for the Analogue Input unit. The default is 'Not Used'.

Assign Open Loop Scene Recall Routing Entry to Controlled Loads

Tips:

Enter the group of the loads that you wish the Open Loop Scene Recall Routing Entry to affect.

You can assign the Light Sensor and loads to be in the same group, or in different groups, depending on what you want to achieve for this particular entry. Where there is only one group of loads to control, the Input Group and Output Group can be the same.

1. In the **Controlled Loads** section, click in the **Group** field.
2. Enter the group number of the loads which you wish to affect.
3. If required, click in the **Scene Block** field.
4. Enter the block number to which the scene recalls will be directed for this group.
5. Click .

Routing Entry

It is possible to recall either Fixed Light or Constant Light scenes to the Controlled Loads group.

1. If required, click in the **Fixed Or Constant Light** field of the **Routing Entry Action** section.
2. Select either Recall Scene (Fixed Light) or Recall Scene (Constant Light). *Note that the default is Fixed Light.*
3. Click .

Dead Band

This defines the range within which the measured light level is considered to be stable and thereby not requiring further adjustment of the controlled lights. This is used to prevent the sensor searching in response to very small changes in light level.

1. Click in the **Dead Band** field and click ok.
2. Select a range from the drop-down menu. The options in levels are: ±2; ±3; ±4; ±6; ±10
3. Click ok

Example:

Dead band size:	±4
Source level for Scene 1:	25
Source level for Scene 2:	50
Source level for Scene 3:	75

When the light level moves from 49 to 50, Scene 2 is recalled.

If the light level then goes back to 47, Scene 2 will remain recalled.
For Scene 1 to be recalled, the light level must drop to (50 – 4) = 46.

Fade Time

This is the fade time for the scene changes, and applies to all scenes listed in the Source Levels table.

1. Click in the **Fade Time** field and click ok.
2. Enter the required fade time.
3. Click ok.

Notes:

- DALI loads are limited to a maximum fade time of 90 seconds.
- S-DIM loads are limited to a maximum fade time of 46 hours.

Source Levels

You can set the trigger source levels for each of 16 scenes in the controlled loads group and block. If a scene is not required it's source level can be set to Disabled. During Open Loop Recall Scene operation, the level of the light sensor is compared with the set trigger source thresholds, if a rising or falling changed is detected (taking in to account the dead band setting) the corresponding scene is recalled to the controlled loads group and block.

Note:

- The source levels correspond to the measured light level.

The source level table is preset with a number default light values.

The values can be edited to any value between 0 and 255 or set to Disabled.

1. In the **Source Levels** section, click in **Source Level for Scene...** field for the level you wish to adjust.
2. Enter a number (0-255) or Disabled.
3. Click ok.

Related Topics

- Working with Open Loop Scene Recall
- External Light Sensor (329)
- Analogue Input Configuration

- Subdevice Configuration
- Control Device Configuration
- Properties
- Go To
- Scene Table
- Device Tree

Scene Triggered Ethernet Output

Note:

- To create a scene *Collection of lighting levels for each channel assigned to the same group as the scene.* triggered Ethernet Output, see Create a Routing Entry.
- You must be in Editor mode to configure a routing entry.

Configure Scene Triggered Ethernet Output

Common	
Address	@ R.1
Description	Scene Triggered Ethernet Output
Name	
Status	Enabled, Enabled At Startup
Information	When Ungrouped Scene 1.1 ASCII Ethernet I/O String Always
Routing Entry	
Routing Entry Type	Scene Triggered Ethernet Output
Condition	Always
Routing Entry Trigger	
Group	Ungrouped
Scene Block	1
Scene Number	1
Ethernet Output	
Destination IPv4 Address	10.254.254.2
Transmission Router	10.254.1.1
IP Protocol	TCP
IP Port	50003
Data Packet	

To configure an Ethernet Output, ensure that the routing entry is selected in Routing Entries view, and in Properties do the following:

Condition

Apply a condition to the entry:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

Routing Entry Trigger

Enter the group, scene block and scene number from which you wish to trigger the entry.

1. In the **Routing Entry Trigger** section, click in the **Group** field and enter the group.
2. Click in the **Scene Block** field and enter the scene block.
3. Click in the **Scene Number** field and enter the scene.

Ethernet Output

To configure the Ethernet Output:

1. In the **Ethernet Output** section, click in the **IPv4 Address** field. Enter the IP address *Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* of the third party device *A physical item with which you can interact, either directly or via Designer.* which you are connecting to.
2. In the **Transmission Router** *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* field, enter the IP address of the router responsible for sending data packets which communicate with third party devices.
3. In the **IP Protocol** field, click and choose between ' TCP *Stands for Transmission Data Protocol. TCP is one of the core protocols of the Internet Protocol Suite. It was one of the two original components, with Internet Protocol (IP), of the suite, so that the entire suite is commonly referred to as TCP/IP. Whereas IP handles lower-level transmissions from computer to computer as a message makes its way across the Internet, TCP operates at a higher level, concerned only with the two end systems, for example, a Web browser and a Web server. In particular, TCP provides reliable, ordered delivery of a stream of bytes from a program on one computer to another program on another computer. (See also TCP/IP).* ' and ' UDP *Stands for User Datagram Protocol. UDP is one of the core members of the Internet Protocol Suite, the set of network protocols used for the Internet. With UDP, computer applications can send messages, in this case referred to as datagrams, to other hosts on an Internet Protocol (IP) network, without requiring prior communications to set up special transmission channels or data paths.* ' data transmission protocols.
4. IIn the **IP Port** field, enter the listener port (for TCP) or comms port (for UDP).
5. In the *Data Packet* field, enter **\x** if you want to view messages in hexadecimal format. By default the field is left blank and, as a result, messages will be viewed in ASCII format.

   The data packet field enables the user to communicate with third party Ethernet Control devices.

The following control characters can be included in the ASCII data packet:

Control characters	Function	Hex code
\a	Bell (alert)	0x07
\b	Backspace	0x08
\f	Formfeed	0x0c
\n	New line	0x0a
\r	Carriage return	0x0d
\t	Horizontal Tab	0x09
\v	Vertical Tab	0x0b
\?	Literal question mark	0x3f
\\'	Single quotation mark	0x27
\\"	Double quotation mark	0x22
\\\	Backslash	0x5c

For example, entering hello world\n [=text 'hello world' followed by a new line] will be translated as 68656c6c6f20776f726c640a

The space is parsed as 20. The \n control is parsed as 0a.

Note:

- The **data packet** field allows for both ASCII strings to be configured and the set of digital packets to be defined. The maximum number of bytes that can be sent is 44.
- When configuring an ASCII string the standard escape sequence characters can be

included by prefixing them with a '\'. However, the first escape sequence must not be hexadecimal.

- To define a data packet with hex values then prefix the string with '\x' and ensure all characters are valid hex chars.
- If there is an odd number of hex chars then the first char is prefixed with 0.

1. Click .

Related Topics

- Routing Entries
-
-
-

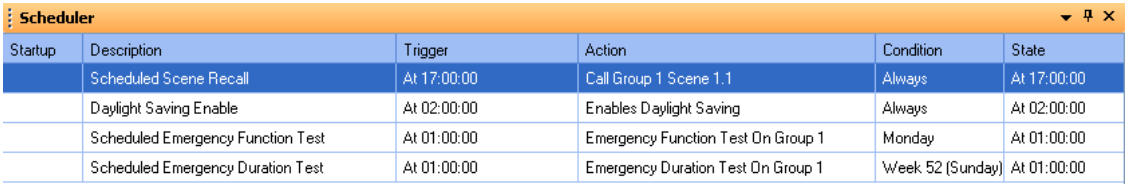
Scheduler

Scheduler

The Scheduler is an integral part of a *Workgroup Design A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* , allowing you to schedule *scene Collection of lighting levels for each channel assigned to the same group as the scene.* recalls, daylight saving enable/disables, and Emergency Tests. Any number of scheduler entries can be created. Once created, schedules can be edited or deleted. Scheduler entries are executed from all routers in the *Real Workgroup A specific group of devices in the Lighting System, and its representation in Designer.* .

View Scheduler

- Click or **View / Scheduler**. *The Scheduler view appears.*



To create a schedule, see Create a Schedule.

Related Topics

- Create a Schedule

Create a Schedule

Note:

- You must be in Editor mode to create a scheduler entry.

Open Scheduler view

- Click or select **View** / **Scheduler**.

Create a scheduler entry

1. With Scheduler view selected, click or right-click in Scheduler view and select **Insert**.
2. Select from the following scheduler entry types to insert. *To learn how to configure an entry, click on the relevant link Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled, but only after a defined delay.:*

   Scheduled Scene Recall

   Scheduled Daylight Saving Enable

   Scheduled Daylight Saving Disable

   Scheduled Emergency Function Test

   Scheduled Emergency Duration Test

   Time Triggered Ethernet Output

Related Topics

- Scheduler
- Conditions
- Properties
- Editor Mode

Scheduled Scene Recall

Note:

- To create a scheduled scene *Collection of lighting levels for each channel assigned to the same group as the scene.* recall, see Create a Schedule.
- You must be in Editor mode to create a scheduler entry.

Common	
Address	@T.1
Description	Scheduled Scene Recall
Name	
Status	Enabled, Enabled At Startup
Information	At 08:00:00 Call Group 3 Scene 1.1 Always
Scheduler Entry	
Scheduler Entry Type	Scheduled Scene Recall
Trigger Time	
Time Style	Clock Time
Time	08:00:00
Today	Dawn 06:00 Dusk 18:07
Allow Further Routing	True
Condition	Always
Scheduler Entry Action	
Group	3
Scene Block	1
Function	Recall Scene (Fixed Light)
Scene Number	1
Fade Time	00:00:02

Configure Scheduled Scene Recall

To configure a scheduled scene recall, ensure that the scheduler entry is selected in Scheduler view, and in Properties do the following to configure the entry:

Trigger Time

This is the time at which the scene is called by this scheduler entry.

Time Style

1. Click in the **Time Style** field and click .
2. Select either 'Clock Time' (for 24-hour clock time), 'Dawn Time' or 'Dusk Time' (to set the scheduler entry to activate, i.e. the scene to be called, relative to the pre-determined dusk or dawn times).

Time

If you chose 'Clock Time' in the **Time Style** field, to set the time at which the scene is called:

1. Click in the **Time** field and click .
2. Enter the time to recall the scene (in **hh:mm:ss**).
3. Click to apply the changes. *The scene will be called at this time.*

Offset (for Dusk / Dawn Time)

Tips:

- If you select a dusk or dawn time, you can set activation of the scheduler entry to be at an interval before or after the dusk or dawn time, by clicking in the **Offset** field and entering the time (in minutes).
- To configure the offset to be before the dusk or dawn time, type minus (-) and then the time.
- When specifying times relative to dawn or dusk, remember that these times are dependent on the longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* and latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* settings within Designer and may not be suitable for use on a ship, due to the ship's movements. *To learn more about this, see Longitude and Latitude, Dates and Times and Time Zones.*
- Today's official dawn and dusk times are shown in the **Today** field. These are calculated using latitude, longitude and date.

If you chose 'Dusk Time' or Dawn Time' in the **Time Style** field, to set the time at which the scene is called (relative to the Dusk / Dawn time):

1. Click in the **Offset** field and click .
2. Enter the time (in mins) before or after the Dusk / Dawn time, at which the scene is called.
3. Click to apply the changes. *The scene will be called at this time.*

Allow Further Routing

By default, routing entries associated with a scheduled scene recall are permitted. For example, if scene 1 is called and there is a scene link to scene 2 set up in Routing Entries, then scene 2 will also be called.

If you wish to ignore any routing entries associated with the scheduled scene recall:

1. Click in the **Allow Further Routing** field and click .
2. Select 'False' from the drop-down menu.
3. Click to apply the changes.

Condition

If you wish to apply a condition to the scheduler entry:

1. Click in the **Condition** field and click .
2. Select a condition from the drop-down menu.
3. Click to apply the changes. *The scene condition is applied.*

Enter Scene to Recall

1. Click in the **Group** field and enter the group of the scene.
2. Click in the **Scene Block** field and enter the scene block.
3. Click in the **Function** field, click and select between 'Recall Scene (Fixed Light)' and 'Recall Scene (Constant Light)'.
4. Click in the **Scene Number** field and enter the scene number.
5. Click in the **Fade Time** field and enter the fade time (in hh:mm:ss:ms).
6. Click to apply the changes. *The scene to be recalled by the routing entry is set.*

Related Topics

- Scheduler

- Create a Schedule
- Longitude and Latitude
- Time Zones
- Dates and Times
- Properties
- Conditions

Scheduled Daylight Saving Enable

This scheduler entry enables Daylight Saving. *For more information, see Daylight Saving Time.*

Note:

- To create a scheduled Daylight Saving enable, see Create a Schedule.
- You must be in Editor mode to create a scheduler entry.

Common	
Address	@T.2
Description	Daylight Saving Enable
Name	
Status	Enabled, Enabled At Startup
Information	At 02:00:00 Enables Daylight Saving Always
Scheduler Entry	
Scheduler Entry Type	Scheduled Daylight Saving Enable
Trigger Time	
Time Style	Clock Time
Time	02:00:00
Today	Dawn 06:00 Dusk 18:07
Condition	Always

Configure Scheduled Daylight Saving Enable

Tip:

- This type of scheduler entry must use a condition so that it only executes on the correct day of the correct month.

To configure a scheduled Daylight Saving enable, ensure that the scheduler entry is selected in Scheduler view, and in Properties do the following to configure the entry:

Trigger Time

Time Style

1. Click in the **Time Style** field and click .
2. Select either 'Clock Time' (for 24-hour clock time), 'Dawn Time' or 'Dusk Time' (to set enablement of Daylight Saving relative to the pre-determined dusk or dawn times).

Time

If you chose 'Clock Time' in the **Time Style** field, to set the time at which Daylight Saving is enabled:

1. Click in the **Time** field and click .
2. Enter the time (in hh:mm:ss) at which to enable Daylight Saving.
3. Click ok to apply the changes.

Offset (for Dusk / Dawn Time)

Tips:

- If you select a dusk or dawn time, you can set Daylight Saving enablement to be at an interval before or after the dusk or dawn time, by clicking in the **Offset** field and entering the time (in minutes).
- To configure the offset to be before the dusk or dawn time, enter minus (-) and then the number of minutes.
- When specifying times relative to dawn or dusk, remember that these times are dependent on the longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* and latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* settings within Designer and may not be suitable for use on a ship, due to the ship's movements. *To learn more about this, see Longitude and Latitude, Dates and Times and Time Zones.*
- Today's official dawn and dusk times are shown in the **Today** field. These are calculated using latitude, longitude and date.

If you chose 'Dusk Time' or Dawn Time' in the **Time Style** field, to set the time at which Daylight Saving is enabled, relative to the Dusk / Dawn time:

1. Click in the **Offset** field and click .
2. Enter the time (in mins), before or after the Dusk / Dawn time, at which to enable Daylight Saving.
3. Click to apply the changes.

Condition

If you wish to apply a condition to the scheduler entry:

1. Click in the **Condition** field and click .
2. Select a condition from the drop-down menu.
3. Click to apply the changes.

Related Topics

- Scheduler
- Create a Schedule
- Scheduled Daylight Saving Disable
- Longitude and Latitude
- Time Zones
- Dates and Times
- Properties
- Conditions

Scheduled Daylight Saving Disable

This scheduler entry disables Daylight Saving. *For more information, see Daylight Saving Time.*

Note:

- To create a scheduled Daylight Saving disable, see Create a Schedule.
- You must be in Editor mode to create a scheduler entry.

Common	
Address	@T.3
Description	Daylight Saving Disable
Name	
Status	Enabled, Enabled At Startup,
Information	At 02:00:00 Disables Daylight Saving Always
Scheduler Entry	
Scheduler Entry Type	Scheduled Daylight Saving Disable
Trigger Time	
Time Style	Clock Time
Time	02:00:00
Today	Dawn 06:57 Dusk 19:04
Condition	Always

Configure Scheduled Daylight Saving Disable

Tip:

- This type of scheduler entry must use a condition so that it only executes on the correct day of the correct month.

To configure a scheduled Daylight Saving disable, ensure that the scheduler entry is selected in Scheduler view, and in Properties do the following to configure the entry:

Trigger Time

Time Style

1. Click in the **Time Style** field and click .
2. Select either 'Clock Time' (for 24-hour clock time), 'Dawn Time' or 'Dusk Time' (to disable Daylight Saving relative to the pre-determined dusk or dawn times).

Time

If you chose 'Clock Time' in the **Time Style** field, to set the time at which Daylight Saving is disabled:

1. Click in the **Time** field and click .
2. Enter the time (in hh:mm:ss) at which to disable Daylight Saving.
3. Click ok to apply the changes.

Offset (for Dusk / Dawn Time)

Tips:

- If you select a dusk or dawn time, you can set Daylight Saving disablement to be at an

interval before or after the dusk or dawn time, by clicking in the **Offset** field and entering the time (in minutes).

- To configure the offset to be before the dusk or dawn time, enter minus (-) and then the number of minutes.
- When specifying times relative to dawn or dusk, remember that these times are dependent on the longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* and latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* settings within Designer and may not be suitable for use on a ship, due to the ship's movements. *To learn more about this, see Longitude and Latitude, Dates and Times and Time Zones.*
- Today's official dawn and dusk times are shown in the **Today** field. These are calculated using latitude, longitude and date.

If you chose 'Dusk Time' or Dawn Time' in the **Time Style** field, to set the time at which Daylight Saving is disabled, relative to the Dusk / Dawn time:

1. Click in the **Offset** field and click .
2. Enter the time (in mins), before or after the Dusk / Dawn time, at which to disable Daylight Saving.
3. Click to apply the changes.

Condition

If you wish to apply a condition to the scheduler entry:

1. Click in the **Condition** field and click .
2. Select a condition from the drop-down menu.
3. Click to apply the changes.

Related Topics

- Scheduler
- Create a Schedule
- Scheduled Daylight Saving Enable
- Longitude and Latitude
- Time Zones
- Dates and Times
- Properties
- Conditions

Scheduled Emergency Function Test

Note:

- To create a scheduled Emergency Function Test, see Create a Schedule.
- You must be in Editor mode to create a scheduler entry.

Tip:

- The Emergency Test option comes equipped with some 'out-of-box', pre-configured scheduled Emergency Tests which are fully functional. *See 'Out-of-box' Scheduled Emergency Tests.*

The scheduled Emergency Function Test is used to ensure that the emergency lighting works. This should be done at regular intervals e.g. once a week to suit local regulations.

Common	
Address	@ T.62
Description	Scheduled Emergency Function Test
Name	
GTIN Code	00000000000170
Status	Enabled, Enabled At Startup
Information	At 01:00:00 Emergency Function Test On Group 1
Scheduler Entry	
Scheduler Entry Type	Scheduled Emergency Function Test
Trigger Time	
Time Style	Clock Time
Time	01:00:00
Today	Dawn 06:09:52 Dusk 18:11:02
Condition	Monday
Scheduler Entry Action	
Group	1
Emergency Time Window	200

Configure Scheduled Emergency Function Test

To configure a scheduled Emergency Function Test, ensure that the scheduler entry is selected in Scheduler view, and in Properties do the following to configure the entry:

Trigger Time

Time Style

1. Click in the **Time Style** field and click .
2. Select either 'Clock Time' (for 24-hour clock time), 'Dawn Time' or 'Dusk Time' (to set activation of the Emergency Test relative to the pre-determined dusk or dawn times).

Time

Tips:

- If you select a dusk or dawn time, you can set activation of the test to be at an interval before or after the dusk or dawn time, by clicking in the **Offset** field and entering the time (in minutes).
- To configure the offset to be before the dusk or dawn time, enter minus (-) and then the number of minutes.
- When specifying times relative to dawn or dusk, remember that these times are dependent on the longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* and latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* settings within Designer and may not be suitable for use on a ship, due to the ship's movements. *To learn more about this, see Longitude and Latitude, Dates and Times and Time Zones.*
- Today's official dawn and dusk times are shown in the **Today** field. These are calculated using latitude, longitude and date.

If you chose 'Clock Time' in the **Time Style** field, set the time at which the test is started:

1. Click in the **Time** field and click .
2. Enter the time (in hh:mm:ss) at which to start the test.
3. Click to apply the changes.

Offset (for Dusk / Dawn Time)

If you chose 'Dusk Time' or Dawn Time' in the **Time Style** field, set the time at which the test is started, relative to the dusk / dawn time:

1. Click in the **Offset** field and click .
2. Enter the time (in mins), before or after the dusk / dawn time, at which to start the test.
3. Click to apply the changes.

Condition

If you wish to apply a condition to the scheduler entry:

1. Click in the **Condition** field and click .
2. Select a condition from the drop-down menu.
3. Click to apply the changes.

Assign Group

1. Click in the **Group** field and enter the group to which to assign the entry.
2. Click to apply the changes.

Emergency Test Time Window

The Emergency Test Time Window is the period in which a Scheduled Emergency Test will not be performed on emergency ballasts after an Emergency Test has already been completed.

The Emergency Function Test will be started on each emergency ballast in the group that has not already completed this test within the specified number of days. It will not perform tests on ballasts which have already completed the test within this time.

Note:

- By default, a value of 0 is set here which indicates that the test should always be performed on all emergency ballasts in the group, regardless.

1. Click in the **Emergency Time Window** field and enter the number of days to ignore tests.
2. Click to apply the changes.

Related Topics

- Scheduled Emergency Duration Test
- 'Out-of-box' Scheduled Emergency Tests
- DALI Emergency Lighting
- DALI Emergency Ballast Configuration
- Emergency Test Functions
- Emergency Logging
- Scheduler
- Create a Schedule
- Longitude and Latitude
- Time Zones
- Dates and Times
- Properties
- Conditions

Scheduled Emergency Duration Test

Note:

- To create a scheduled Emergency Duration Test, see Create a Schedule.
- You must be in Editor mode to create a scheduler entry.

Tip:

- The Emergency Test option comes equipped with some 'out-of-box', pre-configured scheduled Emergency Tests which are fully functional. *See 'Out-of-box' Scheduled Emergency Tests.*

The scheduled Emergency Duration Test is used to test the emergency lighting and the endurance of the battery. This should not be done as regularly as the scheduled Emergency Function Test, as it drains the battery for the emergency lighting power.

Common	
Address	@ T.63
Description	Scheduled Emergency Duration Test
Name	
GTIN Code	00000000000170
Status	Enabled, Enabled At Startup
Information	At 01:00:00 Emergency Duration Test On Group 1 If Week 52 (Sunday)
Scheduler Entry	
Scheduler Entry Type	Scheduled Emergency Duration Test
Trigger Time	
Time Style	Clock Time
Time	01:00:00
Today	Dawn 06:09:52 Dusk 18:11:02
Condition	Week 52
Scheduler Entry Action	
Group	1
Emergency Time Window	200

Configure Scheduled Emergency Duration Test

To configure a scheduled Emergency Duration Test, ensure that the scheduler entry is selected in Scheduler view, and in Properties do the following to configure the entry:

Trigger Time

Time Style

1. Click in the **Time Style** field and click .
2. Select either 'Clock Time' (for 24-hour clock time), 'Dawn Time' or 'Dusk Time' (to set activation of the Emergency Test relative to the pre-determined dusk or dawn times).

Time

Tips:

- If you select a dusk or dawn time, you can set activation of the test to be at an interval before or after the dusk or dawn time, by clicking in the **Offset** field and entering the time (in minutes).
- To configure the offset to be before the dusk or dawn time, enter minus (-) and then the number of minutes.
- When specifying times relative to dawn or dusk, remember that these times are dependent on the longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* and latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* settings within Designer and may not be suitable for use on a ship, due to the ship's movements. *To learn more about this, see Longitude and Latitude, Dates and Times and Time Zones.*
- Today's official dawn and dusk times are shown in the **Today** field. These are calculated using latitude, longitude and date.

If you chose 'Clock Time' in the **Time Style** field, set the time at which the test is started:

1. Click in the **Time** field and click .
2. Enter the time (in hh:mm:ss) at which to start the test.
3. Click to apply the changes.

Offset (for Dusk / Dawn Time)

If you chose 'Dusk Time' or Dawn Time' in the **Time Style** field, set the time at which the test is started, relative to the dusk / dawn time:

1. Click in the **Offset** field and click .
2. Enter the time (in mins), before or after the dusk / dawn time, at which to start the test.
3. Click to apply the changes.

Condition

If you wish to apply a condition to the scheduler entry:

1. Click in the **Condition** field and click .
2. Select a condition from the drop-down menu.
3. Click to apply the changes.

Assign Group

1. Click in the **Group** field and enter the group to which to assign the entry.
2. Click to apply the changes.

Emergency Test Time Window

The Emergency Test Time Window is the period in which a Scheduled Emergency Test will not be performed on emergency ballasts after an Emergency Test has already been completed.

The Emergency Duration Test will be started on each emergency ballast in the group that has not already completed this test within the specified number of days. It will not perform tests on ballasts which have already completed the test within this time.

Note:

- By default, a value of 0 is set here which indicates that the test should always be performed on all emergency ballasts in the group, regardless.

1. Click in the **Emergency Time Window** field and enter the number of days to ignore tests.

2. Click to apply the changes.

Related Topics

- Scheduled Emergency Function Test
- 'Out-of-box' Scheduled Emergency Tests
- DALI Emergency Lighting
- DALI Emergency Ballast Configuration
- Emergency Test Functions
- Emergency Logging
- Scheduler
- Create a Schedule
- Longitude and Latitude
- Time Zones
- Dates and Times
- Properties
- Conditions

'Out-of-box' Scheduled Emergency Tests

Note:

- To create your own scheduled tests, group the emergency ballasts and create a schedule. *See Scheduled Emergency Function Test and Scheduled Emergency Duration Test for steps on how to do this.*
- Week numbering in relation to schedules adheres to ISO8601 (international standard for the representation of dates and times).

Designer comes equipped with an 'out-of-box', pre-configured scheduled Emergency Function Test and an Emergency Duration Test. The purpose of this is to regularly test the battery of ungrouped emergency ballasts.

The *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* will automatically perform these tests on ungrouped emergency ballasts only, by providing them with an Emergency Auto Group based on their long address. The emergency ballasts are automatically assigned a day of the week - for every week - to perform a Function Test, and a week of the year to perform a Duration Test. The day of the Function Test and the week number of the Duration Test is shown in the properties of the emergency ballast. The Function Test will occur at 1am on the allocated day and the Duration Test will occur at 2am on the Sunday of the allocated week. The schedule is fixed and uneditable. If you wish to use a different schedule, group the devices and create a schedule. *See Scheduled Emergency Function Test and Scheduled Emergency Duration Test for steps on how to do this.*

Related Topics

- Scheduled Emergency Function Test
- Scheduled Emergency Duration Test
- DALI Emergency Lighting
- DALI Emergency Ballast Configuration
- Emergency Test Functions
- Emergency Logging
- Scheduler
- Create a Schedule

Time Triggered Ethernet Output

Note:

- You must be in Editor mode to configure the Time Triggered Ethernet Output

Configure Time Triggered Ethernet Output

To configure a Time Triggered Ethernet Output, ensure that the scheduler entry is selected in Scheduler view, and in Properties do the following:

Ethernet Output

To configure the Ethernet Output:

1. In the **Ethernet Output** section, click in the **IPv4 Address** field. Enter the IP address *Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* of the third party device *A physical item with which you can interact, either directly or via Designer.* which you are connecting to.
2. In the **Transmission Router** *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* field, enter the IP address of the router responsible for sending data packets which communicate with third party devices.
3. In the **IP Protocol** field, click and choose between ' TCP *Stands for Transmission Data Protocol. TCP is one of the core protocols of the Internet Protocol Suite. It was one of the two original components, with Internet Protocol (IP), of the suite, so that the entire suite is commonly referred to as TCP/IP. Whereas IP handles lower-level transmissions from computer to computer as a message makes its way across the Internet, TCP operates at a higher level, concerned only with the two end systems, for example, a Web browser and a Web server. In particular, TCP provides reliable, ordered delivery of a stream of bytes from a program on one computer to another program on another computer. (See also TCP/IP).* ' and ' UDP *Stands for User Datagram Protocol. UDP is one of the core members of the Internet Protocol Suite, the set of network protocols used for the Internet. With UDP, computer applications can send messages, in this case referred to as datagrams, to other hosts on an Internet Protocol (IP) network, without requiring prior communications to set up special transmission channels or data paths.* ' data transmission protocols.
4. In the **IP Port** field, enter the listener port (for TCP) or comms port (for UDP).
5. In the *Data Packet* field, enter **\x** if you want to view messages in hexadecimal format. By default the field is left blank and, as a result, messages will be viewed in ASCII format.

   The data packet field enables the user to communicate with third party Ethernet Control devices.

Note:

- The **data packet** field allows for both ASCII strings to be configured and the set of digital packets to be defined. The maximum number of bytes that can be sent is 44.
- When configuring an ASCII string the standard escape sequence characters can be included by prefixing them with a '\'. However, the first escape sequence must not be hexadecimal.
- To define a data packet with hex values then prefix the string with '\x' and ensure all

characters are valid hex chars.

- If there is an odd number of hex chars then the first char is prefixed with 0.

Scheduler Entry

To configure a Scheduler Entry:

Trigger Time - Time Style

1. Click in the **Time Style** field and click .
2. Select either 'Clock Time' (for 24-hour clock time), 'Dawn Time' or 'Dusk Time' (to configure enabling of Daylight Saving relative to the pre-determined dusk or dawn times).

Trigger Time - Time

If you chose 'Clock Time' in the **Time Style** field, to set the time at which Daylight Saving is enabled:

1. Click in the **Time** field and click .
2. Enter the time (in hh:mm:ss) at which to enable Daylight Saving.
3. Click to apply the changes.

Offset (for Dusk / Dawn Time)

Tips:

- If you select a dusk or dawn time, you can set Daylight Saving enablement to be at an interval before or after the dusk or dawn time, by clicking in the **Offset** field and entering the time (in minutes).
- To configure the offset to be before the dusk or dawn time, enter minus (-) and then the number of minutes.
- When specifying times relative to dawn or dusk, remember that these times are dependent on the longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* and latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* settings within Designer and may not be suitable for use on a ship, due to the ship's movements. *To learn more about this, see Longitude and Latitude, Dates and Times and Time Zones.*
- Today's official dawn and dusk times are shown in the **Today** field. These are calculated using latitude, longitude and date.

If you chose 'Dusk Time' or Dawn Time' in the **Time Style** field, to set the time at which Daylight Saving is enabled, relative to the Dusk / Dawn time:

1. Click in the **Offset** field and click .
2. Enter the time (in mins), before or after the Dusk / Dawn time, at which to enable Daylight Saving.
3. Click to apply the changes.

Condition

If you wish to apply a condition to the scheduler entry:

1. Click in the **Condition** field and click .
2. Select a condition from the drop-down menu.
3. Click to apply the changes.

Related Topics

- Scheduler
- Create a Schedule
- Longitude and Latitude
- Time Zones
- Dates and Times
- Properties
- Conditions
- Routing Entries
- Scene Triggered Ethernet Output

Identify

Identify

Notes:

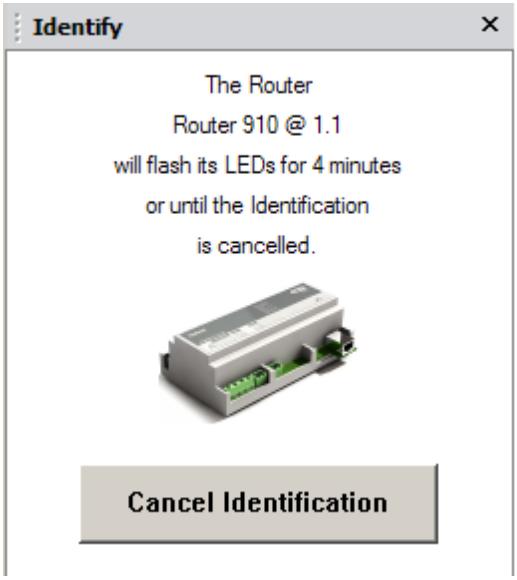
- You must be in Online Mode to identify devices and routers.

The reason for the identification of devices and routers is to find out which one belongs to which address in the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . If there are multiple ballasts in the same room, for example, then it will be difficult to tell which one is which on the system, unless you use the 'Identify' function.

Identify Device

To identify a *device A physical item with which you can interact, either directly or via Designer.* :

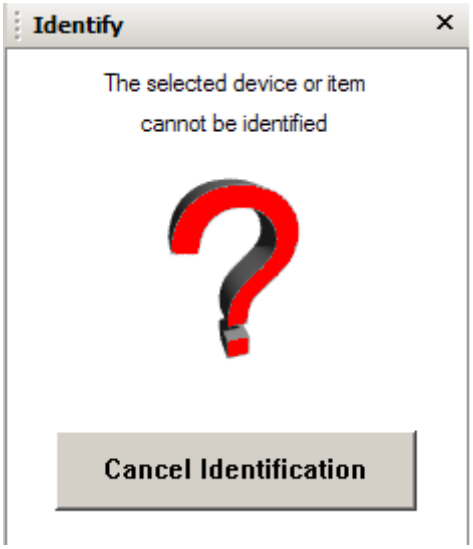
- Right-click on the device or router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* in the Device Tree and select **Identify**. *The physical device or router, in the real lighting system, is identified by its configured method (e.g. the LEDs flash), and the Identify view appears:*



Tip:

- You can now click on any device or router to identify, and the details of identification for that device appear in the Identify view.

A Workgroup or subdevice cannot be identified and the following appears in the Identify view if you try to identify a Workgroup / subdevice:



Cancel Identification

To cancel the identification:

- Click the **Cancel Identification** button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* in the Identify view, or right-click on the device in the Device Tree and select **Cancel Identify**.

Related Topics

- Open and Close the Identify View
- Device Tree
- Online Mode

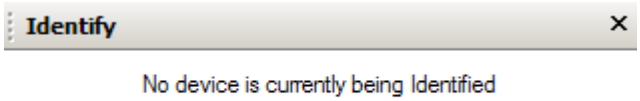
Open and Close Identify window

Open Identify View

To open the Identify view:

- Click **View / Identify** or click .

If there are no devices being identified then the following appears:



Close Identify View

To close the Identify view:

- Click at the top right-hand side of the Identify view.

Related Topics

- Identify

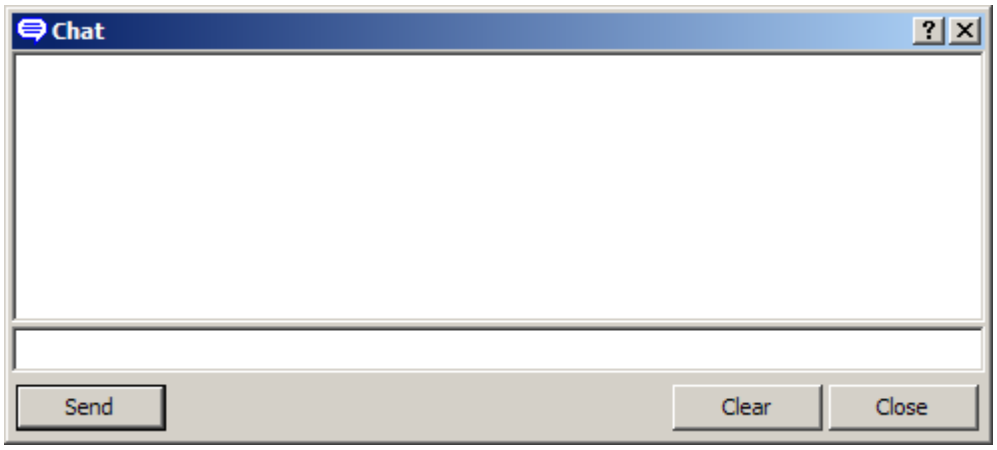
Chat

Chat Window

The Chat window is an instant message facility, allowing you to communicate with other Designer users in the same Workgroup. At least two Client Computers must be present in the Workgroup for a 'chat' to take place.

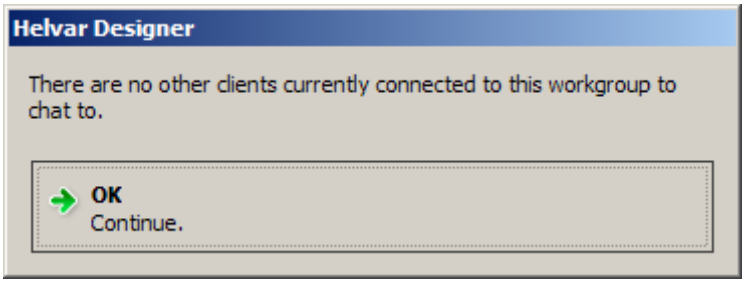
Note:

- You must be in Online Mode (i.e. connected to a Workgroup) to use the 'chat' facility.



Open the Chat Window

1. Switch to **Online Mode**. (*See Modes of Operation*).
2. Click **View** / **Chat**.
3. If another client computer is present in the Workgroup, running Designer in Online mode, then you can 'chat' immediately. Otherwise an alert appears:



Send messages

1. Type in a new message. *Each message can be up to 100 characters long.*
2. To undo message text, right-click on the message and click **Undo**.
3. Click **Send** or press **Enter** to send the message. *The message appears in the main window.*

Receive Messages

Designer monitors for incoming messages whenever you are in Online mode. When a message is received, it appears in the Chat window immediately. If a message is received while the Chat window is closed, the Chat window opens automatically.

Clear the Chat window

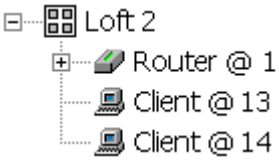
- Click **Clear**.

Note:

- While the Chat window is open, if the last remaining other client on the Workgroup leaves, then an alert appears. The Chat window remains open, and Designer continues to monitor for incoming messages.

Find Out Who Is Online to Chat

Use the *Device Tree* to check if there are other clients present in the Workgroup. If they are present they will be shown in the Device Tree. In the following example, there are two Client Computers shown in the Device Tree. You can chat with both of these clients.



Messages you send are visible to both clients via the Chat window, on each computer.

Related Topics

- Client Computer
- Online Mode
- Workgroups

Reporting

Systems Diagnostics Report

Note:

- You can be in any mode to generate a report. e.g. Online or Offline.

The System Diagnostics Report is used for finding problems in the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . You can choose from preset fault types, designed to show you faults relevant if you are installing, commissioning, programming or maintaining the lighting system; or you can select certain fault types - or all fault types - to view in the report.

Using the report, you can also find where these faulty items are in the system, so that you can correct the problems e.g. by configuring their properties in Designer.

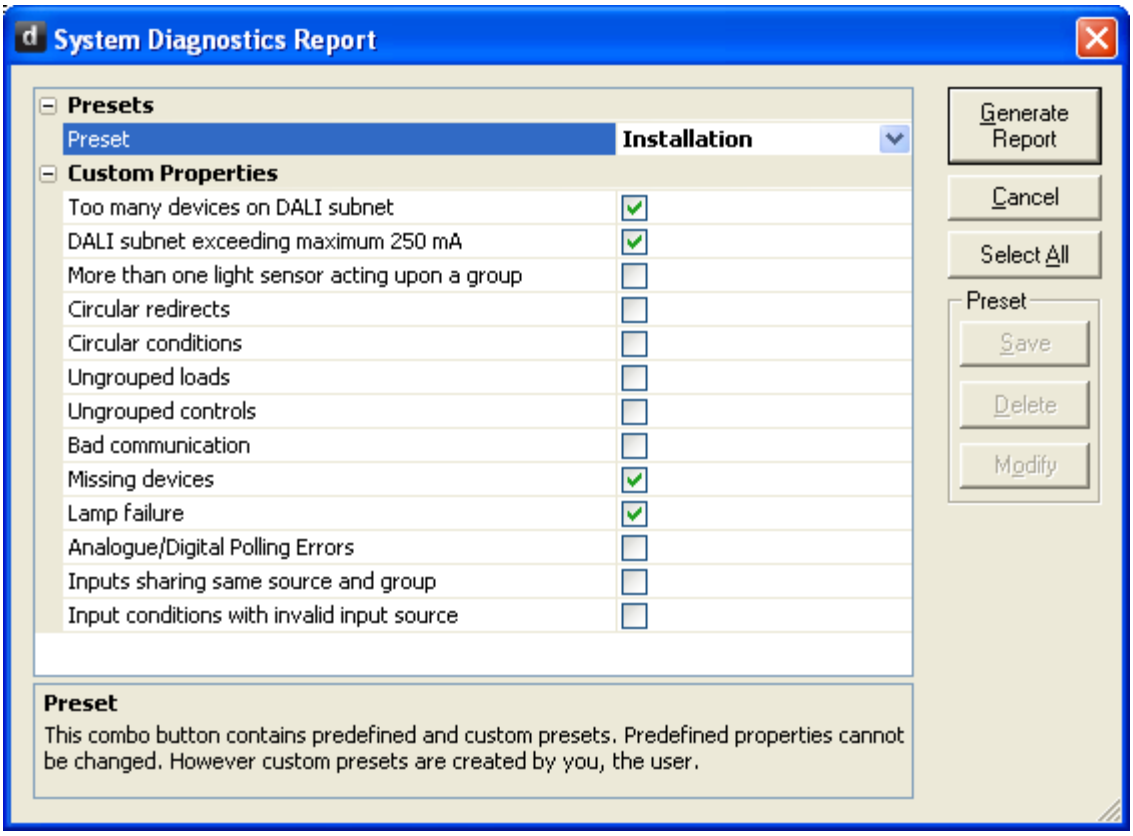
The System Diagnostics Report can provide you with a list of all, or any, of the following in the Workgroup:

- Too many devices on the DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.*
- DALI subnets exceeding the maximum current of 250mA
- Missing devices
- Ungrouped loads
- Ungrouped control devices
- Lamp failure
- Bad communication
- Circular redirects
- Circular conditions
- More than one light sensor *Detects changes in ambient light. Contained within the Multisensor (312).* acting upon a group
- Analogue/digital polling errors
- Inputs sharing same source and group
- Input conditions with invalid input source

Generate System Diagnostics Report

To generate a System Diagnostics Report:

1. Click **Tools / System Diagnostics Report**. *The **System Diagnostics Report** dialogue appears.*



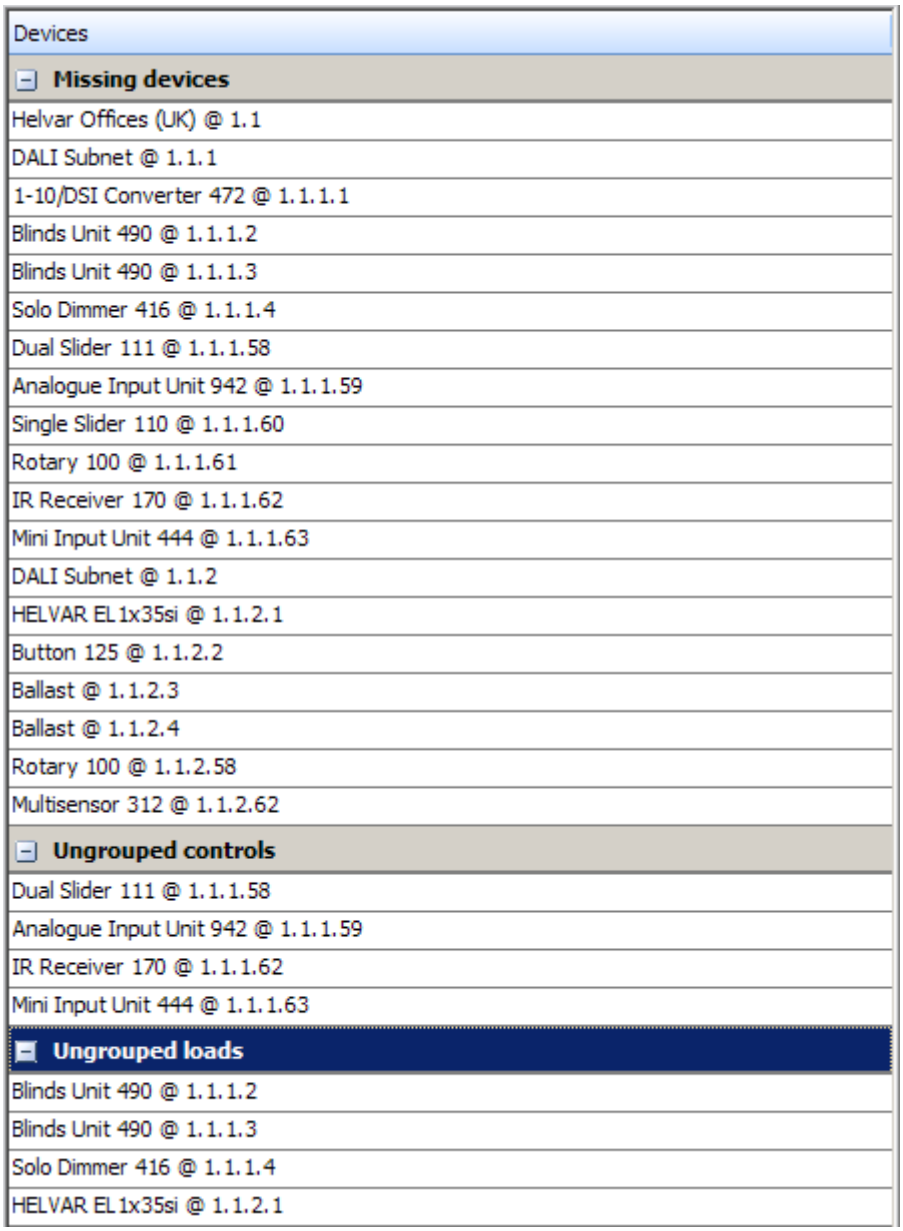
2. In the **Presets** field, click and select from the available presets; or select 'New' and enter a new preset name, then select the properties that you wish to be included in the preset and click **Save**. (You can also delete or modify presets that you have created, by selecting the preset and clicking **Delete**, or changing the properties of the preset and clicking **Modify**).

Note:

- You cannot modify the built-in presets, which are 'Installation', 'Commissioning', 'Programming' and 'Maintenance'.

OR

2. In the **Custom Properties** section, select which type of faulty / erroneous items that you wish to view in the report by clicking in the tick box beside the fault type (or click **Select All** to select all fault types).
3. Click **Generate Report**. *The System Diagnostics Report appears.*



Devices
Missing devices
Helvar Offices (UK) @ 1.1
DALI Subnet @ 1.1.1
1-10/DSI Converter 472 @ 1.1.1.1
Blinds Unit 490 @ 1.1.1.2
Blinds Unit 490 @ 1.1.1.3
Solo Dimmer 416 @ 1.1.1.4
Dual Slider 111 @ 1.1.1.58
Analogue Input Unit 942 @ 1.1.1.59
Single Slider 110 @ 1.1.1.60
Rotary 100 @ 1.1.1.61
IR Receiver 170 @ 1.1.1.62
Mini Input Unit 444 @ 1.1.1.63
DALI Subnet @ 1.1.2
HELVAR EL1x35si @ 1.1.2.1
Button 125 @ 1.1.2.2
Ballast @ 1.1.2.3
Ballast @ 1.1.2.4
Rotary 100 @ 1.1.2.58
Multisensor 312 @ 1.1.2.62
Ungrouped controls
Dual Slider 111 @ 1.1.1.58
Analogue Input Unit 942 @ 1.1.1.59
IR Receiver 170 @ 1.1.1.62
Mini Input Unit 444 @ 1.1.1.63
Ungrouped loads
Blinds Unit 490 @ 1.1.1.2
Blinds Unit 490 @ 1.1.1.3
Solo Dimmer 416 @ 1.1.1.4
HELVAR EL1x35si @ 1.1.2.1

4. Click ⊞ in the report to expand the column(s) to show the items.
5. If necessary, right-click on an item and select 'Find' to locate the faulty item in the Device Tree (if not already open, the view opens, and the item is highlighted).
6. If necessary, right-click on the report and select 'Save to .csv *Stands for Comma Separated Values. A way to store information in a file so that it can be used by other applications (e.g. Microsoft Excel).* ' to export the report as a Comma Separated Values file. *This can be read by Microsoft Excel.*

Related Topics

- Grouping Report
- Devices Report
- Emergency Report

Grouping Report

Note:

- You can be in any mode to generate a report. e.g. Online or Offline.

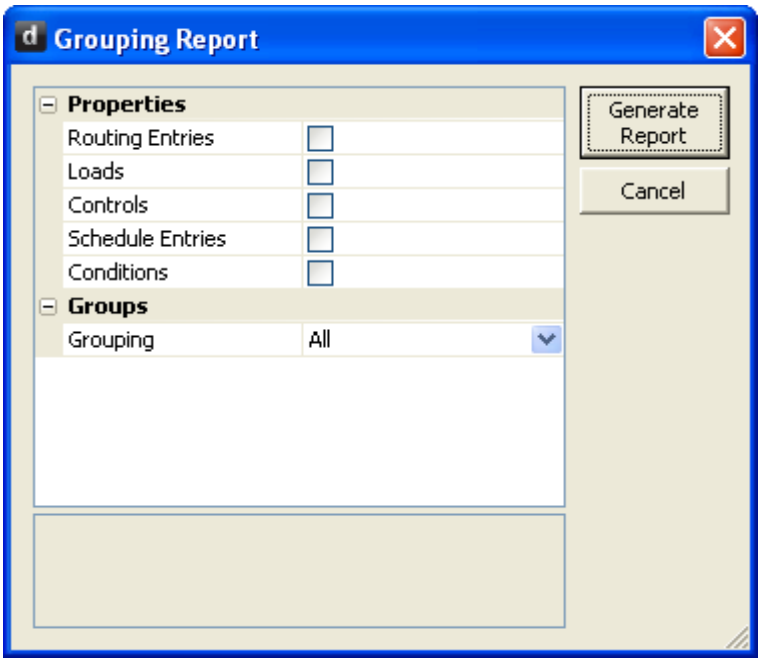
The purpose of the Grouping Report is to provide you with a list of specified items (routing entries, loads, control devices, schedule entries and conditions) in the Workgroup (including ungrouped items), a specific group(s), or for items which are ungrouped.

This is useful if you wish to find which items communicate with each other (are in the same group) and/or which items are ungrouped in the system (and are therefore not functional).

Generate Grouping Report

To generate a Grouping Report:

1. Click **Tools / Grouping Report**. *The **Grouping Report** dialogue appears.*



2. Select which items you wish to view in the report by clicking in the tick box beside the item type.
3. In the **Grouping** field, click and select from 'All' (for all chosen items in the system), 'Ungrouped' (for all ungrouped items) or 'Selection' (in **Selection** field, enter group(s) to which items belong; you can enter multiple groups by separating group numbers with commas).
4. Click **Generate Report**. *The Grouping Report appears.*

Node	Property	Information
Group: 1 (Group 1)		
Ballast @ 1.1.1.6	Loads	
Ballast @ 1.1.1.35	Loads	
Button 125 @ 1.1.1.57	Controls	
Solo Dimmer 416 @ 1.1.2.1	Loads	
Relay Unit 498 @ 1.1.3.1	Loads	
Relay Unit 498 @ 1.1.3.2	Loads	
Relay Unit 498 @ 1.1.3.3	Loads	
Relay Unit 498 @ 1.1.3.4	Loads	
Relay Unit 498 @ 1.1.3.5	Loads	
Relay Unit 498 @ 1.1.3.6	Loads	
Relay Unit 498 @ 1.1.3.7	Loads	
Relay Unit 498 @ 1.1.3.8	Loads	
Scheduled Emergency Function Test @ T.62	Schedule Entries	
Scheduled Emergency Duration Test @ T.63	Schedule Entries	
Group: 16001 (Group 16001)		
Out Of Box Emergency Function Test @ T.7	Schedule Entries	
Group: 16002 (Group 16002)		
Out Of Box Emergency Function Test @ T.6	Schedule Entries	

Tip:

- Click on Group above the report to change the order of groups from ascending to descending numerically.

5. Click ⊞ in the report to expand the group column(s) to show the items.
6. If necessary, right-click on an item and select 'Find' to locate the item in the Device Tree (if not already open, the view opens and the item is highlighted).
7. If necessary, right-click on the report and select 'Save to .csv *Stands for Comma Separated Values. A way to store information in a file so that it can be used by other applications (e.g. Microsoft Excel).* ' to export the report as a Comma Separated Values file. *This can be read by Microsoft Excel.*

Related Topics

- System Diagnostics Report
- Devices Report
- Emergency Report

Devices Report

Note:

- You can be in any mode to generate a report. e.g. Online or Offline.

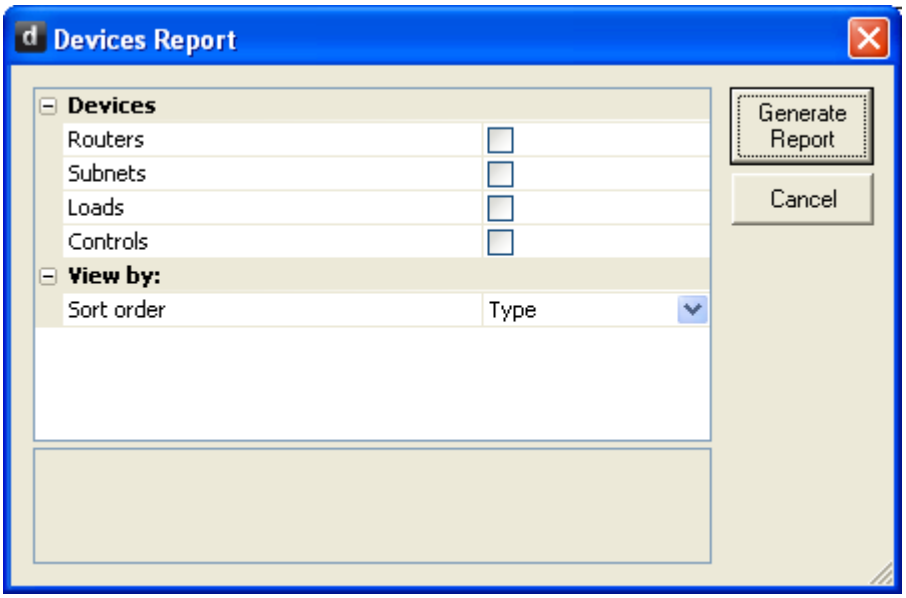
The purpose of the Devices Report is to provide you with a list of specified items that exist in the Workgroup (including routers, subnets, loads and control devices). This is useful if you need a list of certain *device A physical item with which you can interact, either directly or via Designer.* types (e.g. loads and controls), or all device types, in the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*.

Using the report, you can also find certain devices in the system and view their properties.

Generate Devices Report

To generate a Devices Report:

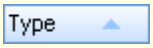
1. Click **Tools / Devices Report**. *The **Devices Report** dialogue appears.*

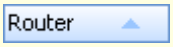


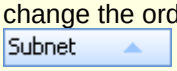
2. Select which devices you wish to view in the report by clicking in the tick box beside the device type.
3. In the **Sort Order** field, click and select from 'Type' (to sort the items by type) or 'Address' (to sort the items by address).
4. Click **Generate Report**. *The Devices Report appears.*

Address	Device Name	Default Name	Full Address	Grouping	Present Status	Software Version	Information	Router	Subnet
Type: DALI_SUBNET (2)									
0	DALI Subnet	DALI Subnet	@ 1.1.1	N/A	Normal	4.28	Loads missing = 2	@ 1.1	1
0	DALI Subnet	DALI Subnet	@ 1.1.2	N/A	Normal	4.28	Loads missing = 17	@ 1.1	2
Type: HELVAR125 (1)									
57	meeting room 1	Button 125	@ 1.1.1.57	1	Normal	4.00	No Information	@ 1.1	1
Type: HELVAR154SI (10)									
10	ground floor reception	HELVAR EL1x28si	@ 1.1.2.10	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
11	ground floor reception	HELVAR EL1x21si	@ 1.1.2.11	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
12	office area 1	HELVAR EL1x21si	@ 1.1.2.12	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
13	office area 1	HELVAR EL1x21si	@ 1.1.2.13	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
14	office area 1	HELVAR EL1x21si	@ 1.1.2.14	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
15	office area 1	HELVAR EL1x21si	@ 1.1.2.15	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
16	office area 2	HELVAR EL1x21si	@ 1.1.2.16	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
17	office area 2	HELVAR EL1x21si	@ 1.1.2.17	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
18	office area 2	HELVAR EL1x21si	@ 1.1.2.18	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
19	office area 2	HELVAR EL1x21si	@ 1.1.2.19	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
Type: HELVAR312 (1)									
56	conference room	Multisensor 312	@ 1.1.1.56	2	Normal	4.04	No Information	@ 1.1	1
Type: ROUTER_910 (1)									
0	Router 920	Router 920	@ 1.1	N/A	Normal	4.2.0.1 (INTERNAL)	***** Not Conne...	@ 1.1	N/A
Type: Undefined (11)									
1	conference room	Solo Dimmer 425	@ 1.1.1.1	2	Missing	Unknown	No Information	@ 1.1	1
2	Emergency Lighting	Emergency Lighting	@ 1.1.1.2	Ungrouped	Missing	Unknown	No Information	@ 1.1	1
6	office area 2	Ballast	@ 1.1.1.6	1, 2	Normal	Unknown	No Information	@ 1.1	1
35	office area 1	Ballast	@ 1.1.1.35	1, 2	Normal	Unknown	No Information	@ 1.1	1
1	kitchen	Solo Dimmer 416	@ 1.1.2.1	1	Missing	Unknown	No Information	@ 1.1	2
2	kitchen	SCR Dimmer 458	@ 1.1.2.2	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
3	office area 1	SCR Dimmer 458	@ 1.1.2.3	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
4	office area 1	SCR Dimmer 458	@ 1.1.2.4	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
5	kitchen	SCR Dimmer 458	@ 1.1.2.5	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
6	conference	SCR Dimmer 458	@ 1.1.2.6	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2
7	ground floor rception	SCR Dimmer 458	@ 1.1.2.7	Ungrouped	Missing, This ...	Unknown	No Information	@ 1.1	2

Tip:

- If you chose 'Type' in the **Sort Order** field (see above), then click on 

above the report to change the order of device types from ascending to descending alphabetically.
- If you chose 'Address' in the **Sort Order** field, then click 

above the report to change the order of routers from ascending to descending by address; or click 

to change the order of subnets from ascending to descending.

5. Click in the report to expand the column(s) to show the devices.
6. If necessary, right-click on a device and select 'Find' to locate the faulty device in the Device Tree (if not already open, the view opens and the item is highlighted).
7. If necessary, right-click on the report and select 'Save to .csv *Stands for Comma Separated Values. A way to store information in a file so that it can be used by other applications (e.g. Microsoft Excel).* ' to export the report as a Comma Separated Values file. *This can be read by Microsoft Excel.*

Related Topics

- System Diagnostics Report
- Grouping Report
- Emergency Report

Emergency Report

Note:

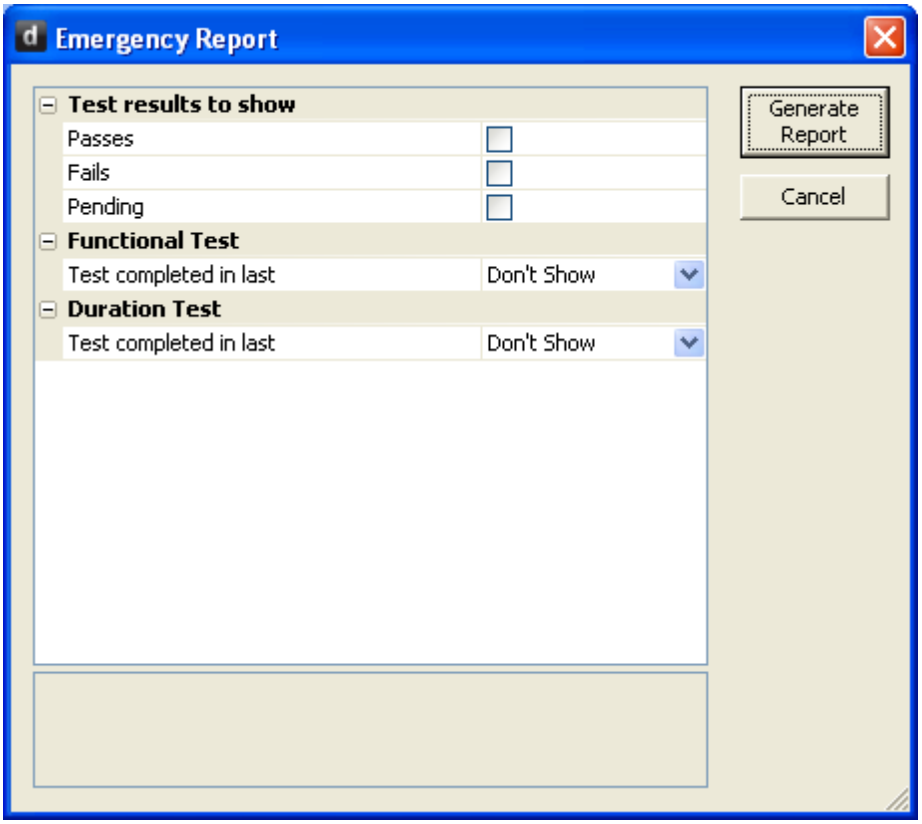
- You can be in any mode to generate a report. e.g. Online or Offline.

The Emergency Report displays the status of the **last** Emergency Duration Test and / or Emergency Function Test. You can view passes, fails and / or pending tests.

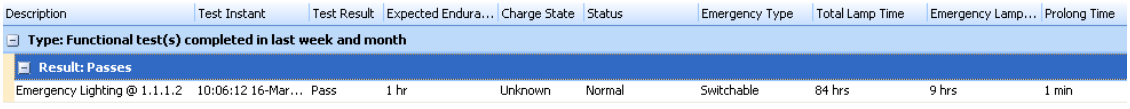
Generate Emergency Report

To generate an Emergency Report:

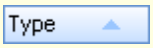
1. Click **Tools / Emergency Report**. *The **Emergency Report** dialogue appears.*

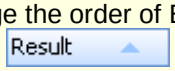


2. Select which test results you wish to see by clicking in the tick box beside the result type (you can choose to view any or all results).
3. If you wish to view the result for the last Emergency Function Test, then in the **Function Test** section click in the **Test completed in last** field and select from 'Week', 'Month' or 'All' (for tests completed at an indefinite time period from now).
4. If you wish to view the result for the last Emergency Duration Test, then in the **Duration Test** section click in the **Test completed in last** field and select from 'Month', '2 Months', '6 Months', '1 Year' or 'All' (for tests completed at an indefinite time period from now).
5. Click **Generate Report**. *The Emergency Report appears.*



Tip:

- Click on 

above the report to change the order of Emergency Report types from ascending to descending alphabetically, or 

to change the order of results from ascending to descending.

5. If necessary, right-click on the item and select 'Find' to locate the emergency ballast in the Device Tree (if not already open, the view opens and the item is highlighted).
6. If necessary, right-click on the report and select 'Save to .csv *Stands for Comma Separated Values. A way to store information in a file so that it can be used by other applications (e.g. Microsoft Excel).* ' to export the report as a Comma Separated Values file. *This can be read by Microsoft Excel.*

Related Topics

- DALI Emergency Lighting
- Emergency Test Functions
- Scheduled Emergency Function Test
- Scheduled Emergency Duration Test
- 'Out-of-box' Scheduled Emergency Tests
- System Diagnostics Report
- Grouping Report
- Devices Report

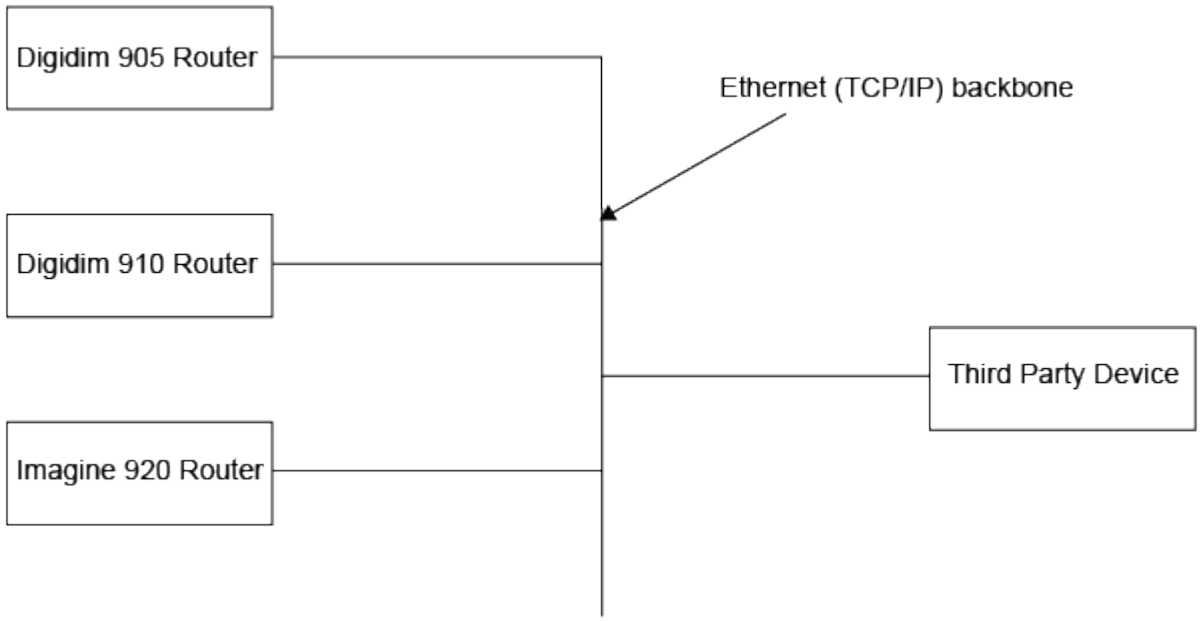
HelvarNet Overview

Notes:

- The HelvarNet feature is aimed at software developers and advanced system integrators who are capable of programming their third party devices to communicate with a Helvar router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* (and therefore the whole Helvar lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*), using the HelvarNet protocol, explained in this section of the Online Help.

HelvarNet is an Ethernet I/O protocol which allows third party devices (e.g. AV equipment) to query and control a 905/910/920 router system and perform some basic system configuration, over an Ethernet (*TCP Stands for Transmission Data Protocol. TCP is one of the core protocols of the Internet Protocol Suite. It was one of the two original components, with Internet Protocol (IP), of the suite, so that the entire suite is commonly referred to as TCP/IP. Whereas IP handles lower-level transmissions from computer to computer as a message makes its way across the Internet, TCP operates at a higher level, concerned only with the two end systems, for example, a Web browser and a Web server. In particular, TCP provides reliable, ordered delivery of a stream of bytes from a program on one computer to another program on another computer. (See also TCP/IP).*/IP) connection. It is a published standard which provides a set of rules for communicating with a Helvar lighting system.

The third party *device A physical item with which you can interact, either directly or via Designer.* may communicate with one or more routers in the system, provided it knows the *IP address Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* of each router, in order to communicate with the lighting system.



Protocols

The following TCP/IP protocols are supported by HelvarNet:

TCP connection created and accepted by router.

UDP Stands for User Datagram Protocol. UDP is one of the core members of the Internet Protocol Suite, the set of network protocols used for the Internet. With UDP, computer applications can send messages, in this case referred to as datagrams, to other hosts on an Internet Protocol (IP) network, without requiring prior communications to set up special transmission channels or data paths.
incoming and outgoing.

What are the requirements?

- The interface provides you with a means of interacting with the lighting system, it is up to you to develop and program your third party device in order to achieve this communication.
- If you wish to send commands to the router system from the third party device, then the third party device must be able to instigate a TCP connection with a Helvar router or send UDP messages to a Helvar router (this is not required for the router system to control the third party device).
- To establish a TCP connection and therefore communicate with the router, the third party device is required to connect to listener port number **50000**.
- To send TCP messages from the router to the third party device, the router connects to a listener port provided in the third party device. It is recommended that this listener port is in the range of 49152 to 65535. *See Routing Entries and Schedules to learn more and Scene Triggered Ethernet I/O to find out how to do this.*
- When using the UDP protocol, the third party device is required to send a message to destination port number **50001** in the router.
- To send UDP messages from the router to the third party device, it is recommended that the destination port in the third party device is in the range of 49152 to 65535. *See Routing Entries and Schedules to learn more and Scene Triggered Ethernet I/O to find out how to do this.*

Related Topics

- Configuration Command Descriptions
- Configuration Command Table
- Command Format
- Control Command Descriptions
- Control Command Table
- Query Command and Reply Descriptions
- Query Reply Tables
- Query Command Table
- Messages
- Error / Diagnostic Messages
- Routing Entries

Messages

System Access and Message Routing

Messages from the third party *device A physical item with which you can interact, either directly or via Designer.* can be targeted at any *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* in the system.

If access has not been granted or has been blocked to a particular router, then communications can still be achieved to that router via any other router in the system, provided that you have the *IP address Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* of another router and the third party device is allowed access to it.

If a query message needs to be sent to a router for which access has not been granted, then the query message can be sent to any of the alternative routers, following this the response to the query - the query reply message - will be returned by the router to which the query was originally sent.

Message Format

Any message sent to, or received from, a router can be in either ASCII or raw binary form (see Command Format for more information).

Messages must not exceed the maximum length of 1500 bytes.

The format of the data contained within messages is defined by the protocol.

A query reply message from the router will be in the same format as the query command message sent i.e. if a query message is sent in ASCII form then the reply will also be in ASCII.

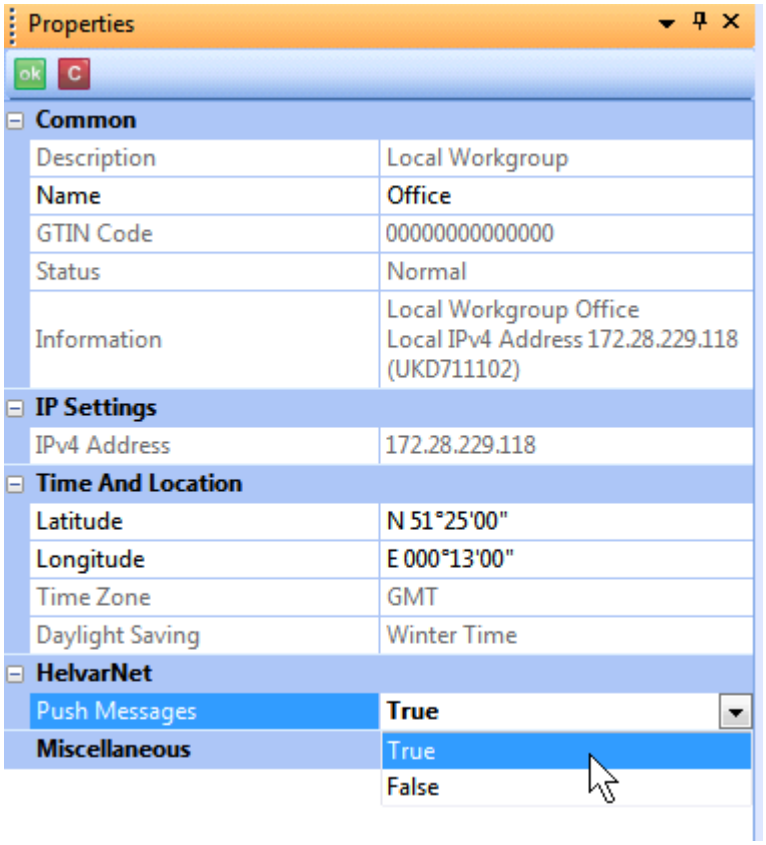
Push Messages

Activate this option to enable routers to transmit internally generated messages to external HelvarNet clients.

To activate Push Messages:

1. In the Device Tree select the root node.
2. In the **HelvarNet** section of the Properties window (see screenshot below), set ‘Push Messages’ to True.

Note: If new routers are introduced into the system then this procedure will need to be repeated



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Related Topics

- Configuration Command Descriptions
- Configuration Command Table
- Command Format
- Control Command Descriptions
- Control Command Table
- Query Command and Reply Descriptions
- Query Reply Tables
- Query Commands Table
- HelvarNet Overview
- Error / Diagnostic Messages
- Routing Entries

Command Table

Commands can be sent in either ASCII (text) or raw format.

In ASCII format, the commands are split into parameters and in raw format the commands are split into binary Words which contain the parameters.

Each command contains:

- a command number.
- parameters that address devices or lighting operations.
- parameters that are required to accompany the commands.

Note:

- When sending raw commands, certain command Words have been reserved for future use. These should always be given the value of 0 when creating commands.
- When you send a command, if you have entered an invalid parameter or it has been sent to a device *A physical item with which you can interact, either directly or via Designer.*, router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* or cluster that does not exist, then you will receive an error message describing what is wrong with the command. *See Error / Diagnostic Messages*.

ASCII Format

The ASCII format requires that certain rules concerning special characters, parameter identifiers, and delimiters be adhered to. These rules are as follows:

1. The ASCII string must begin with the command character '>' and end with the Terminator character '#'.
2. Replies to queries begin with the character '?' and the data concerning a query's response is separated from the query string using the character '='. Similarly, the whole query response string is terminated with the character '#' that signals the end of the reply, or '$' that signals the end of a partial response.
   For example, a response that contains more data than the maximum message size would be split into 2 responses. The first partial response would be terminated by '$', and the second partial response would be terminated by '#'.
3. Error / Diagnostic messages begin with the character '!' and, again, end in '#'.
4. Unless they are optional, all of the parameters required for the command must be included; otherwise the message is rejected and discarded.
5. The ASCII parameters are not required to be ordered.
6. The parameter identifiers are to be included as shown in the following table, i.e. all alphabetic identifiers should be in upper case.

Description	Character	Optional	Hex	Character Type
Command	>	No	0x3E	Message Type
Internal Command	<	No	0x3C	Message Type

Reply	?	No	0x3F	Message Type
Error / Diagnostic	!	No	0x21	Message Type
Terminator	#	No	0x23	Special
Partial reply terminator	$	No	0x24	Special
Answer	=	No	0x3D	Special
Delimiter	,	No	0x2C	Delimiter
Parameter ID Delimiter	:	No	0x3A	Delimiter
Address Delimiter	.	No	0x2E	Delimiter
Sequence Number	Q	For internal commands only	0x51	Parameter ID
HelvarNet *An Ethernet I/O protocol which allows third party devices (e.g. AV equipment) to query and control a 910/920 router system and perform some basic system configuration, over an Ethernet (TCP/IP) connection.* Version	V	Version 1 only (assumes version 1)	0x56	Parameter ID
Command	C	No	0x43	Parameter ID
Acknowledgment	A	Yes (assumes a value of 0)	0x41	Parameter ID
Address	@	No	0x40	Parameter ID
Group	G	Yes (assumes a value of 1)	0x47	Parameter ID
Scene *Collection of lighting levels for each channel*	S	Yes (assumes a	0x53	Parameter ID

assigned to the same group as the scene.		value of 1)		
Block	B	Yes (assumes a value of 1)	0x42	Parameter ID
Fade Time	F	Yes (assumes 700ms)	0x46	Parameter ID
Level	L	No	0x4C	Parameter ID
Proportion	P	No	0x50	Parameter ID
Display Screen	D	No	0x44	Parameter ID
Time	T	No	0x54	Parameter ID
Latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.*	N	No	0x4E	Parameter ID
Longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.*	E	No	0x45	Parameter ID
Time Zone Difference	Z	No	0x5A	Parameter ID

Daylight Saving Time (DST)	Y	No	0x59	Parameter ID
Constant Light Scene	K	Yes (assumes false)	0x4B	Parameter ID
Force Store Scene	O	Yes (assumes false)	0x4F	Parameter ID

For example, in the command Recall Group 1234, Block 5, Scene 6, Fade Time 32 s, the string is sent as follows, including the delimiters and the start character '>' and stop character '#':

```
>V:1,C:11,G:1234,B:5,S:6,F:3200#
```

Note:

This ASCII representation for the above scene recall takes one byte per ASCII character, resulting in 26 bytes being transmitted.

Raw Format

1. Command data is transmitted using the network byte order (big-endian).
2. All commands must be ten Words in length (each Word being a 32 bit / 4 Byte value). Words five & six are reserved for future expansion to the addressing capabilities, and Words nine and ten are reserved to accommodate any changes or future requirements in the parameters.

Note:

All ten Words must be sent, including all reserved Words.

For example, the command (Recall Group 1234, Block 5, Scene 6, Fade Time 32 s) is transmitted as follows (note that the trailing zeros are included and mandatory):

```
0x0001000B  0x000004D2  0x00000000  0x00050006  0x00000000  0x00000000
 0x00000000  0x00000C80  0x00000000  0x00000000
```

Note:

- In the first 32 bit Word, the message type (see below), version number (1) and command number must be included.

Raw Message Types, Versions and Command Numbers

The raw message types are as follows:

0 = Command

1 = Reply

2 = Error / Diagnostic

The message type number is the included as the first byte of the 32 bit Word of the command. E.g. If you send a Query Clusters command, the first Word of the reply will be:

0x0**1**010065

(**1** denoting that the message is a reply)

31.....24	23.....16	15.....8	7.....0

Message Type [31:24]	Ack [23]	Version [22:16]	Command Number [15:0]	
Byte 3	Byte 2		Byte 1	Byte 0

Data Word Format (big-endian)

WORD - 32 bits / 4 bytes			
Byte 3 (MSB)	Byte 2	Byte 1	Byte 0
31.....24	23.....16	15.....8	7.....0

Related Topics

- HelvarNet Overview
- Configuration Command Descriptions
- Configuration Command Table
- Control Command Descriptions
- Control Command Table
- Query Command and Reply Descriptions
- Query Reply Table
- Query Command Table
- Messages
- Error / Diagnostic Messages
- Routing Entries

Control Commands

Notes:

- See Control Command Table for information on control command formats.
- Control commands can only be sent to control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* and DMX *Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* 'Out' devices.
- When you send a command, if you have entered an invalid parameter or it has been sent to a device *A physical item with which you can interact, either directly or via Designer.*, router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* or cluster that does not exist, then you will receive an error message describing what is wrong with the command. *See Error / Diagnostic Messages*.

Scene and Level Control Commands

See Scenes topic for information about scenes.

11 - Recall Scene (Group)

Send a *scene Collection of lighting levels for each channel assigned to the same group as the scene.* recall across a group.

Note:

- To call a constant light scene, use the Constant Light flag (with a parameter value of 1).

Command

Command (11), Group (1..16383), Block (1..8), Scene (1..16), Constant Light (1=ON, 0=OFF), Fade Time (0..6553.5s)

ASCII Example

To recall constant light scene 5 in scene block 2, across group 17, with a fade time of 90 seconds:

>V:1,C:11,G:17,K:1,B:2,S:5,F:9000#

Raw Example

To recall constant light scene 5 in scene block 2, across group 17, with a fade time of 90 seconds:

0x0001000B 0x00000011 0x00000000 0x10020005 0x00000000 0x00000000 0x00000000 0x00002328 0x00000000 0x00000000

12 - Recall Scene (Device)

Send a scene recall to a device .

Note:

- This command should not be sent to any device other than a load *For example, dimmers,*

relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.
(control gear), otherwise you will receive a diagnostic response if one was requested.

Command

Command (12), Cluster (1..253), Router (1..254), *Subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* (1..4), Device (1..255), Block (1..8), Scene (1..16), Fade Time (0..6553.5s)

ASCII Example

To recall scene 4 in scene block 7, in a device at address 1.2.3.4, with a fade time of 1 second:

>V:1,C:12,B:7,S:4,F:100,@1.2.3.4#

Raw Example

To recall scene 4 in scene block 7, in a device at address 1.2.3.4, with a fade time of 1 second:

0x0001000C 0x00010002 0x00030004 0x00070004 0x00000000 0x00000000 0x00000000 0x00000064 0x00000000 0x00000000

13 - Direct Level (Group)

Change the output level of all channels in a group.

Command

Command (13), Group (1..16383), Level (0..100), Fade Time (0..6553.5s)

ASCII Example

To change the output level to 60% across group 17, with a fade time of 90 seconds:

>V:1,C:13,G:17,L:60,F:9000#

Raw Example

To change the output level to 60% across group 17, with a fade time of 90 seconds:

0x0001000D 0x00000011 0x00000000 0x00000000 0x00000000 0x00000000 0x0000003C 0x00002328 0x00000000 0x00000000

14 - Direct Level (Device)

Change the level of a load .

Command

Command (14), Cluster (1..253) / Router (1..254), Subnet (1..4) / Device (1..255), Level (0..100), Fade Time (0..6553.5s)

ASCII Example

To change the output level to 60% in a device at address 1.2.3.4, with a fade time of 90 seconds:

>V:1,C:14,L:60,F:9000,@1.2.3.4#

Raw Example

To change the output level to 60% in a device at address 1.2.3.4, with a fade time of 90 seconds:

0x0001000E 0x00010002 0x00030004 0x00000000 0x00000000 0x00000000 0x0000003C 0x00002328 0x00000000 0x00000000

Proportion Control Commands

When sending a 'Direct Proportion' value, this value relates to a proportion of the difference between the last recalled scene level or direct level and the output limits of the device.

When sending a positive value, this is a proportion of the difference of said level and 100% level. For example, if the last recalled scene level or direct level is 44% and you send a 'Direct Proportion at 50%' command, then the level rises from 44% to 72% (100 - 44 = 56 x 50% = 28 + 44 = 72).

When sending a negative proportion value, this is a proportion of the difference of the last recalled scene or direct level and 0%, which so happens to be a proportion of the level itself. For example, if the level is at 44% and you send a command to perform the 'Direct Proportion' function at -50%, then the level decreases to 22% (i.e. 50% of 44%).

Notes:

- The range for the 'Direct Proportion' and 'Modify Proportion' functions is -100% to 100%.
- Any succeeding 'Direct Proportion' commands will also use the last recalled scene or direct level as a base mark.

When sending a 'Modify Proportion' value, the same formula applies, only you are changing the currently applied 'Direct Proportion' value.

Take the example above resulting in a 'Direct Proportion' level of 72%. If you send a 'Modify Proportion at 5%' command, then the level rises from 72% to approx. 75% (100 - 44 = 56 x 55% = 30.8 + 44 = 74.8).

When sending a negative value, the formula subtracts that value from the 'Direct Proportion' level e.g. Still using the same example, if you send 'Modify Proportion at -5%' command, then the level decreases from 72% to approx. 69% (100 - 44 = 56 x 45% = 25.2 + 44 = 69.2).

15 - Direct Proportion (Group)

Send a 'Direct Proportion' message across a group (+/-100%).

Command

Command (15), Group (1..16383), Proportion (-100..100), Fade Time (0..6553.5s)

ASCII Example

To send a direct proportion of 72% across group 17 (with a fade time of 90 seconds):

>V:1,C:15,P:72,G:17,F:9000#

Raw Example

To send a direct proportion of 72% across group 17 (with a fade time of 90 seconds):

0x0001000F 0x00000011 0x00000000 0x00000000 0x00000000 0x00000000 0x00000048 0x00002328 0x00000000 0x00000000

16 - Direct Proportion (Device)

Send a 'Direct Proportion' message to a load (+/-100%).

Command

Command (16), Cluster (1..253) / Router (1..254), Subnet (1..4), Device (1..255), Proportion (-100..100), Fade Time (0..6553.5s)

ASCII Example

To send a direct proportion of 72% in a device at address 1.2.3.4 (with a fade time of 90 seconds):

>V:1,C:16,P:72,F:9000,@1.2.3.4#

Raw Example

To send a direct proportion of 72% in a device at address 1.2.3.4 (with a fade time of 90 seconds):

0x00010010 0x00010002 0x00030004 0x00000000 0x00000000 0x00000000 0x00000048 0x00002328 0x00000000 0x00000000

17 - Modify Proportion (Group)

Modify a 'Direct Proportion' level sent to a group (+/-100%).

Command

Command (17), Group (1..16383), Proportion Change (-100..100), Fade Time (0..6553.5s)

ASCII Example

To send a modify proportion of 5% across group 17, with a fade time of 90 seconds:

>V:1,C:17,P:5,G:17,F:9000#

Raw Example

To send a modify proportion of 5% across group 17, with a fade time of 90 seconds:

0x00010011 0x00000011 0x00000000 0x00000000 0x00000000 0x00000000 0x00000005 0x00002328 0x00000000 0x00000000

18 - Modify Proportion (Device)

Modify a 'Direct Proportion' level sent to a load (+/-100%).

Command

Command (18), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Proportion Change (-100..100), Fade Time (0..6553.5s)

ASCII Example

To send a modify proportion of 5% in a device at address 1.2.3.4, with a fade time of 90 seconds:

>V:1,C:18,P:5,F:9000,@1.2.3.4#

Raw Example

To send a modify proportion of 5% in a device at address 1.2.3.4, with a fade time of 90 seconds:

0x00010012 0x00010002 0x00030004 0x00000000 0x00000000 0x00000000 0x00000005 0x00002328 0x00000000 0x00000000

Emergency Test Control Commands

Emergency Test commands should only be sent to *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* emergency lighting ballasts, otherwise the emergency test will not be performed. *See DALI Emergency Lighting for more information on emergency lighting and how to test it.*

Note:

- Starting or stopping an Emergency Test will cause the corresponding 'Test Done' flag to be cleared.

19 - Emergency Function Test (Group)

Request an Emergency Function Test across a group.

Note:

- This command has no effect if sent to a group containing non-emergency devices.

Command

Command (19), Group (1..16383)

ASCII Example

To request an Emergency Function Test across group 56:

>V:1,C:19,G:56#

Raw Example

To request an Emergency Function Test across group 56:

0x00010013 0x00000038 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

20 - Emergency Function Test (Device)

Request an Emergency Function Test to an emergency lighting ballast.

Note:

- This command has no effect if sent to a non-emergency device.

Command

Command (20), Cluster (1..253) / Router (1..254), Subnet (1..4) / Device (1..255)

ASCII Example

To request an Emergency Function Test to an emergency lighting ballast at address 8.67.2.37:

>V:1,C:20,@8.67.2.37#

Raw Example

To request an Emergency Function Test to an emergency lighting ballast at address 8.67.2.37:

0x00010014 0x00080043 0x00020025 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

21 - Emergency Duration Test (Group)

Request an Emergency Duration Test across a group.

Note:

- This command has no effect if sent to a group containing non-emergency devices.

Command

Command (21), Group (1..16383)

ASCII Example

To request an Emergency Duration Test across group 56:

>V:1,C:21,G:56#

Raw Example

To request an Emergency Duration Test across group 56:

0x00010015 0x00000038 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

22 - Emergency Duration Test (Device)

Request an Emergency Duration Test to an emergency lighting ballast.

Note:

- This command has no effect if sent to a non-emergency device.

Command

Command (22), Cluster (1..253) / Router (1..254), Subnet (1..4) / Device (1..255)

ASCII Example

To request an Emergency Duration Test to an emergency lighting ballast at address 8.67.2.37:

>V:1,C:22,@8.67.2.37#

Raw Example

To request an Emergency Duration Test to an emergency lighting ballast at address 8.67.2.37:

0x00010016 0x00080043 0x00020025 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

23 - Stop Emergency Tests (Group)

Stop all Emergency Tests across a group.

Note:

- This command has no effect if sent to a group containing non-emergency devices.

Command

Command (23), Group (1..16383)

ASCII Example

To stop all Emergency Tests across group 56:

>V:1,C:23,G:56#

Raw Example

To stop all Emergency Tests across group 56:

0x00010017 0x00000038 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

24 - Stop Emergency Tests (Device)

Stop any Emergency Test running in an emergency ballast.

Note:

- This command has no effect if sent to a non-emergency device.

Command

Command (24), Cluster (1..253) / Router (1..254), Subnet (1..4) / Device (1..255)

ASCII Example

To stop any Emergency Test to an emergency lighting ballast at address 8.67.2.37:

>V:1,C:24,@8.67.2.37#

Raw Example

To stop any Emergency Test to an emergency lighting ballast at address 8.67.2.37:

0x00010018 0x00080043 0x00020025 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

Related Topics

- Control Command Table
- Command Format
- HelvarNet Overview
- Configuration Command Descriptions
- Configuration Command Table
- Query Command and Reply Descriptions
- Query Reply Tables
- Query Command Table
- Routing Entries
- Error / Diagnostic Messages
- Messages
- DALI Emergency Lighting
- Scenes

Notes:

- See Word / Parameter Formats below the following tables for guidance on Words in raw format and parameters in ASCII format.
- With regards to Direct Level commands, if you enter a negative value, then the output level will be 0; if you enter a value greater than 100, then the level will be 100.
- When you send a command, if you have entered an invalid parameter or it has been sent to a device *A physical item with which you can interact, either directly or via Designer.*, router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* or cluster that does not exist, then you will receive an error message describing what is wrong with the command. *See Error / Diagnostic Messages*.

ASCII Format

Note:

- In an ASCII string, the parameters are not required to be in the order shown below.

Name	**Parameters**				
Recall Scene *Collection of lighting levels for each channel assigned to the same group as the scene.* (Group)	Command Number 11	Group 1..16383	CL 1 or 0 Block 1..8 Scene 1..16	Fade time 0..6553.5s	
Recall Scene (Device)	Command Number 12	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	Block 1..8 Scene 1..16	Fade time 0..655
Direct Level (Group)	Command Number 13	Group 1..16383	Level 0 ... 100%	Fade time 0..6553.5s	
Direct Level (Device)	Command Number 14	Cluster 1..253 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of*	Subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them,*	Level 0..100%	Fade time 0..655

		routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets. 1..254	*subnetting, network security and performance can be improved.* 1..4 Device 1..255		
Direct Proportion (Group)	Command Number 15	Group 1..16383		Proportion -100..100%	Fade time 0..655
Direct Proportion (Device)	Command Number 16	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	Proportion -100..100%	Fade time 0..655
Modify Proportion (Group)	Command Number 17	Group 1..16383		Proportion Change -100..100%	Fade time 0..655
Modify Proportion (Device)	Command Number 18	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	Proportion Change -100..100%	Fade time 0..655
Emergency Function Test (Group)	Command Number 19	Group 1..16383			
Emergency Function Test (Device)	Command Number 20	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255		
Emergency Duration Test (Group)	Command Number 21	Group 1..16383			
Emergency Duration Test (Device)	Command Number 22	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255		
Stop Emergency Tests (Group)	Command Number 23	Group 1..16383			
Stop Emergency Tests (Device)	Command Number 24	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255		

Raw Format

Name	Word1 (32 bit) Command Number	Word 2 (32 bit)	Word 3 (32 bit)	Word 4 (32 bit)	Word 5 (32 bit)	Word 6 (32 bit)	Word 7 (32 bit)	Word 8 (32 bit)	Word 9 (32 bit)
Recall Scene *Collection of lighting levels for each channel assigned to the same group as the scene.* (Group)	11	Group 1..16383	0	CL (MSBit) 1 or 0 Block 1..8 Scene 1..16	0	0	0	Fade time 0..6553.5s	0
Recall Scene (Device)	12	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	Block 1..8 Scene 1..16	0	0	0	Fade time 0..6553.5s	0
Direct Level (Group)	13	Group 1..16383	0	0	0	0	Level 0..100%	Fade time 0..6553.5s	0
Direct Level (Device)	14	Cluster 1..253 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more*	Subnet 1..4 Device 1..255	0	0	0	Level 0..100%	Fade time 0..6553.5s	0

		Subnets. 1..254							
Direct Proportion (Group)	15	Group 1..16383	0	0	0	0	Proportion - 100..100%	Fade time 0..6553.5s	0
Direct Proportion (Device)	16	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	Proportion - 100..100%	Fade time 0..6553.5s	0
Modify Proportion (Group)	17	Group 1..16383	0	0	0	0	Proportion Change - 100..100%	Fade time 0..6553.5s	0
Modify Proportion (Device)	18	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	Proportion Change - 100..100%	Fade time 0..6553.5s	0
Emergency Function Test (Group)	19	Group 1..16383	0	0	0	0	0	0	0
Emergency Function Test (Device)	20	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0
Emergency Duration Test (Group)	21	Group 1..16383	0	0	0	0	0	0	0
Emergency Duration Test (Device)	22	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0
Stop Emergency Tests (Group)	23	Group 1..16383	0	0	0	0	0	0	0
Stop Emergency Tests (Device)	24	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0

Word / Parameter Formats

Command Number

Raw Format

31.....24	23.....16	15.....8	7.....0
Message Type	**Ack[23],**	0 0 0 0 0 0 0 0	**Command**

[31:24]	HelvarNet Version [22:16]		Number [7:0]
Byte 3	Byte 2	Byte 1	Byte 0

ASCII Format

Command Number = 11..25 (in control commands' case)

Group

Raw Format

31.....24	23.....16	15.....8	7.....0
0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0	**Group [14:0]**
Byte 3	Byte 2	Byte 1	Byte 0

ASCII Format

Group = 1..16383

Cluster / Router

Raw Format

31.....24	23.....16	15.....8	7.....0
0 0 0 0 0 0 0 0	**Cluster [23:16]**	0 0 0 0 0 0 0 0	**Router [7:0]**
Byte 3	Byte 2	Byte 1	Byte 0

ASCII Format

Cluster = 1..253, Router = 1..254

Subnet / Device

Raw Format

31.....24	23.....16		15.....8	7.....0
0 0 0 0 0 0 0 0	0 0 0 0 0	**Subnet [18:16]**	0 0 0 0 0 0 0 0	**Device [7:0]**
Byte 3	Byte 2		Byte 1	Byte 0

ASCII Format

Subnet = 1..4, Device = 1..255

CL / Block / Scene

If you wish to call a constant light scene, then send the CL flag (a value of 1).

Note:

- The scene called will only be a constant light scene if configured so in Designer.

Raw Format

31.....24		23.....16		15.....8	7.....0	
CL	0 0 0 0 0 0 0	0 0 0 0	**Block [19:16]**	0 0 0 0 0 0 0 0	0 0 0	**Scene [4:0]**
Byte 3		Byte 2		Byte 1	Byte 0	

ASCII Format

Constant Light = 1 (True) or 0 (False), Block = 1..8, Scene = 1..16

Note:

- If any other block / scene values are requested then you will receive an 'Invalid block parameter' or 'Invalid scene parameter' error.

Block / Scene

Raw Format

31.....24	23.....16		15.....8	7.....0	
0 0 0 0 0 0 0 0	0 0 0 0	**Block [19:16]**	0 0 0 0 0 0 0 0	0 0 0	**Scene [4:0]**
Byte 3	Byte 2		Byte 1	Byte 0	

ASCII Format

Block = 1..8, Scene = 1..16

Note:

- If any other block / scene values are requested then you will receive an 'Invalid block parameter' or 'Invalid scene parameter' error.

Level

Raw Format

31.....24	23.....16	15.....8	7.....0	
0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0	**Level [6:0]**
Byte 3	Byte 2	Byte 1	Byte 0	

ASCII Format

Level = 0..100

Note:

- If a value greater than 100 is requested then this is rounded down to 100.
- If a negative value is requested then this is rounded up to 0.

Proportion

Raw Format:

31.....24	23.....16	15.....8	7.....0
0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	**Proportion [7:0]**
Byte 3	Byte 2	Byte 1	Byte 0

ASCII Format

Proportion = -100..100

Proportion Change

Raw Format

31.....24	23.....16	15.....8	7.....0
0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	**Proportion Change [7:0]**
Byte 3	Byte 2	Byte 1	Byte 0

ASCII Format

Proportion Change = -100..100

Fade Time

The fade time is represented as **hh:mm:ss:th**; where **hh** represents hours, **mm** represents minutes, **ss** represents seconds and **th** represents tenths (**t**) and hundredths (**h**) of seconds.

Note:

- The maximum fade time for DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* / Digidim devices is 90 seconds; the maximum for Imagine / SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.*-connected devices is 46 hours.

Fade Time	ASCII	Hexadecimal
0.01 second	1	0x00000001
0.1 second	10	0x0000000A
1 second	100	0x00000064

60 seconds (1 minute)	6000	0x00001770
60 minutes (1 hour)	360000	0x00057E40

Raw Format

31.....24	23.....16	15.....8	7.....0
0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0	**Fade Time [12:0]**
Byte 3	Byte 2	Byte 1	Byte 0

Related Topics

- Control Commands
- Command Format
- HelvarNet Overview
- Configuration Command Descriptions
- Configuration Command Table
- Query Command and Reply Descriptions
- Query Reply Tables
- Query Command Table
- Routing Entries
- Error / Diagnostic Messages
- Messages

Query Commands

When you send a query command, the message returned contains the query command data which was sent, followed by the reply; this data makes up the query reply. If you send a query command in raw format, for example, the query reply will comprise all ten Words of the command plus the Word(s) that makes up the reply. It is necessary for the reply to contain the command data as the system will not guarantee the order of replies.

Notes:

- See Query Command Table and Query Reply Table for information on query command and reply formats.
- Query replies are sent in the same format as query commands. For example, if the query is sent to a router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* in ASCII form then the reply will also describe the reply data using the same ASCII format.
- When you send a command, if you have entered an invalid parameter or it has been sent to a device *A physical item with which you can interact, either directly or via Designer.*, router or cluster that does not exist, then you will receive an error message describing what is wrong with the command. *See Error / Diagnostic Messages*.

General Query Commands

101 - Query Clusters

When you send a Query Clusters command, the reply provides you with all the Cluster IDs that exist in the system.

Command

Send: Command (101)

Reply

Returns a bit field indicating the presence of all clusters:

Command (101), Cluster Count, 8x32 bit Words detailing the existence of the clusters 1-253 (bits 0, 254, 255 are always zero)

ASCII Example

If you send the following Query Clusters command:

>V:1,C:101#

If there are clusters 1, 2 and 253, then the reply will be:

?V:1,C:101=1,2,253#

Raw Example

If you send the following Query Clusters command:

0x00010065 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If there are 1, 2 and 253 clusters, then the reply will be:

0x01010065 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000
0x00000000 0x00000000 0x00000000 0x00030006 0x00000000 0x00000000 0x00000000
0x00000000 0x00000000 0x00000000 0x00000000 0x20000000

102 - Query Routers

When you send a Query Routers command, the reply provides you with all the Cluster Member (Router) IDs that exist in the specified cluster.

Command

Send: Command (102), Cluster (1..253)

Reply

Returns a bit field indicating the presence of all routers within the specified cluster:

Command (102), Router Count / Cluster ID (1..253), 8x32 bit Words detailing the existence of the routers 1-254 (bits 0 and 255 are always zero)

ASCII Example

If you send the following Query Routers in cluster 253 command:

>V:1,C:102,@253#

If there are routers 252, 253 and 254 in cluster 253, then the reply will be:

?V:1,C:102,@253=252,253,254#

Raw Example

If you send the following Query Routers in cluster 253 command:

0x00010066 0x000000FD 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000
0x00000000 0x00000000 0x00000000

If there are routers 252, 253 and 254 in cluster 253, then the reply will be:

0x01010066 0x000000FD 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000
0x00000000 0x00000000 0x00000000 0x00030000 0x00000000 0x00000000 0x00000000
0x00000000 0x00000000 0x00000000 0x00000000 0x70000000

103 - Query Last Scene In Block (LSIB)

When you send a Query Last *Scene* *Collection of lighting levels for each channel assigned to the same group as the scene.* In Block command, the reply provides you with the last scene that was recalled in the specified scene block.

Note: If no scene has been recalled, Query Last Scene In Block replies may also return current block status information.

See table below for the status description, ASCII reply information and HEX reply information.

Status Description	ASCII Reply	HEX Reply
Off	128	0x0080
Min level	129	0x0081
Max level	130	0x0082
Last Scene Percentage (0%)	137	0x0089

Last Scene Percentage (1%)	138	0x008A
Last Scene Percentage (100%)	237	0x00ED

Command

Send: Command (103), Group (1..16383), Block (1..8)

Reply

Returns the number of the last recalled scene in the scene block:

Command (103), Group (1..16383), Block (1..8), Last Scene In Block (1..16)

ASCII Example

If you send the following Query LSIB command (including the group and scene block parameters):

>V:1,C:103,G:5,B:2#

If the last scene called in the block is 4, then the reply will be:

?V:1,C:103,G:5,B:2=4#

Raw Example

If you send the following Query LSIB command (including the group and scene block parameters):

0x00010067 0x00000005 0x00000000 0x00020000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the last scene called in the block is 4, then the reply will be:

0x01010067 0x00000005 0x00000000 0x00020000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000004**

109 - Query Last Scene In Group (LSIG)

When you send a Query Last *Scene Collection of lighting levels for each channel assigned to the same group as the scene.* In Group command, the reply provides you with the last scene that was recalled in the specified group.

Note: If no scene has been recalled, Query Last Scene In Group replies may also return current group status information.

See table below for the status description, ASCII reply information and HEX reply information.

Status Description	ASCII Reply	HEX Reply
Off	128	0x0080
Min level	129	0x0081
Max level	130	0x0082
Last Scene	137	0x0089

Percentage (0%)		
Last Scene Percentage (1%)	138	0x008A
Last Scene Percentage (100%)	237	0x00ED

Command

Send: Command (109), Group (1..16383)

Reply

Returns the number of the last recalled scene in the group:
Command (109), Group (1..16383), Last Scene In Group (1..128)

ASCII Example

If you send the following Query LSIG command:
>V:2,C:109,G:5#
If the last scene called in the group is 78, then the reply will be:
?V:2,C:109,G:5=78#

104 - Query Device Type

DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear). , Digidim, Imagine (*SDIM Stands for Serial DIMming communication. It is a Helvar communication protocol.*) and *DMX Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* devices are all capable of returning a device type. Devices can return more than one piece of type information.

For an ASCII query the response will be four comma separated values, the last of which is the protocol; the penultimate is the device type; and the remaining two are extra device information.

For a raw query the response will be returned in a 32 bit Word. The least significant byte contains the protocol; the next least significant byte contains the main device type; the two most significant bytes contain extra device information.

The devices protocols are as follows:

Protocol	Values
DALI	0x01
Digidim	0x02
Imagine / SDIM	0x04
DMX	0x08

Note:

- Only certain combinations of device types are valid or make sense.

Command

Send: Command (104), Cluster (1..253), Router (1..254), *Subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* (1..4), Device (1..255)

Reply

Returns the device type:

Command (104), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Device Type (see tables below)

ASCII Example

If you send the following Query Device Type command (including the full address of the device):

>V:1,C:104,@2.2.1.1#

If the device is a 100 Rotary, then the reply will be:

?V:1,C:104,@2.2.1.1=00100802#

Raw Example

If you send the following Query Device Type command (including the full address of the device):

0x00010068 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the device is a 100 Rotary, then the reply will be:

0x01010068 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00100802**

DALI Device Type Information

Device Type	**Byte3-Byte1 (MSBytes) [Any combination of the following]**	**Byte0 (LSByte)**
Fluorescent Lamps	0x00	0x01
Self-contained emergency lighting	0x01	0x01
Discharge lamps (excluding fluorescent lamps)	0x02	0x01
Low voltage halogen lamps	0x03	0x01
Incandescent lamps	0x04	0x01
Conversion into D.C.	0x05	0x01

voltage (IEC 60929)		
LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* modules	0x06	0x01
Switching function (i.e. Relay)	0x07	0x01
Colour control	0x08	0x01
Sequencer	0x09	0x01
Undefined	0x0B-0xFE	0x01

Digidim Control Device Type Information

Device Type	Byte3 (MSByte)	Byte2	Byte1	Byte0 (LSByte)
100 – Rotary	0x00	0x10	0x08	0x02
110 – Single Slider *A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).*	0x00	0x11	0x07	0x02
111 – Double Slider	0x00	0x11	0x14	0x02
121 – 2 Button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* on/off + IR *Stands for Infrared. Infrared radiation is a form of light that is invisible to the human eye, and is often used as a medium to send information between two devices.*	0x00	0x12	0x13	0x02
122 – 2 Button modifier *A control used to modify a level, such as a fade button on a control panel.* + IR	0x00	0x12	0x20	0x02
124 – 5 Button + IR	0x00	0x12	0x44	0x02
125 – 5 Button + modifier + IR	0x00	0x12	0x51	0x02
126 – 8 Button + IR	0x00	0x12	0x68	0x02

170 – IR Receiver	0x00	0x17	0x01	0x02
312 – Multisensor	0x00	0x31	0x25	0x02
410 – Ballast Style 1-10V Converter	0x00	0x41	0x08	0x02
416S – 16A Dimmer	0x00	0x41	0x60	0x02
425S – 25A Dimmer	0x00	0x42	0x52	0x02
444 – Mini Input Unit	0x00	0x44	0x43	0x02
450 – 800W Dimmer	0x00	0x45	0x04	0x02
452 – 1000W Universal Dimmer	0x00	0x45	0x28	0x02
455 – 500 Watt Thyristor *A semiconductor device used to switch or control large amounts of power using a small triggering current or voltage. The most common type is an SCR. See the entry for SCR.* Dimmer	0x00	0x45	0x59	0x02
458/DIM8 – 8 Channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* Dimmer	0x00	0x45	0x80	0x02
458/CTR8 – 8-Channel Ballast Controller	0x74	0x45	0x81	0x02
458/SW8 – 8-Channel Relay Module	0x04	0x45	0x83	0x02
460 – DALI to SDIM Converter	0x00	0x46	0x03	0x02
472 – Din Rail 1-10V / DSI *Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI.* Converter	0x00	0x47	0x26	0x02
474 – 4 Channel Ballast Controller - Output Unit	0x00	0x47	0x40	0x02
474 – 4 Channel Ballast Controller - Relay Unit	0x00	0x47	0x41	0x02
490 – Blinds Unit	0x00	0x49	0x00	0x02
494 – Relay Unit	0x00	0x49	0x48	0x02
498 – Relay Unit	0x00	0x49	0x86	0x02
804 – Digidim 4	0x00	0x80	0x45	0x02
924 – LCD TouchPanel	0x00	0x92	0x40	0x02
935 – Scene Commander (6 buttons)	0x00	0x93	0x56	0x02
939 – Scene Commander (10 buttons)	0x00	0x93	0x94	0x02
942 – Analogue Input Unit	0x00	0x94	0x24	0x02
458/OPT4 – 4-Channel Options Module	0x00	0x45	0x86	0x02

Imagine (SDIM) Device Type Information

Device Type	Byte3 (MSByte)	Byte2	Byte1	Byte0 (LSByte)
No device present	0x00	0x00	0x00	0x04
474 – 4 Channel Ballast Controller - Relay Unit	0x00	0x00	0xF1	0x04
474 – 4 Channel Ballast Controller - Output Unit	0x00	0x00	0xF2	0x04
458/SW8 – 8-Channel Relay Module	0x00	0x00	0xF3	0x04
458/CTR8 – 8-Channel Ballast Controller	0x00	0x00	0xF4	0x04
458/OPT4 – Options Module	0x00	0x00	0xF5	0x04
498 – 8-Channel Relay Unit	0x00	0x00	0xF6	0x04
458/DIM8 – 8-Channel Dimmer	0x00	0x00	0xF7	0x04
HES92060 Sine Wave Dimmer	0x00	0x00	0xF8	0x04
Ambience4 Dimmer	0x00	0x00	0xF9	0x04
HES92020 SCR *Stands for Silicon-Controlled Rectifier. The most common type of thyristor. See the entry for Thyristor.* Dimmer	0x00	0x00	0xFA	0x04
HES98020 Output Unit	0x00	0x00	0xFB	0x04
HES92220 Transistor Dimmer	0x00	0x00	0xFC	0x04
HES98180-98291 Relay Unit	0x00	0x00	0xFE	0x04
Dimmer (old style, type undefined)	0x00	0x00	0xFF	0x04

DMX Device Type Information

Device Type	Byte3 (MSB)	Byte2	Byte1	Byte0 (LSByte)
DMX No device present	0x00	0x00	0x00	0x08
DMX Channel In	0x00	0x00	0x01	0x08
DMX Channel Out	0x00	0x00	0x02	0x08

DIGIDIM Control Key Type Information

Key Type	Byte3 (MSB)	Byte2	Byte1	Byte0 (LSByte)
SinglePress	0x00	0x00	0x00	0x01
TimedPress	0x00	0x00	0x00	0x02
ToggleSolo	0x00	0x00	0x00	0x03
ToggleBlock	0x00	0x00	0x00	0x04
TouchDimBlock	0x00	0x00	0x00	0x05
TouchDimSolo	0x00	0x00	0x00	0x06
Modifier	0x00	0x00	0x00	0x07
EdgeMode	0x00	0x00	0x00	0x08
Slider	0x00	0x00	0x00	0x09
AnalogueInput	0x00	0x00	0x00	0x0A
Rotary	0x00	0x00	0x00	0x0B
PIR	0x00	0x00	0x00	0x0C
ContantLight	0x00	0x00	0x00	0x0D
SliderInputUnit	0x00	0x00	0x00	0x0E

100 - Query Device Types and Addresses

When targeted at a subnet it will respond with all of the devices types with corresponding index, as in command 104. The device type and index pairs are in this format: Device Type @ index.

ASCII Example

If you send the following Query Device Type command (including the full address of the device):

>V:2,C:100@2.2.1#

If the DALI subnet has 2 devices, one being a 100 Rotary at index 1, and the other being a 110 Slider at index 10, then the reply will be:

?V:2,C:100@2.2.1.1=00100802@1,00110702@10#

105 - Query Description Group

DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear). , Digidim, Imagine (*SDIM Stands for Serial DIMming communication. It is a Helvar communication protocol.*) and *DMX*

Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control. devices are all capable of returning a description of the group.

The replies in the following examples are the default descriptions for those devices/objects. However, the reply will return group name according to the conventions you have applied to your *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* via Designer. For example, if the group has been named 'Building' then this will be returned in the Query Description Group reply.

Note:

- The query description group replies are case sensitive as per the Microsoft Windows ® ASCII extended character set.

Command

Send: Command (105), Group (1...16383)

Reply

Returns: Command (105), Group (1...16383), Group description

ASCII Example

If you send the following Query Description Group command (including the group number):

>>V:1,C:105,G:5#

The reply will be the command sent and the reply containing the group description of the group requested i.e.

?V:1,C:105,G:5=Group 5#

Raw Example

If you send the following Query Description Group command (including the group number):

0x00010069 0x00000005 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the description is Group 5, then the reply will be:

0x01010069 0x00000005 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x47726F75 0x70203500**

106 - Query Description Device

DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear). , Digidim, Imagine (*SDIM Stands for Serial DIMming communication. It is a Helvar communication protocol.*) and *DMX Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* devices are all capable of returning a description of a specific device.

The replies in the following examples are the default descriptions for those devices/objects. However, the reply will return group name according to the conventions you have applied to your lighting system via Designer. For example, if the device has been named 'Ballast 10' then this will be returned in the Query Description Group reply.

Note:

- The query description device replies are case sensitive as per the Microsoft Windows ® ASCII extended character set.

Command

Send: Command (106), Cluster (1..253), Router (1..254), *Subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* (1..4), Device (1..255)

Reply

Returns a description of the device:

Command (106), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Device description

ASCII Example

If you send the following Query Description Device command (including the full address of the device):

>V:1,C:106,@2.2.1.1#

If the device is called 'Ballast', then the reply will be:

?V:1,C:106,@2.2.1.1=Ballast#

Raw Example

If you send the following Query Description Device command (including the full address of the device):

0x0001006A 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the device is called 'Ballast', then the reply will be:

0x0101006A 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x42616C6C 0x61737400**

Discovery Query Commands

The following set of commands are extensions to version 1 and are designed to allow for the discovery of a Helvar router system.

107 - Query Workgroup Name - UDP Broadcast

By broadcasting this command all Helvar routers that exist on a network, providing that they can see the message, will respond with the Workgroup name to which they belong. If there are multiple workgroups, then there will be responses from all routers in all workgroups.

ASCII Example

If you broadcast (using UDP) the following Query Workgroup Name command:

>V:2,C:107#

All routers will respond with:

?V:2,C:107=WorkgroupName#

For example, a router with workgroup name 'Restaurant' will respond with: ?V:2,C:107=Restaurant#

108 - Query Workgroup Membership

A router will respond to this query with the address strings of the routers that are members of the workgroup.

An address string contains the IP address of the router, and takes the form of '@10.254.1.1'.

ASCII Example

If you send the following Query Workgroup Membership command:

>V:2,C:108#

A typical response will be:

?V:2,C:108=@10.254.1.1,@10.254.1.2,@10.254.1.3#

165 - Query Groups

A router will respond to this query with the group identifiers of all groups that have been programmed to the router's workgroup.

The response is a comma delimited string of group identifiers.

ASCII Example

If you send the following Query Groups command:

>V:2,C:165#

A typical response will be:

?V:2,C:165=1,2,3,4,...,100#

164 - Query Group

A router will respond to this query with the address strings of all devices that are members of the group.

The device address string contains the cluster, router, subnet and device index, and takes the form of '@1.1.1.34'.

ASCII Example

If you send the following Query Groups command:

>V:2,C:164,G:100#

A typical response will be:

?V:2,C:164,G:100=@1.1.1.34,@1.1.1.35,@1.1.1.36#

166 - Query Scene Names

A router will respond to this query with the scene descriptions that are prefixed with the corresponding group, block and scene.

The scene description string contains the group, block, and scene numbers and scene description, and takes the form of '@G.B.S:Description'.

ASCII Example

If you send the following Query Groups command:

>V:2,C:166#

A typical response will be:

?V:2,C:166=@1.1.1:Morning@1.1.2:Afternoon@1.1.3:Night#

167 - Query Scene Info

When targeted at a load interface, the response will include all of the scene levels.

The response will contain all 136 scene levels, in a comma delimited format.

Ignores are represented by '*'. Last Level is represented by 'L'.

ASCII Example

If you send the following Query Groups command:

>V:2,C:167@1.1.1.4#

A typical response will be:

?V:2,C:167@1.1.1.4=100,75,50,25,0,0,0,0,0,0,0,0,L,L,L,0,*,*,*,*,*,*,*,*,*,*,*,*,*,*,*,(33-128),*,*,*,*,*,*,*,*#

Note: (33-128) in the above example represents scenes 33 to 128.

Load Interface Maintenance Query Commands

When targeted at a load interface, the response will represent the maintenance property value.

The load interface must support the iDim Ballast range (see the iDim section of the Helvar website)

70 - Query Lamp Running Hours

71 - Query Ballast Running Hours

72 - Query Maximum Voltage

73 - Query Minimum Voltage

74 - Query Maximum Temperature

75 - Query Minimum Temperature

Device State Query Commands

110 - Query Device State

E.g. disabled, lamp fault, missing, overtemperature, Function Test in progress, Function Test passed etc.

Command

Send: Command (110), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Returns the device state:

Command (110), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Device State (see table below)

ASCII Example

If you send the following Query Device State command (including the full address of the device):

>V:1,C:110,@2.2.1.1#

If the device has been disabled, then the reply will be:

?V:1,C:110,@2.2.1.1=1#

Raw Example

If you send the following Query Device State command (including the full address of the device):

0x0001006E 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the device has been disabled, then the reply will be:

0x0101006E 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000001**

The state of a device is described by the following set of flags:

State	Description	Flag Value
NSDisabled	Device or	0x00000001

	subdevice has been disabled, usually an IR subdevice or a DMX channel	
NSLampFailure	Unspecified lamp problem	0x00000002
NSMissing	The device previously existed but is not currently present	0x00000004
NSFaulty	Ran out of addresses (DALI subnet) / unknown Digidim control device / DALI load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* that keeps responding with multi-replies	0x00000008
NSRefreshing	DALI subnet, DALI load or Digidim control device is being discovered	0x00000010
NSReserved	Internal use only	0x00000020
NSReserved		0x00000040
NSReserved	Internal use only	0x00000080
NSEM_Resting	The load is intentionally off whilst the control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting*	0x00000100

	(lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both. is being powered by the emergency supply	
NSEM_Reserved		0x00000200
NSEM_InEmergency	No mains power is being supplied	0x00000400
NSEM_InProlong	Mains has been restored but device is still using the emergency supply	0x00000800
NSEM_FTInProgress	The Functional Test is in progress (brief test where the control gear is being powered by the emergency supply)	0x00001000
NSEM_DTInProgress	The Duration Test is in progress. This test involves operating the control gear using the battery until the battery is completely discharged. The duration that the control gear was operational for is recorded, and then the battery recharges itself from the mains supply	0x00002000
NSEM_Reserved		0x00004000
NSEM_Reserved		0x00008000
NSEM_DTPending	The Duration Test has been requested but has not yet commenced. The test can be delayed if the battery is not fully charged	0x00010000
NSEM_FTPending	The Functional Test has been requested but has not yet	0x00020000

	commenced. The test can be delayed if there is not enough charge in the battery	
NSEM_BatteryFail	Battery has failed	0x00040000
NSReserved	Internal use only	0x00080000
NSReserved	Internal use only	0x00100000
NSEM_Inhibit	Prevents an emergency fitting from going into emergency mode	0x00200000
NSEM_FTRequested	Emergency Function Test has been requested	0x00400000
NSEM_DTRequested	Emergency Duration Test has been requested	0x00800000
NSEM_Unknown	Initial state of an emergency fitting	0x01000000
NSOverTemperature	Load is over temperature/heating	0x02000000
NSOverCurrent	Too much current is being drawn by the load	0x04000000
NSCommsError	Communications error	0x08000000
NSSevereError	Indicates that a load is either over temperature or drawing too much current, or both	0x10000000
NSBadReply	Indicates that a reply to a query was malformed	0x20000000
NSReserved		0x40000000
NSDeviceMismatch	The actual load type does not match *An attempt to match corresponding items in an Upload Design and a Workgroup Design / Real Workgroup.* the expected type	0x80000000

Note:

- All other flags are reserved for future use and should be ignored.

111 - Query Device Is Disabled

Query whether the device has been disabled.

Command

Send: Command (111), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Returns the lamp state:

Command (111), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Device Disabled State (1=Disabled, 0=Enabled)

ASCII Example

If you send the following Query Device Is Disabled command (including the full address of the device):

>V:1,C:111,@1.1.2.58#

If the device has been disabled, then the reply will be:

?V:1,C:111,@1.1.2.58=1#

Raw Example

If you send the following Query Device Is Disabled command (including the full address of the device):

0x0001006F 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the device has been disabled, then the reply will be:

0x0101006F 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000001**

112 - Query Lamp Failure

Query whether the lamp has failed.

Note:

- This command should not be sent to any device other than a ballast, otherwise you will receive a 'Property does not exist' error message. *See Error / Diagnostic Messages*.

Command

Send: Command (112), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Returns the lamp state:

Command (112), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Lamp Failure State (1=Failed, 0=OK)

ASCII Example

If you send the following Query Lamp Failure command (including the full address of the device):

>V:1,C:112,@1.1.2.58#

If the lamp has failed, then the reply will be:

?V:1,C:112,@1.1.2.58=1#

Raw Example

If you send the following Query Lamp Failure command (including the full address of the device):

0x00010070 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the lamp has failed, then the reply will be:

0x01010070 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000001**

113 - Query Device Is Missing

Query whether the device is missing.

Command

Send: Command (113), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Returns a message indicating whether the device is missing or not:

Command (113), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Device Missing State (1=Missing, 0=Present)

ASCII Example

If you send the following Query Device Is Missing command (including the full address of the device):

>V:1,C:113,@2.2.1.1#

If the device is missing, then the reply will be:

?V:1,C:113,@2.2.1.1=1#

Raw Example

If you send the following Query Device Is Missing command (including the full address of the device):

0x00010072 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the device is missing, then the reply will be:

0x01010072 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000001**

114 - Query Device Is Faulty

Query whether the device is faulty.

Command

Send: Command (114), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Returns a message indicating whether the device is faulty or not:

Command (114), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Device Faulty State (1=Faulty, 0=OK)

ASCII Example

If you send the following Query Device Is Faulty command (including the full address of the device):

>V:1,C:114,@2.2.1.1#

If the device is faulty, then the reply will be:

?V:1,C:114,@2.2.1.1=1#

Raw Example

If you send the following Query Device Is Faulty command (including the full address of the device):

0x00010071 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the device is faulty, then the reply will be:

0x01010071 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000001**

129 - Query Emergency Battery Failure

Query whether the emergency ballast's battery has failed.

Note:

- This command should not be sent to any device other than an emergency ballast, otherwise you will receive a 'Property does not exist' error message. *See Error / Diagnostic Messages*.

Command

Send: Command (129), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Returns the emergency battery state:

Command (129), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Battery Failure State (1=Failed, 0=OK)

ASCII Example

If you send the following Query Emergency Battery Failure command (including the full address of the device):

>V:1,C:129,@1.1.2.58#

If the emergency ballast's battery has failed, then the reply will be:

?V:1,C:129,@1.1.2.58=1#

Raw Example

If you send the following Query Emergency Battery Failure command (including the full address of the device):

0x00010081 0x00010001 0x00020058 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the emergency ballast's battery has failed, then the reply will be:

0x01010081 0x00010001 0x00020058 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000001**

Measurement / Input / Level Query Commands

Note:

- Devices / subdevices of this type must be configured in Designer before you can query their measurement, input(s) or level. Specifically, they must be grouped

150 - Query Measurement

For analogue types, e.g. light measurement (Multisensor), analogue input (Analogue Input Unit).

Note:

- If sent to a digital device / subdevice which does not perform any measurement, for example a Button Panel, then you will receive a 'Property does not exist' error message. *See Error / Diagnostic Messages..*

Command

Send: Command (150), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Subdevice (1..16)

Reply

Returns the measurement from the device / subdevice:

Command (150), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Subdevice (1..16), Measurement (1..100)

ASCII Example

If you send the following Query Measurement command (including the full address of the subdevice):

>V:1,C:150,@2.2.1.1.4#

If the measurement from the subdevice is 100, then the reply will be:

?V:1,C:150,@2.2.1.1.4=100#

Raw Example

If you send the following Query Measurement command (including the full address of the subdevice):

0x00010096 0x00020002 0x00010001 0x00040000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the measurement from the subdevice is 100, then the reply will be:

0x01010096 0x00020002 0x00010001 0x00040000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000064**

151 - Query Inputs

Returns the state or digital input(s) of: a device (e.g. for the PIR detector of a Multisensor - 0x01=occupied within past minute, 0x00=unoccupied); or the LEDs of a button panel; or the switch inputs of an input unit. If sent to the device level, summarises the digital input state. If sent to the subdevice level, gives the state of that subdevice's input.

Note:

- Before running Query Inputs please ensure that the input source has been set via Designer for input devices such as the 444 Mini Input Unit or 942 Analogue Input Unit . *See Analogue Mode Configuration and Edge Mode Configuration.*

Command

Send: Command (151), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Subdevice (1..16)

Reply

Returns the input state of the device / subdevice:

Command (151), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Subdevice (1..16), Input State *(see below)*

The majority of subdevices have on and off states and are therefore represented by 0 (OFF) or 1 (ON). For example, buttons with LEDs will either be pressed (LED on) or not pressed (LED off). *See below for the exceptions.*

Mini Input Unit: As there are 8 inputs on this device there will be 8 states e.g. 01001100 would be represented in ASCII as 50.

Slider: 0..100 (level in %)

Analogue Input Unit: 0..100 (level in %)

ASCII Example

If you send the following Query Inputs command to a subdevice (including the full address of the subdevice):

>V:1,C:151,@2.2.1.1.4#

If the state of the subdevice is ON, then the reply will be:

?V:1,C:151,@2.2.1.1.4=1#

Raw Example

If you send the following Query Inputs command to a subdevice (including the full address of the subdevice):

0x00010097 0x00020002 0x00010001 0x00004000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the state of the subdevice is ON, then the reply will be:

0x01010097 0x00020002 0x00010001 0x00004000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000001**

152 - Query Load Level

Note:

- This command should not be sent to any device other than a load (control gear), otherwise you will receive a 'Property does not exist' error message. *See Error / Diagnostic Messages*.

Command

Send: Command (152), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Command (152), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Load Level (1..100)

ASCII Example

If you send the following Query Load Level command (including the full address of the device):

>V:1,C:152,@1.1.2.15#

If the load level is 25%, then the reply will be:

?V:1,C:152,@1.1.2.15=25#

Raw Example

If you send the following Query Load Level command (including the full address of the device):

0x00010098 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the load level is 25%, then the reply will be:

0x01010098 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000019**

Note:

- Query load level commands may also report a level even though the device may be set to 'Off'. This is because the load level is set below the switch on level.
- Levels above 50% may be subject to a 1% swing when returning levels due to the DALI standard logarithmic dimming curve *DALI standard logarithmic curve for defining dim levels of DALI units*. E.g. setting the level of a DALI ballast to 93% in Designer will cause the router to actually return a level of 92% when queried using Ethernet I/O. This is because 93% is not accounted for in the DALI logarithmic dimming curve. The router always assigns the closest dimming curve level to the level set in Designer. *For further information see DALI Logarithmic Dimming Levels*

ASCII Example

If you send the following Query Load Level command (including the full address of the device):

>V:1,C:152,@1.1.2.15#

If the load level is set at 1% and the switch on level is 2%, then the reply will be:

?V:1,C:152,@1.1.2.15=2147483649#

Raw Example

If you send the following Query Load Level command (including the full address of the device):

0x00010098 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the load level is 1% and the switch on level is 2%, then the reply will be:

0x01010098 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x80000001**

The ASCII and Raw reply responses, 2147483649 and 0x80000001 are synonymous. If these replies are returned following a query load level request then the device at the specified address is 'Off' even though it appears 'On'.

For further reference the Raw Word table denotes the response to query load level command when device is set to 'off':

31.....24	23.....16	15.....8	7.....0
Switch [31:30] 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 **Level [6:0]**
Byte 3	Byte 2	Byte 1	Byte 0

Power Consumption Query Commands

160 - Query Power Consumption

Query the power consumption of a device.

Note:

- If the power consumption of the device is unknown, then you will receive a value of 0 in the reply.

Command

Send: Command (160), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Command (160), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Power (in W)

ASCII Example

If you send the following Query Power Consumption command (including the full address of the device):

>V:1,C:160,@1.1.2.15#

If the power consumption of the device is 23 W, then the reply will be:

?V:1,C:160,@1.1.2.15=23#

Raw Example

If you send the following Query Power Consumption command (including the full address of the device):

0x000100A0 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the power consumption of the device is 15 W, then the reply will be:

0x010100A0 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x0000000F**

161 - Query Group Power Consumption

Query the power consumption of all devices in a group.

Note:

- If the total power consumption of the devices in the group are unknown, then you will receive a value of 0 in the reply.

Command

Send: Command (161), Group (1..16383)

Reply

Command (161), Group (1..16383), Power Consumption (in Watts)

ASCII Example

If you send the following Query Group Power Consumption command (including the group number):

>V:1,C:161,G:16#

If the group's power consumption is 105 W, then the reply will be:

?V:1,C:161,G:16=105#

Raw Example

If you send the following Query Group Power Consumption command (including the group number):

0x000100A1 0x00000010 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the group's power consumption is 105 W, then the reply will be:

0x010100A1 0x00000010 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000069**

Emergency Test Query Commands

170 - Query Emergency Function Test Time

Note:

- Emergency Test queries should only be sent to emergency ballasts, otherwise you will receive a 'Property does not exist' error message. *See* *Error / Diagnostic Messages*.

Command

Send: Command (170), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Command (170), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Emergency Function Test Time (hh:mm:ss dd-mmm-yyyy)

ASCII Example

If you send the following Query Emergency Function Test Time command (including the full address of the device):

>V:1,C:170,@1.1.2.15#

If the Emergency Function Test Time is 08:00 on 1st July 2009, then the reply will be:

?V:1,C:170,@1.1.2.15=08:00:00 01-Jul-2009#

Raw Example

The raw time value is calculated in seconds from 00:00:00, 1 January 1970.

Time Value	Hexadecimal
1 second	0x00000001
60 seconds (1 minute)	0x0000003C
60 minutes (1 hour)	0x00000E10
24 hours (1 day)	0x00015180
1 year (365 days)	0x01E13380

If you send the following Query Emergency Function Test Time command (including the full address of the device):

0x000100AA 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the Emergency Function Test Time is 08:00 on 1st July 2009, then the reply will be:

0x010100AA 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x4A3DE880**

171 - Query Emergency Function Test State

Note:

- Emergency Test queries should only be sent to emergency ballasts, otherwise you will receive a 'Property does not exist' error message. *See* *Error / Diagnostic Messages*.

Command

Send: Command (171), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Command (171), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Emergency Function Test State (combinations of the following emergency state values).

Emergency State Values

States	Values
Pass	0
Lamp Failure	1
Battery Failure	2
Faulty	4
Failure	8
Test Pending	16
Unknown	32

ASCII Example

If you send the following Query Emergency Function Test Pending command (including the full address of the device):

>V:1,C:171,@1.1.2.15#

If the Emergency Function Test is pending, then the reply will be:

?V:1,C:171,@1.1.2.15=16#

Raw Example

If you send the following Query Emergency Function Test Pending command (including the full address of the device):

0x000100AB 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the Emergency Function Test is pending, then the reply will be:

0x010100AB 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000010**

172 - Query Emergency Duration Test Time

Note:

- Emergency Test queries should only be sent to emergency ballasts, otherwise you will receive a 'Property does not exist' error message. *See* *Error / Diagnostic Messages*.

Command

Send: Command (172), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Command (172), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Emergency Duration Test Time (hh:mm:ss dd-mmm-yyyy)

ASCII Example

If you send the following Query Emergency Duration Test Time command (including the full address of the device):

>V:1,C:172,@1.1.2.15#

If the Emergency Duration Test Time is 06:00 on 1st January 2010, then the reply will be:

?V:1,C:172,@1.1.2.15=06:00:00#

Raw Example

The raw time value is calculated in seconds from 00:00:00, 1 January 1970.

Time Value	Hexadecimal
1 second	0x00000001
60 seconds (1 minute)	0x0000003C
60 minutes (1 hour)	0x00000E10
24 hours (1 day)	0x00015180
1 year (365 days)	0x01E13380

If you send the following Query Emergency Duration Test Time command (including the full address of the device):

0x000100AC 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the Emergency Duration Test Time is 06:00 on 1st January 2010, then the reply will be:

0x010100AC 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x4B306060

173 - Query Emergency Duration Test State

Note:

- Emergency Test queries should only be sent to emergency ballasts, otherwise you will receive a 'Property does not exist' error message. *See* *Error / Diagnostic Messages*.

Command

Send: Command (173), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Command (173), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Emergency Duration Test Pending (combinations of the emergency state values described in command 171)

ASCII Example

If you send the following Query Emergency Duration Test Pending command (including the full address of the device):

>V:1,C:173,@1.1.2.15#

If the Emergency Duration Test is pending, then the reply will be:

?V:1,C:173,@1.1.2.15=16#

Raw Example

If you send the following Query Emergency Duration Test Pending command (including the full address of the device):

0x000100AD 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the Emergency Duration Test is pending, then the reply will be:

0x010100AD 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000010**

174 - Query Emergency Battery Charge

Query the remaining charge of the emergency ballast battery.

Note:

- Emergency queries should only be sent to emergency ballasts, otherwise you will receive a 'Property does not exist' error message. *See* *Error / Diagnostic Messages*.

Command

Send: Command (174), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Command (174), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Emergency Battery Charge (0..100%)

ASCII Example

If you send the following Query Emergency Battery Charge command (including the full address of the emergency ballast):

>V:1,C:174,@1.1.2.15#

If the emergency ballast battery has 40% charge remaining, then the reply will be:

?V:1,C:174,@1.1.2.15=40#

Raw Example

If you send the following Query Emergency Battery Charge command (including the full address of the emergency ballast):

0x000100AE 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the emergency ballast battery has 40% charge remaining, then the reply will be:

0x010100AE 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000028**

175 - Query Emergency Battery Time

Query the current total running time of the emergency ballast battery.

Note:

- Emergency queries should only be sent to emergency ballasts, otherwise you will receive a 'Property does not exist' error message. *See* *Error / Diagnostic Messages*.

Command

Send: Command (175), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Command (175), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Emergency Battery Time (1 ... 255 hours)

ASCII Example

If you send the following Query Emergency Battery Time command (including the full address of the emergency ballast):

>V:1,C:175,@1.1.2.15#

If the emergency ballast battery running time has been 12 hours, then the reply will be:

?V:1,C:175,@1.1.2.15=12#

Raw Example

If you send the following Query Emergency Battery Time command (including the full address of the emergency ballast):

0x000100AF 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the emergency ballast battery running time has been 12 hours, then the reply will be:

0x010100AF 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x0000000C**

176 - Query Emergency Total Lamp Time

Query the current total lamp running time from any power source.

Note:

- Emergency queries should only be sent to emergency ballasts, otherwise you will receive a 'Property does not exist' error message. *See* *Error / Diagnostic Messages*.

Command

Send: Command (176), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255)

Reply

Command (176), Cluster (1..253), Router (1..254), Subnet (1..4), Device (1..255), Emergency Total Lamp Time (1 ... 1020 hours)

ASCII Example

If you send the following Query Emergency Total Lamp Time command (including the full address of the emergency ballast):

>V:1,C:176,@1.1.2.15#

If the emergency ballast total lamp running time has been 100 hours, then the reply will be:

?V:1,C:176,@1.1.2.15=100#

Raw Example

If you send the following Query Emergency Total Lamp Time command (including the full address of the emergency ballast):

0x000100B0 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the emergency ballast total lamp running time has been 100 hours, then the reply will be:

0x010100B0 0x00010001 0x0002000F 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000064**

System Query Commands

185 - Query Time

Command

Send: Command (185)

Reply

Returns the local system time:

Command (185), Local System Time (hh:mm:ss dd-mmm-yyyy)

ASCII Example

If you send the following Query Time command:

>V:1,C:185#

If the time is 14:36:39 on 1st July 2009, then the reply will be:

?V:1,C:185=1245591399#

Raw Example

The raw time value is calculated in seconds from 00:00:00, 1 January 1970.

Time Value	Hexadecimal
1 second	0x00000001
60 seconds (1 minute)	0x0000003C
60 minutes (1 hour)	0x00000E10
24 hours (1 day)	0x00015180
1 year (365 days)	0x01E13380

If you send the following Query Time command:

0x000100B9 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the time is 14:36:39 on 1st July 2009, then the reply will be:

0x010100B9 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x4A3E3767**

186 - Query Longitude

Command

Send: Command (186)

Reply

Returns the *longitude An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.*:

Command (186), Longitude (H ddd°mm'ss" - where H = Hemisphere, d = degrees, m = minutes and s = seconds)

ASCII Example

If you send the following Query Longitude command:

>V:1,C:186#

If the longitude of your location is W 064° 38'21", then the reply will be:

?V:1,C:186=232701#

Raw Example

Longitude is calculated from the raw value received as follows:

Note:

- E = negative of W (for Hexadecimal, use two's compliment to represent negative values)

Hexadecimal	Decimal	Longitude
0x0002D30C	185100	W 051°25’00”
0xFFFD2CF4	-185100	E 051°25’00”

The calculation is as follows:

ddd° = 185100 / 3600 = 51.41666666666666666666666666667 - 0.41666666666666666666666666667 (remainder) = **51**

mm’ = 0.41666666666666666666666666667 (remainder) x 60 = 25.00000000000000000000000000002 - 0.00000000000000000000000000002 (remainder) = **25**

ss” = 0.00000000000000000000000000002 (remainder) x 60 = 0.00000000000000000000000000012 = **0**

If you send the following Query Longitude command:

0x000100BA 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the longitude of your location is W 064° 38’21”, then the reply will be:

0x010100BA 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00038CFD**

This is how you calculate the longitude values from this hexadecimal value:

0x00038CFD = 232701

ddd° = 232701 / 3600 = 64.63916666666666666666666666667 - 0.63916666666666666666666666667 (remainder) = **64**

mm’ = 0.63916666666666666666666666667 (remainder) x 60 = 38.35 - 0.35 (remainder) = **38**

ss” = 0.35 (remainder) x 60 = **21**

187 - Query Latitude

Command

Send: Command (187)

Reply

Returns the *latitude* *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.*:

Command (187), Latitude (H dd°mm’ss” - where H = Hemisphere, d = degrees, m = minutes and s = seconds)

ASCII Example

If you send the following Query Latitude command:

>V:1,C:187#

If the latitude of your location is N 64° 38’21”, then the reply will be:

?V:1,C:187=232701#

Raw Example

The raw latitude value is calculated as per the longitude value (see above),

Note:

- S = negative of N (for Hexadecimal, use two’s compliment to represent negative values)

If you send the following Query Latitude command:

0x000100BB 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the latitude of your location is N 64° 38’21”, then the reply will be:

0x010100BB 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00038CFD**

188 - Query Time Zone

Command

Send: Command (188)

Reply

Returns the timezone offset (*GMT Stands for Greenwich Mean Time. The time (based on the Earth's movement) at the Greenwich Meridian in England. The Greenwich Meridian is the starting point for all Time Zones in the world. Now superceded by UTC. See also UTC.*):

Command (188), Time Difference (-12..12 hours)

ASCII Example

If you send the following Query Time Zone command:

>V:1,C:188#

If you are located at 1 hour offset from Greenwich Mean time (GMT), then the reply will be:

?V:1,C:188=3600#

Raw Example

Note:

- The raw time zone value received is in seconds. For hexadecimal, use two's complement for negative values.

If you send the following Query Time Zone command:

0x000100BC 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If you are located at 1 hour offset from Greenwich Mean time (GMT), then the reply will be:

0x010100BC 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000E10**

189 - Query Daylight Saving Time

Command

Send: Command (189)

Reply

Returns the DST:

Command (189), DST (1=ON, 0=OFF)

ASCII Example

If you send the following Query DST command:

>V:1,C:189#

If Daylight Saving Time is enabled, then the reply will be:

?V:1,C:189=1#

Raw Example

If you send the following Query DST command:

0x000100BD 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If Daylight Saving Time is enabled, then the reply will be:

0x010100BD 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000001**

190 - Query Software Version

Query the router firmware version.

Command

Send: Command (190)

Reply

Returns the software version:

Command (190), Software Version (e.g. 4.2.2)

ASCII Example

If you send the following Query Software Version command:

>V:1,C:190#

If the router firmware version is 4.2.2, then the reply will be:

?V:1,C:190=67240448#

Raw Example

If you send the following Query Software Version command:

0x000100BE 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the router firmware version is 4.2.2, then the reply will be:

0x010100BE 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x04020200**

191 - Query HelvarNet Version

Query the *HelvarNet An Ethernet I/O protocol which allows third party devices (e.g. AV equipment) to query and control a 910/920 router system and perform some basic system configuration, over an Ethernet (TCP/IP) connection.* software version.

Command

Send: Command (191)

Reply

Returns the software version:

Command (191), HelvarNet Version (e.g. 1)

ASCII Example

If you send the following HelvarNet Software Version command:

>V:1,C:191#

If the HelvarNet version is 1, then the reply will be:

?V:1,C:191=1#

Raw Example

If you send the following Query Software Version command:

0x000100BF 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the Designer software version is 4.2.2, then the reply will be:

0x010100BF 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x00000001**

Related Topics

- Query Command Table
- Query Reply Tables
- Control Command Table
- Control Command Descriptions
- Configuration Command Descriptions
- Configuration Command Table
- HelvarNet Overview
- Routing Entries
- Error / Diagnostic Messages
- Messages
- Command Format
- DALI Logarithmic Dimming Levels

Query Command Table

Note:

- See Word / Parameter Formats below table for guidance on Words in raw format and parameters in ASCII format.
- When you send a command, if you have entered an invalid parameter or it has been sent to a device *A physical item with which you can interact, either directly or via Designer.*, router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* or cluster that does not exist, then you will receive an error message describing what is wrong with the command. *See Error / Diagnostic Messages*.

ASCII Format

Note:

- In an ASCII string, the parameters are not required to be in the order shown below.

Name	Parameters			
Query Lamp Running Hours	Command Number 70			
Query Ballast Running Hours	Command Number 71			
Query Maximum Voltage	Command Number 72			
Query Minimum Voltage	Command Number 73			
Query Maximum Temperature	Command Number 74			
Query Minimum Temperature	Command Number 75			
Query Clusters	Command Number 101			
Query Routers	Command Number 102	Cluster 1..253		
Query LSIB	Command Number	Group 1..16383	Block 1..8	

	103			
Query Device Type	Command Number 104	Cluster 1..253 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* 1..254	Subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* 1..4 Device 1..255	
Query Description Group	Command Number 105	Group 1..16383		
Query Description Device	Command Number 106	Cluster 1..253 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* 1..254	Subnet 1..4 Device 1..255	
Query Device State	Command Number 110	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	
Query Device Is Disabled	Command Number 111	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	
Query Lamp Failure	Command Number 112	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	
Query Device Is Faulty	Command Number 113	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	
Query Device Is	Command	Cluster 1..253	Subnet 1..4	

Missing	Number 114	Router 1..254	Device 1..255	
Query Emergency Battery Failure	Command Number 129	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	
Query Measurement	Command Number 150	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	Subdevice 1..16 / 0 (0x0 = no subdevice specified)
Query Inputs	Command Number 151	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	Subdevice 1..16 / 0 (0x0 = no subdevice specified)
Query Load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* Level	Command Number 152	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	
Query Power Consumption	Command Number 160	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	
Query Group Power Consumption	Command Number 161	Group 1..16383		
Query Emergency Function Test Time	Command Number 170			
Query Emergency Function Test State	Command Number 171			
Query Emergency Duration Test Time	Command Number 172			
Query Emergency Duration Test State	Command Number 173			
Query Emergency	Command			

Battery Charge	Number 174			
Query Emergency Battery Time	Command Number 175			
Query Emergency Total Lamp Time	Command Number 176			
Query Time	Command Number 185			
Query Longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.*	Command Number 186			
Query Latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.*	Command Number 187			
Query Time Zone	Command Number 188			
Query Daylight Saving Time	Command Number 189			
Query Software Version	Command Number 190			
Query HelvarNet *An Ethernet I/O protocol which allows third party devices (e.g. AV equipment) to query and control a 910/920 router system and perform some basic*	Command Number 191			

system configuration, over an Ethernet (TCP/IP) connection. Version					

Raw Format

Name	Command Number Word1 ((32 bit)	Word 2 (32 bit)	Word 3 (32 bit)	Word 4 (32 bit)	Word 5 (32 bit)	Word 6 (32 bit)	Word 7 (32 bit)	Word 8 (32 bit)	Word 9 (32 bit)	W 10 (32 bit
Query Lamp Running Hours	70									
Query Ballast Running Hours	71									
Query Maximum Voltage	72									
Query Minimum Voltage	73									
Query Maximum Temperature	74									
Query Minimum Temperature	75									
Query Clusters	101	0	0	0	0	0	0	0	0	0
Query Routers	102	Cluster 1..253	0	0	0	0	0	0	0	0
Query LSIB	103	Group 1..16383	0	Block 1..8 / 0	0	0	0	0	0	0
Query Device Type	104	Cluster 1..253 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware*	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0

		perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets. 1..254								
Query Description Group	105	Group 1..16383	0	0	0	0	0	0	0	0
Query Description Device	106	Cluster 1..253 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0

Query Device State	110	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Device Is Disabled	111	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Lamp Failure	112	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Device Is Faulty	113	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Device Is Missing	114	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Emergency Battery Failure	129	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Measurement	150	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	Subdevice 1..16 / 0 (0x0 = no subdevice specified)	0	0	0	0	0	0
Query Inputs	151	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	Subdevice 1..16 / 0 (0x0 = no subdevice specified)	0	0	0	0	0	0
Query Load Level	152	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Power Consumption	160	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Group Power Consumption	161	Group 1..16383	0	0	0	0	0	0	0	0
Query Emergency Function Test	170	Cluster 1..253 Router	Subnet 1..4 Device	0	0	0	0	0	0	0

Time		1..254	1..255							
Query Emergency Function Test State	171	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Emergency Duration Test Time	172	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Emergency Duration Test State	173	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Emergency Battery Charge	174	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Emergency Battery Time	175	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Emergency Total Lamp Time	176	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0	0
Query Time	185	0	0	0	0	0	0	0	0	0
Query Longitude	186	0	0	0	0	0	0	0	0	0
Query Latitude	187	0	0	0	0	0	0	0	0	0
Query Time Zone	188	0	0	0	0	0	0	0	0	0
Query Daylight Saving Time	189	0	0	0	0	0	0	0	0	0
Query Software Version	190	0	0	0	0	0	0	0	0	0
Query HelvarNet Version	191	0	0	0	0	0	0	0	0	0

Word / Parameter Formats

Note:

- See Control Command Word Formats for Word formats not given here.

Cluster

Raw Format

31.....24	23.....16	15.....8	7.....0
0 0 0 0 0 0 0 0	**Cluster [23:16]**	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
Byte 3	Byte 2	Byte 1	Byte 0

ASCII Format

Cluster = 1..253

Block

Raw Format

31.....24	23.....16		15.....8	7.....0
0 0 0 0 0 0 0 0	0 0 0 0	**Block [19:16]**	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
Byte 3	Byte 2		Byte 1	Byte 0

ASCII Format

Block = 1..8

Subdevice

Raw Format

31.....24	23.....16		15.....8	7.....0
0 0 0 0 0 0 0 0	0 0 0 0	**Subevice [19:16]**	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
Byte 3	Byte 2		Byte 1	Byte 0

ASCII Format

Subdevice = 1..16

Related Topics

- Query Command and Reply Descriptions
- Query Reply Tables
- Control Command Table
- Control Command Descriptions

- Configuration Command Descriptions
- Configuration Command Table
- HelvarNet Overview
- Routing Entries
- Error / Diagnostic Messages
- Messages
- Command Format

Query Replies Table

Notes:

- See Word / Parameter Formats below the following tables for guidance on Words in raw format and parameters in ASCII format.
- A query reply is prefixed with the query command which was sent.
- When you send a query command, if you have entered an invalid parameter or it has been sent to a device *A physical item with which you can interact, either directly or via Designer.*, router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* or cluster that does not exist, then, instead of a reply, you will receive an error message describing what is wrong with the command. *See Error / Diagnostic Messages*.

ASCII Format

Name	Reply Description
101 - Query Clusters	List of cluster IDs (separated by comma delimiter)
102 - Query Routers	List of router IDs (separated by comma delimiter)
103 - Query LSIB	LSIB, 1..16
104 - Query Device Type	Device Type
105- Query Description Group	Group Description, an ASCII extended character set response describing the group queried
106- Query Description Device	Device Description, an ASCII extended character set response describing the device queried
110 - Query Device State	Device State, a decimal value, that when broken down into its binary form, represents the states where each state is represented by 1 or 0
111 - Query Device Is Disabled	Device Disabled State, 1 = 'Disabled' or 0 = 'Enabled'
112 - Query Lamp Failure	Lamp Failure State, 1 = 'Failed' or 0 = 'OK'
113 - Query Device Is Faulty	Device Faulty State, 1 = 'Faulty' or 0 = 'OK'
114 - Query Device Is Missing	Device Missing State, 1 = 'Missing' or 0 = 'Present'
129 - Query Emergency Battery Failure	Battery Failure State, 1 = 'Failed' or 0 = 'OK'
150 - Query Measurement	Measurement, 1..100 (%) or 0..200 light sensor *Detects changes in ambient light. Contained within the Multisensor (312).* level

151 - Query Inputs	Input State, a decimal value, that when broken down into its binary form, represents the input states where each state is represented by 1 or 0
152 - Query Load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* Level	Load Level, 1..100 (%)
160 - Query Power Consumption	Power, Watts (W)
161 - Query Group Power Consumption	Power, Watts (W)
170 - Query Emergency Function Test Time	Time test was completed (Local System Time, a decimal value that represents the number of seconds since 1st January 1970)
171 - Query Emergency Function Test State	Test Status, a decimal value that accounts for combinations of the state values described in the Emergency State Values table
172 - Query Emergency Duration Test Time	Time test was completed (Local System Time, a decimal value that represents the number of seconds since 1st January 1970)
173 - Query Emergency Duration Test State	Test Status, a decimal value that accounts for combinations of the state values described in the Emergency State Values table
174 - Query Emergency Battery Charge	Battery Charge, 0-100 (%)
175 - Query Emergency Battery Time	Battery Time. A decimal value for the time the lamp has been running from the batteries. 0 ... 255 hours
176 - Query Emergency Total Lamp Time	Total Lamp Time. A decimal value for the amount of time the lamp has been running on all power supplies.
185 - Query Time	Local System Time, a decimal value that represents the number of seconds since 1st January 1970
186 - Query Longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of*	Longitude, a signed decimal value that represents the hemisphere, hours, minutes and seconds of the longitudinal line from GMT *Stands for Greenwich Mean Time. The time (based on the Earth's movement) at the Greenwich Meridian in England. The Greenwich Meridian is the starting point for all Time Zones in the world. Now superceded by UTC. See also UTC.*

longitude.	
187 - Query Latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.*	Latitude, a signed decimal value that represents the hemisphere, hours, minutes and seconds of the latitudinal line from GMT
188 - Query Time Zone	Time Difference, a decimal value that represents the number of seconds for the longitudinal location of the time line from GMT
189 - Query Daylight Saving Time	DST, 1 = 'On' or 0 = 'Off'
190 - Query Software Version	Designer Version (Major Version, Step Stone Version, Point Release Version), a decimal value, that when broken down into its hexadecimal form shows the version parts in their respective octets
191 - Query HelvarNet *An Ethernet I/O protocol which allows third party devices (e.g. AV equipment) to query and control a 910/920 router system and perform some basic system configuration, over an Ethernet (TCP/IP) connection.* Version	HelvarNet Version

Raw Format

Name	Word 11 (32b)	Word 12 (32b)	W13 (32b)	W14 (32b)	W15 (32b)	W16 (32b)	W17 (32b)	W18 (32b)	W19 (32b)
101 - Query Clusters	Cluster Count (total no. of clusters), 0	Cluster IDs 32 bytes in total, arranged as 8x32 bit words; a bit field detailing the existence of the clusters 1-253 (bits 0, 254 and 255 are always	C2	C3	C4	C5	C6	C7	C8

		zero)							
102 - Query Routers	Router Count (total no. of routers), 0	Router IDs 32 bytes in total, arranged as 8x32 bit words; a bit field detailing the existence of the routers 1-254 (bits 0, 255 are always zero)	R2	R3	R4	R5	R6	R7	R8
103 - Query LSIB	LSIB, 1..16								
104 - Query Device Type	Device Type								
105 - Query Description Group	Group Description	Group Description (visible in additional word 8x32 bit word if the group description is longer than 4 ASCII extended display characters)							
105 - Query Description Device	Device Description	Device Description (visible in additional word 8x32 bit words if the group description is longer than 4 ASCII extended display characters)							
110 - Query Device State	Device State								
111 - Query	Device								

Device Is Disabled	Disabled State, 1=Disabled / 0=OK
112 - Query Lamp Failure	Lamp Failure State, 1=Failed / 0=OK
113 - Query Device Is Faulty	Device Faulty State, 1=Faulty / 0=OK
114 - Query Device Is Missing	Device Missing State, 1=Missing / 0=OK
129 - Query Emergency Battery Failure	Battery Failure State, 1=Failed / 0=OK
150 - Query Measurement	Measurement, 1..100(%)
151 - Query Inputs	Input State
152 - Query Load Level	Load Level, 1..100(%)
160 - Query Power Consumption	Power, Watts(W)
161 - Query Group Power Consumption	Power, Watts(W)
170 - Query Emergency Function Test Time	Local System Time, no. of seconds since 00:00:00, 1st Jan 1970
171 - Query Emergency Function Test State	Test Status
172 - Query Emergency Duration Test Time	Local System Time, no. of seconds since 00:00:00, 1st Jan 1970
173 - Query Emergency Function Test	Test Status, Pending=1 / Ready=0

State	
174 - Query Emergency Battery Charge	Battery Charge, 0-100(%)
175 - Query Emergency Battery Lamp Time	Battery Time. The time the lamp has been running from the batteries. 0 ...255 hours
176 - Query Emergency Battery Total Lamp Time	Battery Total Lamp Time. The amount of time the lamp has been running on all power supplies. 0 ...255 hours
185 - Query Time	Local System Time, no. of seconds since 00:00:00, 1st Jan 1970
186 - Query Longitude	Longitude A signed 32 bit value, W=Positive, E=Negative
187 - Query Latitude	Latitude A signed 32 bit value, N=Positive, S=Negative
188 - Query Time Zone	Time Zone A signed 32 bit integer representing the seconds from GMT; each time zone is represented by an hour (3600 seconds). Western zones are negative and Eastern zones

	are positive
189 - Query Daylight Saving Time	DST (LSBit), 1=On / 0=Off
190 - Query Software Version	Version number: Byte 3 (MSB)=Major Version Byte 2=Step Stone Version Byte 1=Point Release Version
191 - Query HelvarNet Version	Version number

Word / Parameter Formats

Note:

- See Control Command Word Formats and Configuration Command Word Formats for Word formats not given here.

Cluster Count

Raw Format

31.....24	23.....16	15.....8					
Cluster Count [31:16]		0	0	0	0	0	0
Byte 3	Byte 2	Byte 1					

Router Count

Raw Format

31.....24	23.....16	15.....8					
Router Count [31:16]		0	0	0	0	0	0
Byte 3	Byte 2	Byte 1					

Cluster IDs

Raw Format

31.....24	23.....16	15.....8	7
Cluster IDs [31:0]			
Byte 3	Byte 2	Byte 1	

ASCII Format

Cluster IDs = 1..253

Cluster Member (Router) IDs

Raw Format

31.....24	23.....16	15.....8	7
Router IDs [31:0]			
Byte 3	Byte 2	Byte 1	

ASCII Format

Cluster Member IDs = 1..254

Last Scene In Block (LSIB)

Raw Format

31.....24								23.....16								15.....8								7
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Byte 3								Byte 2								Byte 1								

ASCII Format

LSIB = 1..16

Device Type

Raw Format

31.....24	23.....16	15.....8	7
Device Type [31:0]			
Byte 3	Byte 2	Byte 1	

ASCII Format

Refer to Query Device Type section

Device State

Raw Format

31.....24	23.....16	15.....8	
Device State [31:0]			
Byte 3	Byte 2	Byte 1	

ASCII Format

Refer to Query Device State section

Device Disabled State

Raw Format

31.....24								23.....16								15.....8							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1							

ASCII Format

Device Disabled State = 1 (Disabled) or 0 (OK)

Lamp Failure State

Raw Format

31.....24								23.....16								15.....8							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1							

ASCII Format

Lamp Failure State = 1 (Failed) / 0 (OK)

Device Faulty State

Raw Format

31.....24								23.....16								15.....8							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1							

ASCII Format

Device Faulty State = 1 (Faulty) / 0 (OK)

Device Missing State

Raw Format

31.....24								23.....16								15.....8							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1							

ASCII Format

Device Missing State = 1 (Missing) / 0 (OK)

Battery Failure State

Raw Format

31.....24								23.....16								15.....8							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1							

ASCII Format

Battery Failure State = 1 (Failed) / 0 (OK)

Measurement

Raw Format

31.....24								23.....16								15.....8								7
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1								

ASCII Format

Measurement = 1..100 or the reading from the Light Sensor subdevice of the Multisensor

Input State

Raw Format

31.....24								23.....16								15.....					
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1					

ASCII Format

Refer to Query Inputs section

Load Level

Raw Format

31.....24								23.....16								15.....8								7
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1								

ASCII Format

Load Level = 0..100

Power Consumption

Raw Format

31.....24	23.....16	15.....8	
Power [31:0]			
Byte 3	Byte 2	Byte 1	

ASCII Format

Power = W

Local System Time

Raw Format

31.....24	23.....16	15.....8
Local System Time [31:0]		
Byte 3	Byte 2	Byte 1

ASCII Format

The local system time value is calculated in seconds from 00:00:00, 1 January 1970.

ASCII	Hexadecimal	System Time Value
1	0x00000001	1 second
60	0x0000003C	60 seconds (1 minute)
3600	0x00000E10	60 minutes (1 hour)
86400	0x00015180	24 hours (1 day)
31536000	0x01E13380	1 year (365 days)

Test Status

Raw Format

31.....24								23.....16								15.....8							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1							

ASCII Format

Test Status = 1 (Pending) / 0 (Ready)

Test Result

Raw Format

31.....24								23.....16								15.....8							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1							

ASCII Format

Test Result = 1 (Passed) / 0 (Failed)

Battery Charge

Raw Format

31.....24	23.....16	15.....8

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1							

ASCII Format

Battery Charge = 0-100

Longitude

Raw Format

Longitude is calculated from the raw value received as follows:

W 051°25’00” = (51 x 3600 secs) + (25 x 60 seconds) + (0 x 1 second) = 185100

Note:

- E = negative of W (for Hex, use two’s complement to represent negative values).

Hexadecimal	Decimal	Longitude
0x0002D30C	185100	W 051°25’00”
0xfffD2CF4	-185100	E 051°25’00”

The calculation is as follows:

ddd° = 185100 / 3600 = 51.41666666666666666666666666667 - 0.41666666666666666666666666667 (remainder) = **51**

mm’ = 0.41666666666666666666666666667 (remainder) x 60 = 25.00000000000000000000000000002 - 0.00000000000000000000000000002 = **25**

ss” = 0.00000000000000000000000000002 x 60 = 0.00000000000000000000000000012 = **0**

ASCII Format

Longitude = a signed decimal value that represents the hemisphere, hours, minutes and seconds of the longitudinal line from GMT, e.g. "185100".

Latitude

Latitude is as per longitude (see above).

Note:

- S = negative of N (for Hex, use two’s complement to represent negative values).

Designer Version

Raw Format

31.....24	23.....16	15.....8
Designer Version [31:0]		
Byte 3	Byte 2	Byte 1

ASCII Format

Designer Version = a decimal value, that when broken down into its hexadecimal form shows the version parts in their respective octets, e.g. v 4.2.2 = 67371520

HelvarNet Version

Raw Format

31.....24								23.....16								15.....8							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Byte 3								Byte 2								Byte 1							

ASCII Format

HelvarNet Version = X (e.g. 1)

Related Topics

- Query Command and Reply Descriptions
- Query Command Table
- Control Command Table
- Control Command Descriptions
- HelvarNet Overview
- Configuration Command Descriptions
- Configuration Command Table
- Routing Entries
- Error / Diagnostic Messages
- Messages
- Command Format

Configuration commands

Notes:

- See Configuration Command Table for information on configuration command formats.
- Unless stated otherwise, configuration commands are not intended for daily use. This is to avoid continual re-writing of flash memory.
- With regard to Store Scene *Collection of lighting levels for each channel assigned to the same group as the scene.* commands, if you enter a negative value, then the output level will be 0; if you enter a value greater than 100, then the level will be 100.
- When you send a command, if you have entered an invalid parameter or it has been sent to a device *A physical item with which you can interact, either directly or via Designer.*, router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* or cluster that does not exist, then you will receive an error message describing what is wrong with the command. *See Error / Diagnostic Messages*.

Scene Configuration Commands

Note:

- Scene configuration commands should only be sent to control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* (load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.*) channels, otherwise the commands will be ignored.
- With regard to group scene store commands, when channels in a group are not used in a scene, the Force flag can be used to override this, thus forcing the scene to use those channels. *See Scene Table for more information on channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels. 'ignores' in scenes.*
- With regard to channel scene store commands, when a channel is not used in a scene, the Force flag can be used to override this, thus forcing the scene to be stored. *See Scene Table for more information on channel 'ignores' in scenes.*

201 - Store Scene (Group)

Set the scene level for channels in the specified group. *If the 'Force' flag is clear, channels with 'ignore' already stored in the Scene Table are not affected.*

Command

Command (201), Group (1..16383), Force Store (1=ON, 0=OFF) / Block (1..8) / Scene (1..16), Level (0..100)

ASCII Example

To store an output level of 75% as scene 5 in scene block 2, across group 17:

>V:1,C:201,G:17,O:1,B:2,S:5,L:75#

Raw Example

To store an output level of 75% as scene 5 in scene block 2, across group 17:

0x000100C9 0x00000011 0x00000000 0x10020005 0x00000000 0x00000000 0x0000004B 0x00000000 0x00000000 0x00000000

202 - Store Scene (Channel)

Set the scene level for the channel.

Special values for the L Parameter

253: Last Level
254: Ignore

If the Force flag is clear and 'ignore' is already stored in the Scene Table for the channel, then the scene is not stored.

Command

Command (202), Cluster (1..253) / Router (1..254), *Subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* (1..4) / Device (1..255), Force Store (1=ON, 0=OFF) / Block (1..8) / Scene (1..16), Level (0..100)

ASCII Example

To store an output level of 75% as scene 5 in scene block 2, at channel 2.2.1.1:

>V:1,C:202,@2.2.1.1,O:1,B:2,S:5,L:75#

Raw Example

To store an output level of 75% as scene 5 in scene block 2, at channel 2.2.1.1:

0x000100CA 0x00020002 0x00010001 0x10020005 0x00000000 0x00000000 0x0000004B 0x00000000 0x00000000 0x00000000

203 - Store As Scene (Group)

Stores the current levels of channels in the group into the specified block / scene. *If the 'Force' flag is clear, channels with 'ignore' already stored in the Scene Table are not affected.*

Command

Command (203), Group (1..16383), Force Store (1=ON, 0=OFF) / Block (1..8) / Scene (1..16)

ASCII Example

To store the current levels of all channels in group 17 as scene 5 in scene block 2:

>V:1,C:203,G:17,O:1,B:2,S:5#

Raw Example

To store the current levels of all channels in group 17 as scene 5 in scene block 2:

0x000100CB 0x00000011 0x00000000 0x10020005 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

204 - Store As Scene (Channel)

Stores the current level of the channel into the specified block / scene. *If the Force flag is clear and 'ignore' is already stored in the Scene Table for the channel, then the scene is not stored.*

Command

Command (204), Cluster (1..253) / Router (1..254), *Subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be*

segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. (1..4) / Device (1..255), Force Store (1=ON, 0=OFF) / Block (1..8) / Scene (1..16), Level (0..100)

ASCII Example

To store the current level of channel 2.2.1.1 as scene 5 in scene block 2:

>V:1,C:204,@2.2.1.1,O:1,B:2,S:5#

Raw Example

To store the current level of channel 2.2.1.1 as scene 5 in scene block 2:

0x000100CC 0x00020002 0x00010001 0x10020005 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

205 - Reset Emergency Battery and Total Lamp Time (Group)

Reset the Emergency Battery and Total Lamp Time across a group.

Note:

- This command has no effect if sent to a group containing non-emergency devices.

Command

Command (205), Group (1..16383)

ASCII Example

To reset the Emergency Battery Time and Total Lamp time across group 56:

>V:1,C:205,G:56#

Raw Example

To reset the Emergency Battery Time and Total Lamp time at group 56:

0x000100CD 0x00000038 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

206 - Reset Emergency Battery and Total Lamp Time (Device)

Reset the Emergency Battery and Total Lamp Time at a device.

Note:

- This command has no effect if sent to a non-emergency device.

Command

Command (206), Cluster (1..253) / Router (1..254), Subnet (1..4) / Device (1..255)

ASCII Example

To reset the Emergency Battery Time and Total Lamp time of an emergency lighting ballast at address 8.67.2.37:

>V:1,C:206,@8.67.2.37#

Raw Example

To reset the Emergency Battery Time and Total Lamp time of an emergency lighting ballast at address 8.67.2.37:

0x000100CE 0x00080043 0x00020025 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

Time and Location Configuration Commands

Notes:

- Only Daylight Saving Time (DST), longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* / latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* and time zone changes cause a write to flash memory. Local time changes may be written as frequently as desired.
- The time zone difference value is in seconds. For raw, use two's complement for negative values.
- For system time calculation, see Local System Time Word Format; for longitude and latitude calculation, see Longitude and Latitude Word Format.

240 - Set Time and Location

Allows the system time, longitude, latitude, time zone and Daylight Saving Time (DST) to be set.

Command

Command (240), Local Time (seconds since 00:00:00, 1st Jan 1970), Longitude (H ddd°mm'ss"), Latitude (H ddd°mm'ss"), Time Zone Difference (-12..12 hours, calculated in seconds), Daylight Saving Time (1=ON, 0=OFF)

ASCII Example

To set a time of 14:36:39 on 1st July 2009, at a location of longitude W 064°38'21" and latitude N 51°25'00", in time zone +01:00, with DST applied:

>V:1,C:240,T:1245591399,E:-232701,N:185100,Z:3600,Y:1#

Raw Example

To set a time of 14:36:39 on 1st July 2009, at a location of longitude W 064°38'21" and latitude N 51°25'00", in time zone +01:00, with DST applied:

0x000100F0 0x4A3E3767 0xfffC7303 0x0002D30C 0x00000E10 0x00000001 0x00000000 0x00000000 0x00000000 0x00000000

241 - Set Time

Allows the system time to be set.

Command

Command (241), Local System Time (seconds since 00:00:00, 1st Jan 1970)

ASCII Example

To set a time of 14:36:39 on 21st June 2009:

>V:1,C:241,T:1245591399#

Raw Example

To set a time of 14:36:39 on 21st June 2009:

0x000100F1 0x4A3E3767 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

242 - Set Longitude

Allows the longitude to be set.

Command

Command (242), Longitude (H ddd°mm'ss")

ASCII Example

To set a longitude W 064°38'21":

>V:1,C:242,E:-232701#

Raw Example

To set a longitude W 064°38'21":

0x000100F2 0x00000000 0xfffC7303 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

243 - Set Latitude

Allows the latitude to be set.

Command

Command (243), Latitude (H dd°mm'ss")

ASCII Example

To set a latitude N 51°25'00":

>V:1,C:243,N:185100#

Raw Example

To set a latitude N 51°25'00":

0x000100F3 0x00000000 0x00000000 0x0002D30C 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

244 - Set Time Zone

Allows the time zone to be set. This is the local time subtracted from GMT time.

Command

Command (244), Time Zone Difference (-12..12 hours calculated in seconds)

ASCII Example

To set a time zone for New York:

>V:1,C:244,Z:18000#

Raw Example

To set a time zone for New York:

0x000100F4 0x00000000 0x00000000 0x00000000 0x00000E10 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

245 - Set Daylight Saving Time

Allows DST to be set.

Command

Command (245), DST (1=ON, 0=OFF)

ASCII Example

To apply DST:

>V:1,C:245,Y:1#

Raw Example

To apply DST:

0x000100F5 0x00000000 0x00000000 0x00000000 0x00000000 0x00000001 0x00000000 0x00000000 0x00000000 0x00000000

Related Topics

- Configuration Command Table
- Query Command and Reply Descriptions
- Query Commands Table
- Query Reply Tables
- Control Command Table
- Control Command Descriptions
- HelvarNet Overview
- Routing Entries
- Error / Diagnostic Messages
- Messages
- Command Format

Configuration Commands Table

Notes:

- See Word / Parameter Formats below the following tables for guidance on Words in raw format and parameters in ASCII format.
- When you send a command, if you have entered an invalid parameter or it has been sent to a device *A physical item with which you can interact, either directly or via Designer.*, router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* or cluster that does not exist, then you will receive an error message describing what is wrong with the command. *See Error / Diagnostic Messages*.

ASCII Format

Note:

- In an ASCII string, the parameters are not required to be in the order shown below.

Name	Parameters					
Store Scene *Collection of lighting levels for each channel assigned to the same group as the scene.* (Group)	Command Number 201	Group 1..16383	Force Store Block 1..8 Scene 1..16	Level 0..100%		
Store Scene (Device)	Command Number 202	Cluster 1..253 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing*	Subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration.*	Force Store Block 1..8 Scene 1..16	Level 0..100% **Special values:** 253=Last Level; 254=Ignore	

		and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets. 1..254	*By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* 1..4 Device 1..255			
Store As Scene (Group)	Command Number 203	Group 1..16383	Force Store Block 1..8 Scene 1..16			
Store As Scene (Device)	Command Number 204	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	Force Store Block 1..8 Scene 1..16		
Reset Emergency Battery and Total Lamp Time (Group)	Command Number 205	Group 1..16383				
Reset Emergency Battery and Total Lamp Time (Device)	Command Number 206	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255			
Set Time and Location	Command Number 240	Local System Time no. of seconds since 1st January 1970	Longitude Hemisphere, hours, minutes and seconds in decimal form	Latitude Hemisphere, hours, minutes and seconds in decimal form	Time Zone -12..12 (GMT *Stands for Greenwich Mean Time. The time (based on the Earth's movement) at the Greenwich Meridian in England. The Greenwich Meridian is the starting point for all Time*	DST 1=ON / 0=OFF

					Zones in the world. Now superceded by UTC. See also UTC.)	
Set Time	Command Number 241	Local System Time no. of seconds since 1st January 1970				
Set Longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.*	Command Number 242		Longitude			
Set Latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it*	Command Number 243			Latitude		

and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.						
Set Time Zone	Command Number 244				Time Zone -12..12 (GMT)	
Set DST	Command Number 245					DST 1=ON / 0=OFF

Raw Format

Name	**Command Number Word1 (32 bit)**	**Word 2 (32 bit)**	**Word 3 (32 bit)**	**Word 4 (32 bit)**	**Word 5 (32 bit)**	**Word 6 (32 bit)**	**Word 7 (32 bit)**	**Word 8 (32 bit)**	**W 9 (3 bi**
Store Scene *Collection of lighting levels for each channel assigned to the same group as the scene.* (Group)	201	Group 1..16383	0	Force Store (MSBit) Block 1..8 Scene 1..16	0	0	Level 0..100%	0	0
Store Scene (Device)	202	Cluster 1..253 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing*	Subnet 1..4 Device 1..255	Force Store (MSBit) Block 1..8 Scene 1..16	0	0	Level 0..100%	0	0

		and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets. 1..254							
Store As Scene (Group)	203	Group 1..16383	0	Force Store (MSBit) Block 1..8 Scene 1..16	0	0	0	0	0
Store As Scene (Device)	204	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	Force Store (MSBit) Block 1..8 Scene 1..16	0	0	0	0	0
Reset Emergency Battery and Total Lamp Time (Group)	205	Group 1..16383	0	0	0	0	0	0	0
Reset Emergency Battery and Total Lamp Time (Device)	206	Cluster 1..253 Router 1..254	Subnet 1..4 Device 1..255	0	0	0	0	0	0
Set Time and Location	240	Local System Time no. of seconds since 1st January 1970	Longitude hemisphere, hours, minutes, and seconds in decimal form	Latitude Hemisphere, hours, minutes and seconds in decimal form	Time Zone - 12..12 (GMT)	DST (LSBit) 1=ON / 0=OFF	0	0	0
Set Time	241	Local System	0	0	0	0	0	0	0
Set Longitude	242	0	Longitude	0	0	0	0	0	0
Set Latitude	243	0	0	Latitude	0	0	0	0	0
Set Time	244	0	0	0	Time Zone	0	0	0	0

Zone					-12..12 (GMT)				
Set DST	245	0	0	0	0	DST (LSBit) 1=ON / 0=OFF	0	0	0

Word / Parameter Formats

Note:

- See Control Command Word Formats for Word formats not given here.

Force Store / Block / Scene

If a *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* has been configured to be ignored by a scene, the Force Store flag can be used (by using the value of 1) to override this, and thus the channel's output will go to the desired level when the scene is recalled.

Raw Format

31.....24		23.....16		15.....8	7.....0	
Force [31]	0 0 0 0 0 0 0	0 0 0 0	**Block [19:16]**	0 0 0 0 0 0 0 0	0 0 0	**Scene [4:0]**
Byte 3		Byte 2		Byte 1	Byte 0	

ASCII Format

Force Store = 1 (True) or 0 (False), Block = 1..8, Scene = 1..16

Local System Time

Raw Format

31.....24	23.....16	15.....8	7.....0
Local System Time [31:0]			
Byte 3	Byte 2	Byte 1	Byte 0

ASCII Format

The ASCII and raw time value is calculated in seconds from 00:00:00, 1 January 1970.

System Time Value	ASCII	Raw
1 second	1	0x00000001
60 seconds (1 minute)	60	0x0000003C

60 minutes (1 hour)	3600	0x00000E10
24 hours (1 day)	86400	0x00015180
1 year (365 days)	31536000	0x01E13380

Longitude and Latitude

Note:

- For general information about longitude and latitude, see Longitude and Latitude.

The longitude and latitude values are calculated as follows:

Raw Format

Longitude

31.....24	23.....16	15.....8	7.....0
Longitude [31:0]			
Byte 3	Byte 2	Byte 1	Byte 0

Latitude

31.....24	23.....16	15.....8	7.....0
Latitude [31:0]			
Byte 3	Byte 2	Byte 1	Byte 0

ASCII Format

51°25’00” = (51 x 3600 seconds) + (25 x 60 seconds) + (0 x 1 second) = 185100

S = negative of N and **W** = negative of E (for Raw format, use two’s complement to represent negative values)

Latitude	ASCII	Raw
N: 51°25’00”	N: 185100	0x0002D30C
S: 51°25’00”	N: -185100	0xfffD2CF4

Longitude	ASCII	Raw
W:	E: -	0xfffB8734

81°24′28″	293068	
E: 170°28′48″	E: 613728	0x00095D60

Time Zone

Raw Format

31.....24	23.....16	15.....8	7.....0
TimeZone [31:0]			
Byte 3	Byte 2	Byte 1	Byte 0

ASCII Format

Time Zone Difference = -12..12 hours calculated in seconds.

Daylight Saving Time (DST)

Raw Format

31.....24	23.....16	15.....8	7.....0
0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 **1**
Byte 3	Byte 2	Byte 1	Byte 0

ASCII Format

Daylight Saving Time = 1 (ON) / 0 (OFF)

Related Topics

- Configuration Command Descriptions
- Command Format
- Control Command Descriptions
- Control Command Table
- Query Command and Reply Descriptions
- Query Reply Tables
- Query Command Table
- HelvarNet Overview
- Messages
- Routing Entries
- Error / Diagnostic Messages
- Longitude and Latitude

Error / Diagnostics

The routers are capable of providing useful diagnostic information for all possible Ethernet I/O messages received from a 3rd party *device A physical item with which you can interact, either directly or via Designer.*. The diagnostic response can provide information concerning whether a message was successful, was invalid or was not appropriate for a specified address. Obviously successful queries will simply be replied with the answer, however if the query is invalid or does not contain the correct parameters then an error diagnostic will be returned, instead of the expected answer, with the original query. For lighting or configuration commands diagnostic information is available on demand and is achieved by specifying that you want this information returned using the Ethernet I/O 'Acknowledgment' feature. In the ASCII format this will mean attaching the parameter ID 'A' with a parameter value of 1 or in the RAW format by switching the 'Acknowledgment' flag on in the command word.

The following table shows you the raw value and ASCII description for each error message:

Raw Value	ASCII Description
0	Success
1	Error - Invalid group index parameter
2	Error - Invalid cluster parameter
3	Error - Invalid router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* parameter
4	Error - Invalid subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* parameter
5	Error - Invalid device parameter
6	Error - Invalid sub device parameter
7	Error - Invalid block parameter
8	Error - Invalid scene *Collection of lighting levels for each channel assigned to the same group as the scene.* parameter
9	Error - Cluster does not exist
10	Error - Router does not exist
11	Error - Device does not exist
12	Error - Property does not exist

13	Error - Invalid RAW message size
14	Error - Invalid messages type
15	Error - Invalid message command
16	Error - Missing ASCII terminator
17	Error - Missing ASCII parameter
18	Error - Incompatible version

The error message contains the command data which was sent, followed by the data concerning the erroneous command. *See below for an example error message in ASCII and raw formats.*

Example

ASCII Format

If you send the following Query Device type command:

>V:1,C:104,@:2.2.1.1#

If the device does not exist, then the reply will be:

!V:1,C:104,@:2.2.1.1=11#

Raw Format

If you send the following Query Device type command:

0x00010068 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000

If the device does not exist, then the reply will be:

0x02010068 0x00020002 0x00010001 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 **0x0000000B**

Related Topics

- Configuration Command Descriptions
- Configuration Command Table
- Command Format
- Control Command Descriptions
- Control Command Table
- Query Command and Reply Descriptions
- Query Reply Tables
- Query Command Table
- HelvarNet Overview
- Messages
- Scene Triggered Ethernet I/O
- Routing Entries

HelvarNet Routing Entries

Routing entries of the following type allow generic data transmission over Ethernet:

- ETHERNET TRANSMIT triggered by a group / block / scene *Collection of lighting levels for each channel assigned to the same group as the scene.* recall: This causes transmission of a generic string, from a single router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* .

When the entry is triggered, a connection to the third party *device A physical item with which you can interact, either directly or via Designer.* is instigated from the router. The *IP address Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* and port to which the connection to the third party device is made is determined from the routing entry's configuration:

- To send TCP *Stands for Transmission Data Protocol. TCP is one of the core protocols of the Internet Protocol Suite. It was one of the two original components, with Internet Protocol (IP), of the suite, so that the entire suite is commonly referred to as TCP/IP. Whereas IP handles lower-level transmissions from computer to computer as a message makes its way across the Internet, TCP operates at a higher level, concerned only with the two end systems, for example, a Web browser and a Web server. In particular, TCP provides reliable, ordered delivery of a stream of bytes from a program on one computer to another program on another computer. (See also TCP/IP).* messages from the router to the third party device, the router connects to a listener port provided in the third party device. It is recommended that this listener port is in the range of 49152 to 65535.
- To send UDP *Stands for User Datagram Protocol. UDP is one of the core members of the Internet Protocol Suite, the set of network protocols used for the Internet. With UDP, computer applications can send messages, in this case referred to as datagrams, to other hosts on an Internet Protocol (IP) network, without requiring prior communications to set up special transmission channels or data paths.* messages from the router to the third party device, it is recommended that the destination port in the third party device is in the range of 49152 to 65535.
- Additionally, the IP address of the router that is responsible for the transmission of the generic string also needs to be configured.

See Scene Triggered Ethernet I/O to learn how to configure this type of routing entry.

Related Topics

- Configuration Command Descriptions
- Configuration Command Table
- Command Format
- Control Command Descriptions
- Control Command Table
- Query Command and Reply Descriptions
- Query Reply Tables
- Query Command Table
- HelvarNet Overview
- Messages
- Error / Diagnostic Messages

- Scene Triggered Ethernet I/O

Times, Dates and Global Positions

Date and Times

Designer uses the *PC Stands for Personal Computer.* clock to obtain the date and time, and Time Zone. Therefore, Designer's efficacy with regard to time-dependent events depends on the accuracy of the PC clock. *Ensure that your PC clock is set correctly.*

Date Notation

Designer uses **dd-Mmm-yyyy** notation, representing the day using two digits (**dd**), the month as three letters (**Mmm**), the year as four digits (**yyyy**), and using a hyphen (**-**) as a separator. For example, **09-Nov-2008** is the ninth day of November in 2008, and **12-Jul-2009** is the twelfth day of July in 2009.

Time Notation

Designer uses 24-hour, **hh:mm:ss.th** notation for time, representing hours (**hh**), minutes (**mm**), seconds (**ss**), and using a colon (**:**) as a separator. This notation also includes tenths and hundredths of seconds (**th**), where appropriate.

In 24-hour notation, the 24 hours of a day are numbered from 0 to 23. This means that the midnight hour is 0 (zero), midday is 12, and 9 o'clock at night is 21. For example, **00:00:00** is midnight, **23:59:59** is one second before midnight, **08:00:00** is eight o'clock in the morning, **00:00:00.20** is two tenths of a second (200 milliseconds) after midnight.

Sunrise and Sunset Considerations

Sunrise, sunset, dawn and dusk times depend on your location, the date and daylight savings.

Designer can determine the sunrise and sunset times for the current date, using the latitude and longitude values provided to it. However, we recommend that you do not use time settings relative to sunrise and sunset if travelling between Time Zones, or located in-between Time Zones e.g. on the border of two countries.

Dawn, the time at which the sky starts to brighten, is typically 30 minutes before sunrise.

Dusk, the time at which the sky finishes darkening, is typically 30 minutes after sunset.

The offset property of a schedule that is using sunrise or sunset times can be used to approximate dawn and dusk times.

Related Topics

- Time Zones
- Longitude and Latitude
- Conditions

Time Zones

Helvar

Daylight Saving Time

Daylight Saving Time (also known as Summer Time) is local standard time adjusted to achieve longer evening daylight, especially in summer, by setting clocks one hour ahead of local standard time. In Daylight Saving Time, the sun rises one hour later in the morning, and sets one hour later in the evening. This has the principal benefit of saving energy, as less artificial light is needed during the evening. Later in the year, Daylight Saving Time is ended, and clocks are set back, returning them to standard local time. The date on which Daylight Saving Time begins or ends is called the **Transition**.

For a *lighting system* *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* installed on a ship, Daylight Saving Time is complicated for several reasons:

- Some countries do not use Daylight Saving Time, or use it in differing ways.
- Some countries may change Transition, if circumstances make it advantageous.
- Daylight Saving Time is a seasonal event. This means that while countries in the northern hemisphere are having summer, countries in the southern hemisphere are having winter. Hence, different countries may use Daylight Saving Time at different times of the year.
- Daylight Saving Time is a regional event, with neighbouring countries setting different local Daylight Saving Times. Furthermore, some countries near the equator do not use it at all as the hours of daylight vary insufficiently to require it.

Tip:

- If you are travelling between different Time Zones and using Scheduler to time-schedule events, to ensure that the PC *Stands for Personal Computer.* on which you use Designer is always set the to correct Time Zone and Daylight Saving Time, connect it to a GPS receiver *A GPS (see GPS entry) receiver receives signals from the Global Navigation Satellite System, in order to determine its location, time, speed and direction.* .

Related Topics

- Dates and Times
- Longitude and Latitude
- Options

Longitude and Latitude

Helvar

Note:

- Setting your location, using longitude *An imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.* and latitude *An imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.* coordinates, is important for Designer to accurately set the dawn and dusk times. *See Sunrise and Sunset Considerations.*

Lines of Longitude

A line of longitude is an imaginary line that extends from the North Pole to the South Pole of Earth. Each line is referred to by the angle between it and the line at 0 degrees longitude (known as the Greenwich Meridian). Each line is therefore known as an angle of longitude.

Lines of Latitude

A line of latitude is an imaginary line that extends horizontally around the Earth. Each line is referred to by the angle between it and the line at 0 degrees latitude (known as the Equator). Each line is therefore known as an angle of latitude.

Any position on Earth can be identified as the point where a line of longitude and a line of latitude intersect. This point is normally written in terms of these two angles, with an indication of whether the angle of longitude is East or West of the Greenwich Meridian, and whether the angle of latitude is North or South of the Equator.

Latitude	N 51°25'00"
Longitude	E 000°13'00"

Longitude and Latitude can be configured in the properties of the Workgroup (see Workgroup Configuration). This example shows a latitude of 51 degrees, 25 minutes and 0 seconds North of the Equator, and a longitude of 0 degrees, 13 minutes and 0 seconds East of the Greenwich Meridian.

Angles are described in terms of three units: degrees, minutes and seconds. One degree is made up of 60 minutes. One minute is made up of 60 seconds. In an angle, the degrees are denoted by the symbol **°**; the minutes are denoted by **'**; and the seconds denoted by **"**.

Related Topics

- Time Zones

- Dates and Times

OPC Overview

What is OPC?

OPC is open connectivity for open standards. OPC has developed a data access standard specification to allow data exchange and control between different manufacturer's equipment and systems.

What is required?

To use OPC to allow a Helvar *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* system to communicate with a host system, e.g. a Building Management System (BMS), the following is required:

- The OPC **server** interface that is provided by Helvar as an option for the Helvar Designer software suite.
- An OPC **client** application to act as a software communications interface. There are several OPC client applications available and, as an example, the Softing Demo OPC Client can be used to prove the OPC connection, prior to obtaining a full client application. *Installation steps are described in this online help, see OPC Client Installation - Example.*

Designer runs on Windows XP or later, and therefore requires a *PC Stands for Personal Computer.* connection to the router system for the OPC server interface. The client interface can be on the same PC or be remotely connected to the server PC. Remote connection is the user's responsibility.

Related Topics

- OPC Server Data Access Items
- OPC Client Installation
- Connection and Browsing
- Querying and Controlling DA Items
- FAQ's

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Related Topics

- OPC Server Data Access Items
- OPC Client Installation
- Connection and Browsing
- Querying and Controlling DA Items
- FAQ's

OPC Server Data Access Items

There are various Data Access (DA) items which are available from the *OPC Stands for Open Connectivity Standard. A data access standard specification to allow data exchange and control between different manufacturer's equipment and systems.* Server. Some are items which you can query and some are items which you can control.

Query and control parameters are sent and received in ASCII forms; the syntax and format of which are very specific. One of the simplest ways to experiment with, and therefore discover, the format is by using the Demo OPC Client (*see Querying and Controlling Data Access Items - Example*)

Non-device-specific Data Access Items:

Last Scene In Block (query)

Notes:

- Only assigned groups will be displayed from which to select the scene block.
- The value of this item changes in real-time when a different scene in this block is recalled.

This item displays the last scene selected in the designated scene block.

Online (query)

This item tells you whether Designer is in online or offline mode.

Values

0 = False, and therefore offline

1 = True, and therefore online

Live (query)

This item tells you whether Designer is in live or blind mode.

Values

0 = False, and therefore blind

1 = True, and therefore live

Software Version (query)

This item displays Designer's software version as an integer.

Values

Integer value for the software version e.g. 4021600 means version 4.2.16.0.

Heartbeat (query)

This item tells you that the system is running properly (if it stops counting, then there is a problem).

Values

Counts from 1 onwards in real-time

Scene Recall and Scene Recall CL (control)

These items recall a scene in the lighting system, given its group, scene block and scene number.

Scene Recall: Used to recall a fixed light scene.

Scene Recall CL: Used to recall a constant light scene.

Control

Enter a scene to be recalled (in the format “group”; “scene block”; “scene” e.g. enter **1;1;1** to recall scene 1 in group 1, scene block 1)

GBS Recall and GBS Recall CL (control)

Note: use the GBS version where your OPC client does not support the sending of multiple integer values.

These items recall a scene in the lighting system, given its group, scene block and scene number.

GBS Recall: Used to recall a fixed light scene.

GBS Recall CL: Used to recall a constant light scene.

Control

Enter a scene to be recalled (in the format “group” “scene block” “scene” e.g. enter **10101** to recall scene 1 in group 1, scene block 1)

Emergency Function Test (control)

This item is used to start a function test..

Control

Enter the group number of the group to be tested.

Emergency Duration Test (control)

This item is used to start a duration test..

Control

Enter the group number of the group to be tested.

Device-specific Data Access Items

These items are specific to control devices and *control gear For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.*.

Output Level (query and control)

Query

This item returns the current output level of the device in the system. The value of this item changes in real-time when a change in the system affects the device's output.

Return values

0 to 100 for the level (%)

Control

To change the device's output level, enter a value (0 to 100) to set the output level (%) for the device.

Load Power (query)

This item returns the calculated power consumption (in Watts) of the device.
The value of this item changes in real-time when a change in the system affects the device's output.

Return values

0 to 16384 (W)

Lamp Failure (query)

This item indicates the status of the lamp connected to the ballast.

The value of this item changes within seconds of the lamp failing.

Return values

0 = False, and therefore lamp is OK

1 = True, and therefore lamp is not working

Default Description (query)

This item returns a description of the device e.g. Helvar EL1x24iDim.

Values

The default description of the device, as shown in Designer.

Is Missing (query)

This item indicates the presence or absence of the device.

Values

0 = False (device is present)

-1 = True (device is missing)

Emergency FT state (query and control)

FT = Function Test

Query

This item indicates either the result of the previous function test, or the fact that a function test is currently in progress.

Values

0 = Pass

1 = Fail (lamp failure)

2 = Fail (battery failure)

4 = Fail (faulty)

8 = Fail (other reasons)

16 = Test pending; or Test in progress

32 = State unknown; or Device not yet tested

Control

This item can be used to start a function test on the device.

Values

Any write of any integer will start the test.

Emergency FT time (query)

This item indicates the time when the previous function test completed.

Values

Number of seconds since 00:00:00, 1st Jan 1970

Emergency DT state (query and control)

DT = Duration Test

Query

This item indicates either the result of the previous duration test, or the fact that a duration test is currently in progress.

Values

0 = Pass

1 = Fail (lamp failure)

2 = Fail (battery failure)

4 = Fail (faulty)

8 = Fail (other reasons)

16 = Test pending; or Test in progress

32 = State unknown; or Device not yet tested

Control

This item can be used to start a duration test on the device.

Values

Any write of any integer will start the test.

Emergency DT time (query)

This item indicates the time when the previous duration test completed.

Values

Number of seconds since 00:00:00, 1st Jan 1970

Emergency battery test (query)

This item indicates the charge state of the emergency battery.

Values

0 to 100 (%)

Related Topics

- OPC Overview
- OPC Client Installation
- Connection and Browsing
- Querying and Controlling Data Access Items
- FAQ's

OPC Configuration - Example

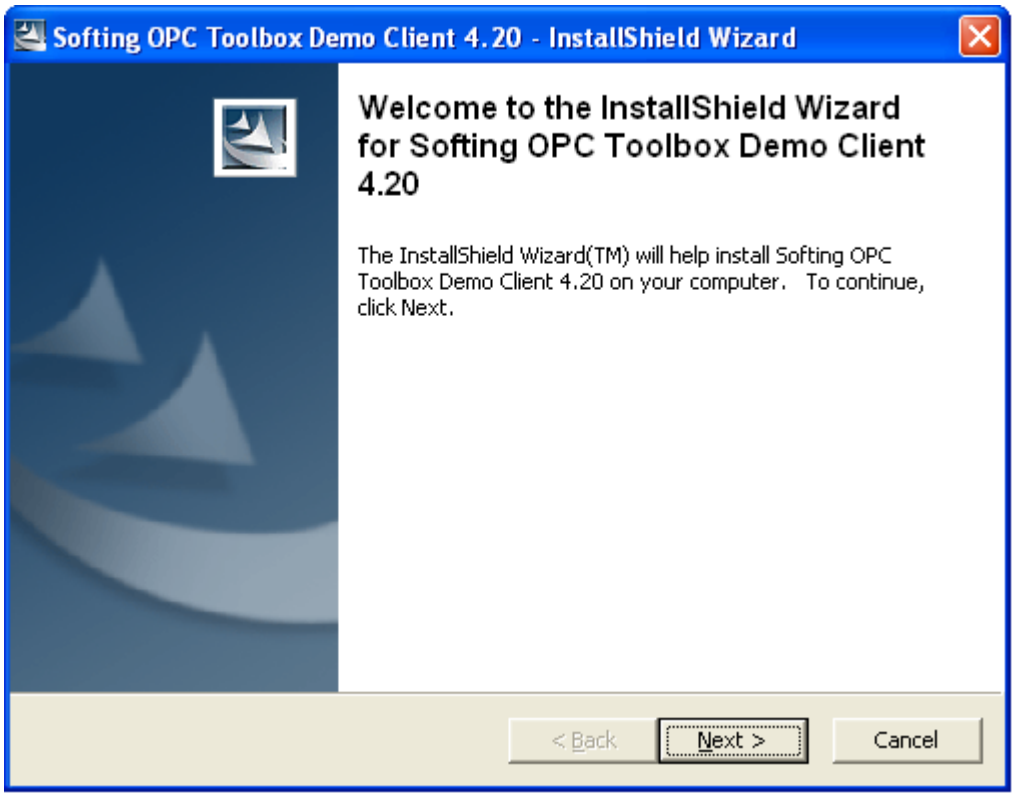
Downloading the Softing Demo OPC Client

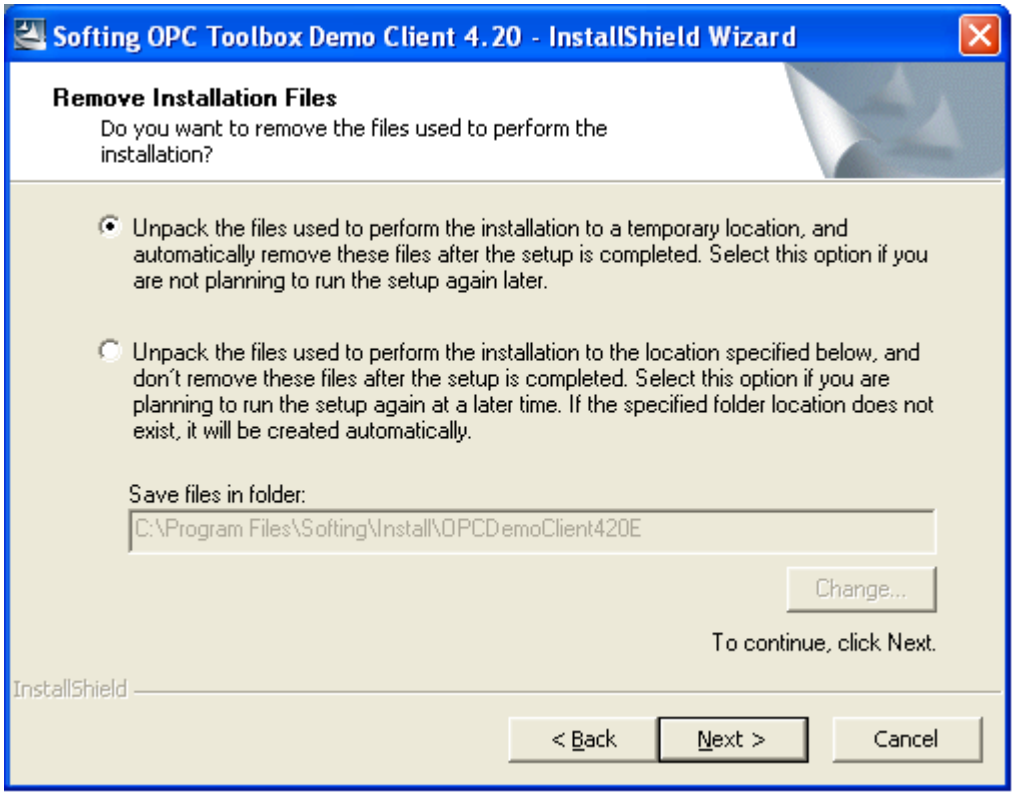
This example uses the Softing *OPC Stands for Open Connectivity Standard. A data access standard specification to allow data exchange and control between different manufacturer's equipment and systems.* Demo Client. Other clients are available and the use of the Softing product does not constitute a recommendation or endorsement for the product by Helvar.

The Demo client is available from the Softing website.

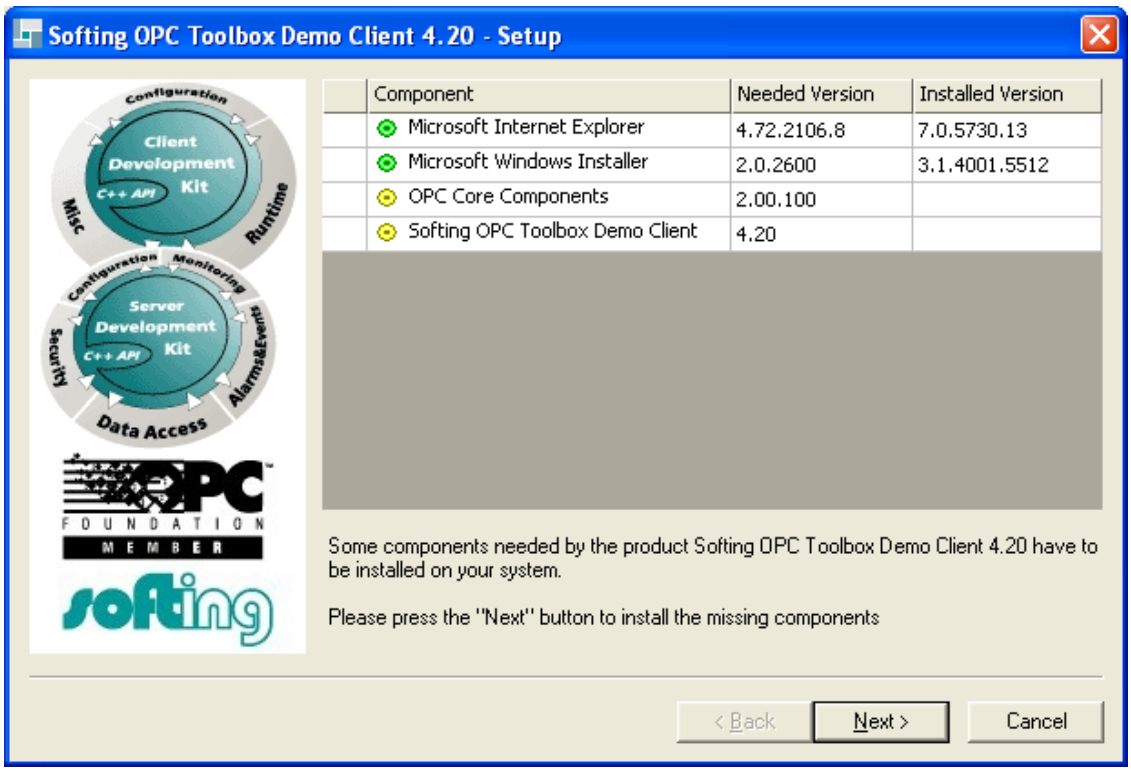
Installing the Softing Demo OPC Client

1. Once you have received the download, save and/or run the installation file.





2. Accept the terms of the license agreement.
3. Running the Softing Demo Client setup will update and/or install the necessary Windows and OPC components.



4. The OPC Toolbox Demo Client software is now installed on your system.

Related Topics

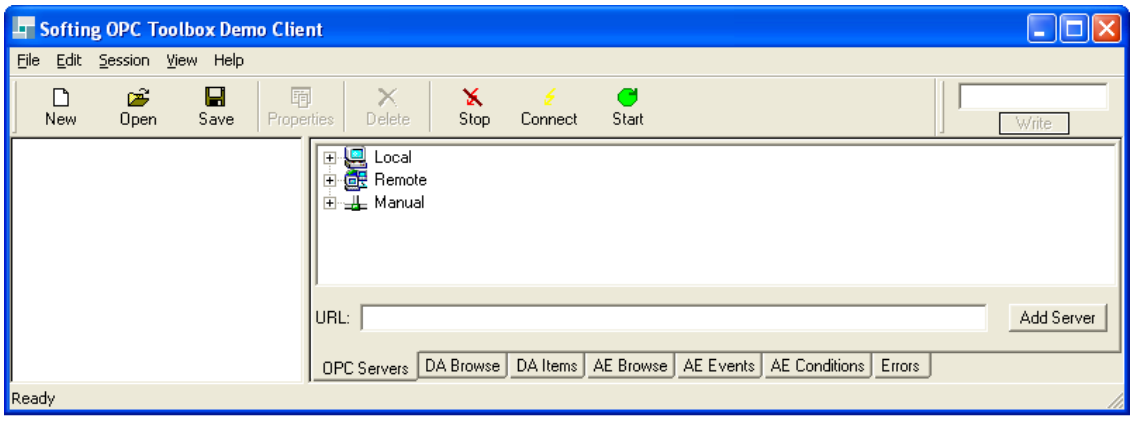
- OPC Overview
- OPC Server Data Access Items
- Connection and Browsing
- Querying and Controlling Data Access Items
- FAQ's

OPC Client - Connection and Browsing Example

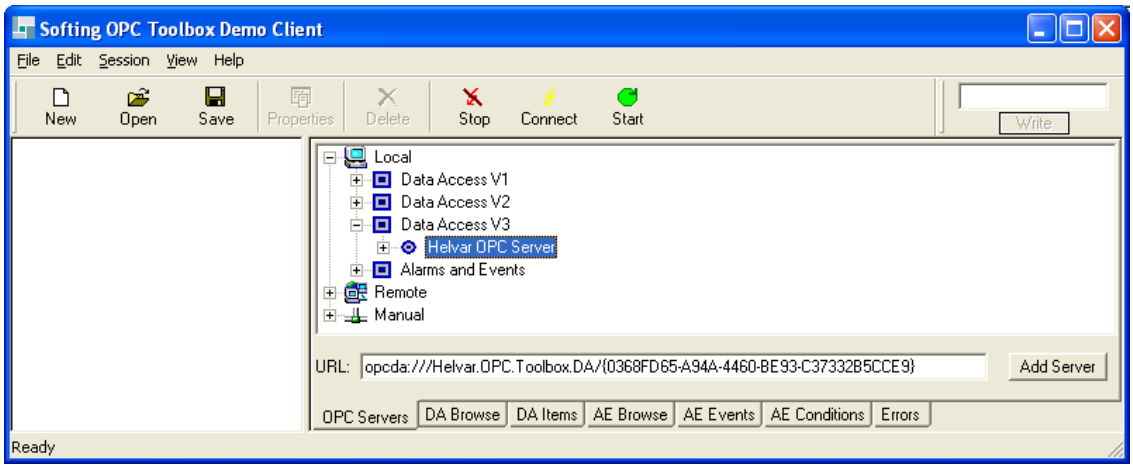
Note:

- Designer must be made to connect to a Workgroup upon startup for the OPC *Stands for Open Connectivity Standard. A data access standard specification to allow data exchange and control between different manufacturer's equipment and systems.* Server to be able to retrieve the data. (In **Tools / Options**, in the **Connect on Startup** field select 'True', and in the **Workgroup** field enter the name of the Workgroup you wish to connect to).

1. Start the Softing Demo Client



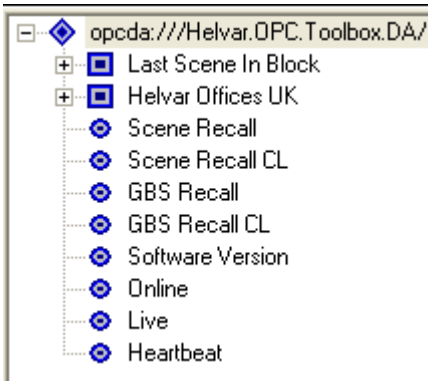
2. Expand the **Local / Data Access V3** branches of the server tree.



3. Double-click on the **Helvar OPC Server** item. *If Designer is not already running, it starts automatically. A reference to the Helvar OPC server appears in the left hand pane of the Softing Demo Client. Initially this is animated showing that the connection is being established, but eventually the connection should be shown as totally green. This process can take up to 60 seconds if there are a large number of routers in the system.*
4. Select the **DA Browse** tab in the right hand pane. *This shows a collapsed tree containing the items that the Helvar OPC Server exposes.*
5. Expand the tree to display the Server's top-level items.

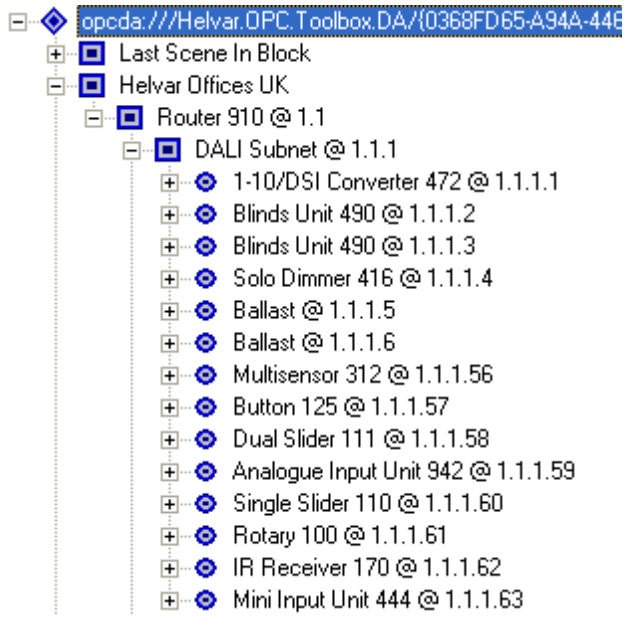
Note:

- Newer versions of the Designer software may expose more features than are shown here.

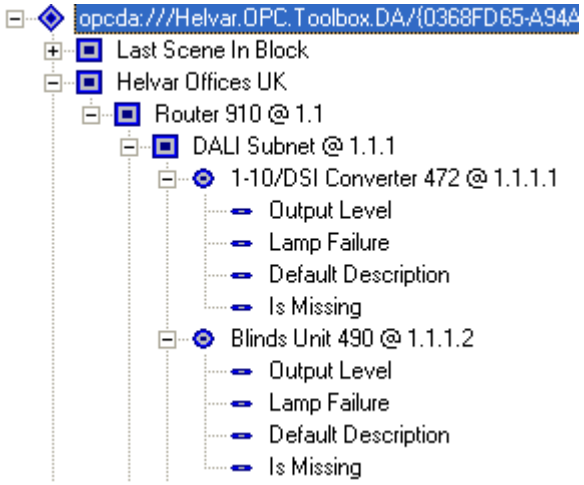


The simplest items at the top level are those indicated by the blue circles. These provide high level status information and functions relating to the system that Designer is connected to, and will be common to any design. Some items are for querying, such as the software version of Designer. Some are for control, such as the command to perform a *scene Collection of lighting levels for each channel assigned to the same group as the scene.* recall. *See OPC Server Data Access Items for more information on DA Items.*

The items indicated by blue squares are collapsed branches containing items specific to the particular system that Designer is monitoring. One of these are named in an identical fashion to the Workgroup name of the system. It includes all loads and controls in the target system, in a layout very similar to Designer's Device Tree.



Here the blue circle *load For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* and control items are further expanded to show available properties of the *parent An object in the level above a given level in the Devices Tree.* item. Some properties, such as 'Is Missing', are common to all loads and controls. Others, such as 'Output Level', only appear where applicable to the parent. *See OPC Server Data Access Items for more information on DA Items.*



Related Topics

- OPC Overview
- Querying and Controlling DA Items
- OPC Server Data Access Items
- OPC Client Installation
- FAQ's

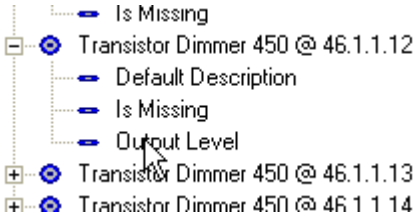
Querying and Changing Items

Note:

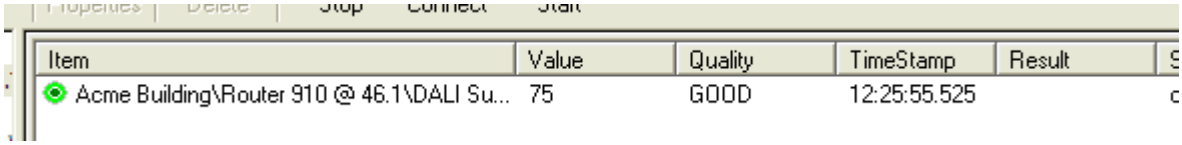
- To find out what the DA Item values mean, refer to OPC Server DA Items.

In order to query or control an item exposed by the Helvar *OPC Stands for Open Connectivity Standard. A data access standard specification to allow data exchange and control between different manufacturer's equipment and systems.* Server, it is necessary to create an instance of the item in the **DA Items** tab:

Double-click on the item in the **DA Browse** tab. (In the example shown below this means double-clicking on the 'Output Level' property of the Transistor Dimmer at address 46.1.1.12).

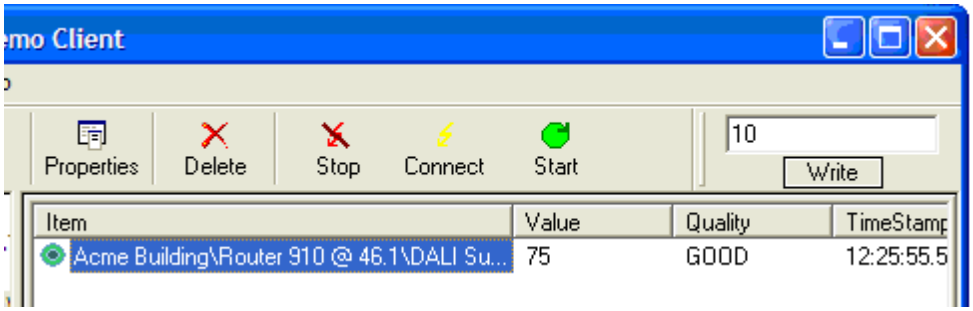


In the left hand pane an item appears under the current connection to the Helvar OPC Server, but, more importantly, a new item appears in the **DA Items** tab showing the name, value, quality and time stamp of the property.

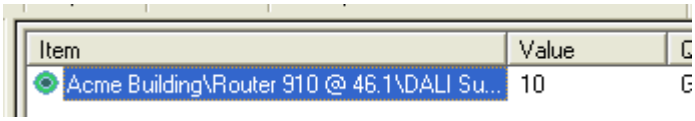


This is a live value, polled every second, by default. Changes made to that particular dimmer on the system are reflected in the value column within seconds.

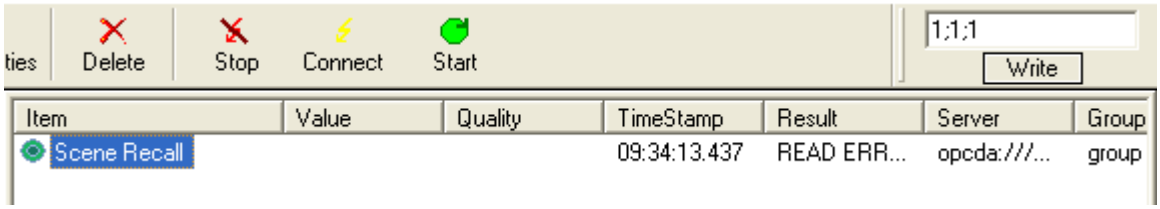
In addition, because 'Output Level' is a writable - as well as a readable - property, it is possible to change the real dimmer's output from within the Softing Demo Client. To achieve this, select the item by clicking on it in the **DA Items** pane, then enter a new value in the entry box. In this particular case, the values can range from 0 to 100 percent. (If the entry box is not visible, select **View / DA Write Bar** from the Demo Client's menu).



Enter a value of 10 then click **Write**. *This results in the dimmer's output in the real system changing to 10%, and shortly afterwards the corresponding item in the **DA Items** tab updates to reflect the change.*

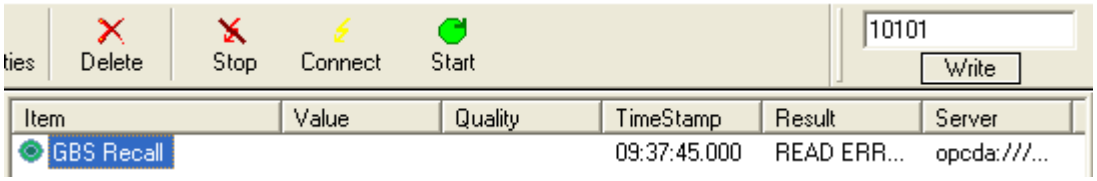


Return to the **DA Browse** tab and double-click on the ' *Scene Collection of lighting levels for each channel assigned to the same group as the scene.* Recall' item. *The example below shows group 1, scene block 1, scene 1.*



- Scene entry format is “group”; “scene block”; “scene”.
- The values are in decimal.
- Note the use of semi-colons as delimiters.
- The group number must be that of a valid assigned group.
- Scene block range is 1 to 8 and scene range is 1 to 16.

Return to the **DA Browse** tab and double-click on the 'GBS Recall' item. *The example below shows group 1, scene block 1, scene 1.*



Note:

- This is an alternative format for scene selection where no delimiters are used, but the full number of digits must be used. However, you must **not** enter a 0 before the group number e.g. for group 1, scene block 1, scene 1, enter **10101**.

- Scene entry format is “group“ “scene block” “scene”.
- The values are in decimal.
- The group number must be that of a valid assigned group.
- Scene block range is 01 to 08 and scene range is 01 to 16.

Related Topics

- OPC Overview
- Connection and Browsing
- OPC Server Data Access Items
- OPC Client Installation
- FAQ's

FAQs

What happens if power is lost to the system?

Designer should be set as auto-run so that it will automatically restart when power is restored. The *OPC Stands for Open Connectivity Standard. A data access standard specification to allow data exchange and control between different manufacturer's equipment and systems.* server plug-in will be automatically available with Designer.

I cannot connect to the OPC Server

Check that Designer is connected to a Workgroup.

Note:

- Designer must be made to connect to a Workgroup upon startup for the OPC Server to be able to retrieve the data. (In **Tools / Options**, in the **Connect on Startup** field select 'True', and in the **Workgroup** field enter the name of the Workgroup you wish to connect to).

Related topics

- OPC Overview
- OPC Server Data Access Items
- OPC Client Installation
- Connection and Browsing
- Querying and Controlling Data Access Items

Devices

Designer software communicates with Helvar's lighting routers:

905 Digidim single subnet network router

910 Digidim network router

920 Imagine network router

For details of the DALI devices which can be used on the routers' lighting networks, see these sections:

Control Gear

- Ballasts
- Dimmers
- Converters
- Switching Units
- LED Drivers

Control Devices

- Button Controls
- Sliders
- Rotary Switch
- Input Units
- Sensors (including Multisensors)
- IR Receiver Panel

Related Topics

- Routers

Routers

Digidim 905 Router

This Digidim 905 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* allows seamless connection of the Digidim control devices (control panels, input units and sensors) to Helvar's control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* (dimmers, relay units, ballasts, converters and blind controllers).

The 905 Router features:

- Ethernet connector
- One DALI subnet connector

Connection details

MAINS SUPPLY (AC)	
L	(Live)
N	(Neutral)
E	(Earth / Ground): must be connected
SC	(Screen connection)
DALI 1	
DA-	
DA+	
ETHERNET (To hub, switch or PC)	

LEDs

There are 4 LEDs for:

- **Power / Status.** LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* is on to indicate that the router is powered on (it blinks slowly for normal operation and blinks rapidly if there is a problem).

- **DALI** *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* **1.** LED is on for DALI power and blinks for DALI activity on the DALI subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* 1. If there is a DALI line fault, LED switches off and stays off.
- **Service Diagnostics.** LED is normally on.
- **Link** *Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled, but only after a defined delay.* **/ Activity.** LED is on when router is connected to Ethernet and blinks for activity.

For further information regarding LED status, flash codes and error identification, see 905/910/920 LED States During Normal Operation and 905/910/920 LED Flash Codes After Detection Of An Error State, 905/910 LED States During Power Up, 905/910/920 LED States During Identify and 905/910/920 LED States During Power Up.

To learn how to configure this router , see Router Configuration.

- To learn more about this product, see the Helvar Website.

Related Topics

- Routers
- Router Configuration
- Upgrade Router Firmware
- Router Firmware Upgrade Has Failed
- Router Incompatible
- Routers view does not show any routers
- DALI Subnet
- 905/910/920 LED States During Normal Operation
- 905/910/920 LED Flash Codes After Detection Of An Error State
- 905/910/920 LED States During Identify
- 905/910/920 LED States During Power Up

Digidim 910 Router

This Digidim 910 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* allows seamless connection of the Digidim control devices (control panels, input units and sensors) to Helvar's control gear *For example, dimmers, relay units, ballasts etc. Receives messages from control devices, via the router, and performs the relevant action e.g. sets the lighting (lamps) it controls to the relevant level. Some control may be possible at the device itself. Also known as LIU or Load, see entries for both.* (dimmers, relay units, ballasts, converters and blind controllers).

The 910 Router features:

- Ethernet connector
- Two DALI subnet connectors

Connection details

MAINS SUPPLY (AC)	
L	(Live)
N	(Neutral)
E	(Earth / Ground): must be connected
SC	(Screen connection)
DALI 1 & DALI 2	
DA-	
DA+	
ETHERNET (To hub, switch or PC)	

LEDs

There are 4 LEDs for:

- **Power / Status.** LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* is on to indicate that the router is powered on (it blinks slowly for normal operation and blinks rapidly if there is a problem).
- **DALI** *Stands for Digital Addressable Lighting*

Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear). **1.** LED is on for DALI power and blinks for DALI activity on the DALI subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* 1. If there is a DALI line fault, LED switches off and stays off.

- **DALI 2.** LED is on for DALI power and blinks for DALI activity on the DALI subnet 2. If there is a DALI line fault, LED switches off and stays off.
- **Link** *Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled, but only after a defined delay.* **/ Activity.** LED is on when router is connected to Ethernet and blinks for activity.

For further information regarding LED status, flash codes and error identification, see 910/920 LED States During Normal Operation and 910/920 LED Flash Codes After Detection Of An Error State, 910 LED States During Power Up, 910/920 LED States During Identify and 910/920 LED States During Power Up.

To learn how to configure this router , see Router Configuration.

- To learn more about this product, see the Helvar Website.

Related Topics

- Routers
- Router Configuration
- Upgrade Router Firmware
- Router Firmware Upgrade Has Failed
- Router Incompatible
- Routers view does not show any routers
- DALI Subnet
- 905/910/920 LED States During Normal Operation
- 905/910/920 LED Flash Codes After Detection Of An Error State
- 905/910/920 LED States During Identify
- 905/910/920 LED States During Power Up

Imagine 920 Router

The Imagine 920 Router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* is a building block for architectural, 'architainment' and commercial lighting control systems. It allows seamless integration of Digidim and Imagine systems.

The 905, 910 and 920 Routers can be freely mixed within the same system.

The 920 Router features:

- Ethernet connector
- Two DALI subnet connectors
- SDIM subnet connector for 252 channels
- Connector for 252 DMX *Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* IN **or** 252 DMX OUT channels.
- Override output connector

Connection details

MAINS SUPPLY (AC)	
L	(Live)
N	(Neutral)
E	(Earth / Ground): must be connected
SC	(Screen connection)
DALI 1 & DALI 2	
DA-	
DA+	
OVERRIDE	
Source	
Sink	
S-DIM	
A:	(Data +)
B:	(Data -)
0V	(Data reference)

SC	(Screen: not data reference)
Term	(Link to B for termination)
DMX	
A:	(Data +)
B:	(Data -)
0V	(Data reference)
SC	(Screen: not data reference)
Term	(Link to B for termination)
ETHERNET (To hub, switch or PC)	

LEDs

There are 4 LEDs for:

- **Power / Status.** LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* is on (green) when the router is powered on (blinks slowly for normal operation / blinks rapidly if there is a problem).
- **DALI** *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* **1 /** **SDIM** *Stands for Serial DIMming communication. It is a Helvar communication protocol.***.** LED is on (green) for DALI power and blinks for DALI activity / blinks (red) for SDIM activity. If there is a DALI line fault, LED switches off and stays off.
- **DALI 2 / DMX.** LED is on (green) for DALI power and blinks for DALI activity / blinks (red) for DMX activity. If there is a DALI line fault, LED switches off and stays off.
- **Link** *Instructions within a scene that, when the scene is executed, cause another scene to be executed after or instead of the scene, or cause a range of scenes to be enabled/disabled, but only after a defined delay.* **/ Activity.** LED is on (green) when router is connected to Ethernet and blinks for activity.

For further information regarding flash LED codes and error identification, see 905/910/920 LED Flash Codes

After Detection Of An Error State, *905/910/920 LED States During Power Up*, *905/910/920 LED States During Normal Operation* and *905/910/920 LED States During Identify*.

To learn how to configure this router, see Router Configuration.

- To learn more about this product, see the Helvar Website.

Related Topics

- Routers
- Router Configuration
- Upgrade Router Firmware
- Router firmware upgrade has failed
- Router Incompatible
- Routers view does not show any routers
- DALI Subnet
- SDIM Subnet
- DMX Subnet
- 905/910/920 LED States During Normal Operation
- 905/910/920 LED Flash Codes After Detection Of An Error State
- 905/910/920 LED States During Identify
- 905/910/920 LED States During Power Up

Router Configuration

Tip:

- Designer automatically assigns IP addresses for Helvar routers, giving them the next available IP address *Internet Protocol (IP) is a four-byte address that uniquely identifies the device to which it is assigned on the network. This address conforms to IPv4 standard. Each router broadcasts packets of information via IP. A router acts only upon instructions sent to its unique IP address.* in sequential order. However, you can set your own IP addresses to make them compatible with the components in your existing network, or if you are replacing routers, or if it is not possible to have all routers connected. If any of these are applicable, then manually enter an IP address (*see Manually Assign IP Address to Router*). You are then responsible for assigning the router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* an available IP address, by checking the IP addresses of existing routers connected to the lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* .

Note:

- Ensure that all routers which you wish to configure are connected to the lighting system and powered on, otherwise Designer could assign duplicate addresses.
- Designer automatically assigns IP addresses for routers, giving them the next available IP address in sequential order.
- Ensure you are Offline and in Editor mode before you configure a router . It is impossible to go online with a router until you assign an IP address.

1. Click **View / Routers** to open the Routers view.
2. In Routers view, click to highlight the router which you wish to configure.
3. Click to view Properties, if necessary.
4. In the **Cluster Settings** section of Properties, click in the **Network Topology** field to select **Single Cluster** or **Multiple Cluster** network topology.

Network Topology	Multiple Clusters
Client Cluster ID	0
Cluster ID	15
Cluster Member ID	1

5. Click in the **Cluster ID** field. Enter a Cluster ID number for the router. This must be a positive integer from **1** to **253**, although for small systems **1** is usually sufficient.

   254 is the default Cluster ID for multiple-cluster systems. This Cluster ID can also be configured to suit any particular network. *(See Network Topology and Network Address Format). The Cluster Member ID is set automatically.*

Note:

- The Cluster ID is the third part of the IP address and the Cluster Member ID is the last part. *See Network Address Format*
- The Workgroup Name can be assigned at the same time as the Cluster ID. *See Assign Routers to a Workgroup.*

6. Click to save the changes. *Designer assigns an IP address automatically and the configuration settings are sent via Ethernet to the selected router, which stores the settings in its flash memory. Designer restarts the router automatically so that it uses the new configuration. Whilst this happens, the router disappears from the Routers view for a while, but reappears when restarted and detected by Designer.*

IMPORTANT:

- Wait until the previous router has reappeared in Routers view before configuring the next router.

7. Repeat from step 2 (above) for each router in the system, ensuring that each IP address used is unique.

OR To assign all routers to the same cluster simultaneously:

1. In Routers view, shift-click to select multiple routers.
2. In Properties view, enter a Cluster ID (and Workgroup Name) which is assigned to all selected routers.

To learn more about Ethernet network addressing see Network Address Format.

Note:

- Cluster Member IDs are generated automatically and cannot be changed in the **Cluster Member ID** field, only in the **IP Address** field. *See Manually Assign IP Address to Router if you wish to do this.*

Changing Cluster ID

To change the Cluster ID, you CANNOT just simply type in a new number in the **Cluster ID** field. The router must first be removed from the cluster and then a new Cluster ID number entered:

1. Enter **0** in the **Cluster ID** field and click . *Wait for the router to restart in Routers view.*
2. Enter a new Cluster ID number and click . *The router is assigned to the new cluster.*

Related Topics

- Routers
- Rename a Router
- Digidim 910 Router
- Imagine 920 Router
- Manually Assign IP Address to Router
- Client Computer Configuration
- Network Address Format
- Locate Router by Serial Number
- Network Installation
- Properties
- Edit a Router's / PC's Connection
- Upgrade Router Firmware
- Network Topology

Ballasts

Ballasts

The Helvar range of ballasts includes the following:

- si Ballasts
- iDim Ballasts
- iDim Compact Ballasts
- DALI Ballasts

Please check the Helvar website for full product details.

For instruction on configuring ballasts, see Control Gear Configuration.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- Control Gear Configuration

Ballasts

The Helvar range of ballasts includes the following:

- si Ballasts
- iDim Ballasts
- iDim Compact Ballasts
- DALI Ballasts

Please check the Helvar website for full product details.

For instruction on configuring ballasts, see Control Gear Configuration.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- Control Gear Configuration

DALI HID Lamp

Helvar offers a full range of ballasts for most common High Intensity Discharge (HID) lamps. Products are available with various mechanical dimensions. Smallest size for lamps is 35-100W, effective range is 150-250W and robust and reliable design for lamps is 250W-1000W.

- To learn more about these products, see the Helvar Website.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration

DALI Low Voltage Halogen Lamp

The filament of a low voltage halogen (or tungsten halogen) bulb burns at a higher temperature than in a standard tungsten bulb and uses a higher gas pressure. This means that bulbs are smaller and made from quartz in order to withstand the greater heat.

- Smaller than mains voltage halogen bulbs
- More energy efficient as the bulb wattages tend to be lower, which makes them cheaper to run
- Produce the same amount of light as an ordinary tungsten bulb at a lower wattage
- Last longer than mains voltage halogens
- Provide an instant controllable light
- Available in a wide range of shapes, sizes, beam spread, colours, fittings and wattage
- Dimmable (transformer must also be dimmable)

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration

DALI LED Unit

Use the 'DALI LED Driver' option to insert a generic DALI LED driver.

Helvar recommends the use of Helvar DALI LED Drivers.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration

Dimmers

Dimmers

Helvar's dimmers provide dimming capabilities to a number of different types of lamp, in a range of applications.

The following dimmers can be configured using Designer:

In DALI subnets

In DALI subnets

DALI_Dimmer (generic DALI dimmer)

452 Universal Dimmer

455 500 W Dimmer

804 Digidim 4 Dimmer

In DALI, S-DIM and DMX subnets

458/DIM8

458/DIM4

458/UNI8

454 Dimmer

416S 16 A Dimmer

425S 25 A Dimmer

In S-DIM subnets

SCR Dimmer

Transistor Dimmer

4 Wall Mount Dimmer Pack

12 Wall Mount Dimmer Pack

Sine Wave Dimmer

Please check the Helvar website for full product details.

For instruction on configuring dimmers, see Control Gear Configuration.

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration

458/DIM4 Dimmer

The 458/DIM4 is a 4-channel thyristor dimmer module, for leading-edge dimming of resistive and inductive loads. The module has 4 channels rated at 10A each, with a total current capacity of 40A.

The module has DALI, DMX, and S-DIM interfaces for integration into DIGIDIM and Imagine systems. The optional 458/OPT4 module allows 4 dimmed channels to be converted to 4 ballast control channels.

It can be fully integrated into a Digidim or an Imagine router system. It can also be used on the TouchPanel, or used on standalone DALI or Digidim systems.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- Dimmers
- DALI Control Gear Configuration
- SDIM Control Gear Configuration

458/DIM8 Dimmer

The 458/DIM8 is an 8-channel thyristor dimmer module, for leading-edge dimming of resistive and inductive loads. The module has 8 channels rated at 10 A each, with a total current capacity of 48 A.

The module has DALI, DMX, and S-DIM interfaces for integration into DIGIDIM and Imagine systems. The optional 458/OPT4 module allows 4 dimmed channels to be converted to 4 ballast control channels.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- Dimmers
- DALI Control Gear Configuration
- SDIM Control Gear Configuration

458/UNI8 Dimmer

The 458/UNI8 is an 8-channel transistor dimmer module, for leading or trailing edge dimming of the majority of load types including Incandescent and dimmable LEDs.

The module has 8 channels that can be individually selected as leading or trailing edge, rated at 6A each. The module has a DALI, S-DIM and DMX interface, for integration into DIGIDIM and Imagine systems.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- Dimmers
- DALI Control Gear Configuration
- SDIM Control Gear Configuration

454 4 Channel Dimmer

The DIN rail-mounted DIGIDIM 454 is a 4-*channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* Trailing Edge Dimmer with each channel capable of controlling 2.2 A.

It supports capacitive and resistive loads and can be connected directly to mains voltage lamps, and low voltage lamps with electronic transformers.

Each channel of the dimmer has both current and thermal protection.

There is a push button user interface for monitoring, manual configuration and control purposes.

Further details are on the Helvar website.

Configure Device

You can configure this device via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

454 Load Output table

Output Table	Output Type	Control Protocol	Notes	Additional Information
t 0	Non Dim	All		Switched on and off only
t 1	Linear	S-DIM / DMX	*	Linear light with respect to control
t 2	Square	S-DIM / DMX	*	Conforms to IES Square law standard
t 3	S-law	S-DIM / DMX	*	'S' shaped light curve
t 4	DALI logarithmic	DALI	**	IEC 62386-205
t 5	SSL Curve	DALI	**	Matched to Helvar 452 dimmer
t 6	DALI linear	DALI	**	******Usage **NOT** recommended with Designer**

Notes:

* Under DALI control, t 4 is used.

** Under S-DIM control, t 1 is used.

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration

416S Single Channel Leading Edge Dimmer (16 A)

The DIGIDIM 416S (16 Amp) is a wall-mounted single-channel leading edge (thyristor) dimmer.

The 416S also includes a 16 A relay circuit.

Controllable by S-DIM, DMX, and Analogue, and fully DALI-compatible for use as Load Interface Units in a DIGIDIM lighting control system, the 416S and 425S can also function as stand-alone dimmers.

They can be connected to mains voltage lamps directly, or to low voltage lamps via a wire-wound transformer, and have a selectable, integral DALI power supply.

Further details are on the Helvar website.

Configure Device

You can configure this device via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- Dimmers
- Switching Units

425S Single Channel Leading Edge Dimmer (25 A)

The DIGIDIM 425S (25 Amp) is a wall-mounted single-channel leading edge (thyristor) dimmer.

The 416S also includes a 16 A relay circuit (N.B. the dimmer is 25 A).

Controllable by S-DIM, DMX, and Analogue, and fully DALI-compatible for use as Load Interface Units in a DIGIDIM lighting control system, the 416S and 425S can also function as stand-alone dimmers.

They can be connected to mains voltage lamps directly, or to low voltage lamps via a wire-wound transformer, and have a selectable, integral DALI power supply.

Further details are on the Helvar website.

Configure Device

You can configure this device via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- Dimmers
- Switching Units

1000W Universal Dimmer - 452

The DIGIDIM 1000 Watt Universal Dimmer is a fully DALI Compatible Lamp Interface Unit for use in a DIGIDIM lighting control system. The dimmer is a DIN-rail mounted unit that can control a maximum load of 1000 W.

The 452 can be used in two operating modes; either mode can be used with mains voltage lamps. Trailing edge mode is for use with Low voltage lamps with electronic transformers, and leading edge mode is for lamps with magnetic transformers, provided that the transformers are approved for dimming use by their manufacturers.

The dimmer is also provided with an optional addressing switch that allows simple DALI grouping of the device (the default position **0** allows the normal grouping with the DIGIDIM remote controller or Designer software).

Further details are on the Helvar website.

Configure Device

You can configure this device via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- Remote Control Handset

455 500 Watt SCR Dimmer

The 455 is a *thyristor A semiconductor device used to switch or control large amounts of power using a small triggering current or voltage. The most common type is an SCR. See the entry for SCR.*-based DALI compatible Load Interface Unit, designed to control both standard incandescent lamps and low voltage halogen lamps connected to a conventional, wire wound transformer.

The dimmer can control a maximum load of up to 500 W but, unlike the 450, is not fitted with local control switch terminals.

Further details are on the Helvar website.

Configure Device

You can configure this device via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration

804 Digidim 4 Dimmer

Digidim4 is a four-circuit thyristor *A semiconductor device used to switch or control large amounts of power using a small triggering current or voltage. The most common type is an SCR. See the entry for SCR.* dimmer, a seven button pre-programmed control panel (125 Button Panel) and a hand held remote control unit.

The dimmer is a wall-mounted unit and has four independent circuits with a total capacity of 10 Amps. It is suitable for use with tungsten lamps, mains voltage tungsten halogen and transformer fed low voltage tungsten halogen lamps (provided transformer manufacturer approves use with thyristor, leading edge, dimmers).

Note that this product is no longer manufactured.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration

DALI Dimmer

Use the 'DALI Dimmer' option to insert a generic DALI dimmer.

Helvar recommends the use of Helvar DALI dimmers. Please see the Helvar website for further information.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration

SCR Dimmer

This item is a rack mounted dimmer. It contains two identical leading edge thyristor *A semiconductor device used to switch or control large amounts of power using a small triggering current or voltage. The most common type is an SCR. See the entry for SCR.* dimmers within a moulded case and is designed as an exchangeable module for fitting into ESR dimmer cabinets.

The dimmer is for use with incandescent lamps and low voltage lamps via wire-wound transformers. It is suitable for use with electronic transformers, if transformer manufacturer approves use. With convection cooling the maximum load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* is 10 A per channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* and increases to 20 A per channel when fan cooled.

The dimmer is provided with a three-digit LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* display, normally indicating the current output level and four push buttons for manual operation and address setting.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

Transistor Dimmer

This item is a rack mounted dimmer. It contains two identical trailing edge transistor dimmers within a moulded case and is interchangeable with the HES92020 Thyristor *A semiconductor device used to switch or control large amounts of power using a small triggering current or voltage. The most common type is an SCR. See the entry for SCR.* dimmer module for fitting into ESR dimmer cabinets.

The dimmer is for use with incandescent lamps and low voltage lamps via electronic transformers, if the transformer manufacturer approves use. With convection cooling the maximum load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* is 6 A per channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* and increases to 20 A per channel when fan cooled.

The dimmer is provided with a three-digit LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* display, normally indicating the current output level as a percentage and four push buttons for manual operation and address setting.

- To learn more about this product, see the Helvar Website.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

4 Wall Mount Dimmer Pack

This item is used to control levels for LV Tungsten, cold cathode and dimmable fluorescent loads. Dimmer curves are selectable for each load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* type, including non-dim (for switched loads). There are several models of Ambience Dimmer, each comprising 4 dimming channels.

In Designer, we are concerned only with the number of dimming channels, not with the choice of dimmer that will provide the channels.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

12 Wall Mount Dimmer Pack

Wall mounted twelve channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* thyristor *A semiconductor device used to switch or control large amounts of power using a small triggering current or voltage. The most common type is an SCR. See the entry for SCR.* (leading edge) dimmer suitable for use with tungsten, tungsten halogen, wire-wound (inductive) fed low voltage tungsten halogen or neon lighting loads. The unit is fitted with incoming circuit protection on each circuit and on the control electronics.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

Sine Wave Dimmer

This item provides a single channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* of sine wave dimming which can be controlled by the following methods:

- Local Control (Integral Control Panel).
- SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.*Data Highway.
- Analogue Control Input.

The HES92060 sine wave dimmer functions as an electronic variac by smoothly scaling the natural input sine wave usually supplied to the dimmer, giving out the same natural sine wave, but of a smaller amplitude. The HES92060 is suitable for use with all mains dimmable lamp loads.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration

Converters

Converters

The following Helvar converters (ballast controllers) can be configured using Designer:

In DALI subnets

460 SDIM Converter

472 1-10V / DSI Converter

410 DALI 1-10V Converter

In DALI, and S-DIM and DMX subnets

458/CTR8

474 4-Channel Ballast Controller

Please check the Helvar website for full product details.

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration

458/CTR8_8-Channel Ballast Controller

The 458/CTR8 is an 8-*channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* digital ballast controller module, capable of controlling either 0-10V, 1-10V, *DSI Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI.*, *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* broadcast or PWM loads. It has both a DALI and an S-DIM/*DMX Stands for Digital Multiplex. A type of subnet, used mainly for stage lighting and effects control.* interface, and therefore can be fully integrated into a Digidim or an Imagine router system.

It can also be used on the TouchPanel, or used on standalone DALI or Digidim systems.

The module has 8 high inrush relays, rated at 16 A per channel.

The front of the module is equipped with an LCD display with intuitive cursor control, to set some basic configuration parameters and provide basic manual control.

Further details are on the Helvar website.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- Converters

474 DIN Rail 4 Channel Ballast Controller

The Digidim 474 is a 4-*channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* ballast controller fitted with high inrush relays rated at 16 A per channel, which handle short-lived high peak currents during switch-on of loads.

The outputs can be configured to match common ballast control loads including 0/1-10 V, *DSI Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI.*, *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* broadcast and PWM.

The outputs can be configured independent of, or paired with relay channels; meaning 4 additional outputs can be utilized if required.

The 474 ballast controller can operate with either a Helvar Digidim or Imagine lighting control system. It is a DIN-rail mounted *device A physical item with which you can interact, either directly or via Designer.* for ease of installation.

Further details are on the Helvar website.

Configure Device

You can configure this device via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- Switching Units

SDIM Converter - 460

The DIGIDIM *SDIM Stands for Serial DIMming communication. It is a Helvar communication protocol.* Converter has been designed to allow DIGIDIM control of the full range of Ambience and Imagine dimmers (SDIM devices).

All *load For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* interfaces in an SDIM system are converted into DIGIDIM addresses. One SDIM Converter cam support up to 16 SDIM addresses, and thus for higher numbers of SDIM addresses, multiple converters must be used.

The converter is also provided with a selectable, integral, 250mA *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* power supply.

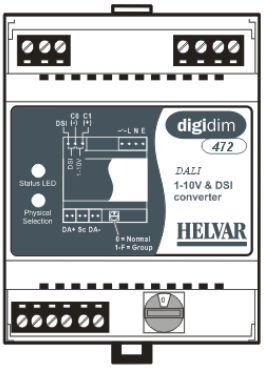
Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Device Tree
- DALI Control Gear Configuration
- Properties

1 to 10V / DSI Converter - 472



The DIGIDIM 1 - 10 V Converter is for controlling electronic ballasts which comply with EN 60929 and ballasts which comply with the *DSI Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI.* standards.

This ensures that DIGIDIM systems are compatible with and easily integrated into existing systems.

The converter can switch a maximum of 15 Helvar electronic ballasts HFC/CHFC/sc.

The analogue 1 - 10 V signal and the digital DSI signal can control 50 electronic ballasts.

The unit is DIN Rail mounted.

Further details are on the Helvar website.

Configure Device

Note:

- You must be in Editor mode to configure a device *A physical item with which you can interact, either directly or via Designer.* .

You can configure this device via the Properties view. *See DALI Control Gear Configuration for generic configuration.*

- If Properties is not already open, click .

By default, the source of current must be provided externally e.g. from a 1-10V controllable ballast. If you wish the converter to generate (source) its own current:

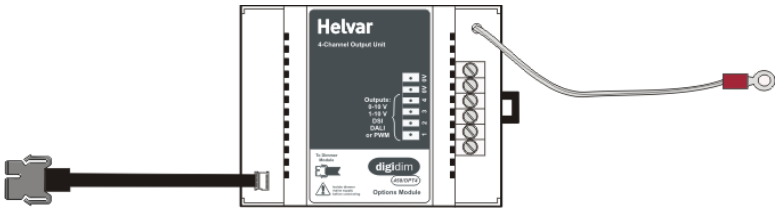
1. In the **Converters** section, click in the **Output Mode** field and then click . *Notice that this is set to 'Sink 'Sink' means that an output hasn't got drive capability Current' by default, which means that the current must be provided externally.*
2. Select 'Source Current'.
3. Click . *The converter will now generate its own current.*

The converter is now configured and ready for use in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. .

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration

Options Module (458/OPT4)



The Options Module (458/OPT4) is a DIN-rail mounted output unit, for mounting inside the 458 Dimmer chassis box, with a flying lead which plugs into a connector of the 458 Dimmer module. It works in conjunction with the 458 Dimmer, and provides 4 output channels which can be configured as any of the following:

- (0-)1-10V (sink *'Sink' means that an output hasn't got drive capability* only, 50 ballast drive)
- DSI *Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI.* (10 ballast drive)
- DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* Broadcast, with no feedback (10 ballast drive)
- PWM *Stands for Pulse Width Modulation. PWM can be used to reduce the total*

amount of power delivered to a load, without losses normally incurred when a power source is limited by resistive means. (10 ballast drive)

The outputs:

- have common 0V;
- are screw terminal output connectors;
- are double-isolated from the 458's SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.* , Override, TouchPanel and DALI connections;
- and can be paralleled with dimmer channels, or be additional channels.

The Options Module can use a dimmer channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* to switch a load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* . It is most useful for switching 1-10 V ballasts to switch their supply off.

- To learn more about this product, see the Helvar Website.

Configure Device

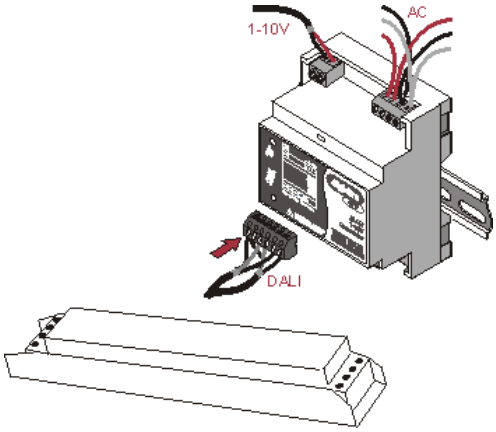
You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated,*

based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. *the device is connected to).*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- 8-Channel Thyristor Dimmer (458)

410 DALI 1-10 V Converter



The *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* 1-10 V Converter converts DALI signals to 1-10V / 0-10V signals, including on / off switching.

Note: The 410 Converter is no longer manufactured.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Device Tree
- DALI Control Gear Configuration
- Properties
- Converters

DALI Controller

DALI Controller (478)

The 478 DALI Controller can control up to 8 DALI channels of up to 64 devices. The 478 is for controlling ballasts/drivers when device addressing is not required.

This reduces commissioning and maintenance cost, as devices can be simply replaced. The flexible control inputs support multiple protocols, by routing an input address/group to its corresponding subnet output.

The 478 is intended for controlling DALI ballasts, drivers and load interface units (except for the 490 Blinds Controller). Do not connect controls to the DALI outputs.

Unused channels

If one of the 478's subnets has nothing connected, Designer will still assign an address to the channel.

You may want to disable unused channels.

Disabling channels

The subnet channels of the 478 can be disabled using the control panel of the 478.

In the 'Addresses' menu, adjust the DALI or S-DIM/DMX address of the channel to 'Disabled' (address values are listed below the value '1').

When a channel is disabled, it will not be shown in Designer, and on the main display of the 478 the channel level is shown as ' - ' (a dash).

490 Blinds Controller

Do not connect a 490 Blinds Controller via the 478.

Related Topics

- DALI Control Gear Configuration
- Device Tree
- Properties

Switching Units

Switching Units

Designer can be used to configure the following switching units:

In DALI subnets

490 Blinds Controller

491 Relay Unit

492 Power Relay Unit

493 Signal Relay Unit

494 Relay Unit

498 Relay Unit

DALI_Relay Unit (generic DALI relay)

In DALI, S-DIM subnets

458/SW8

474 Relay Unit

416S 16 A Dimmer (relay channel)

425S 25 A Dimmer (relay channel)

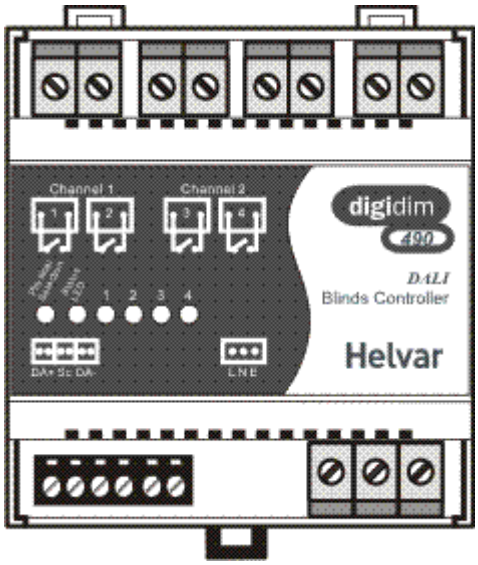
Please check the Helvar website for full product details.

For instruction on configuring dimmers, see Control Gear Configuration.

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration

490 Blinds Controller



The DIGIDIM Blinds Controller is a DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* compatible interface unit, designed to allow blinds and curtains to be incorporated into a DIGIDIM lighting control system.

The blinds controller is a DIN-rail mounted unit that provides two independent control channels, each with two single pole, volt-free contacts for switching up to 550W up/down or power/direction motors from a DIGIDIM system.

The blinds controller is provided with a status LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.*, a physical selection switch and relay state indicators. The status LED provides status and a fault indication; the physical selection switch is used to identify the device *A physical item with which you can interact, either directly or via Designer.* during system configuration; and the relay state indicator LED's are illuminated when the respective relay is closed.

Configure Device

Note:

- You must be in Editor mode to configure a device.

Before you configure the device, ensure that you know the type of blinds/curtains you wish to control i.e. the type of motor. The type of motor control inputs the blinds/curtains have are:

1. **Up/down.** Has an input for up (open) and another input for down (close).
2. **Power/direction.** Has an input for power and another input for direction.

You can configure this device via the Properties view. *See DALI Control Gear Configuration for generic configuration.*

- If Properties is not already open, click .

Tip:

- In the Scene Table, in the **Blinds Unit 490** channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* column, you can see a level for each scene *Collection of lighting levels for each channel assigned to the same group as the scene.* for the Blinds Controller. These levels reflect how much the blinds are open or closed and can be edited just like any of the levels in the Scene Table. For example, 100 = blinds fully open, 50 = blinds half-way open, and 0 = blinds fully closed.

Note:

- In the **Blinds Controllers** section of Properties, notice that the **Blinds Operation** field is set to 'Open & Close' by default. If you are using blinds with separate up (open) and down (closed) inputs, then leave this setting as it is.

1-button control of 490 Blinds Controller

Set-up

To set up 1-button control of the 490 Blinds Controller (for example, with one button of the 135 5-button Modular Panel), follow these steps in the button Properties window (as shown here):

Main Set	
Group	13
Short Press / Step	
Function	Up
Target Channels In:	Group
Fade Rate	Slowest
Condition	Always
Continuous Function	
Function	Down
Target Channels In:	Group
Fade Rate	Fast
Condition	Always

1. Put the button and the 490 in the same group.
2. Set the Key Mode of the button to 'Modifier'.
3. In the Short Press / Step section, set Function to 'Up', and set Fade Rate to 'Slowest'.
4. In the Continuous Function section, set Function to 'Down', and set Fade Rate to 'Fast'.

Operation (1-button control):

Short press will start (until run timeout) or stop upward movement of the blinds.

Long press will move the blinds down whilst button is pressed. Blinds stop when button is released.

2-button control of 490 Blinds Controller

Set-up

To set up 2-button control of the 490 Blinds Controller (for example, with a 132 2-button Modular Panel), follow these steps in the button Properties window:

1. Put the buttons and the 490 in the same group.
2. Set the Key Mode of both buttons to 'Modifier'.
3. *First Button:*

In the Short Press / Step section, set Function to 'Up', and set Fade Rate to 'Slowest'.

In the Continuous Function section, set Function to 'Up' and set Fade Rate to 'Fast'

4. *Second Button:*

In the Short Press / Step section, set Function to 'Down', and set Fade Rate to 'Slowest'.

In the Continuous Function section, set Function to 'Down' and set Fade Rate to 'Fast'

Operation (2-button control):

Up button:

Short press will start (until run timeout) or stop upward movement of the blinds.

Long press will move the blinds up whilst button is pressed. Blinds stop when button is released.

Down button:

Short press will start (until run timeout) or stop downward movement of the blinds.

Long press will move the blinds down whilst button is pressed. Blinds stop when button is released.

Using blinds with separate power and direction inputs

If you are using blinds with separate power and direction inputs:

1. In the **Blinds Controllers** section, click in the **Blinds Operation** field and then click .
2. Select from one of two options:

'On/Off & Direction (Closed = Up)'. *This means that the direction relay output closes to tell the blinds to go **up (open)**.*

'On/Off & Direction (Closed = Down)'. *This means that the direction relay output closes to tell the blinds to go **down (closed)**.*

Configure the remaining settings:

1. In the **Run Time (s)** field, enter the time (in seconds) that it takes for the blinds to completely close or open. *Notice that this is 10 seconds by default. If the run time is different for opening and closing, then use the longest time.*
2. In the **At End Of Travel** field, notice that this is set to 'Switch Off' by default. This means that when the blinds become fully closed or open, then the relay switches off. If you wish the relay to stay on when the blinds are fully closed or open, then click and select 'Don't Switch Off'.
3. Click .

The Blinds Controller is now configured and ready for use in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. .

478 DALI Controller

Do not connect a 490 Blinds Controller via a 478 DALI Controller.

Related Topics

- Device Tree
- DALI Control Gear Configuration
- Properties
- Scene Table
- Editor Mode

- Switching Units

DALI Relay Unit

Use the 'DALI Relay' option to insert a generic DALI dimmer.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See* ***DALI Control Gear Configuration***.

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- Switching Units

16 A Power Relay Unit (492)

The 492 is a single channel relay unit, designed to allow control of non-DALI, non-dimmable loads.

The 492 relay unit is packaged within a plastic enclosure that can be installed within a luminaire, electrical cabinet, or used as an in-line unit.

The relay is a latching, volt-free contact, high inrush type, with a contact rating of 16 A.

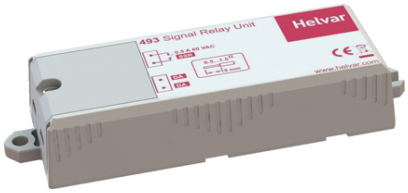
Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- Switching Units

0.5 A Single Channel Relay Unit (493)



The 493 is a single-channel relay unit, designed to allow interfacing with other building control and management systems.

The 493 signal relay unit is in a plastic enclosure, so it can be installed within a 3rd party equipment enclosure, electrical cabinet, or used as an in line unit.

The relay is a solid-state, normally open signal relay, with a contact rating of 60 VAC or VDC, at a maximum of 0.5 A.

This unit must not be used to switch mains voltages.

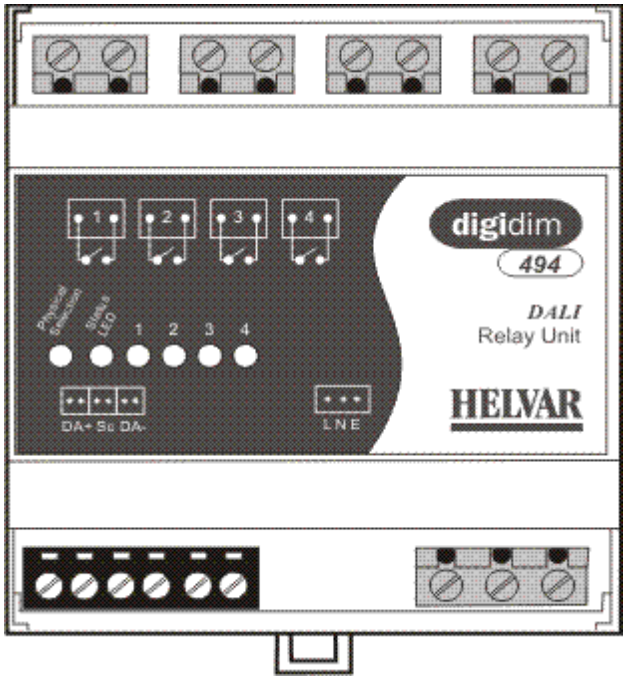
Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- Switching Units

Relay Unit - 494



The DIGIDIM 494 Relay Unit is a DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* compatible interface unit, designed to allow non-dimmable loads to be incorporated into a DIGIDIM lighting control system.

The relay unit is DIN rail mounted and can control four individually programmable relays. The relays are 'normally open', volt free and can switch up to 10A resistive loads.

The relay unit is provided with a status LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.*, a physical selection switch and four relay state indicators. The status LED provides status and a fault indication, and the physical selection switch is used to identify the device *A physical item with which you can interact, either directly or via Designer.* during system configuration and also acts as a manual override. The four relay state indicator LEDs are illuminated when the respective relay is closed.

- To learn more about this product, see the Helvar Website.

Configure Device

You can configure this device via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Device Tree
- DALI Control Gear Configuration
- Properties
- Switching Units

Relay Unit (498)

The DIGIDIM 498 is an 8-channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* relay unit fitted with high inrush specification relays. This means that the short-lived, high peak current inrush caused when switching on loads, such as electronic ballasts, is handled by a set of pre-make contacts which close before the main contacts of the relay. This allows more high inrush loads to be switched from one relay, where the limiting factor with standard relays was inrush current.

It is DIN-rail mounted (horizontal orientation) and has:

- Mains connector: 4-way terminal block
- Relay connectors: 2-way terminal block, arranged as 4 sets of 4 terminals (2 relays per 4-way connector)
- SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.* : 5 pole, 2-part connector (includes termination)
- DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* : 2 pole 2-part connector
- Override: 2 pole, 2-part connector

It allows:

- Wired override input
- Relays to operate either individually (8x1), or as four sets of two (4x2), or as two sets of four (2x4). Relays have normally open contacts (SPST) only.

- To learn more about this product, see the Helvar Website.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- SDIM Control Gear Configuration
- DALI Control Gear Configuration
- Switching Units

458/SW8_8-Channel Switching Module

The 458/SW8 is an 8-channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* switching module. The module contains 8 relay channels (normally open), capable of switching 10 A per channel. It uses high inrush relays to withstand short-lived high peak current inrush when switching on loads. It has both a DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* and an SDIM *Stands for Serial DIMming communication. It is a Helvar communication protocol.* interface, therefore it can be fully integrated into a Digidim or an Imagine router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* system.

The front of the module is equipped with an LCD display with intuitive cursor control, to set some basic configuration parameters and provide basic manual control.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- Switching Units

474 DIN Rail 4 Channel Ballast Controller

The Digidim 474 is a 4-*channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* ballast controller fitted with high inrush relays rated at 16 A per channel, which handle short-lived high peak currents during switch-on of loads.

The outputs can be configured to match common ballast control loads including 0/1-10 V, *DSI Stands for Digital Signal Interface. DSI is a protocol used for the controlling of lighting in buildings. The technology uses a single byte to communicate the lighting level. DSI was the start of digital communication technology and was the precursor to DALI.*, *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* broadcast and PWM.

The outputs can be configured independent of, or paired with relay channels; meaning 4 additional outputs can be utilized if required.

The 474 ballast controller can operate with either a Helvar Digidim or Imagine lighting control system. It is a DIN-rail mounted *device A physical item with which you can interact, either directly or via Designer.* for ease of installation.

Further details are on the Helvar website.

Configure Device

You can configure this device via the Properties view. *See SDIM Control Gear Configuration or DALI Control Gear Configuration (depending on the type of subnet A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved. the device is connected to).*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- Switching Units

416S Single Channel Leading Edge Dimmer (16 A)

The DIGIDIM 416S (16 Amp) is a wall-mounted single-channel leading edge (thyristor) dimmer.

The 416S also includes a 16 A relay circuit.

Controllable by S-DIM, DMX, and Analogue, and fully DALI-compatible for use as Load Interface Units in a DIGIDIM lighting control system, the 416S and 425S can also function as stand-alone dimmers.

They can be connected to mains voltage lamps directly, or to low voltage lamps via a wire-wound transformer, and have a selectable, integral DALI power supply.

Further details are on the Helvar website.

Configure Device

You can configure this device via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- Dimmers
- Switching Units

425S Single Channel Leading Edge Dimmer (25 A)

The DIGIDIM 425S (25 Amp) is a wall-mounted single-channel leading edge (thyristor) dimmer.

The 416S also includes a 16 A relay circuit (N.B. the dimmer is 25 A).

Controllable by S-DIM, DMX, and Analogue, and fully DALI-compatible for use as Load Interface Units in a DIGIDIM lighting control system, the 416S and 425S can also function as stand-alone dimmers.

They can be connected to mains voltage lamps directly, or to low voltage lamps via a wire-wound transformer, and have a selectable, integral DALI power supply.

Further details are on the Helvar website.

Configure Device

You can configure this device via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration
- Dimmers
- Switching Units

DALI Relay Unit

Use the 'DALI Relay' option to insert a generic DALI dimmer.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See* ***DALI Control Gear Configuration***.

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- Switching Units

LED Drivers

LED Drivers

Designer can be used to configure the following DALI LED drivers:
LC30-E-DA
LL1x70-E-DA
LL2x35-E-DA
LC1x70-E-DA
DALI LED Driver

Please check the Helvar website for full product details.
For instruction on configuring dimmers, see Control Gear Configuration.

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration
- SDIM Control Gear Configuration

DALI LED Unit

Use the 'DALI LED Driver' option to insert a generic DALI LED driver.

Helvar recommends the use of Helvar DALI LED Drivers.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* via the Properties view. *See DALI Control Gear Configuration.*

Related Topics

- Properties
- Device Tree
- DALI Control Gear Configuration

Button Controls

Button Panels (Modular Control Panels)

DIGIDIM Button Panels

The DIGIDIM Range includes these button panel controllers:

12x Series Button Panels

121 Two-Button On/Off + IR Receiver

122 Two-Button Up/Down + IR Receiver

124 Five-Button + IR Receiver

125 Seven-Button Up/Down + IR Receiver

126 Eight-Button + IR Receiver

13x Series Button Panels

131 2-Button On/Off + IR Receiver

132 2-Button Up/Down + IR Receiver

134 5-Button + IR Receiver

135 7-Button Up/Down + IR Receiver

136 8-Button + IR Receiver

137 4-Button + IR Receiver

16xx Series Button Panels

160 10-button Panel + IR Receiver

161 2-button On/Off Panel + IR Receiver

162 2-button Up/Down Panel + IR Receiver

163 4-button On/Off, Up/Down Panel + IR Receiver

164 5-button (4 Scenes + Off) Panel + IR Receiver

165 6-button (4 Scenes + Off + Up/Down) Panel + IR Receiver

166 10-button (7 Scenes + Off + Up/Down) Panel + IR Receiver

169 10-button (9 Scenes + Off) Panel + IR Receiver

Buttons in the Device Tree

A *button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* is indicated by in the Device Tree. It is a digital pushbutton *subdevice A physical object that forms part of another device, with which you can interact, either directly or via Designer.* that can be operated by the user, either directly or via the Infrared Remote Control Handset. It has two states: pressed and non-pressed. A button only performs a function when in the pressed state, and remains pressed only for as long as the user continues to press it.

A button can be used to select a scene or adjust the levels of the selected *scene Collection of lighting levels for each channel assigned to the same group as the scene.* .

To configure a button, see Subdevice Configuration.

Related Topics

- Subdevice Configuration
- Device Configuration
- Remote Control Handset
- Remote Control Handset Configuration
- Properties
- Scenes
- Control Device Configuration

Button Panels (Modular Control Panels)

DIGIDIM Button Panels

The DIGIDIM Range includes these button panel controllers:

12x Series Button Panels

121 Two-Button On/Off + IR Receiver

122 Two-Button Up/Down + IR Receiver

124 Five-Button + IR Receiver

125 Seven-Button Up/Down + IR Receiver

126 Eight-Button + IR Receiver

13x Series Button Panels

131 2-Button On/Off + IR Receiver

132 2-Button Up/Down + IR Receiver

134 5-Button + IR Receiver

135 7-Button Up/Down + IR Receiver

136 8-Button + IR Receiver

137 4-Button + IR Receiver

16xx Series Button Panels

160 10-button Panel + IR Receiver

161 2-button On/Off Panel + IR Receiver

162 2-button Up/Down Panel + IR Receiver

163 4-button On/Off, Up/Down Panel + IR Receiver

164 5-button (4 Scenes + Off) Panel + IR Receiver

165 6-button (4 Scenes + Off + Up/Down) Panel + IR Receiver

166 10-button (7 Scenes + Off + Up/Down) Panel + IR Receiver

169 10-button (9 Scenes + Off) Panel + IR Receiver

Buttons in the Device Tree

A *button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* is indicated by in the Device Tree. It is a digital pushbutton *subdevice A physical object that forms part of another device, with which you can interact, either directly or via Designer.* that can be operated by the user, either directly or via the Infrared Remote Control Handset. It has two states: pressed and non-pressed. A button only performs a function when in the pressed state, and remains pressed only for as long as the user continues to press it.

A button can be used to select a scene or adjust the levels of the selected *scene Collection of lighting levels for each channel assigned to the same group as the scene.* .

To configure a button, see Subdevice Configuration.

Related Topics

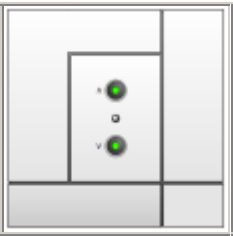
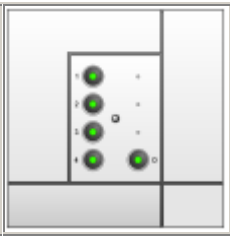
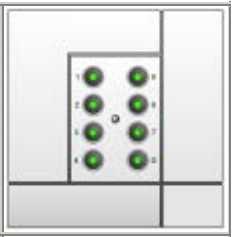
- Subdevice Configuration
- Device Configuration
- Remote Control Handset
- Remote Control Handset Configuration
- Properties
- Scenes
- Control Device Configuration

12x Series Button Panels

The 12x Series DIGIDIM Modular control panels are a fully DALI-compatible range of user interfaces that allow basic adjustments to the system. The range includes push-button, rotary and slider controls in a range of panel finishes.

Each panel is fitted with an indicator LED and an infrared receiver that gives the option of remote operation using the DIGIDIM Remote Control Handset (303).

The handheld remote also allows additional control of the system's functions and can be used as a programming device on simple systems.

				
121: 2-button (On/Off) panel, including IR Receiver	**122**: 2-button (Up/Down) panel, including IR Receiver	**124**: 5-button (4 Scenes + Off) panel, including IR Receiver	**125**: 7-button (4 Scenes, Up/Down + Off) panel, including IR Receiver	**126**: 8-button (7 Scenes + Off) panel, including IR Receiver

Configure Devices

You can configure these devices and their controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration

Related Topics

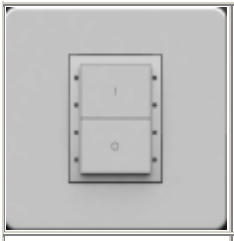
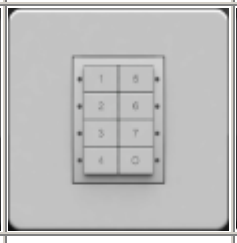
- Device Configuration
- Subdevice Configuration
- Remote Control Handset
- Remote Control Handset Configuration
- Infrared Remote Control Receiver
- Properties
- Button Controls and Button Configuration
- 13x Series Button Panels
- 16x Series Button Panels

13x Series Button Panels

The 13xx panel modules are a customisable DALI-compatible range of user interfaces that allow control of the system.

Each panel is fitted with an indicator LED and an infrared receiver that gives the option of remote operation using the DIGIDIM Remote Control Handset (303).

The handheld remote also allows additional control of the system's functions and can be used as a programming device on simple systems.

		
131: 2-button (On/Off) panel, including IR Receiver	**132**: 2-button (Up/Down) panel, including IR Receiver	**134**: 5-button (4 Scenes + Off) panel, including IR Receiver
		
135: 7-button (4 Scenes, Up/Down + Off) panel, including IR Receiver	**136**: 8-button (7 Scenes + Off) panel, including IR Receiver	**137**: 4-button (4 Scenes) panel, including IR Receiver

Configure Devices

You can configure these devices and their controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration

Related Topics

- Device Configuration
- Subdevice Configuration
- Remote Control Handset
- Remote Control Handset Configuration
- Infrared Remote Control Receiver
- Properties
- Button Controls and Button Configuration
- 12x Series Button Panels

- 16x Series Button Panels

16xx Series Button Panels

The 16xx Series is a range of DALI-compatible button panels that allow control of the system.

The buttons have LEDs indicating the selected scene. Each module is fitted with an infrared receiver that gives the option of remote operation using DIGIDIM hand held remote control, the 303 Remote Control Handset.

160: 10-button panel, including IR Receiver	**162**: 2-button Up/Down panel, including IR Receiver	**164**: 5-button (4 Scenes + Off) panel, including IR Receiver	**166**: 10-button (7 Scenes + Off + Up/Down) panel, including IR Receiver
161: 2-button On/Off panel, including IR Receiver	**163**: 4-button On/Off, Up/Down panel, including IR Receiver	**165**: 7-button (4 Scenes + Off + Up/Down) panel, including IR Receiver	**169**: 10-button (9 Scenes + Off) panel, including IR Receiver

Configure Devices

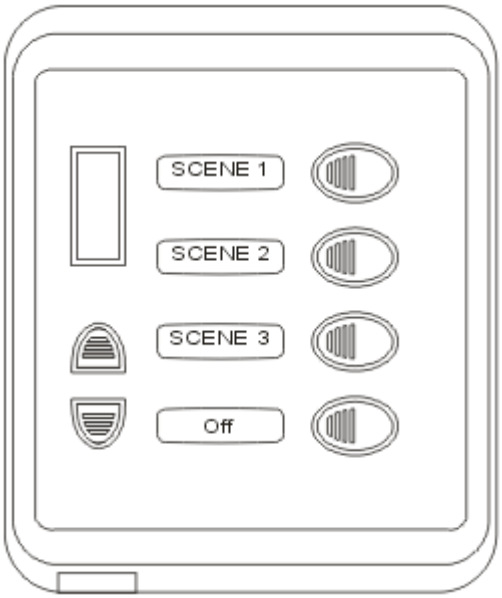
You can configure these devices and their controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration

Related Topics

- Device Configuration
- Subdevice Configuration
- Remote Control Handset
- Remote Control Handset Configuration
- Infrared Remote Control Receiver
- Properties
- Button Controls and Button Configuration
- 12x Series Button Panels
- 13x Series Button Panels

Button - 935



This control device *A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.* allows selection of three scenes, and fade up, fade down and off. The panel is fitted with back-lit scene *Collection of lighting levels for each channel assigned to the same group as the scene.* selection buttons providing a visual indication of the selected scene. Each scene selection button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* also has a front-lit label window.

Configure Device

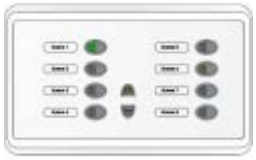
You can configure this device and its controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration

Related Topics

- Button Panel (935) Mimic
- Device Configuration
- Subdevice Configuration
- Properties
- Button Controls and Button Configuration

Button - 939



This control device *A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.* allows selection of seven scenes, and fade up, fade down and off. Once a scene *Collection of lighting levels for each channel assigned to the same group as the scene.* is selected, the modifier *A control used to modify a level, such as a fade button on a control panel.* buttons permit the relative levels within that scene to be increased or decreased temporarily. The panel is fitted with back-lit scene selection buttons providing a visual indication of the selected scene. Each scene selection button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* also has a front-lit label window.

Configure Device

You can configure this device and its controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration

Related Topics

- Button Panel (939) Mimic
- Device Configuration
- Subdevice Configuration
- Properties
- Button Controls and Button Configuration

Sliders

Sliders

Slider Modules

Designer can be used to configure 2 slider units:

Slider (110)

Slider (111)

Sliders in the Device Tree

A *slider A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).* is indicated by in the Device Tree. It is a *subdevice A physical object that forms part of another device, with which you can interact, either directly or via Designer.* that is operated by the user. A slider is used to adjust the levels of the selected channels in a group or scene.

Slider Configuration

To configure a slider, see Slider Configuration.

Related Topics

- Slider (110)
- Slider (111)
- Slider Configuration

Slider - 110

This item is part of the Digidim Modular Panel range. It comprises a fade up/down slider *A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).* , and an infrared remote control receiver.

Modular control panels are a DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* compatible range of user interfaces that allow adjustment of light levels within the lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . The range includes push-button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.*, rotary and slider controls in several panel finishes. Each slider is fitted with an indicator LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* and an infrared receiver that gives the option of remote operation using the Digidim Remote Control Handset. The hand-held remote control also allows additional control of the system's functions.

To learn more about this product, see the Helvar Website.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* and its controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration

Related Topics

- Slider (110) Mimic
- Dual Slider (111)
- Slider
- Device Configuration
- Subdevice Configuration
- Properties
- Remote Control Handset
- Remote Control Handset Configuration

Slider - 111

This item is part of the Digidim Modular Panel range. It comprises two fade up/down sliders, and an infrared remote control receiver.

Modular control panels are a DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* compatible range of user interfaces that allow adjustment of light levels within the lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . The range includes push-button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.*, rotary and slider *A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).* controls in several panel finishes. Each slider is fitted with an indicator LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* and an infrared receiver that gives the option of remote operation using the Digidim Remote Control Handset. The hand-held remote control also allows additional control of the system's functions.

To learn more about this product, see the Helvar Website.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* and its controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration

Related Topics

- Slider (111) Mimic
- Slider (110)
- Slider
- Device Configuration
- Subdevice Configuration
- Properties
- Remote Control Handset
- Remote Control Handset Configuration

Slider Configuration

Note:

- You must be in Editor mode to configure a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* .

Configure Subdevice

1. Click ⊞ to expand the Slider (110) or Dual Slider (111) in the Device Tree.
2. Click on the slider *A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).* subdevice.
3. If not already open, click to view Properties for the slider.

⊟ Common	
Address	@ 1.1.1.60.1
Description	Ungrouped Direct Level
Name	
Status	This device is virtual
Information	No Information
⊟ Keys	
Mode	Slider
Use Main Set	Always
⊟ Main Set	
Group	Ungrouped
⊟ Slider	
⊟ Function	Direct Level
Target Channels In:	Group
Slider Operation	Slide to Off
Condition	Always

Name

It may be useful to name the slider:

1. In the **Common** section, enter a name in the **Name** field.
2. Click . *The slider is renamed in the Device Tree .*

Assign Condition to Slider

If you wish the slider to perform the set of functions according to a certain condition, and if the condition is not met then to use an alternative set of functions (*see Conditions*):

1. In the **Keys** section, click in the **Use Main Set** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

Note:

- If you choose a condition for the main set of functions of the slider, then an **Alternative Set** section appears, where you must configure an alternative set of functions to be performed if the condition is not met.

Assign Slider to Group

Tip:

- Assign the slider to the same group as the load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* (s) that you wish to affect.

1. In the **Main Set** section, click in the **Group** field.
2. Enter the group to which you wish the slider to be assigned. ***(0** = Ungrouped).*
3. Click .

Function

By default, the function is set to 'Direct Level'. To choose not to use the slider function:

1. In the **Slider** section, click in the **Function** field.
2. Click and select 'Not Used' from the drop-down menu.
3. Click .

Target Channels In

By default, the slider affects all channels (loads) in the group, but can be configured to affect just the channels used in a specific *scene Collection of lighting levels for each channel assigned to the same group as the scene.* , or the channels used in the last selected scene.

Tip:

- If a channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* is not used in a scene then there is an asterisk (*) in it's column in the Scene Table, against the relevant scene. This means that the channel will not be affected if the mode is set to target channels in that specific scene.
- Setting the target channel to 'Last Scene Called In Block' will affect all channels which are used in the scene which was last called.

This field allows you to set the channels that the slider will affect:

1. In the **Slider** section, click in the **Target Channels In:** field. *Notice that the field is set to 'Group' by default, which means it will affect all channels in the group.*
2. Click and select your desired set from the drop-down menu.
3. Click .

Note:

- If you select 'Scene' from the **Target Channels In** field, then the **Scene Number** field appears below, where you must enter a scene number wherein the target channels will be affected.

Slider Operation

By default, the slider can bring the channels to the off state, but can be configured to bring the channels to the minimum level (1%):

1. In the **Slider** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

Condition

If you wish the slider to perform the function according to a certain condition (*see Conditions*):

1. In the **Slider** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.

3. Click .

The slider is now configured and ready for use in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. .

Related Topics

- Slider
- Slider (110)
- Slider (111)
- Properties

Rotary Switch

Rotary Switch

Rotary Switch

Designer can be used to configure this Rotary Switch Module:

Rotary (100)

Rotary Switch in the Device Tree

A rotary switch is indicated by in the Device Tree. This *subdevice A physical object that forms part of another device, with which you can interact, either directly or via Designer.* comprises a rotary fade up/down knob. It can be used as a rotary level fade control, as an alternative to a slider.

Rotary Switch Configuration

To configure a rotary, see Rotary Switch Configuration.

Related Topics

- Rotary (100)
- Rotary Switch Configuration

Rotary Switch Configuration

Note:

- You must be in Editor mode to configure a rotary switch.

Configure Rotary

1. Click ⊞ to expand the Rotary (100) device *A physical item with which you can interact, either directly or via Designer.* in the Device Tree.
2. Click on the rotary subdevice.
3. If not already open, click to view Properties for the subdevice.

⊟ Common	
Address	@ 1.1.1.61.2
Description	Group 1 Rotary
Name	
Status	Normal
Information	No Information
⊟ Keys	
Mode	Modifier
Use Main Set	Always
⊟ Main Set	
Group	1
⊟ Step	
Function	Rotary
Step Rate	Default
Condition	Always
⊟ Twist	
Function	Rotary
Step Rate	Fast
Condition	Always

Name

It may be useful to name the rotary:

1. In the **Common** section, enter a name in the **Name** field.
2. Click . *The subdevice is renamed in the Devices Tree.*

Assign Condition to Rotary

If you wish the rotary to perform the function according to a certain condition, and if the condition is not met then to use an alternative function (*see Conditions*):

Note:

- If you choose a condition for the main function of the rotary, then an **Alternative Set** section appears, where you must configure an alternative function to be performed if the condition is not met.

1. In the **Keys** section, click in the **Use Main Set** field. *Notice that the condition is set to 'Always' by default.*

2. Click and select the condition from the drop-down menu.
3. Click .

Assign Rotary to Group

Tip:

- Assign the rotary to the same group as the load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* (s) that you wish to affect.

1. In the **Main Set** section, click in the **Group** field.
2. Enter the group to which you wish the rotary to be assigned. *(**0** = Ungrouped).*
3. Click .

There are two parts of the rotary function: **Step** and **Twist**. **Step** denotes a single step on the rotary switch and **twist** denotes a turn on the rotary switch (i.e. multiple steps). Configure both as below:

Function

By default, the function is set to 'Rotary'. You can choose to not use the function:

1. In the **Step** section, click in the **Function** field.
2. Click and select 'Not Used' from the drop-down menu.
3. Click .

Step Rate

This is the rate at which the rotary modifies the channels in the group.

1. In the **Step** section, click in the **Step Rate** field.
2. Click and select a rate from the drop-down menu.
3. Click .

Assign Condition to Function

If you wish the rotary to perform this part of the function according to a certain condition (*see Conditions*):

1. In the **Step** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

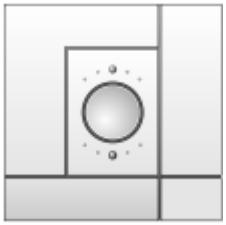
In the **Twist** section, configure as above.

The rotary is now configured and ready for use in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. .

Related Topics

- Rotary Switch
- Rotary (100)
- Properties

Rotary - 100



This item is part of the Digidim Modular Panel range. It comprises a combined rotary fade up/down knob and push switch, and an infrared remote control receiver.

Modular control panels are a DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* compatible range of user interfaces that allow adjustment of light levels within the lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . The range includes push-button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.*, rotary and slider *A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).* controls in several panel finishes. Each button is fitted with an indicator LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* and an infrared receiver that gives the option of remote operation using the Digidim Remote Control Handset. The hand-held remote control also allows additional control of the system's functions.

- To learn more about this product, see the Helvar Website.

Configure Device

You can configure this *device A physical item with which you can interact, either directly or via Designer.* and its controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration

Related Topics

- Rotary (100) Mimic
- Rotary Switch
- Device Configuration
- Subdevice Configuration
- Properties
- Device Tree
- IR Remote Control Receiver
- Remote Control Handset
- Remote Control Handset Configuration

Input Units

434 EnOcean Gateway

EnOcean Gateway (434)

The 434 EnOcean Gateway lets you connect wireless and battery-less EnOcean controls to a Helvar DALI lighting network.

The 434 is for mounting on the ceiling or on walls, and requires only a single electrical connection to a DALI network.

Once installed, the 434 will support up to 20 EnOcean switches without any other wiring.

For more details, see the Helvar website.

EnOcean Switch units

EnOcean switches are battery-less, thanks to energy harvesting technology, and are maintenance-free. Energy is generated by pressing the EnOcean button, and a radio signal is sent to the Gateway.

To insert EnOcean switches into a Digidim network, the network must have an EnOcean Gateway: insert an EnOcean Gateway first, and then pair the switch(es) with the Gateway.

Configure Device

You can configure this device and its controls via the Properties view, in the following ways:

- Configuring an EnOcean Gateway and EnOcean Switches

Using Upload Mode with EnOcean Switches

When uploading an existing design, 'Top is Off' and 'Top is On' switch units are treated as different types of devices. Therefore, a 'Top is Off' button cannot be matched with a 'Top is On' button.
See 'Upload Mode' for details of how to prepare and upload all or a part of a Workgroup Design for uploading to the Real Workgroup or another Workgroup Design.

Related Topics

- Configuring an EnOcean Gateway and EnOcean Switches
- Subdevice Configuration
- Properties
- Device Tree

Configuring an EnOcean Gateway and EnOcean Switches

1. Discover the EnOcean Gateway in Designer

- Ensure the PC is connected to the lighting router (e.g. Helvar 920) controlling the lighting network.
- Run Designer software and connect to the appropriate workgroup.
- 'EnOcean Gateway 434' now appears in the Device Tree, under one of the connected DALI subnets.

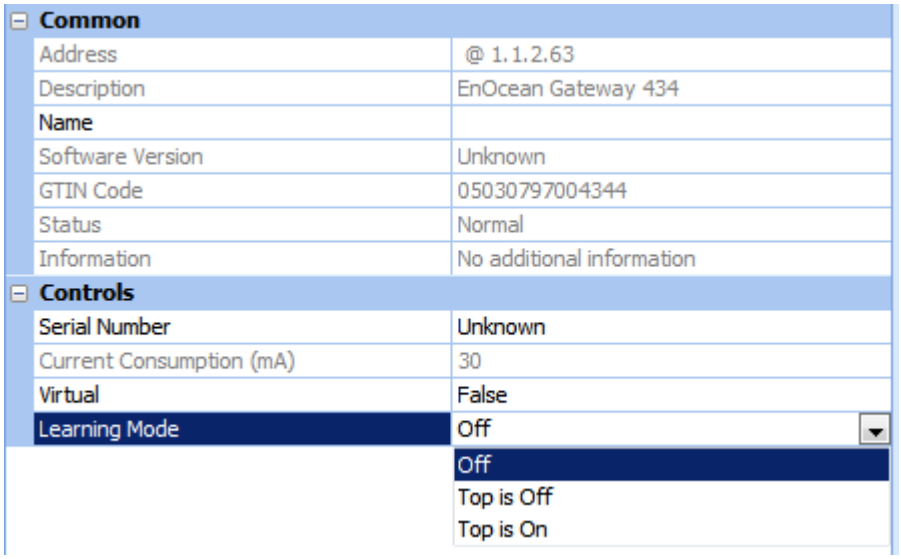
Alternatively, Insert the EnOcean Gateway 434 using **Insert > Control Devices > Button Controls > Helvar 434- EnOcean Gateway**.

Note: You cannot put the Gateway in a group. You can group the buttons of the switch units (when the switch unit is paired with the Gateway).

2. Put the EnOcean Gateway in Learning Mode

- In Designer's Device Tree, click 'EnOcean Gateway 434'.
- In the Properties window, set 'Learning Mode' either to 'Top is Off', or to 'Top is On'. If you are not going to use these default settings, choose either mode. In Learning Mode, the status LED will flash red at intervals of 1.25 s.

Note: The Gateway cannot be used to control the lights while in Learning Mode.



3. Pair the EnOcean Switch Unit with the EnOcean Gateway

- On the EnOcean switch unit, press the left button up or down (dual rocker switch) or the up or down button (single rocker switch). Make sure the switch is within signal range of the Gateway unit.
- The Gateway detects the switch. The status LED flashes green. After a few seconds, the switch appears in the Device Tree.

Note: If the switch does not appear in the Device Tree, check DALI network activity in the DALI History window (View > History > DALI Subnet).

- To pair other switches (maximum 20 per Gateway), repeat step 3.

4. Turn off Learning Mode

- In the Device Tree, click 'EnOcean Gateway 434'.
- In the Properties window, set 'Learning Mode' to 'OFF'. The status LED will stop flashing red.

The Gateway, now out of Learning Mode, can send commands to the lighting network.

5. Group buttons and configure button actions

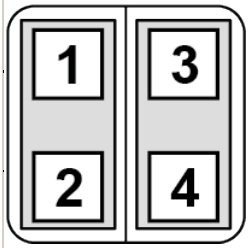
- If you are not going to use the default switch unit settings, configure the button actions using Designer (see the "Device Configuration" section of the Designer Help files).

The Gateway and switches should now be operational.

Default EnOcean switch unit settings (Designer)

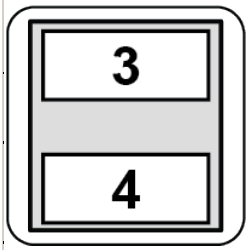
When putting the EnOcean Gateway 434 into 'Learning Mode', you choose either 'Top is On', or to 'Top is Off'. If you are not going to use the default settings (given in the tables below), choose either mode, and adjust the button function settings as usual.

Default EnOcean Dual Rocker switch unit settings



	Top is On	Top is Off
1:	Scene 1.1 (On)	Scene 1.15 (Off)
2:	Scene 1.15 (Off)	Scene 1.1 (On)
3:	Scene 1.1 (On)	Scene 1.15 (Off)
4:	Scene 1.15 (Off)	Scene 1.1 (On)

Default EnOcean Single Rocker switch unit settings



	Top is On	Top is Off
1:	NOT USED	NOT USED
2:	NOT USED	NOT USED
3:	Scene 1.1 (On)	Scene 1.15 (Off)
4:	Scene 1.15 (Off)	Scene 1.1 (On)

Using Upload Mode with EnOcean Switches

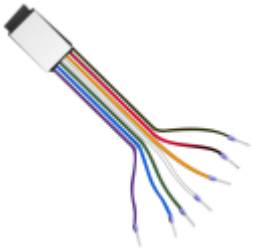
When uploading an existing design, 'Top is Off' and 'Top is On' switch units are treated as different types of devices. Therefore, a 'Top is Off' button cannot be matched with a 'Top is On' button.
See 'Upload Mode' for details of how to prepare and upload all or a part of a Workgroup Design for uploading to the Real Workgroup or another Workgroup Design.

Related Topics

- Device Configuration
- Subdevice Configuration
- Properties

- Device Tree

Mini Input Unit - 444



The 444 Mini Input Unit provides four inputs and is supplied as a miniature encapsulated circuit board, with flying leads for the interconnections.

Its small size (30 x 20 x 10 mm) makes it a simple matter to install the device within a standard electrical backbox.

Configure Device

You can configure this device and its controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration
- Edge Mode Configuration

Related Topics

- 444 Mini Input Unit Mimic
- 942 Analogue Input Unit
- Device Configuration
- Subdevice Configuration
- Edge Mode Configuration
- Properties
- Device Tree
- Terms - Switch Input

445 Switch Interface Unit

The 445 Switch Interface Unit with LED Tellback provides four switch inputs for use with volt free contacts, and four LED output drivers for indicator LEDs.

Power for the unit is derived from the DALI network, so no external power supply is required.
Connections to the unit are via screw terminals.

The unit is small enough to be mounted within a 3rd party switch/button module or back box.

- To learn more about this product, see the Helvar Website.

Configure Device

You can configure this device and its controls via the Properties view, in the following ways

Note that by default, LED type is set to Common Anode (if required, set to Common Cathode in Properties) :

- Device Configuration
- Subdevice Configuration
- Edge Mode Configuration

Related Topics

- Device Configuration
- Subdevice Configuration
- Edge Mode Configuration
- Properties
- Device Tree
- Terms - Switch Input

Edge Mode Configuration

Note:

- You must be in Editor mode to configure a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* .
- The subdevices of the Analogue Input Unit (942) and Mini Input Unit (444) are set to edge mode by default, indicated by ⌐ in the Device Tree.

Set Subdevice to Analogue Input Mode

1. Click ⊞ to expand the Analogue Input Unit or Mini Input Unit in the Device Tree.
2. Click on the subdevice which you wish to set to edge mode. *Notice that all subdevices of the Input Unit are set to ⌐ edge mode by default.*
3. If not already open, click to view Properties for the subdevice.
4. If necessary, in the **Keys** section, click in the **Mode** field.
5. Click and select 'Edge Mode' from the drop-down menu.
6. Click . *The mode of the subdevice is now set to edge mode.*

Configure Edge Mode

Common	
Address	@ 1.1.1.59.2
Description	Ungrouped Scene 1.2
Name	
Status	Normal
Information	No Information
Keys	
Mode	Edge Mode
Input Source (1..65535)	Not Used
Use Main Set	Always
Main Set	
Group	Ungrouped
Scene Block	1
Closing Contact	
Function	Recall Scene (Fixed Light)
Scene Number	2
Fade Time	00:00:02
Condition	Always
Opening Contact	
Function	Not Used
Condition	Always

Enter Input Source

1. In the **Keys** section, click in the **Input Source** field. *This field corresponds to the input source on the subdevice of the Analogue Input Unit.*
2. Enter a value in the range of **1** to **65535**. (Enter **0** or press **Delete** to set to 'Not Used').
3. Click .

Assign Condition to Subdevice

If you wish the subdevice to perform the set of functions according to a certain condition, and if the condition is not met then to use an alternative set of functions (*see Conditions*):

Note:

- If you choose a condition for the main set of functions of the subdevice, then an **Alternative Set** section appears, where you must configure an alternative set of functions to be used if the condition is not met.

1. In the **Keys** section, click in the **Use Main Set** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

Assign Subdevice to Group

Tip:

- Assign the subdevice to the same group as the load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* (s) that you wish to affect.

1. In the **Main Set** section, click in the **Group** field.
2. Enter the group to which you wish the slider *A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).* to be assigned. ***(0** = Ungrouped).*
3. Click .

Assign Analogue Input to Scene Block

The *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* standard specifies that the subdevices in a device may be assigned only to scenes within the same scene block. This is why it is necessary to choose a *scene Collection of lighting levels for each channel assigned to the same group as the scene.* block, rather than choose any scene in the *Workgroup Design A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* .

Tip:

- Assign the subdevice to the same scene block as the load/s that you wish to affect.

1. In the **Main Set** section, click in the **Scene Block** field.
2. Enter the scene block to which you wish the subdevice to be assigned.
3. Click .

Set Closing Contact Function

Function

By default, the function is set to 'Recall Scene (Fixed Light)'. To change the function:

1. In the **Closing Contact** section, click in the **Function** field. *Notice that the function is set to 'Recall Scene (Fixed Light)' by default.*
2. Click and select the function from the drop-down menu.
3. Click .

Scene Number

To change the scene to call:

1. In the **Closing Contact** section, click in the **Scene Number** field.

2. Enter the scene which you wish to call upon the button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* press.
3. Click .

Fade Time

The fade time is the time it takes the *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* (s) to change from one scene to another.

1. In the **Closing Contact** section, click in the **Fade Time** field. *Notice that it is set to 2 seconds by default.*
2. Enter the fade time for the function.
3. Click .

Condition

If you wish the analogue input to perform the function according to a certain condition (*see Conditions*):

1. In the **Closing Contact** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

Set Opening Contact Function

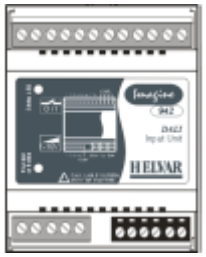
The opening contact function is set to 'Not Used' by default. If you wish to use this function:

- In the **Opening Contact** section, configure as above.

Related Topics

- Mini Input Unit (444)
- Analogue Input Unit (942)
- Analogue Input Configuration
- Device Configuration
- Subdevice Configuration
- Properties
- Device Tree
- Terms - Analogue Input
- Terms - Switch Input

Analogue Input Unit - 942



This device *A physical item with which you can interact, either directly or via Designer.* is a DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* compatible interface, designed to allow customer-specified switches, sensors, time clocks or other on/off control devices to be incorporated into a Digidim lighting control system. It has 8 volt-free inputs which may permit the selection of DALI commands.

The first four inputs may also be configured as 0-10 V analogue inputs, permitting, for example, connection of light sensors to act as scene *Collection of lighting levels for each channel assigned to the same group as the scene.* triggers.

- To learn more about this product, see the Helvar Website.

Configure Device

You can configure this device and its controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration
- Analogue Input Configuration

Related Topics

- Analogue Input (942) Mimic
- Mini Input Unit (444)
- Device Configuration
- Subdevice Configuration
- Analogue Input Configuration
- Edge Mode Configuration
- Properties
- Device Tree
- Terms - Analogue Input
- Terms - Switch Input

Analogue Input Configuration

Note:

- You must be in Editor mode to configure an analogue input.
- When a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* of the Analogue Input Unit (942) is set as an analogue input, it is indicated by in the Device Tree.

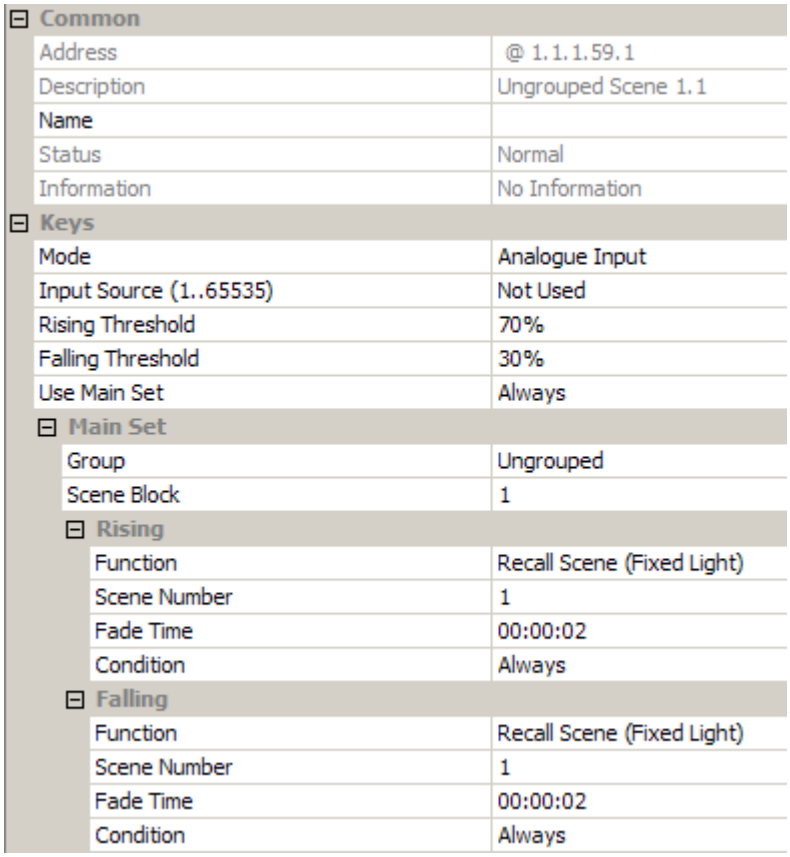
Set Subdevice to Analogue Input Mode

1. Click ⊞ to expand the Analogue Input Unit (942) in the Device Tree.
2. Click on the subdevice which you wish to set as an analogue input. *Notice that all subdevices of the Analogue Input Unit are set to edge mode by default (see Edge Mode Configuration for steps on configuring this mode).*
3. If not already open, click to view Properties for the subdevice.
4. In the **Keys** section, click in the **Mode** field.
5. Click and select 'Analogue Input' from the drop-down menu.
6. Click . *The mode of the subdevice is now set to analogue input.*

Note:

- The first four subdevices (inputs) of the Analogue Input Unit can be configured as analogue inputs or sliders but the last four cannot be (as they are digital inputs). Also note that when you multi-select between the analogue and digital inputs of the unit, you cannot configure the input mode and the functions. You must select and configure the analogue inputs (first four subdevices) and digital inputs (last four subdevices) separately from each other.

Configure Analogue Input



Common	
Address	@ 1.1.1.59.1
Description	Ungrouped Scene 1.1
Name	
Status	Normal
Information	No Information
Keys	
Mode	Analogue Input
Input Source (1..65535)	Not Used
Rising Threshold	70%
Falling Threshold	30%
Use Main Set	Always
Main Set	
Group	Ungrouped
Scene Block	1
Rising	
Function	Recall Scene (Fixed Light)
Scene Number	1
Fade Time	00:00:02
Condition	Always
Falling	
Function	Recall Scene (Fixed Light)
Scene Number	1
Fade Time	00:00:02
Condition	Always

Enter Input Source

1. In the **Keys** section, click in the **Input Source** field. *This field corresponds to the input source on the subdevice of the Analogue Input Unit.*
2. Enter a value in the range of **1** to **65535**. (Enter **0** or press **Delete** to set to 'Not Used').
3. Click ok.

Set Rising / Falling Threshold

When the signal coming into the Analogue Input Unit reaches the threshold set here (a percentage of 0-10 V), then the analogue input will use the function. For example, if the **Rising Threshold** field is set to 50% and the **Rising Edge** function is set to 'Recall *Scene Collection of lighting levels for each channel assigned to the same group as the scene.* 1', for a 10 V analogue input, when the signal **rises** to 5 V the analogue input will call scene 1.

1. In the **Rising Threshold** field, enter a percentage value (**0-100**%). *This is the threshold if the signal is **rising**.*
2. In the **Falling Threshold** field, enter a percentage value (**0-100**%). *This is the threshold if the signal is **falling**.*
3. Click ok.

Assign Condition to Analogue Input

If you wish the analogue input to perform the set of functions according to a certain condition, and if the condition is not met then to use an alternative set of functions (*see Conditions*):

Note:

- If you choose a condition for the main set of functions of the analogue input, then an **Alternative Set** section appears, where you must configure an alternative set of functions to be used if the condition is not met.

1. In the **Keys** section, click in the **Use Main Set** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.

3. Click .

Assign Analogue Input to Group

Tip:

- Assign the analogue input to the same group as the load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* /s that you wish to affect.

1. In the **Main Set** section, click in the **Group** field.
2. Enter the group to which you wish the slider *A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).* to be assigned. *(**0** = Ungrouped).*
3. Click .

Assign Analogue Input to Scene Block

The *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* standard specifies that the subdevices in a device may be assigned only to scenes within the same scene block. This is why it is necessary to choose a scene block, rather than choose any scene in the *Workgroup Design A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* .

Tip:

- Assign the analogue input to the same scene block as the load/s that you wish to affect.

1. In the **Main Set** section, click in the **Scene Block** field.
2. Enter the scene block to which you wish the analogue input to be assigned.
3. Click .

Set the Rising Edge Function

A **rising edge** is the *term A component of a Condition, a Term is an expression that may be TRUE or FALSE. A Condition may contain several Terms which, when assessed using Boolean Operators, determine whether the Condition is TRUE or FALSE.* used when a signal **rises**. When the analogue input is rising edge triggered, it performs the function when the signal rises to the threshold level (see Set **Set Rising / Falling Threshold** section above), and ignores the signal when it falls to this threshold.

Function

By default, the function is set to 'Recall Scene (Fixed Light)'. To change the function:

1. In the **Rising** section, click in the **Function** field. *Notice that the function is set to 'Recall Scene (Fixed Light)' by default.*
2. Click and select the function from the drop-down menu.
3. Click .

Scene Number

To change the scene to call:

1. In the **Rising** section, click in the **Scene Number** field.
2. Enter the scene which you wish to call upon the button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* press.
3. Click .

Fade Time

The fade time is the time it takes the *channel A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* (s) to change from one scene to another.

1. In the **Rising** section, click in the **Fade Time** field. *Notice that it is set to 2 seconds by default.*
2. Enter the fade time for the function.
3. Click .

Condition

If you wish the analogue input to perform the function according to a certain condition (*see Conditions*):

1. In the **Rising** section, click in the **Condition** field. *Notice that the condition is set to 'Always' by default.*
2. Click and select the condition from the drop-down menu.
3. Click .

Set the Falling Edge Function

A **falling edge** is the term used when a signal **falls**. When the analogue input is falling edge triggered, it performs the function when the signal falls to the threshold level (see **Set Rising/Falling Threshold** section above), and ignores the signal when it rises to this threshold.

In the **Falling** section, configure as above.

The analogue input is now configured and ready for use in the lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps. .

Related Topics

- Analogue Input Unit (942)
- Device Configuration
- Subdevice Configuration
- Properties
- Device Tree
- Terms - Analogue Input
- Terms - Switch Input
- Edge Mode Configuration

Sensors

Sensors

Designer can be used to configure the following Helvar sensors, including microwave, PIR and light sensors. There are also multisensors.

PIR Detectors

311 Ceiling PIR Detector

The 311 is a flush-mounted ceiling unit which provides energy-saving functions when used in a *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* system.

It also an infrared remote control receiver that allows for operation by the Helvar Remote Control Handset.

312 Multisensor

The 312 contains a Light Sensor, a PIR movement detector and an infrared remote control receiver that allows the multisensor to be operated by the Helvar Remote Control Handset. .

315 iDim Sense

The iDim Sense is a luminaire-based DALI sensor. It combines a PIR movement detector, infrared remote control receiver and photocell (CL) in one enclosure, and a manual mode selector which allows the user to easily select one of the 6 out-of-box application modes.

317 High Bay PIR Absence / Presence Detector

The 317, as part of a Helvar lighting control system, provides automatic control of lighting loads in buildings and interior spaces with high ceilings.

It also an infrared remote control receiver that allows for operation by the Helvar Remote Control Handset.

318 Wall-Mounted PIR Detector (with control button)

The 318, used in conjunction with a Helvar lighting control system, provides automatic control of lighting loads in individual room spaces. As well as the PIR sensor, the 318 has a touch control button which allows manual override of the lighting on/off, and light level adjustment if dimmable lighting is being controlled.

It also an infrared remote control receiver that allows for operation by the Helvar Remote Control Handset.

441 Occupancy Detector Interface

The 441 Occupancy Detector Interface allows connection of a customer specified occupancy sensor to a DIGIDIM-*DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* system. The input accepts a volt free normally closed contact.

Microwave Detectors

313 Low-Profile Microwave Detector

The 313 provides energy-saving functions when used in a *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* system.

It also an infrared remote control receiver that allows for operation by the Helvar Remote Control Handset.

314 Tilting Microwave Detector

The 314 provides energy-saving functions when used in a *DALI Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* system. It has an adjustable sensor head that allows the area of detection to be optimized for each particular installation.

It also an infrared remote control receiver that allows for operation by the Helvar Remote Control Handset.

Light Sensors

312 Multisensor

The 312 contains a Light Sensor, a PIR movement detector and an infrared remote control receiver that allows the multisensor to be operated by the Helvar Remote Control Handset.

The light sensor allows the 312 to be used to control general lighting levels, and to be used as part of a constant light control system.

329 External Light Sensor

The 329 DALI External Light Sensor enables Open Loop Constant Light Control.

Mounted outdoors, the information that it gathers can be used to control general lighting levels.

The 329 can be used to control general lighting levels, and to be used as part of an open loop constant light control system.

Configuring Sensors in Designer

See Control Device Configuration

See Information on Multisensors is listed in a separate section.

Related Topics

- Properties
- Device Tree
- Control Device Configuration

Multisensor (312)

312 Multisensor module

The 312 contains a Light Sensor, a Passive Infra-Red Sensor (PIR) and an infrared remote control receiver that allows the multisensor to be operated by the Digidim Remote Control Handset. The PIR *PIR: Passive Infra-Red detector. A type of presence detector, contained within the 311 Ceiling PIR Detector and the 312 Multisensor Module.* enables the system to detect when an area is occupied and the light sensor *Detects changes in ambient light. Contained within the Multisensor (312).* measures the level of ambient light available.

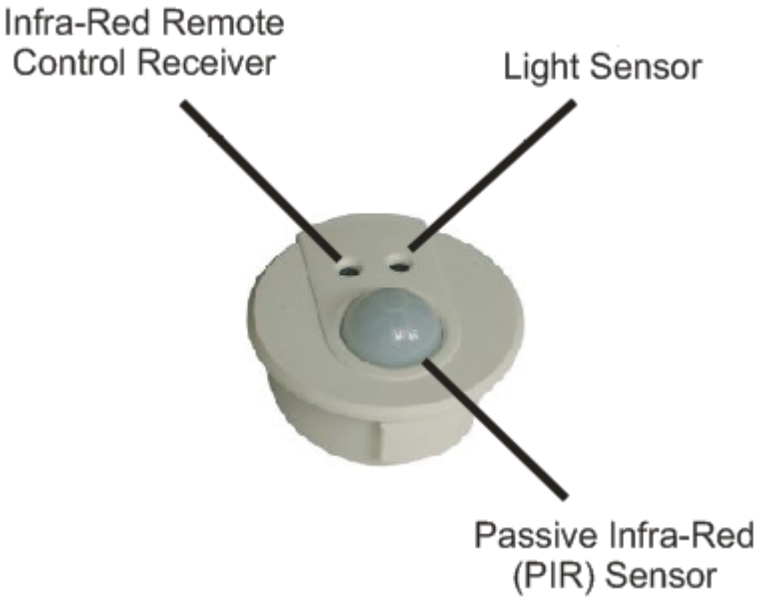
The multisensor is designed to push-fit into a ceiling or luminaire housing. It can also be fitted with a local wall switch, which will provide a manual dimming function if required.

For more information about the product, see 'Digidim Multisensor Product Data Sheet' (Doc. No. 7860047GB).

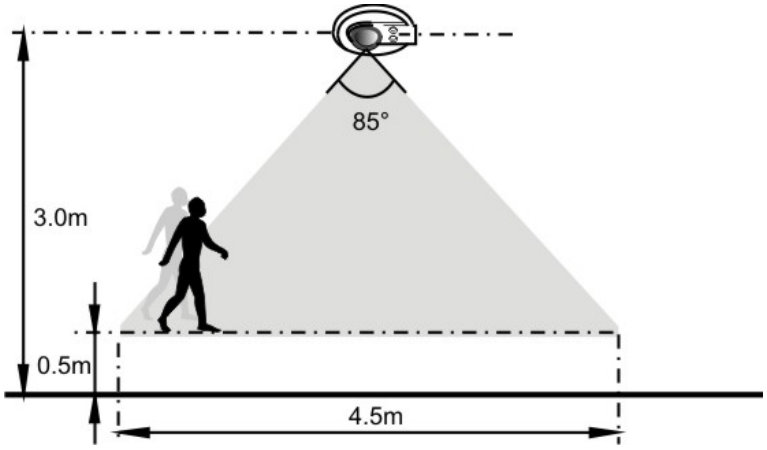
To learn how to configure the multisensor, see Multisensor (312) Configuration.

The DIGIDIM Multisensor module contains:

- a Light Sensor to measure the levels of ambient light available
- a PIR presence detector to detect when an area is occupied
- an Infrared Sensor that allows the multisensor to be operated by the DIGIDIM hand held remote control



Detection Pattern of 312 Multisensor



To learn more about this product, see the Helvar Website.

Related Topics

- Multisensor (312) Configuration
- Multisensor (312) Mimic
- Device Tree
- Properties
- PIR Sensor
- Constant Light Sensor
- IR Sensor

312 Multisensor Configuration

Note:

- Refer to the 'Multisensor 312 Installation Leaflet' (Doc. No. I420M1), for a guide to installing the Multisensor (312).
- You must be in Editor mode to configure the Multisensor 312.
- iDim Sense 315 behaves in the same way as the Multisensor 312. For iDim Sense configuration, follow Multisensor configuration instructions.

Once you have installed the Multisensor to your *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*, you can view it in the Device Tree, by expanding the *router In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* to which it is physically connected and the DALI Subnet which it is on (click ⊞).

Configure Multisensor

See Device Configuration for steps on how to configure the Multisensor.

External Switch Input

DIL Switches

The Multisensor is fitted with 5 *DIL Stands for Dual Inline. A small two-state switch used on electronic devices, normally used to set device configuration settings.* switches. Only switch 5 is relevant in a router system..

- Switch 5 is used for enabling the External Switch *An physical switch which may be connected to the Multisensor (312) via the External Switch Input.* Input. If an external switch is used, then turn on switch 5 of the Multisensor. This relates to the 'External Switch' subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* of the Multisensor (shown as in the Device Tree). *See External Switch Input Configuration for configuring this switch in Designer.*

Notes:

- Switch 5 must be physically switched on at the Multisensor for the External Switch Input function to work. You cannot turn switch 5 on or off in Designer. Whatever is configured in Designer for the 'External Switch' subdevice will only function if switch 5 is turned on at the Multisensor.
- DIL switches 1-4 have NO affect in Router Systems; the Router overrides the settings of these switches.

Related Topics

- Multisensor (312)
- External Switch Input Configuration
- PIR Configuration
- Constant Light Configuration
- Infrared Remote Control Sensor Configuration
- Device Tree
- Device Configuration

- Properties
- Configuring the Remote Control Handset

External Switch

External Switch Input Configuration

The first *subdevice A physical object that forms part of another device, with which you can interact, either directly or via Designer.* is an *external switch An physical switch which may be connected to the Multisensor (312) via the External Switch Input.* which may be connected to the Multisensor. Turn on *DIL Stands for Dual Inline. A small two-state switch used on electronic devices, normally used to set device configuration settings.* switch 5 of the Multisensor to enable the external switch input. *See Multisensor Configuration for information on physical switching.*

By default, the External Switch Input is in 'Toggle Block' mode and performs two functions, Scenes 1 and 15, but can be configured in the same way as other buttons or switch inputs. You can also change the mode.

The External Switch Input is indicated by in the Device Tree.

Note:

- The External Switch Input is contained within the Multisensor (312), and is therefore displayed as a subdevice of the Multisensor in the Device Tree .
- You must be in Editor mode to configure the External Switch Input.

Configure External Switch Input

By default, the external switch operates as per the following:

1. First button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* press performs **On Function 1**.
2. Second button press performs **On Function 2**.
3. Third button press performs **Off Function**.

See Subdevice Configuration and Edge Mode Configuration for steps on how to configure the External Switch Input.

Related Topics

- Multisensor (312)
- Multisensor (312) Configuration
- Properties
- Device Tree
- Subdevice Configuration
- Edge Mode Configuration

Constant Light

Constant Light Sensor

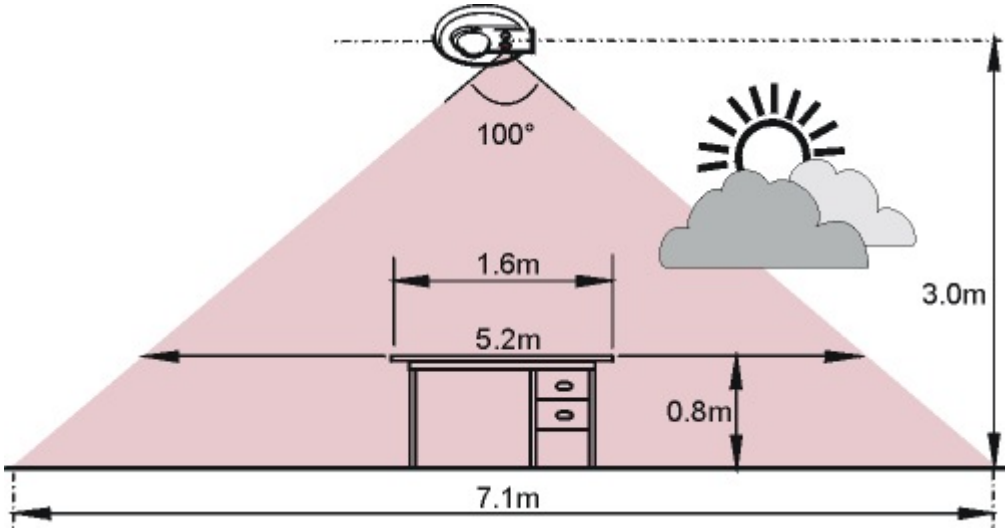
The *Light Sensor Detects changes in ambient light. Contained within the Multisensor (312).* measures reflected light from the surface directly below the Multisensor. The information that it gathers may be used to control general lighting levels. For instance, if sunlight is streaming in through a window, this will raise the overall light level in the room. The Light Sensor will detect this, and will reduce the energy levels supplied to the lamps, even to the point of turning them off. If the day then becomes overcast, the system will respond to the lower levels of ambient light by increasing the energy provided to the lamps. The system will maintain a constant light level, using the minimum of energy to do so.

The sensor has an unrestricted viewing angle of 100°. With a ceiling height of 3m, this will provide coverage of an area with a diameter of approximately 5.2m at desktop height. A viewing angle restrictor is provided with each unit that will reduce the angle to 40° when fitted. This corresponds to an area of approximately 2.1m diameter, or roughly the surface area of a desktop.

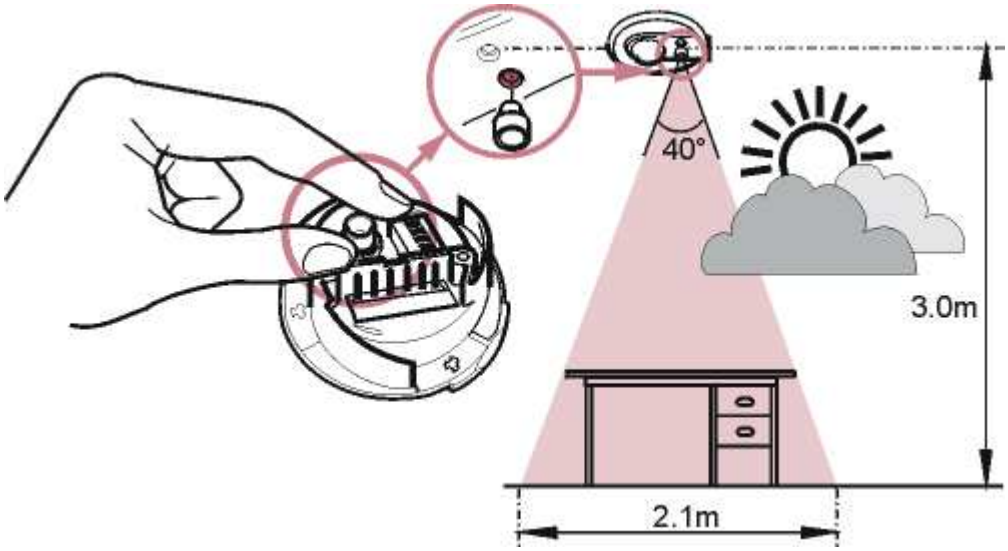
To learn how to configure the Light Sensor, see Constant Light Configuration.

To learn more about Constant Light, see Working with Constant Light.

Light Sensing



Viewing Restrictor



Tips:

- Use the viewing restrictor to make the sensor's viewing angle the approximate area of a desktop, ensuring that it monitors the ambient light levels in the area that Constant Light control affects.
- The sensor does not display a LUX level. If you are required to obtain LUX levels, then place a LUX meter in the viewing area of the sensor, and adjust the lights until you achieve your desired LUX level.

Related Topics

- Constant Light Configuration
- Working with Constant Light
- Multisensor (312)
- PIR Detector
- IR Remote Control Receiver
- Properties
- Device Tree

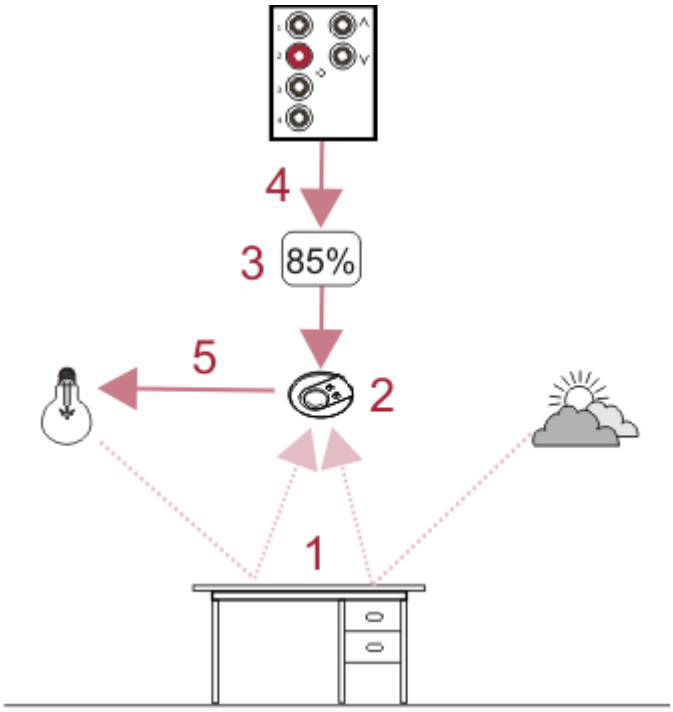
How Constant Light Works

What is Constant Light Control?

Constant Light control is a method of automating the operation of the system's lamps. Its use can provide a great deal of convenience for the building's occupants, but perhaps the main reason for using it is that it provides a considerable increase in energy efficiency. It ensures that the output of the lamps is no higher than is required to maintain the desired light level.

For buildings fitted with air conditioning systems, there is an additional saving associated with reducing the need to remove waste heat.

How Constant Light Works



1. The available light in a room is a mixture of ambient (daylight) and artificial light.
2. The Multisensor contains a Light Level Sensor, which measures the amount of light that is reflected from the surface directly below.
3. The system is provided with a target level for the amount of light that the Light Sensor *Detects changes in ambient light. Contained within the Multisensor (312).* should receive.
4. A Constant Light scene is recalled.
5. After comparing the Light Sensor's level with the target level, the system sends commands that raise or lower the output level of the lamps in an attempt to match the two levels. This process operates continuously, as the system attempts to maintain the light level close to the target level.

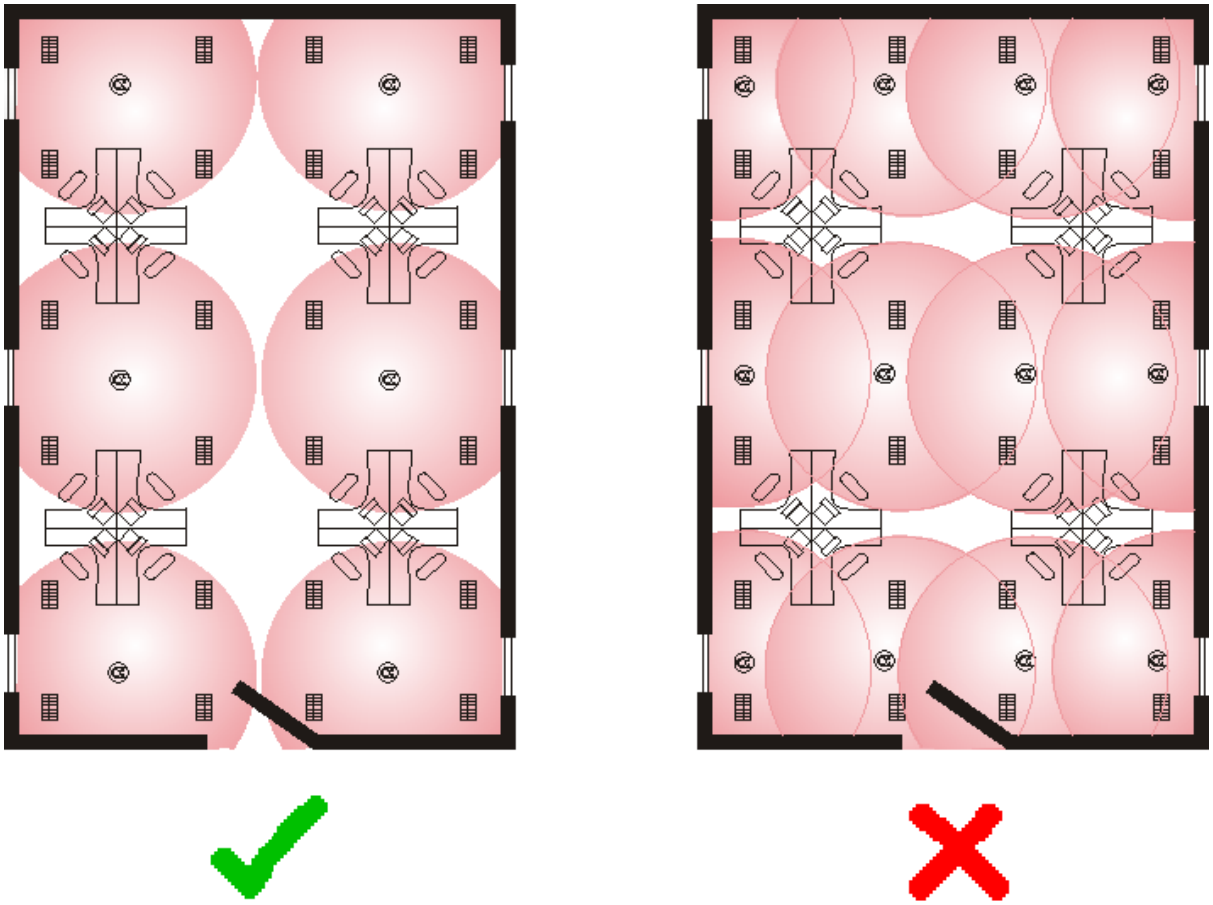
The effect of this is that the lamps should only output sufficient light to maintain the desired level of light in the room. This means that the lamps will be operating at a low level, or will be switched off, when the room is filled with sunlight. The lamp's output will gradually increase as night falls, or the sky becomes overcast. Since the lamps will only provide the amount of light that is necessary, they will use the absolute minimum amount of energy, in order to achieve the desired

light level.

Constant Light in Operation

The art of designing a successful Constant Light control system is to position the sensor carefully and to set the target levels within the capabilities of the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* .

- Do not have the Multisensor too close to the window.
- Ensure that the Multisensors are positioned so that their viewing angles do not overlap. *See Light Sensor for information on Light Sensor viewing angles.*
- Ensure that the Multisensor is situated in the vicinity of the loads which you wish Constant Light control to affect, and not near another Multisensor, or lights which are being monitored by another Multisensor (Light Sensor).



Key:

Multisensor

Load

There are three important factors to be aware of:

1) The Effect of Room Decor

The amount of light that the sensor receives is highly dependent on the reflective qualities and colour of the surfaces in its viewing area. The sensor is very sensitive and if the qualities of the surface it is viewing change, the Multisensor will respond by adjusting the light output accordingly.

For instance, if the sensor is set up over a desk made of a dark material, placing white paper documents on the desk top will increase the reflected light by a considerable amount. The sensor will 'see' this as evidence of a brighter room, and will dim the lamps accordingly. If the paper is removed, the sensor will receive less light, and the lamps will brighten. A similar effect can occur if furnishings of the room are rearranged after the light sensor has been set up.

The design of the system provides a partial answer to this in that its response to changes in light level is very slow. This means that the room's occupants will not see an annoying fluctuation of light as the reflectivity of the sensing area changes. You can also minimise the effect by ensuring that the Multisensor is installed in a location that is not going to be subject to routine changes of reflectivity in its viewing area. Also, ensure that it is not positioned too close to the window, as this will affect the overall light level that the sensor measures.

The Light Sensor's viewing angle restrictor should normally be used to help with this. *See Light Sensor.*

2) Setting the Target Level

The Constant Light process functions on a simple feedback principle, and has no means of knowing the capabilities of the lamps that it is controlling. This means that it is possible to set the target level so that the system will attempt to make the lamps produce more light than they are capable of.

If the target level is set on a bright day, the level recorded by the light sensor may be many times the level that the lamps are capable of producing, in the absence of natural light. Under these circumstances the system will simply increase the lamps output to 100% and will remain operating at that level.

The solution to this is to set up the target levels with the blinds drawn, on a dull day, or at dusk. The aim is to ensure that the majority of light that the sensor is receiving is produced by the lamps under Constant Light control. If the system's users are to have control of the target level, it is important to make them aware of this.

3) Setting Specific Levels

The light level measured by the light sensor is relative, and can not be calibrated to correspond to a specific LUX level produced by the lighting system.

However, if attaining specific LUX levels is a requirement of your installation, you can obtain an approximate setting as follows:

1. Place a LUX meter in the working plane within the Multisensor's viewing area.
2. Adjust the lamps until the LUX meter shows the desired value.
3. Store the current multisensor light reading level as a Constant Light target level.

Note:

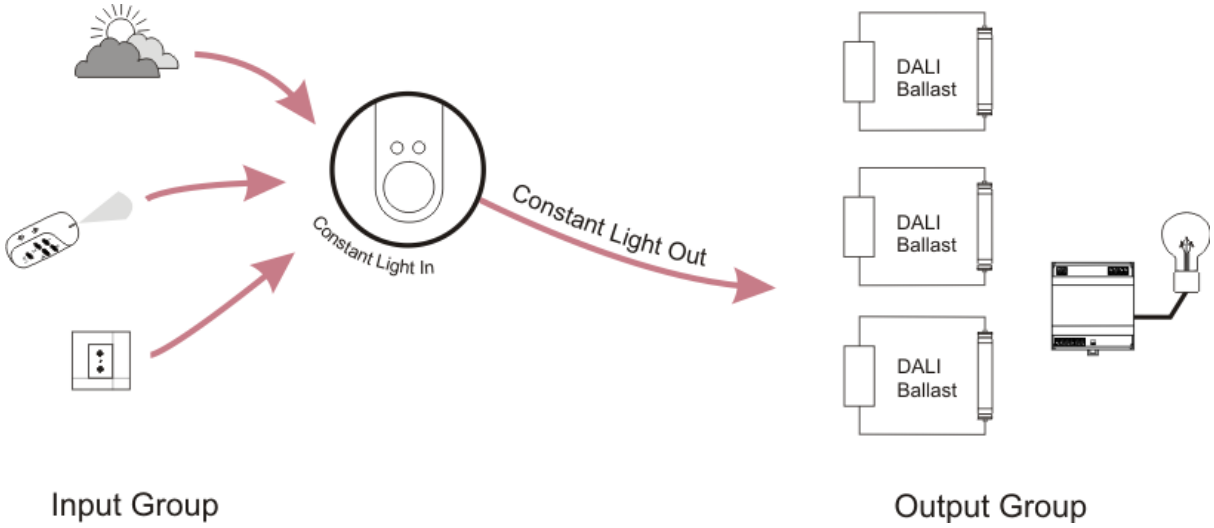
- Although this method will provide a good approximation of the desired level, it is dependent on the reflectivity of the sensor's viewing area. You may not be able to repeat the measurement unless you are able to exactly reproduce the conditions that existed at the time the setting was made.
- If lamps are already at full level, and the LUX level is still not achieved, then, obviously, you will not be able to achieve your desired LUX level. This is why it is good to know your system capabilities.

Constant Light Operation in Router Systems

Constant Light operation in *router* *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* systems may require the use of two groups. The first of these, known as the **Input Group (Constant Light Sensor)**, contains the controllers that are to be used to set up and control constant light operation. The second, the **Output Group (Controlled Loads)**, contains the LIUs (Lamp Interface Units, or loads) for the lamps that are to be subject to constant light control.

Tip:

- In the simple case, with a sensor controlling Constant Light in only one group of loads, the Input Group and Output Group may be the same. For more complex situations, where more than one Output Group is required, the Input Group and Output Groups must be different.



Recall of a Constant Light *scene Collection of lighting levels for each channel assigned to the same group as the scene.* in the Input Group results in that scene being called in the Output Group, and the target level for that Constant Light scene being used. After a settling period, the lights in the Output Group are automatically adjusted to maintain the measured light level at the target level.

Related Topics

- Constant Light Configuration
- Light Sensor
- PIR Sensor
- PIR Configuration
- Multisensor
- Multisensor Configuration

Constant Light Configuration

The difference between Constant Light and Fixed Light is:

- **Constant Light** is where the load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* (ballast/dimmer) output is automatically adjusted to compensate for changes in ambient light.
- **Fixed Light** is where the load output is NOT adjusted by the Light Sensor.

The *Light Sensor Detects changes in ambient light. Contained within the Multisensor (312).* can detect levels of ambient light (i.e. daylight) and adjust the light levels to compensate for changes in ambient light.

The sensor is indicated by in the Device Tree.

Notes:

- The Light Sensor is contained within the Multisensor (312), and is therefore displayed as a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* of the Multisensor in the Device Tree .
- You must be in Editor mode to configure the Light Sensor.

To learn more about Constant Light, see Working with Constant Light.

Configure Light Sensor

See Subdevice Configuration for steps on how to configure the Light Sensor.

Configure Constant Light

Constant Light operation allows two groups:

- **Input Group.** The Light Sensor, and the control devices (push buttons, IR *Stands for Infrared. Infrared radiation is a form of light that is invisible to the human eye, and is often used as a medium to send information between two devices.* , PIR) which are required to recall or adjust Constant Light, must be in this group.
- **Output Group.** The loads (ballasts/dimmers) must be in this group. This is the group that the Light Sensor will send step up or down commands to, while it tries to maintain the desired light level (the target level).

Constant Light adjusts output light levels (by affecting the loads in the **Output Group**), according to the ambient light level measured by the Light Sensor in the **Input Group**, in order to achieve the target light level.

A Constant Light Routing Entry defines the Input and Output Groups, as well as the target levels.

Tips:

- In the simple case, with a sensor controlling Constant Light in only one group of loads, the Input Group and Output Group may be the same. For more complex situations, where more than one Output Group is required, the Input Group and Output Groups must be different.
- Once you have configured Constant Light, to call Constant Light Scenes from a control device *A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.* in the Input Group, you must set the function of the subdevice to 'Recall Scene *Collection of lighting levels for each channel assigned to the same group as the scene.*

(Constant Light)'. *See Subdevice Configuration.*

Notes:

- You must be in Editor mode to configure Constant Light.
- You must be Online to activate and configure Constant Light to the Light Sensor.
- You must be in Live mode to call and affect Constant Light Scenes in real time and in the real lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* (the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.*).

Constant Light Routing Entry

1. Click to view Routing Entries.
2. Click in Routing Entries view and click or right-click and select 'Insert'.
3. Select Constant Light. *The Constant Light Routing Entry appears in Routing Entries view.*

Startup	Description	Trigger	Action	Condition	State
	Constant Light	When Ungrouped Light Level	Maintain Constant Light In Ungrouped	Always	Inactive

Tip:

- You can assign multiple Constant Light Routing Entries to one sensor, assigning each entry to a different **Out Group** (i.e. to loads in different groups). This is useful if you wish the lights in different areas of the room (and therefore the lights assigned to different groups) to be affected by the same sensor. These outputs can have different scaling rates e.g. 50% scaling to the lights near the windows because there is more ambient light, 25% scaling to the next set of lights further in the room, then 10% to the set of lights in the centre of the room as there is the least ambient light there.

Note:

- In Online mode, the **Current Light Level** field appears in the Constant Light Routing Entry Properties, which shows the level (0..200) of the light currently measured by the sensor.

To configure the Constant Light Routing Entry, ensure that the entry is selected in Routing Entries view.

Name

You may wish to enter a name for the Presence Detection Routing Entry, which relates to its function, for example.

1. In the **Common** section of Properties, enter a name in the **Name** field.
2. Click . *The Presence Detection entry is renamed in Routing Entries.*

Assign Condition to Constant Light

If you wish to apply a condition to the routing entry:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*
3. Click .

Assign Constant Light Routing Entry to Light Sensor Group (Input Group)

Tip:

- Enter the group to which the Light Sensor is assigned.

4. In Properties view, click in the **Group** field in the **Constant Light Sensor** section.
5. Enter the group number to which the Light Sensor is assigned.
6. Click .

Assign Constant Light Routing Entry to Loads (Output Group)

Tips:

- Enter the group of the loads which you wish the Constant Light Routing Entry to affect. *You can assign the Light Sensor and loads to be in the same group, or in different groups, depending on what you want to achieve for this particular entry. Where there is only one group of loads to control, the Input Group and Output Group can be the same. For more complex systems, with graduated Constant Light, for example, then there must be more than one Output Group, and the Input and Output Groups must be different.*

7. In the **Controlled Loads** section, click in the **Group** field.
8. Enter the group number of the loads which you wish to affect.
9. Click .

Scaling

Scaling is the rate at which light levels are adjusted during Constant Light operation (0% being the slowest rate and 100% being the fastest rate).

Notes:

- For multiple Output Groups, the relative size of the scaling indicates how much faster or further one Output Group will vary in comparison to another Output Group. *For example, the lights in the Output Groups all start at 50%, and the first of the Output Groups has a scaling factor of 20% and the second a scaling factor of 10%, with the measured light level being above the target level. By the time the lights in the first Output Group are reduced to a level of 30% (20% lower than their starting level), the lights in the second Output Group are changed by half (10/20) of this i.e. from 50% to 40% level (10% lower than their starting level).*
- When Constant Light operation causes the Output Group with the largest scale factor to reach minimum or maximum, the other Output Groups are not adjusted further in that direction. This prevents groups, other than the main Output Group, from being sent to minimum or maximum undesirably.

1. Click in the **Percentage** field of the **Scaling** section.
2. Enter the percentage (0-100%) of scaling. *The default is 100%.*
3. Click .

Response Rates and Dead Band Size

Up Rate

This is the rate at which the Light Sensor adjusts the lighting when the measured light level is lower than the target level. *The range is /10% to x10% and the default is x1%.*

1. Click in the **Up Rate** field and click .
2. Select a rate from the drop-down menu.
3. Click .

Down Rate

This is the rate at which the Light Sensor adjusts the lighting when the measured light level is higher than the target level. *The range is /10% to x10% and the default is x1%.*

1. Click in the **Down Rate** field and click .
2. Select a rate from the drop-down menu.
3. Click

Dead Band

This defines the range within which the measured light level is considered to be close enough to the target level, preventing further adjustment. This is used to prevent the sensor constantly searching for the target light level and therefore the levels flickering up and down. *The range is +/- 2% to +/- 10% and the default is +/- 4%.*

1. Click in the **Dead Band** field and click .
2. Select a range from the drop-down menu.
3. Click

Target Levels

You can set the target light levels for each of the On Scenes (1-12). During Constant Light operation, the output light level of the load in the **Output Group** is adjusted, with the aim of making the measured light level equal to the target level.

Note:

- The target levels correspond to the measured light level.

1. In the **Target Levels** section, click in **Target Level for Scene...** field for the scene you wish to set the target level for. *Notice that they are set to '100' by default.*
2. Enter a number (0-200) or click and choose from 'Last Level' or 'Fixed Light' (to ignore Constant Light).
3. Click .

Lights Off Levels

This is the light level at which the loads will be turned off because ambient light is sufficient. In other words, if the amount of ambient light reaches or exceeds the lights off level, then the loads' output (lights) will be gradually decreased, until they are off.

Notes:

- The lights off level must be set to a higher value than the target level. This is because you do not want the lights to turn off before the target level is reached.
- If you input a value of less than 5 greater than the target level, Designer enforces a value of 5 greater than the target level.

You can set lights off levels for each Scene (1-12).

1. In the **Lights Off Levels** section, click in **Lights Off Level for Scene...** field for the scene you wish to set the lights off level for. *Notice that the lights off levels are set to 'Disabled' by default.*
2. Enter a number (0-199) or click and select 'Disabled' (to not use lights off levels).
3. Click .

Calling Constant Light Scenes

- You can call Constant Light Scenes from buttons (subdevices) which are configured to recall Constant Light Scenes.
- You can also call Constant Light Scenes from Go To and the Scene Table. *See 'Go To' a Constant Light Scene for steps on how to call a Constant Light Scene from 'Go To' and the Scene Table.*

Related Topics

- Constant Light Sensor
- Working with Constant Light
- Multisensor (312)
- Subdevice Configuration
- Properties
- PIR Detector
- PIR Configuration
- Go To
- Scene Table
- Device Tree
- Working with Open Loop Constant Light
- Working with Open Loop Scene Recall

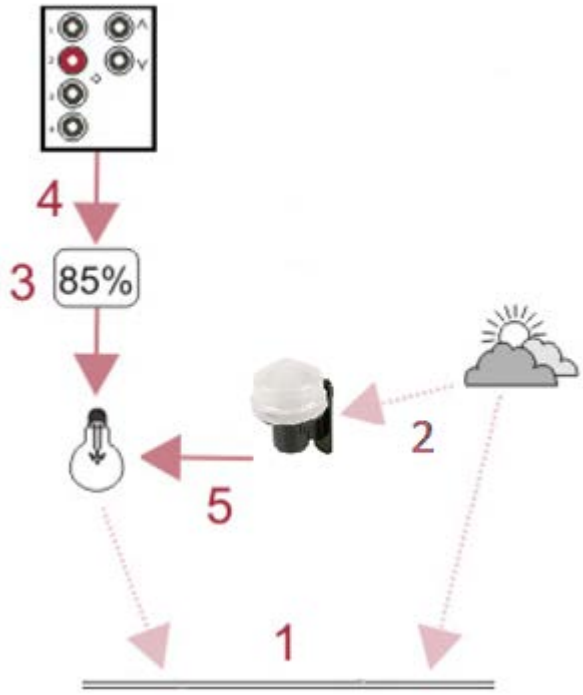
Working with Open Loop Constant Light

What is Open Loop Constant Light Control?

Open Loop Constant Light control is a method of automating the operation of the system's lamps. Its use can provide a great deal of convenience for the building's occupants, but perhaps the main reason for using it is that it can provide a considerable increase in energy efficiency. It ensures that the output of the lamps is no higher than is required to maintain the desired light level.

For buildings fitted with air conditioning systems, there is an additional saving associated with reducing the need to remove waste heat.

How Open Loop Constant Light Works



1. The available light in a room is a mixture of ambient (daylight) and artificial light.
2. The External Light Sensor measures the amount of daylight.
3. The system is provided with a scene level for the amount of light required in the absence of daylight.
4. A Constant Light scene is recalled.
5. The Light Sensor measures the daylight and sends proportion commands that raise or lower the output level of the lamps corresponding to the Source Level Direct Proportion profile table. This process operates continuously to maintain the programmed proportionality profile.

The effect of this is that the lamps should only output sufficient light to maintain the desired level of light in the room. This means that the lamps can be operating at minimum when the room is filled with sunlight. The lamp's output will gradually increase as night falls, or the sky becomes overcast. Since the lamps will only provide the amount of light that is necessary, they will use the absolute minimum amount of energy, in order to achieve the desired light level.

Open Loop Constant Light in Operation

The art of designing a successful Open Loop Constant Light control system is to position the external sensor carefully, profile the controlled areas to understand daylight contribution under various sky conditions and to suitably match the Source Level for Direct Proportion levels.

It is essential that the light sensor measurement accurately represents the lighting conditions if predictable and consistent results are to be achieved and for this there are two critical effects that ideally should be avoided, shadowing and hot-spotting.

1) Shadowing

In the ideal a building would be isolated and removed from other structures with a sensor mounted on the roof and away from obstructions.

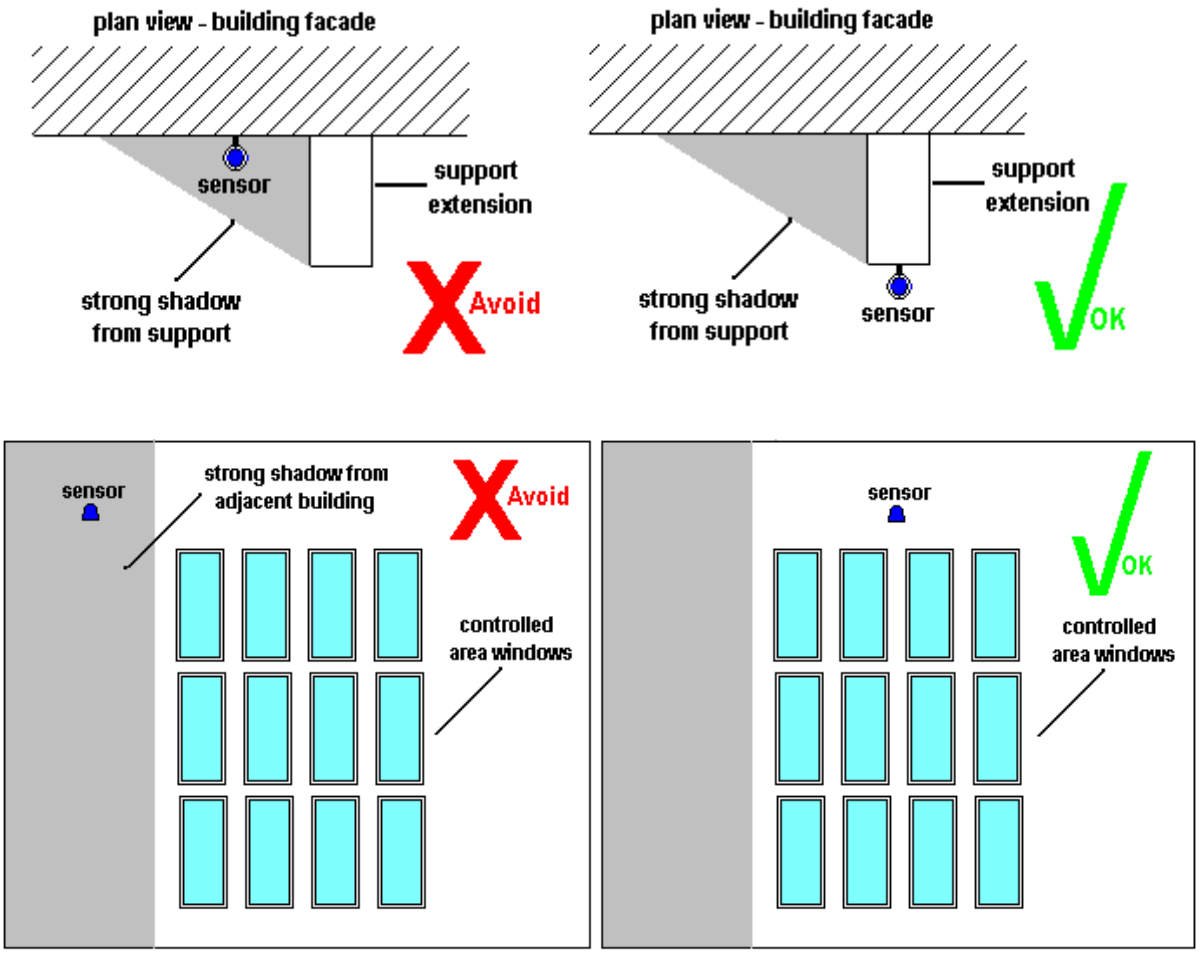
In practice there will be adjacent buildings and obstructions that can give strong shadows at various times of the day and during the course of the year. One solution is for the sensor to be mounted in association with the controlled area and thereby minimise compromise. In all cases careful thought to sensor siting will save programming and response compromises.

Where a single sensor is to be used with multiple controlled areas or if simply there are practical restrictions to mounting location and height then compromises will be inevitable and these must be understood and accommodated. Typically the control system could be programmed to ignore light changes at certain times of the day or month etc.

When complex shadowing cannot be avoided it can be beneficial to locate the sensor in permanent shadow such that it measures the skylight only. This will give a consistent measurement but will not reflect the local effects of strong sunlight interspersed with shadow. Here more careful consideration is required to The Source Level for Direct Proportion table values.

2) Hot-spotting

Hot-spotting is a consequence of an unwanted reflection giving additional light to the sensor. Predicting a problem can be difficult as for example the effect of opening a nearby window can easily be missed.



There are important practical factors to be aware of:

A) Setting the Source Level for Direct Proportion

The external sensor functions on an open loop principle, and has no means of knowing either the capabilities of the lamps or the effect of modifying their output. This means that it is possible to set the source level correctly for one type of light whilst being totally inappropriate for another. Correct profiling, that is understanding the effect of modifying the artificial light level for the controlled area with respect to the contributing daylight is essential in achieving the intended operation.

B) Interacting with other controls

If there are methods of controlling the daylight locally, such as blinds, then this must be factored into the design strategy. For example, if the blinds are controlled as part of the lighting control system then conditions can be applied to the Open Loop Constant Light routing entry to effect a change in response.

C) Setting Specific Levels

The light level measured by the external light sensor is the LUX value at its location and can not be calibrated to correspond to a specific LUX level produced by the lighting system.

Attaining specific LUX levels for your installation requires accurate profiling to determine the appropriate Direct Proportion reduction in the artificial lighting in response to available daylight. The contributing daylight of the controlled area relative to the external LUX level and thereby the supplementary lighting, if any, required from the artificial lighting needs to be measured and the results used to create the Source Level for Proportion Control profile table.

One method you can obtain an approximate setting is as follows:

1. Place a LUX meter in the working plane to be controlled.
2. Adjust the lamps until the LUX meter shows the desired value.
3. Record the Current Light Level reported by the external sensor.
4. Compare the % light against the default Direct Proportion for the daylight and intended starting constant light scene.
5. Modify, if necessary, the Source Level for the Direct Proportion needed then scale other source levels accordingly.

Notes:

- Accuracy will improve with the greater number of variations in daylight measured.
- Scaling using the typical LUX value against sky condition, see External Light Sensor, provides a useful starting point profile. This assumes pro-rata daylight contribution with changes in sky condition that may not be the case with low sun angles.
- Although this method will provide an approximation of the desired level, it is dependent on the exact conditions at the time of profiling. You may not be able to repeat the measurement unless you are able to exactly reproduce the conditions that existed at the time the setting was made.
- If lamps are already at full level, and the LUX level is still not achieved, then, obviously, you will not be able to achieve your desired LUX level. This is why it is good to know your system capabilities.

Exploiting Scaling with Multiple Output Groups

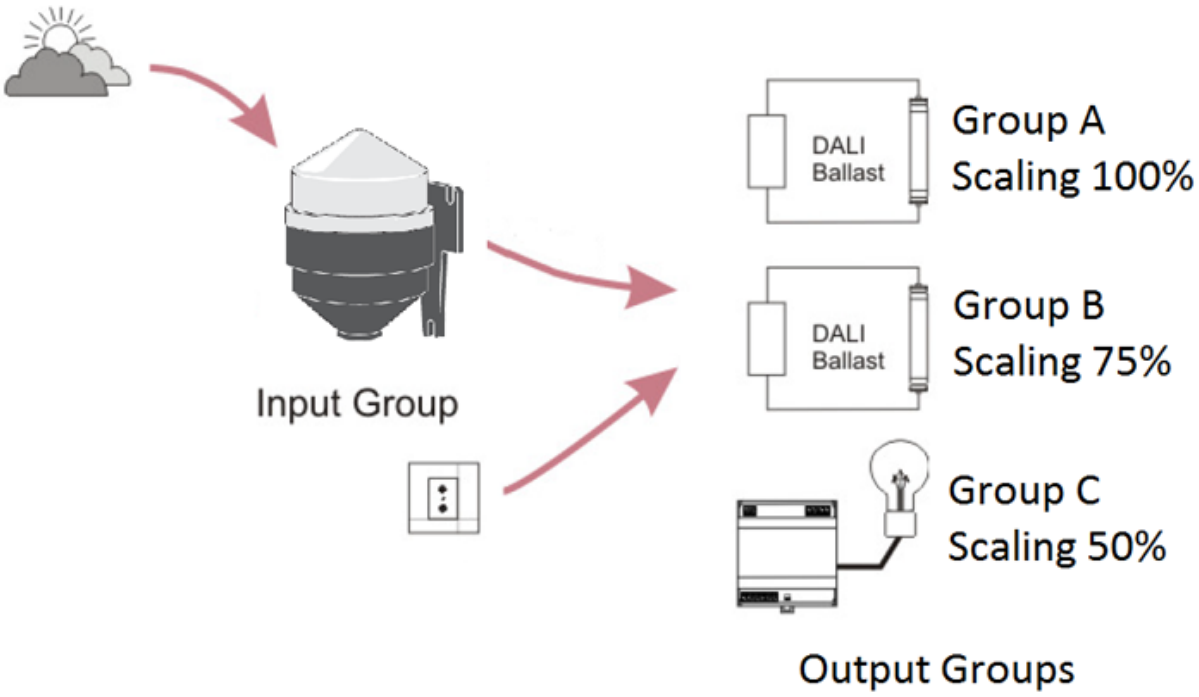
Open Loop Constant Light operation may require the use of two groups. The first of these, known as the Input Group (Light Sensor), contains the controllers that are to be used to set up and control open loop constant light operation. The second, the Output Group (Controlled Loads), contains the LIUs (Lamp Interface Units, or loads) for the lamps that are to be subject to open loop constant light control.

Tip:

- In the simple case, with a sensor controlling Constant Light in only one group of loads, the Input Group and Output Group may be the same. For more complex situations, where more than one Output Group is required, the Input Group and Output Groups must be different..

The same external light sensor (Input Group) can be used to control as many output groups as desired each simply requiring a separate Routing Entry.

A useful feature for numerous areas serviced by the same windows is to group the lighting in sections corresponding to the distance from the windows. This allows scaling from the window group(s) to the more distant groups but with the same Source Level profile.



Recall of an Open Loop Constant Light scene in the Input Group results in that scene being called in the Output Group, and the Scaling of the Source Level for Direct Proportion being applied. After a settling period, the lights in the Output Group are automatically adjusted.

Related Topics

- Open Loop Constant Light Configuration
- Open Loop Scene Recall
- Open Loop Scene Recall Configuration
- External Light Sensor (329)

Open Loop Constant Light Configuration

The difference between Constant Light and Fixed Light is:

- **Constant Light** is where the load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* (ballast/dimmer) output is automatically adjusted to compensate for changes in ambient light.
- **Fixed Light** is where the load output is NOT adjusted by the Light Sensor.

The External Light Sensor can detect levels of ambient light (i.e. daylight) reflected off surfaces and adjust the light levels to compensate for changes in ambient light.

The sensor is indicated by in the Device Tree.

Notes:

- The Light Sensor is contained within the External Light Sensor (329) [for internal light sensing, use the Multisensor (312)] and is therefore displayed as a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* of the External Light Sensor in the Device Tree.
- You must be in Editor mode to configure the Light Sensor.

To learn more about Open Loop Constant Light, see Working with Open Loop Constant Light.

Configure the Light Sensor

See Subdevice Configuration for steps on how to configure the Light Sensor.

Configure Open Loop Constant Light

Open Loop Constant Light operation allows two groups:

- **Input Group.** The Light Sensor, and the control devices (push buttons, IR *Stands for Infrared. Infrared radiation is a form of light that is invisible to the human eye, and is often used as a medium to send information between two devices.* , PIR) which are required to recall or adjust Open Loop Constant Light, must be in this group.
- **Output Group.** The loads (ballasts/dimmers) must be in this group. This is the group that the Light Sensor will send direct proportion commands to, as it responds to changes in the external daylight.

Open Loop Constant Light adjusts output light levels (by affecting the loads in the **Output Group**), according to the daylight level measured by the External Light Sensor in the **Input Group**, following the Source Level for Direct Proportion table.

An Open Loop Constant Light Routing Entry defines the Input and Output Groups, as well as the values of the Source Levels (for Direct Proportion response).

Tips:

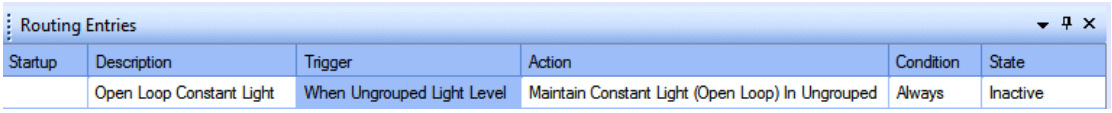
- In the simple case, with a sensor controlling Open Loop Constant Light in only one group of loads, the Input Group and Output Group may be the same. For more complex situations, where more than one Output Group is required, the Input Group and Output Groups must be different.
- Once you have configured Open Loop Constant Light, to call Open Loop Constant Light Scenes from a *control device* in the Input Group, you must set the function of the subdevice to 'Recall *Scene* (Constant Light)'. *See Subdevice Configuration.*

Notes:

- You must be in Editor mode to configure Open Loop Constant Light.
- You must be Online to activate and configure Open Loop Constant Light to the Light Sensor.
- You must be in Live mode to call and affect Constant Light Scenes in real time and in the real lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* (the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.*).

Open Loop Constant Light Routing Entry

1. Click to view Routing Entries.
2. Click in Routing Entries view and click or right-click and select 'Insert'.
3. Select Open Loop Constant Light. The Open Loop Constant Light Routing Entry appears in the Routing Entries view.



Tip:

- You can assign multiple Open Loop Constant Light Routing Entries to one sensor, assigning each entry to a different Out Group (i.e. to loads in different groups). This is useful if you wish the lights in different areas of the building (and therefore the lights assigned to different groups) to be affected by the same sensor. These outputs can have different scaling e.g. 50% scaling to the lights near the windows because there is more ambient light, 25% scaling to the next set of lights further in the room, then 10% to the set of lights in the centre of the room as there is the least ambient light there.

Note:

- In Online mode, the **Current Light Level** field appears in the Open Loop Constant Light Routing Entry Properties, which shows the level (0..200) of the light currently measured by the sensor.

To configure the Open Loop Constant Light Routing Entry, ensure that the entry is selected in Routing Entries view.

Name

You may wish to enter a name for the Open Loop Constant Light Routing entry, which relates to its function, for example.

1. In the **Common** section of Properties, enter a name in the **Name** field.
2. Click . *The Open Loop Constant Light Routing entry is renamed in Routing Entries.*

Assign Condition to Open Loop Constant Light

If you wish to apply a condition to the routing entry:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

3. Click .

Assign Open Loop Constant Light Routing Entry to Light Sensor Group (Input Group)

Tip: Enter the group to which the Light Sensor is assigned.

4. In Properties view, click in the **Group** field in the **Constant Light Sensor** section.
5. Enter the group number to which the Light Sensor is assigned.
6. Click .

Assign Constant Light Routing Entry to Loads (Output Group)

Tips:

- Enter the group of the loads that you wish the Open Loop Constant Light Routing Entry to affect. *You can assign the Light Sensor and loads to be in the same group, or in different groups, depending on what you want to achieve for this particular entry. Where there is only one group of loads to control, the Input Group and Output Group can be the same. For more complex systems, with graduated Constant Light, for example, then there must be more than one Output Group, and the Input and Output Groups must be different.*

7. In the **Controlled Loads** section, click in the **Group** field.
8. Enter the group number of the loads which you wish to affect.
9. Click .

Scaling

Scaling is the % of the Direct Proportion % at which the selected scene light levels are adjusted during Open Loop Constant Light operation, 100% being the specified proportion and 1% being 1% of the specified proportion. Setting 0% makes the proportion process ineffective and gives a fixed light scene.

Notes:

- For multiple Output Groups, the relative size of the scaling indicates the ratio by which one Output Group will vary in comparison to another Output Group. *For example, the lights in the Output Groups all start at 50%, and the first of the Output Groups has a scaling factor of 100% and the second a scaling factor of 50%, with the measured light level being at The Source Level for Direct Proportion of –60%. The lights in the first Output Group are reduced to a level of 20% (60% lower than their starting level), the lights in the second Output Group are changed by half (100/50) of this i.e. from 50% to 35% level (30% lower than their starting level)*.

1. Click in the **Percentage** field of the **Scaling** section.
2. Enter the percentage (0-100%) of scaling. *Notice that the default is 75%.*
3. Click .

Response Rates and Dead Band Size

Up Rate

This is the rate at which the Light Sensor adjusts the lighting when the measured light level has changed and requires the controlled lights to be increased in level. *The range is /10% to x10% and the default is x1%.*

1. Click in the **Up Rate** field and click .
2. Select a rate from the drop-down menu.
3. Click

Down Rate

This is the rate at which the Light Sensor adjusts the lighting when the measured light level has changed and requires the controlled lights to be reduced in level. *The range is /10% to x10% and the default is x1%.*

1. Click in the **Down Rate** field and click .
2. Select a rate from the drop-down menu.
3. Click

Dead Band

This defines the range within which the measured light level is considered to be stable and thereby not requiring further adjustment of the controlled lights. This is used to prevent the sensor searching in response to very small changes in light level. *The range is +/- 2% to +/- 10% and the default is +/- 4%.*

1. Click in the **Dead Band** field and click .
2. Select a range from the drop-down menu.
3. Click

Source Levels

You can set the source light levels for each of the Direct Proportion ratios. During Open Loop Constant Light operation, the level of the **Output Group** is modified by the direct proportion assigned to the measured light level. For intermediary light levels between the set points the direct proportion adjustment is linearly interpolated. This allows tailoring of the artificial lighting to suit daylight conditions for energy saving or aesthetic purposes. With suitable building profiling approximation to constant light control is possible .

Note:

- The source levels correspond to the measured light level.

Source Levels (0..200)	
Source Level for Direct Proportion -90%	200
Source Level for Direct Proportion -80%	180
Source Level for Direct Proportion -70%	160
Source Level for Direct Proportion -60%	140
Source Level for Direct Proportion -50%	120
Source Level for Direct Proportion -40%	100
Source Level for Direct Proportion -30%	80
Source Level for Direct Proportion -20%	60
Source Level for Direct Proportion -10%	50
Source Level for Direct Proportion -5%	40
Source Level for Direct Proportion -2%	30
Source Level for Direct Proportion -1%	20

The source level table is preset with default light values. The values can be edited to any value between 0 and 200 but the order sequence should be either ascending or descending only. Repeated values with give a “dead-band”.

1. In the **Source Levels** section, click in **Source Level for Direct Proportion...** field for the level you wish to adjust. *Notice that there is a default value for each proportion.*
2. Enter a number (0-200). Note that entering 0 (zero) gives 'Fixed Light' operation, observing the order sequence of values.
3. Click .

Calling Constant Light Scenes

- You can call Constant Light Scenes from buttons (subdevices) which are configured to recall Constant Light Scenes.
- You can also call Constant Light Scenes from Go To and the Scene Table. *See 'Go To' a Constant Light Scene for steps on how to call a Constant Light Scene from 'Go To' and the Scene Table.*

Related Topics

- Working with Open Loop Constant Light
- External Light Sensor (329)
- Subdevice Configuration
- Properties
- Go To
- Scene Table
- Device Tree

Working with Open Loop Scene Recall

Open Loop Scene Recall control is a method of automating the operation of the system's lamps based on measurements from light sensors. Its proper use can provide a great deal of convenience for the building's occupants and an increase in energy efficiency.

How Open Loop Scene Recall Works

1. The available light in a room is a mixture of ambient (daylight) and artificial light.
2. The External Light Sensor measures the amount of daylight.
3. The Light Sensor measurement is used by the lighting router system to recall a scene based on a preset trigger threshold.

The effect of this is that the lamps can be controlled to increase both comfort and reduce energy based on the level of ambient light. For example, Open Loop Scene Recall can be set so that the lights in an office are turned off when the ambient light, as seen by the light sensor, goes above a preset level.

Open Loop Scene Recall in Operation

The art of designing a successful Open Loop Scene Recall control system is to position the external sensor carefully, profile the controlled areas to understand daylight contribution under various sky conditions and to suitably match the Source Level to recall an appropriately set scene for the task to be performed.

If predictable and consistent results are to be achieved, it is essential that the light sensor measurement accurately represents the lighting conditions. For this there are two critical effects that ideally should be avoided: shadowing and hot-spotting.

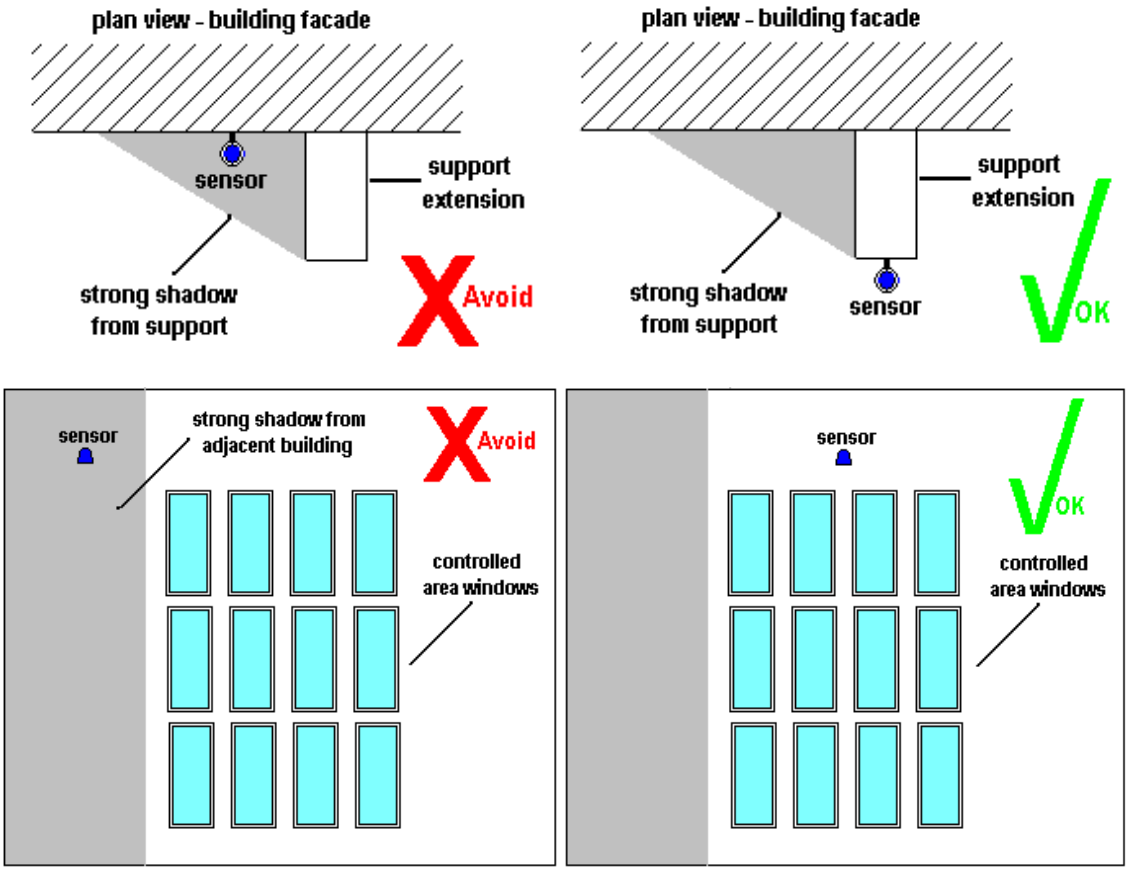
1) Shadowing

In the ideal a building would be isolated and removed from other structures with a sensor mounted on the roof and away from obstructions.

In practice there will be adjacent buildings and obstructions that can give strong shadows at various times of the day and during the course of the year. One solution is for the sensor to be mounted in association with the controlled area and thereby minimise compromise. In all cases careful thought to sensor siting will save programming and response compromises.

Where a single sensor is to be used with multiple controlled areas or if simply there are practical restrictions to mounting location and height then compromises will be inevitable and these must be understood and accommodated. Typically the control system could be programmed to ignore light changes at certain times of the day or month etc.

When complex shadowing cannot be avoided it can be beneficial to locate the sensor in permanent shadow such that it measures the skylight only. This will give a consistent measurement but will not reflect the local effects of strong sunlight interspersed with shadow.



2) Hot-spotting

Hot-spotting is a consequence of an unwanted reflection giving additional light to the sensor. Predicting a problem can be difficult. For example, the effect of opening a nearby window can easily be missed.

There are important practical factors to be aware of:

A) Setting the Source Level

The external sensor functions on an open loop principle, and has no means of knowing either the capabilities of the lamps or the effect of modifying their output. This means that it is possible to set the source level correctly for one type of light whilst being totally inappropriate for another. Correct profiling, that is understanding the effect of modifying the artificial light level for the controlled area with respect to the contributing daylight, is essential in achieving the intended operation.

B) Interacting with other controls

If there are methods of controlling the daylight locally, such as blinds, then this must be factored into the design strategy. For example, if the blinds are controlled as part of the lighting control system then conditions can be applied to the Open Loop Scene Recall routing entry to effect a change in response.

C) Setting Specific Levels

The light level measured by the external light sensor is the LUX value at its location and cannot be calibrated to correspond to a specific LUX level produced by the lighting system.

Attaining specific LUX levels for your installation requires accurate profiling to determine the appropriate scene settings to apply to alter the artificial lighting in response to available daylight.

Related Topics

- Open Loop Scene Recall Configuration
- Working with Open Loop Constant Light
- External Light Sensor (329)

Open Loop Scene Recall Configuration

Configure the Light Sensor

This routing entry supports two types of light sensor:

- A light sensor from the Helvar Digidim system range

For steps on how to configure Helvar Digidim light sensors see the Configure subdevice section.

- An appropriate analogue light sensor when used in conjunction with a Helvar 942 Analogue input unit.

For steps on how to configure the Helvar 942 see Analogue Input Configuration*.*

Configure Open Loop Scene Recall

Open Loop Scene Recall operation allows two groups:

- **Light Sensor.** The Light Sensor which is required to operate the Open Loop Scene Recall, must be in this group.
- **Controlled Loads.** The loads (ballasts/dimmers) must be in this group. This is the group and block that scene recalls will be directed to in response to changes in the external daylight.

Open Loop Scene Recall Light adjusts output light levels (by affecting the loads in the **Output Group**), according to the daylight level measured by the External Light Sensor in the **Input Group**, following the thresholds set to trigger a specified scene recall. Thresholds for up to 16 scenes may be set.

Tips:

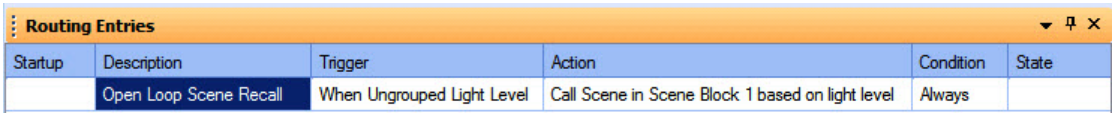
- In the simple case, with a sensor controlling Open Loop Scene Recall in only one group of loads, the Light Sensor Group and Controlled Loads Group may be the same. For more complex situations, where more than one Controlled Loads Group is required, the Light Sensor Group and Controlled Loads Groups must be different.

Notes:

- You must be in Editor mode to configure Open Loop Scene Recall.
- You must be Online to activate and configure Open Loop Scene Recall to the Light Sensor.
- You must be in Live mode to call and affect Scene Recall Light Scenes in real time and in the real lighting system.

Open Loop Scene Recall Routing Entry

1. Click to view Routing Entries.
2. Click in Routing Entries view and click or right-click and select 'Insert'.
3. Select Open Loop Scene Recall.
   The Open Loop Scene Recall Routing Entry appears in the Routing Entries view.



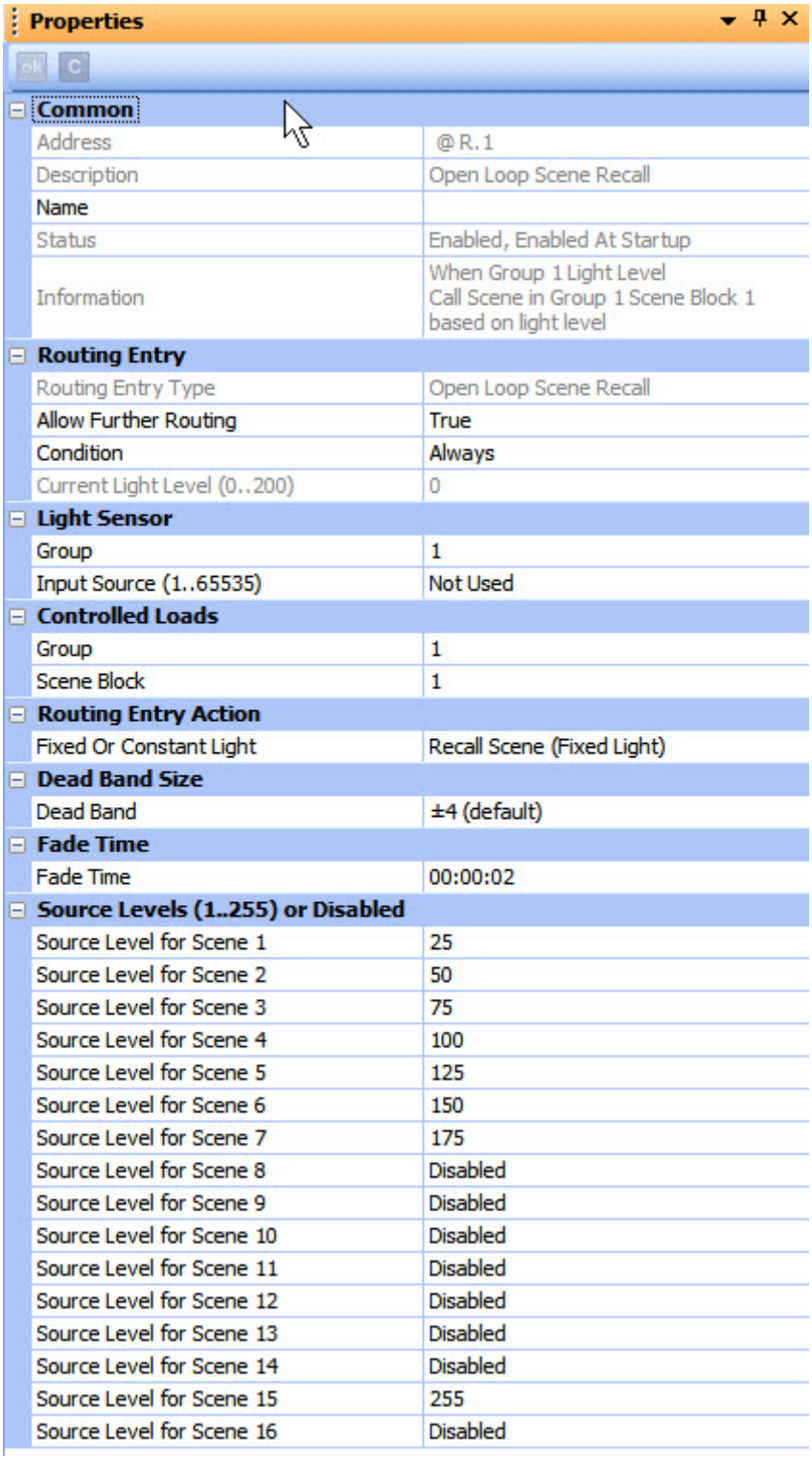
Tip:

- You can assign multiple Open Loop Scene Recall Routing Entries to one sensor, assigning each entry to a different Controlled Loads Group (i.e. to loads in different groups). This is useful if you wish the lights in different areas of the building (and therefore the lights assigned to different groups) to be affected by the same sensor.

Note:

- In Online mode, the **Current Light Level** field appears in the Open Loop Scene Recall Routing Entry Properties, which shows the level (0..255) of the light currently measured by the sensor.

To configure the Open Loop Scene Recall Routing Entry, ensure that the entry is selected in Routing Entries view.



Name

You may wish to enter a name for the Open Loop Scene Recall Routing entry, which relates to its function, for example.

1. In the **Common** section of Properties, enter a name in the **Name** field.
2. Click ok. *The Open Loop Scene Recall Routing entry is renamed in Routing Entries.*

Assign Condition to Open Loop Scene Recall

If you wish to apply a condition to the routing entry:

1. In the Routing Entry section, click in the Condition field.
2. Click and select a condition from the drop-down menu. See Conditions for more information.
3. Click .

Assign Open Loop Scene Recall Routing Entry to Light Sensor Group

Tip: Enter the group to which the Light Sensor is assigned.

1. In Properties view, click in the **Group** field in the **Light Sensor** section.
2. Enter the group number to which the Light Sensor is assigned.
3. Click .

2.

Note:

- The steps below are necessary only when using a light sensor in conjunction with an Analogue Input Unit.
  When using Helvar Digidim light sensors the Input Source must be set to 'Not Used'.

3.
4. If using an analogue light sensor, click in the **Input Source** field
5. Enter the same input source number as given for this light sensors in the properties for the Analogue Input unit. The default is 'Not Used'.

Assign Open Loop Scene Recall Routing Entry to Controlled Loads

Tips:

Enter the group of the loads that you wish the Open Loop Scene Recall Routing Entry to affect.

You can assign the Light Sensor and loads to be in the same group, or in different groups, depending on what you want to achieve for this particular entry. Where there is only one group of loads to control, the Input Group and Output Group can be the same.

1. In the **Controlled Loads** section, click in the **Group** field.
2. Enter the group number of the loads which you wish to affect.
3. If required, click in the **Scene Block** field.
4. Enter the block number to which the scene recalls will be directed for this group.
5. Click .

Routing Entry

It is possible to recall either Fixed Light or Constant Light scenes to the Controlled Loads group.

1. If required, click in the **Fixed Or Constant Light** field of the **Routing Entry Action** section.
2. Select either Recall Scene (Fixed Light) or Recall Scene (Constant Light). *Note that the default is Fixed Light.*
3. Click .

Dead Band

This defines the range within which the measured light level is considered to be stable and thereby not requiring further adjustment of the controlled lights. This is used to prevent the sensor searching in response to very small changes in light level.

1. Click in the **Dead Band** field and click ok.
2. Select a range from the drop-down menu. The options in levels are: ±2; ±3; ±4; ±6; ±10
3. Click ok

Example:

Dead band size:	±4
Source level for Scene 1:	25
Source level for Scene 2:	50
Source level for Scene 3:	75

When the light level moves from 49 to 50, Scene 2 is recalled.

If the light level then goes back to 47, Scene 2 will remain recalled.
For Scene 1 to be recalled, the light level must drop to (50 – 4) = 46.

Fade Time

This is the fade time for the scene changes, and applies to all scenes listed in the Source Levels table.

1. Click in the **Fade Time** field and click ok.
2. Enter the required fade time.
3. Click ok.

Notes:

- DALI loads are limited to a maximum fade time of 90 seconds.
- S-DIM loads are limited to a maximum fade time of 46 hours.

Source Levels

You can set the trigger source levels for each of 16 scenes in the controlled loads group and block. If a scene is not required it's source level can be set to Disabled. During Open Loop Recall Scene operation, the level of the light sensor is compared with the set trigger source thresholds, if a rising or falling changed is detected (taking in to account the dead band setting) the corresponding scene is recalled to the controlled loads group and block.

Note:

- The source levels correspond to the measured light level.

The source level table is preset with a number default light values.

The values can be edited to any value between 0 and 255 or set to Disabled.

1. In the **Source Levels** section, click in **Source Level for Scene...** field for the level you wish to adjust.
2. Enter a number (0-255) or Disabled.
3. Click ok.

Related Topics

- Working with Open Loop Scene Recall
- External Light Sensor (329)
- Analogue Input Configuration

- Subdevice Configuration
- Control Device Configuration
- Properties
- Go To
- Scene Table
- Device Tree

PIR Detectors (311, 317, 318, 441)

311 Ceiling PIR Detector

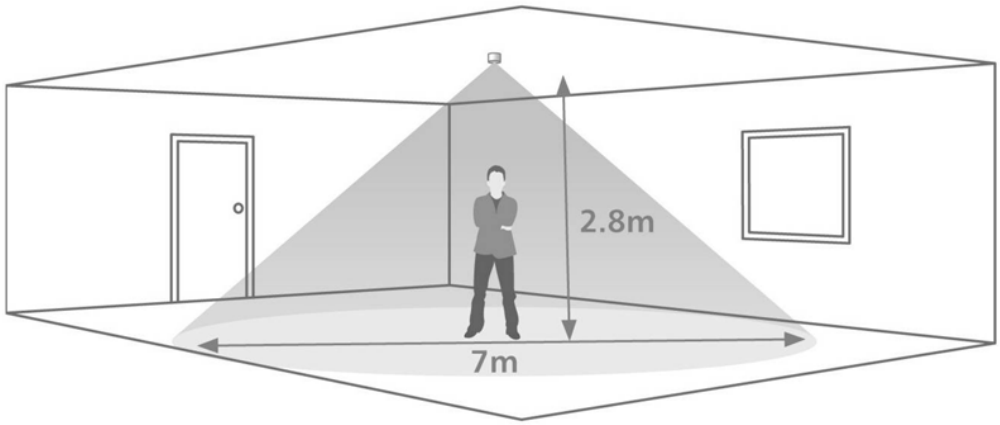
The 311 Ceiling PIR Detector is a compact, flush-mounted ceiling unit which provides energy-saving functions when used in a DALI system.

The unit contains these sensors:

- a PIR presence detector to detect when an area is occupied
- an infrared receiver that allows it to be operated by the 307 IR remote control handset.

As a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty.

Detection Pattern of 311 Ceiling PIR Detector



Adjusting sensor sensitivity

Adjust the sensitivity of the sensor in the properties window (click on the sensor in the Device Tree)

Sensitivity 1 is least sensitive, and 9 is most sensitive.

Related Topics

- Device Tree
- Properties
- PIR Sensor

317 High-Bay PIR Detector

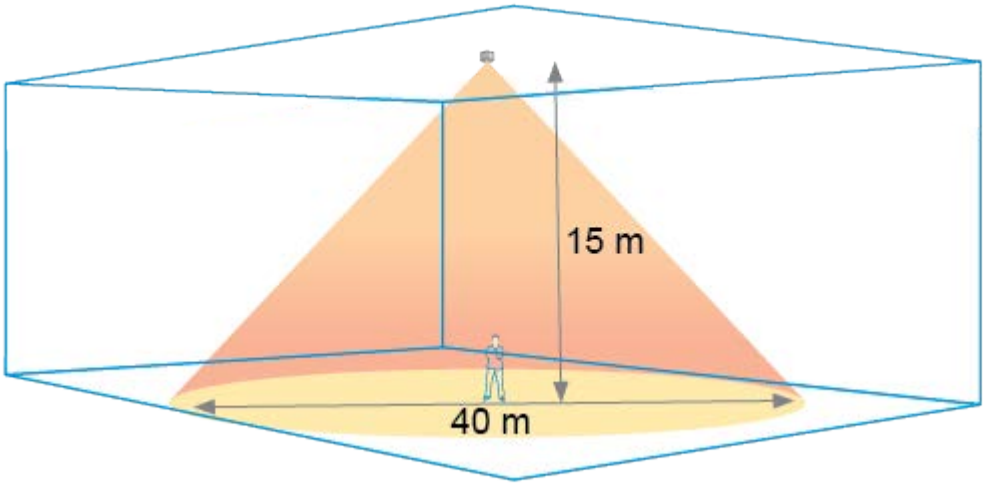
The 317 High Bay PIR resence / Absence Detector, as part of a Helvar lighting control system, provides automatic control of lighting loads in buildings and interior spaces with high ceilings. The 317 is typically installed in warehouses and factories, and is used in other applications where mounting heights are too high for standard sensors.

The detector uses a high sensitivity PIR (passive infrared) sensor in a precision dome lens, which enables the 317 to reliably detect movement over large areas. Vertical mounting heights up to 15 m can be accommodated.

It also an infrared remote control receiver that allows for operation by the Helvar Remote Control Handset.

As a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty.

Detection Pattern of 317 Ceiling PIR Detector



Adjusting sensor sensitivity

Adjust the sensitivity of the sensor in the properties window (click on the sensor in the Device Tree)

Sensitivity 1 is least sensitive, and 9 is most sensitive.

To learn more about this product, see the Helvar Website.

Related Topics

- Device Tree
- Properties
- PIR Sensor

318 Wall-Mounted PIR Detector

The 318 Wall Mounted PIR Presence / Absence Detector, used in conjunction with a Helvar lighting control system, provides automatic control of lighting loads in individual room spaces.

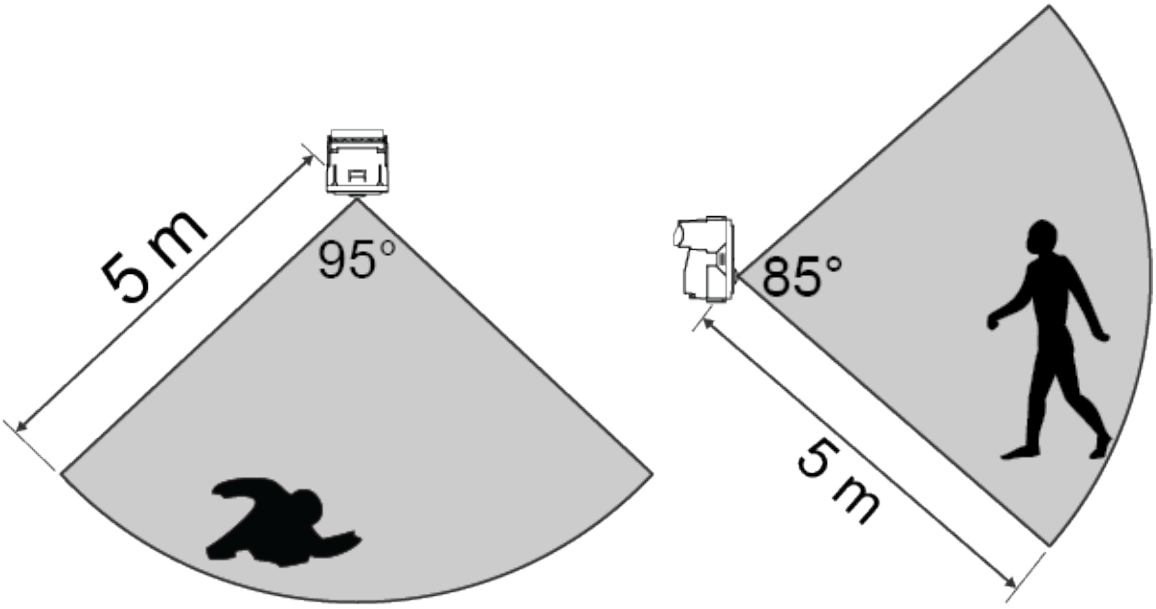
Typically used in spaces such as cellular offices or small meeting rooms, the 318 is also suitable for other applications where a wall mounted sensor is preferred, or where the use of traditional ceiling mounted sensors is not possible.

A high-quality PIR (passive infrared) sensor enables the 318 to reliably detect movement in the space. The detector can switch on lights when a space is occupied, and dim (if controllable lighting loads are installed) and switch off when the space is vacated.

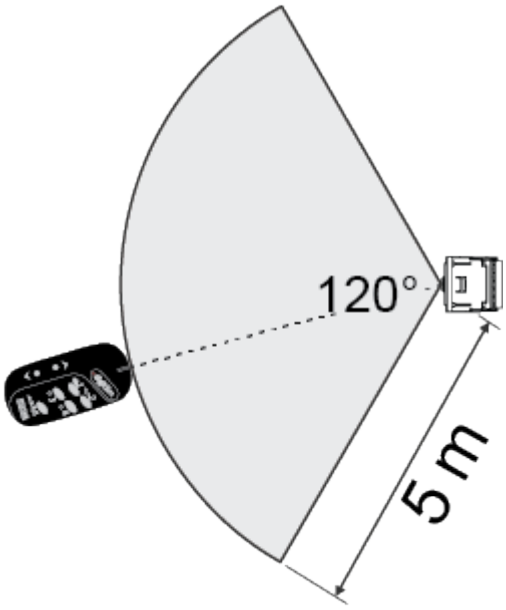
As well as the PIR sensor, the 318 has a touch control button which allows manual override of the lighting on/off, and light level adjustment if dimmable lighting is being controlled.

It also an infrared remote control receiver that allows for operation by the Helvar Remote Control Handset.

Detection Pattern of 318 Ceiling PIR Detector



303 Remote control reception range

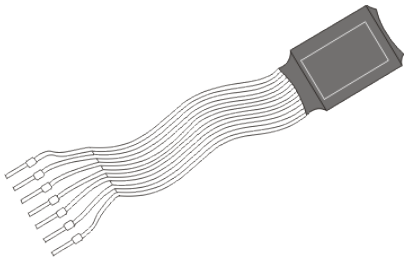


To learn more about this product, see the Helvar Website.

Related Topics

- Device Tree
- Properties
- PIR Sensor

441 Occupancy Detector Interface



The 441 Occupancy Detector Interface allows connection of a customer specified occupancy sensor to a DIGIDIM-DALI system. The input accepts a volt free normally closed contact.

The pre-wired encapsulated circuit board is for mounting inside the wiring space of the sensor.

The 441 also includes a 12 Volt DC supply (15 mA max) to power the sensor.

The 441 is designed to be as mechanically simple as possible and does not contain the IR receiver, LED indicator and configuration switch provided with the 440 Input Unit. Also (unlike the 440), the 441's inputs are not electrically isolated, and any connected switching device must be mains rated for safety. See the device's installation instructions for more on this.

- To learn more about this product, see the Helvar Website.

Related Topics

- Device Tree
- Properties

PIR (Passive Infra-Red) Sensor

A Passive Infra-Red Sensor (also known as a *PIR PIR: Passive Infra-Red detector. A type of presence detector, contained within the 311 Ceiling PIR Detector and the 312 Multisensor Module.*) uses an array of Infra-Red Sensors to monitor for changes in temperature within its operating range. Humans are usually much warmer than their surroundings, and, as they move, the PIR detects this difference.

When the PIR detects temperature change, various things may happen, depending on how the PIR is configured (*see PIR Configuration*). Typically, detection results in lights in the area being switched on, and remaining on for a specified time.

The Multisensor module's PIR sensor is optimised to detect the movement of a human body. One obvious application is to use occupancy detection to maintain lighting levels only in the parts of the building that are being used. Turning off the light in unused areas can considerably reduce the energy consumption of a building.

To learn how to configure the PIR, see PIR Configuration.

Related Topics

- PIR Configuration
- 311 Ceiling PIR Detector
- 312 Multisensor Module
- 315 iDim Sense
- IR Remote Control Receiver
- Constant Light Sensor
- Microwave Sensor
- Properties
- Device Tree

Presence sensor (PIR and microwave) Configuration

Presence sensors (multisensors and sensors) can call scenes automatically, based on motion (presence) detection by a PIR Sensor. or microwave detector.

A presence sensor (PIR or microwave sensor) is indicated by in the Device Tree.

Note:

- A presence sensor is contained within a multisensor or sensor unit, and is therefore displayed as a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* of the Multisensor in the Device Tree .
- You must be in Editor mode to configure the PIR or microwave sensor.

Configure PIR or Microwave sensor

See Subdevice Configuration for steps on how to configure the PIR Sensor.

Configure Presence Detection (PIR or microwave detection)

Once a Presence Detection routing entry is set up, upon presence detection by any PIR or microwave sensor in the group, the Presence Detection routing entry automatically calls:

1. The **On** Scene *Collection of lighting levels for each channel assigned to the same group as the scene.* (which could be any Scene from 1 to 12),
2. After the **On Time** timeout, the **Transition** Scene (Scene 14),
3. Finally, after the **Transition Time** timeout, the **Off** Scene (Scene 13).

Presence Detection Routing Entry

1. Click to view Routing Entries.
2. Click in Routing Entries view, then click or right-click and select Insert.
3. Select Presence Detection. *A new Presence Detection entry appears in Routing Entries view.*

Startup	Description	Trigger	Action	Condition	State
	Presence Detection	When Scene Block 1	PIR trigger calls Scene 1	Always	Unoccupied

Typically there will be, at most, one Presence Detection routing entry for each group. Designer will warn you if you create two entries with the same group. This is only a warning as the use of Conditions in association with Presence Detection routing entries allows for more advanced Routing Entry configurations that have more than one Presence Detection entry per group.

To configure the Presence Detection Routing Entry, ensure that the entry you wish to configure is selected in Routing Entries view.

Name

You may wish to enter a name for the Presence Detection Routing Entry, which relates to its function, for example.

1. In the **Common** section of Properties, enter a name in the **Name** field.
2. Click . *The Presence Detection entry is renamed in Routing Entries view.*

Assign Presence Detection Routing Entry to Group and Scene Block

Tip:

- The Presence Detection Routing Entry must be in the same group and scene block as the PIR Sensor(s) that you wish to trigger this Routing Entry.

1. Click in the **Group** field in the **Routing Entry Trigger** section.
2. Enter the group number to which you wish the Routing Entry to be assigned. *This must be the same group as the PIR Sensor(s).*
3. Click in the **Scene Block** field and enter the scene block number to be assigned. *This must be the same block as the PIR Sensor(s).*
4. Click .

Set Scene to Recall

You can set the scene which is called by the PIR trigger:

1. In the **Routing Entry Action** section, click in the **Scene** field.
2. Enter the scene number which you want to be called upon Presence Detection.

   If you wish to change the lighting settings from Fixed Light (not affected by daylight variations) to Constant Light (see Constant Light Sensor) for the scene recall then:

4. In the **Fixed or Constant Light** field, click . *Notice that the Recall Scene is set to 'Fixed Light' by default.*
5. Select 'Recall Scene (Constant Light)' from the drop-down menu.
6. Click .

Timeouts

Notes:

- The MINIMUM time you can enter in the Timeout fields is 1 minute and 30 seconds.
- The MAXIMUM time you can enter in these fields is 23 hours 59 minutes and 59 seconds.

In the **Timeouts** section of Properties, the following timeouts can be set (in **hh:mm:ss**) for the various scenes used in Presence Detection:

On Time (On Scene)

The On Time is the time to remain in the **On Scene** (Scenes 1-12), after the last movement is detected and before the Transition Scene is triggered.

1. Click in the **On Time** field and enter the time duration for the On Scene. *Notice that the timeout is set to '2 mins' by default.*

Transition Time (Transition Scene)

The Transition Time is the time to remain in the **Transition Scene** (Scene 14), after timeout of the On Scene and before the PIR **Off Scene** (Scene 13) is triggered.

2. Click in the **Transition Time** field and enter the time duration for the Transition Scene. *Notice that the timeout is set to '1 min, 30 secs' by default.*

Exit Delay (Exit Scene)

The **Exit State** is entered if either Scenes 15 or 16 are manually triggered i.e. a *button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* is pressed to turn the lights off (recall Scene 15 or 16). The **Exit Delay** is the time to remain in the **Exit State** before motion detection resumes, therefore movement during this period will not turn the lights on. This allows time for a person to manually turn the lights off, then to leave the area without causing an immediate re-trigger of the On Scene. *Note that the Exit Timeout is restarted automatically if motion is detected before the countdown ends.*

3. Click in the **Exit Time** field and enter the time duration for the Exit State. *Notice that the timeout is set to '1 min, 30 secs' by default.*
4. Click .

Test Mode

This mode is used to test presence detection by enabling 15 second timeouts. When in this mode, upon presence detection by the PIR sensor, the timeouts will last for 15 seconds.

To enable the test mode:

1. Click to tick the check box in the **Test Mode** field.
2. Click .

Fade Times

Notes:

- The MINIMUM time you can enter in the Fade Time fields is 0 seconds.
- The MAXIMUM time you can enter in these fields is 23 hours 59 minutes and 59 seconds.

The Fade Time is the time it takes for the lighting level to go from its current state to the required scene.

The **Fade Times** section contains the following fields. *Notice that all fade times are set to '2 secs' by default.*

On Fade Time

This is the Fade Time when automatically calling the On Scene.

1. Click in the **On Fade Time** field and enter the Fade Time for the On Scene (Scenes 1-12).

Transition Fade Time

This is the Fade Time when automatically calling the Transition Scene (Scene 14).

2. Click in the **Transition Fade Time** field and enter the Fade Time for the Transition Scene.

Off Fade Time

This is the Fade Time when automatically calling the Off Scene (Scene 13).

3. Click in the **Off Fade Time** field and enter the Fade Time for the Off Scene.
4. Click .

Light Level Inhibits

The light level inhibits allow Presence Detection to be disabled, based upon measured light level. *Notice that both levels are '200' by default.*

Note:

- We recommend that the Hold-on Inhibit Level should be at least 5 greater than the On Inhibit Level.

On Inhibit level

When in the ‘Unoccupied’ state and motion is detected, if the measured light level is above this threshold, the PIR will not turn the lights on.

Note:

- Once the sensor has detected presence and the lights have been turned on, the sensor operates as normal (whether in 'Occupied', 'Transition' or 'Exit' states).

Hold-on Inhibit Level

When motion is detected, if the measured light level is above this threshold, the PIR will not hold the lights on when in ‘Occupied’ or ‘Transition’ states.

Note:

- If in 'Unoccupied' state, the sensor operates as normal.

Presence and Absence Checking

In this section, you can set conditions for presence and absence checking and select which scenes in the scene block check for absence or presence. (*Scenes 1-12 check for absence and scenes 15 and 16 check for presence, and are all ticked by default*).

Related Topics

- Passive Infra-Red Detector
- Micrwave Sensor
- Multisensors
- Sensors
- Constant Light Sensor
- Constant Light Configuration
- Routing Entries
- Properties
- Device Tree

Microwave Sensors (313, 314)

313 Low-Profile Microwave Detector

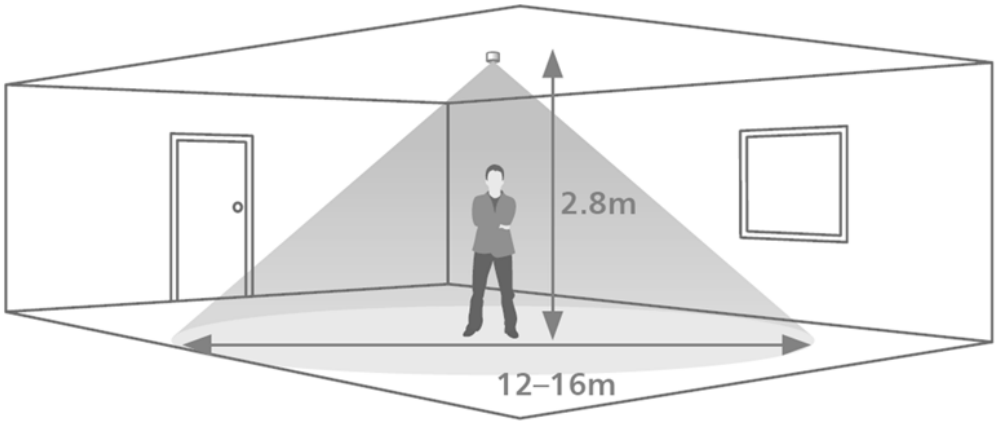
The 313 Low Profile Microwave Detector provides occupancy detection for the automatic control of DALI lighting loads.

The 313 detects movement using its highly sensitive microwave sensor.

It works by emitting low-power microwave signals and measuring the reflections as the signals bounce off moving objects.

It also an infrared remote control receiver that allows for operation by the Helvar Remote Control Handset.

Detection Pattern of 313 Low-Profile Microwave Detector



Adjusting sensor sensitivity

Adjust the sensitivity of the microwave sensor in the properties window (click on the sensor in the Device Tree)

Sensitivity 1 is least sensitive, and 9 is most sensitive.

To learn more about this product, see the Helvar Website.

Related Topics

- Microwave Sensor
- 314 Tilting Microwave Detector
- Device Tree
- Properties

314 Tilting Microwave Detector

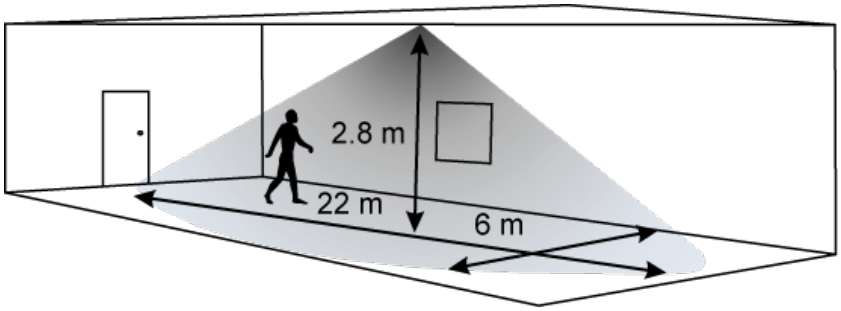
The 314 Tilting Microwave Detector provides occupancy detection for the automatic control of DALI lighting loads.

The 314 detects movement using its highly sensitive microwave sensor. It works by emitting low-power microwave signals and measuring the reflections as the signals bounce off moving objects.

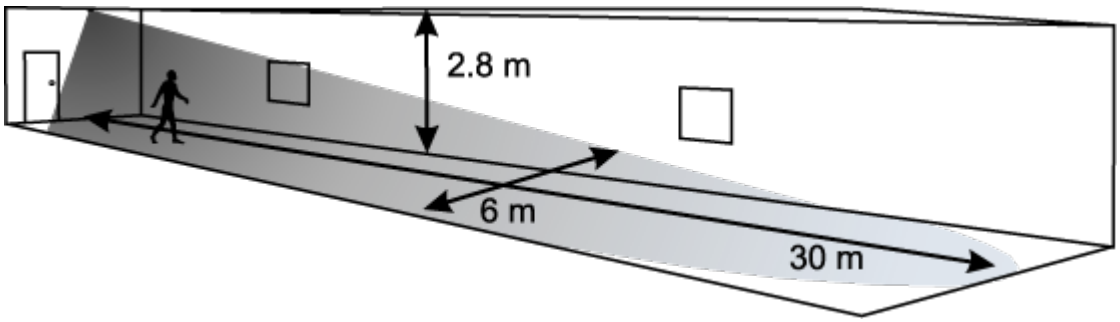
The 314 has an adjustable sensor head that allows the area of detection to be optimized for each particular installation.

It also an infrared remote control receiver that allows for operation by the Helvar Remote Control Handset.

Detection Pattern of 314 Tilting Microwave Detector (head position: 0 degrees)



Detection Pattern of 314 Tilting Microwave Detector (head position: 80 degrees)



Adjusting sensor sensitivity

Adjust the sensitivity of the microwave sensor in the properties window (click on the sensor in the Device Tree)

Sensitivity 1 is least sensitive, and 9 is most sensitive.

To learn more about this product, see the Helvar Website.

Related Topics

- Microwave Sensor
- 313 Low-Profile Microwave Detector
- Device Tree
- Properties

Microwave Sensor

A microwave sensor detects movement using its highly sensitive microwave detector. It emits low-power microwave signals and measures the reflections as the signals bounce off moving objects.

When the microwave sensor detects movement, various things may happen, depending on how the sensor is configured (*see PIR and Microwave Sensor Configuration*). Typically, detection results in lights in the area being switched on, and remaining on for a specified time.

Helvar's sensors are optimised to detect the movement of a human body. One obvious application is to use occupancy detection to maintain lighting levels only in the parts of the building that are being used. Turning off the light in unused areas can considerably reduce the energy consumption of a building.

Related Topics

- PIR and Microwave Sensor Configuration
- 313 Low-Profile Microwave Detector
- 314 Tilting Microwave Detector
- Properties
- Device Tree

Presence sensor (PIR and microwave) Configuration

Presence sensors (multisensors and sensors) can call scenes automatically, based on motion (presence) detection by a PIR Sensor. or microwave detector.

A presence sensor (PIR or microwave sensor) is indicated by in the Device Tree.

Note:

- A presence sensor is contained within a multisensor or sensor unit, and is therefore displayed as a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* of the Multisensor in the Device Tree .
- You must be in Editor mode to configure the PIR or microwave sensor.

Configure PIR or Microwave sensor

See Subdevice Configuration for steps on how to configure the PIR Sensor.

Configure Presence Detection (PIR or microwave detection)

Once a Presence Detection routing entry is set up, upon presence detection by any PIR or microwave sensor in the group, the Presence Detection routing entry automatically calls:

1. The **On** Scene *Collection of lighting levels for each channel assigned to the same group as the scene.* (which could be any Scene from 1 to 12),
2. After the **On Time** timeout, the **Transition** Scene (Scene 14),
3. Finally, after the **Transition Time** timeout, the **Off** Scene (Scene 13).

Presence Detection Routing Entry

1. Click to view Routing Entries.
2. Click in Routing Entries view, then click or right-click and select Insert.
3. Select Presence Detection. *A new Presence Detection entry appears in Routing Entries view.*

Startup	Description	Trigger	Action	Condition	State
	Presence Detection	When Scene Block 1	PIR trigger calls Scene 1	Always	Unoccupied

Typically there will be, at most, one Presence Detection routing entry for each group. Designer will warn you if you create two entries with the same group. This is only a warning as the use of Conditions in association with Presence Detection routing entries allows for more advanced Routing Entry configurations that have more than one Presence Detection entry per group.

To configure the Presence Detection Routing Entry, ensure that the entry you wish to configure is selected in Routing Entries view.

Name

You may wish to enter a name for the Presence Detection Routing Entry, which relates to its function, for example.

1. In the **Common** section of Properties, enter a name in the **Name** field.
2. Click . *The Presence Detection entry is renamed in Routing Entries view.*

Assign Presence Detection Routing Entry to Group and Scene Block

Tip:

- The Presence Detection Routing Entry must be in the same group and scene block as the PIR Sensor(s) that you wish to trigger this Routing Entry.

1. Click in the **Group** field in the **Routing Entry Trigger** section.
2. Enter the group number to which you wish the Routing Entry to be assigned. *This must be the same group as the PIR Sensor(s).*
3. Click in the **Scene Block** field and enter the scene block number to be assigned. *This must be the same block as the PIR Sensor(s).*
4. Click .

Set Scene to Recall

You can set the scene which is called by the PIR trigger:

1. In the **Routing Entry Action** section, click in the **Scene** field.
2. Enter the scene number which you want to be called upon Presence Detection.

   If you wish to change the lighting settings from Fixed Light (not affected by daylight variations) to Constant Light (see Constant Light Sensor) for the scene recall then:

4. In the **Fixed or Constant Light** field, click . *Notice that the Recall Scene is set to 'Fixed Light' by default.*
5. Select 'Recall Scene (Constant Light)' from the drop-down menu.
6. Click .

Timeouts

Notes:

- The MINIMUM time you can enter in the Timeout fields is 1 minute and 30 seconds.
- The MAXIMUM time you can enter in these fields is 23 hours 59 minutes and 59 seconds.

In the **Timeouts** section of Properties, the following timeouts can be set (in **hh:mm:ss**) for the various scenes used in Presence Detection:

On Time (On Scene)

The On Time is the time to remain in the **On Scene** (Scenes 1-12), after the last movement is detected and before the Transition Scene is triggered.

1. Click in the **On Time** field and enter the time duration for the On Scene. *Notice that the timeout is set to '2 mins' by default.*

Transition Time (Transition Scene)

The Transition Time is the time to remain in the **Transition Scene** (Scene 14), after timeout of the On Scene and before the PIR **Off Scene** (Scene 13) is triggered.

2. Click in the **Transition Time** field and enter the time duration for the Transition Scene. *Notice that the timeout is set to '1 min, 30 secs' by default.*

Exit Delay (Exit Scene)

The **Exit State** is entered if either Scenes 15 or 16 are manually triggered i.e. a *button A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* is pressed to turn the lights off (recall Scene 15 or 16). The **Exit Delay** is the time to remain in the **Exit State** before motion detection resumes, therefore movement during this period will not turn the lights on. This allows time for a person to manually turn the lights off, then to leave the area without causing an immediate re-trigger of the On Scene. *Note that the Exit Timeout is restarted automatically if motion is detected before the countdown ends.*

3. Click in the **Exit Time** field and enter the time duration for the Exit State. *Notice that the timeout is set to '1 min, 30 secs' by default.*
4. Click .

Test Mode

This mode is used to test presence detection by enabling 15 second timeouts. When in this mode, upon presence detection by the PIR sensor, the timeouts will last for 15 seconds.

To enable the test mode:

1. Click to tick the check box in the **Test Mode** field.
2. Click .

Fade Times

Notes:

- The MINIMUM time you can enter in the Fade Time fields is 0 seconds.
- The MAXIMUM time you can enter in these fields is 23 hours 59 minutes and 59 seconds.

The Fade Time is the time it takes for the lighting level to go from its current state to the required scene.

The **Fade Times** section contains the following fields. *Notice that all fade times are set to '2 secs' by default.*

On Fade Time

This is the Fade Time when automatically calling the On Scene.

1. Click in the **On Fade Time** field and enter the Fade Time for the On Scene (Scenes 1-12).

Transition Fade Time

This is the Fade Time when automatically calling the Transition Scene (Scene 14).

2. Click in the **Transition Fade Time** field and enter the Fade Time for the Transition Scene.

Off Fade Time

This is the Fade Time when automatically calling the Off Scene (Scene 13).

3. Click in the **Off Fade Time** field and enter the Fade Time for the Off Scene.
4. Click .

Light Level Inhibits

The light level inhibits allow Presence Detection to be disabled, based upon measured light level. *Notice that both levels are '200' by default.*

Note:

- We recommend that the Hold-on Inhibit Level should be at least 5 greater than the On Inhibit Level.

On Inhibit level

When in the ‘Unoccupied’ state and motion is detected, if the measured light level is above this threshold, the PIR will not turn the lights on.

Note:

- Once the sensor has detected presence and the lights have been turned on, the sensor operates as normal (whether in 'Occupied', 'Transition' or 'Exit' states).

Hold-on Inhibit Level

When motion is detected, if the measured light level is above this threshold, the PIR will not hold the lights on when in ‘Occupied’ or ‘Transition’ states.

Note:

- If in 'Unoccupied' state, the sensor operates as normal.

Presence and Absence Checking

In this section, you can set conditions for presence and absence checking and select which scenes in the scene block check for absence or presence. (*Scenes 1-12 check for absence and scenes 15 and 16 check for presence, and are all ticked by default*).

Related Topics

- Passive Infra-Red Detector
- Micrwave Sensor
- Multisensors
- Sensors
- Constant Light Sensor
- Constant Light Configuration
- Routing Entries
- Properties
- Device Tree

iDim Sense (315)

iDim Sense 315

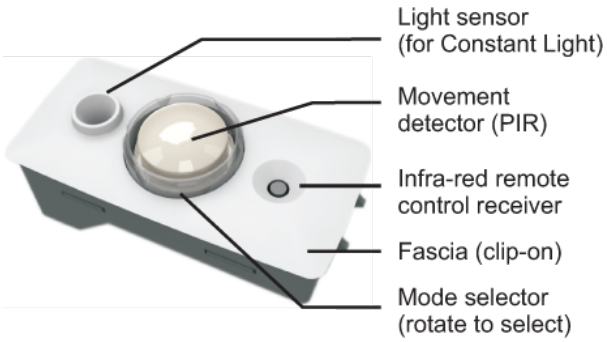
The iDim Sense is a luminaire-based DALI sensor. It combines a movement detector (PIR), remote control receiver (IR) and photocell (CL) in one enclosure and a manual mode selector which allows the user to easily select one of the 6 out-of-box application modes. It also benefits from additional system functionality when used with DIGIDIM Toolbox and Helvar 905/910/920 Router systems.

The iDim Sense is designed to push-fit into a ceiling or luminaire housing.

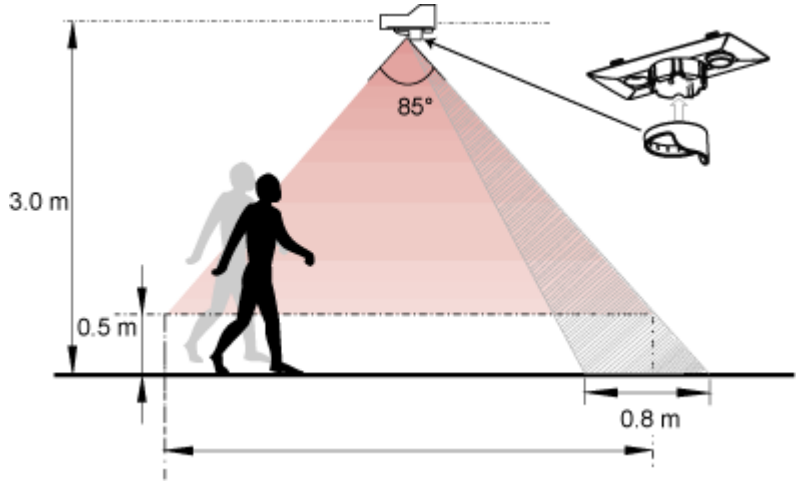
To learn how to configure the iDim Sense, see Multisensor (312) Configuration. This is because the iDim Sense behaves in a similar manner to the 312 Multisensor.

The iDim Sense module contains:

- a Light Sensor to measure the levels of ambient light available
- a PIR presence detector to detect when an area is occupied
- an Infrared Receiver that allows it to be operated by hand held remote control
- Mode Selector ring for configuration of 6 default modes.



PIR Detection Pattern of 315 iDim Sense



To learn more about this product, see the Helvar Website.

Related Topics

- Device Tree
- Properties
- PIR Sensor
- Constant Light Sensor
- IR Sensor

External Light Sensor (329)

External Light Sensor (329)

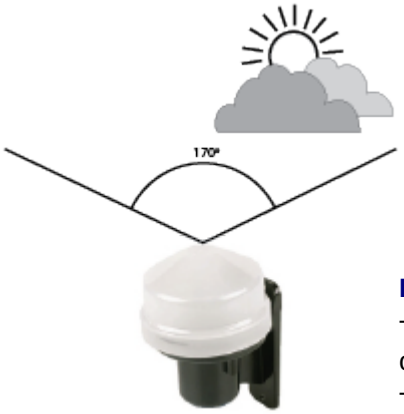
The 329 DALI External Light Sensor enables Open Loop Constant Light Control.

Mounted outdoors, the information that it gathers can be used to control general lighting levels.

For instance, bright sunlight will raise the overall light level in the rooms of a building. The sensor will detect this, and reduce the energy levels supplied to the lamps. If the day then becomes overcast, the system will respond to the lower levels of ambient light by increasing the energy provided to the lamps. By profiling the building (measuring the daylight contribution per room) the system can be used to maintain an approximate constant light level, and thereby reduce energy use.

Light Sensing Angle

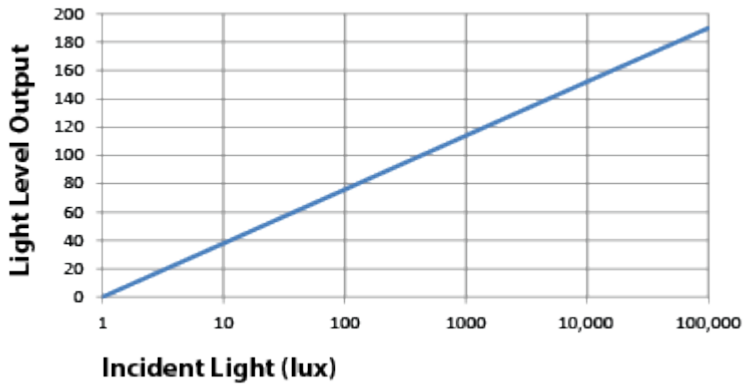
The sensor has an unrestricted viewing angle of 170°C.



Light Level Output

The external light sensor is calibrated to provide a scaled light level output of 0 to 200 covering the full range of daylight.

The sensitivity of the external light sensor is factory-set and no adjustment is required.



Condition	Lux
Bright sunlight	100,000

Full daylight	10,000
Overcast day	1,000
Dark day	100
Twilight	10
Deep twilight	1

Tips:

When accurate constant light is required use local sensors and Closed Loop Constant Light control; see Working with Constant Light.

At midday, typically areas closest to windows are around 1/10 of the daylight measurement and moving away from the window quickly falls to around 1/100.

Related Topics

- Open Loop Constant Light Configuration
- Open Loop Scene Recall Configuration
- 311 Ceiling PIR Detector
- 312 Multisensor Module
- 315 iDim Sense
- IR Remote Control Receiver
- Constant Light Sensor
- Properties
- Device Tree

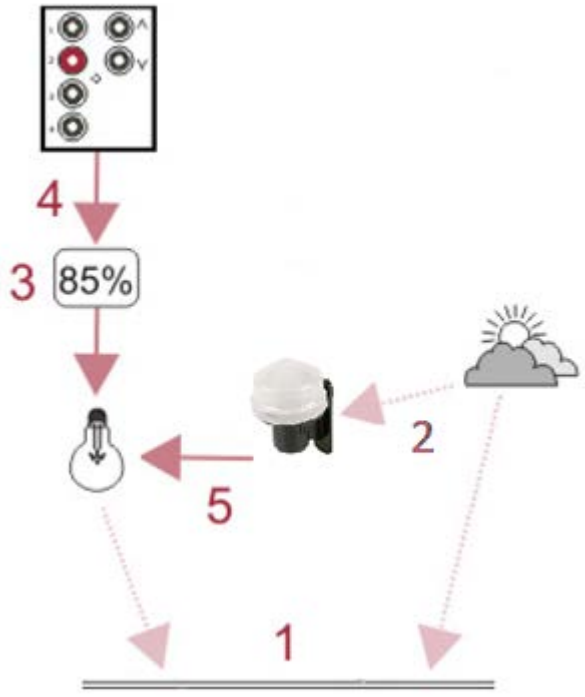
Working with Open Loop Constant Light

What is Open Loop Constant Light Control?

Open Loop Constant Light control is a method of automating the operation of the system's lamps. Its use can provide a great deal of convenience for the building's occupants, but perhaps the main reason for using it is that it can provide a considerable increase in energy efficiency. It ensures that the output of the lamps is no higher than is required to maintain the desired light level.

For buildings fitted with air conditioning systems, there is an additional saving associated with reducing the need to remove waste heat.

How Open Loop Constant Light Works



1. The available light in a room is a mixture of ambient (daylight) and artificial light.
2. The External Light Sensor measures the amount of daylight.
3. The system is provided with a scene level for the amount of light required in the absence of daylight.
4. A Constant Light scene is recalled.
5. The Light Sensor measures the daylight and sends proportion commands that raise or lower the output level of the lamps corresponding to the Source Level Direct Proportion profile table. This process operates continuously to maintain the programmed proportionality profile.

The effect of this is that the lamps should only output sufficient light to maintain the desired level of light in the room. This means that the lamps can be operating at minimum when the room is filled with sunlight. The lamp's output will gradually increase as night falls, or the sky becomes overcast. Since the lamps will only provide the amount of light that is necessary, they will use the absolute minimum amount of energy, in order to achieve the desired light level.

Open Loop Constant Light in Operation

The art of designing a successful Open Loop Constant Light control system is to position the external sensor carefully, profile the controlled areas to understand daylight contribution under various sky conditions and to suitably match the Source Level for Direct Proportion levels.

It is essential that the light sensor measurement accurately represents the lighting conditions if predictable and consistent results are to be achieved and for this there are two critical effects that ideally should be avoided, shadowing and hot-spotting.

1) Shadowing

In the ideal a building would be isolated and removed from other structures with a sensor mounted on the roof and away from obstructions.

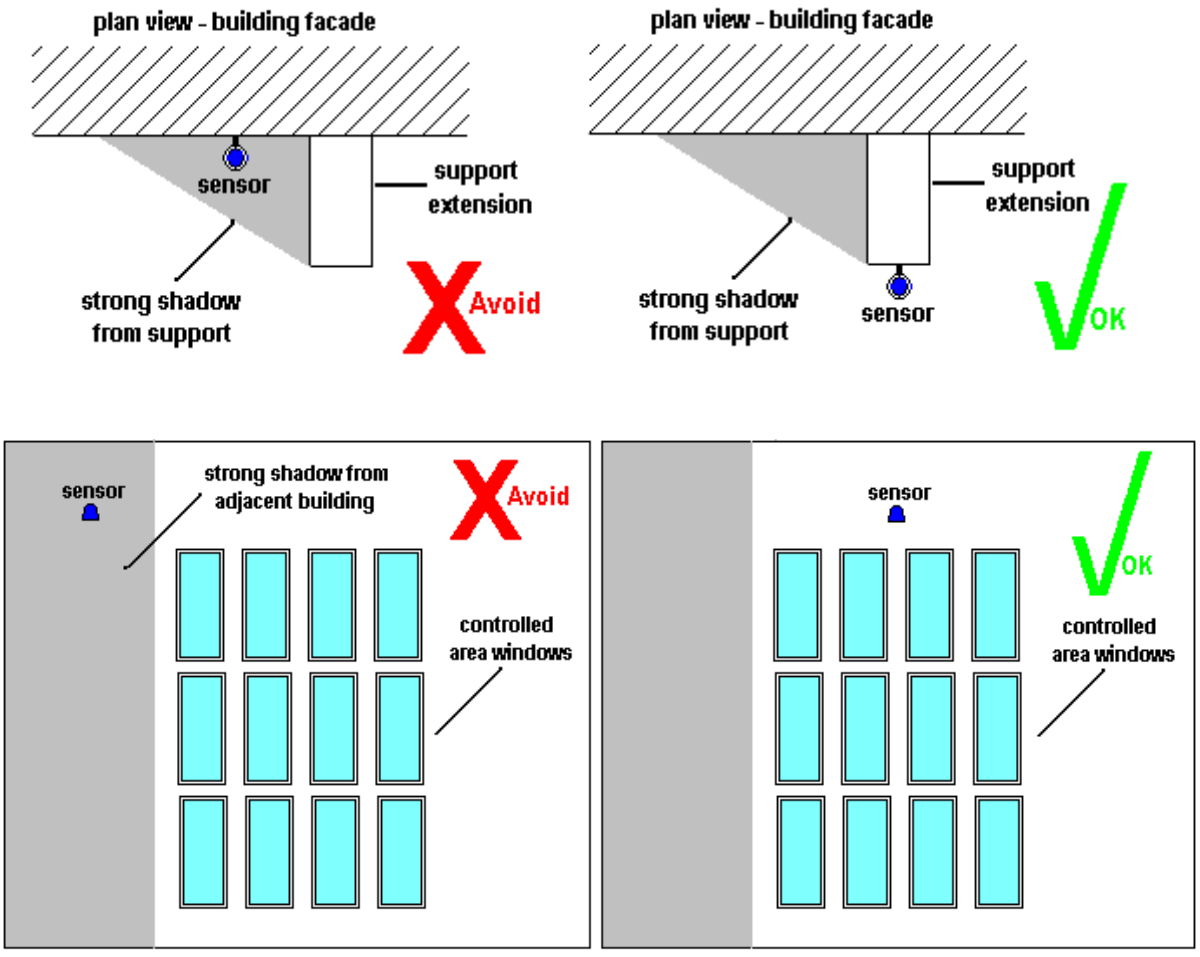
In practice there will be adjacent buildings and obstructions that can give strong shadows at various times of the day and during the course of the year. One solution is for the sensor to be mounted in association with the controlled area and thereby minimise compromise. In all cases careful thought to sensor siting will save programming and response compromises.

Where a single sensor is to be used with multiple controlled areas or if simply there are practical restrictions to mounting location and height then compromises will be inevitable and these must be understood and accommodated. Typically the control system could be programmed to ignore light changes at certain times of the day or month etc.

When complex shadowing cannot be avoided it can be beneficial to locate the sensor in permanent shadow such that it measures the skylight only. This will give a consistent measurement but will not reflect the local effects of strong sunlight interspersed with shadow. Here more careful consideration is required to The Source Level for Direct Proportion table values.

2) Hot-spotting

Hot-spotting is a consequence of an unwanted reflection giving additional light to the sensor. Predicting a problem can be difficult as for example the effect of opening a nearby window can easily be missed.



There are important practical factors to be aware of:

A) Setting the Source Level for Direct Proportion

The external sensor functions on an open loop principle, and has no means of knowing either the capabilities of the lamps or the effect of modifying their output. This means that it is possible to set the source level correctly for one type of light whilst being totally inappropriate for another. Correct profiling, that is understanding the effect of modifying the artificial light level for the controlled area with respect to the contributing daylight is essential in achieving the intended operation.

B) Interacting with other controls

If there are methods of controlling the daylight locally, such as blinds, then this must be factored into the design strategy. For example, if the blinds are controlled as part of the lighting control system then conditions can be applied to the Open Loop Constant Light routing entry to effect a change in response.

C) Setting Specific Levels

The light level measured by the external light sensor is the LUX value at its location and can not be calibrated to correspond to a specific LUX level produced by the lighting system.

Attaining specific LUX levels for your installation requires accurate profiling to determine the appropriate Direct Proportion reduction in the artificial lighting in response to available daylight. The contributing daylight of the controlled area relative to the external LUX level and thereby the supplementary lighting, if any, required from the artificial lighting needs to be measured and the results used to create the Source Level for Proportion Control profile table.

One method you can obtain an approximate setting is as follows:

1. Place a LUX meter in the working plane to be controlled.
2. Adjust the lamps until the LUX meter shows the desired value.
3. Record the Current Light Level reported by the external sensor.
4. Compare the % light against the default Direct Proportion for the daylight and intended starting constant light scene.
5. Modify, if necessary, the Source Level for the Direct Proportion needed then scale other source levels accordingly.

Notes:

- Accuracy will improve with the greater number of variations in daylight measured.
- Scaling using the typical LUX value against sky condition, see External Light Sensor, provides a useful starting point profile. This assumes pro-rata daylight contribution with changes in sky condition that may not be the case with low sun angles.
- Although this method will provide an approximation of the desired level, it is dependent on the exact conditions at the time of profiling. You may not be able to repeat the measurement unless you are able to exactly reproduce the conditions that existed at the time the setting was made.
- If lamps are already at full level, and the LUX level is still not achieved, then, obviously, you will not be able to achieve your desired LUX level. This is why it is good to know your system capabilities.

Exploiting Scaling with Multiple Output Groups

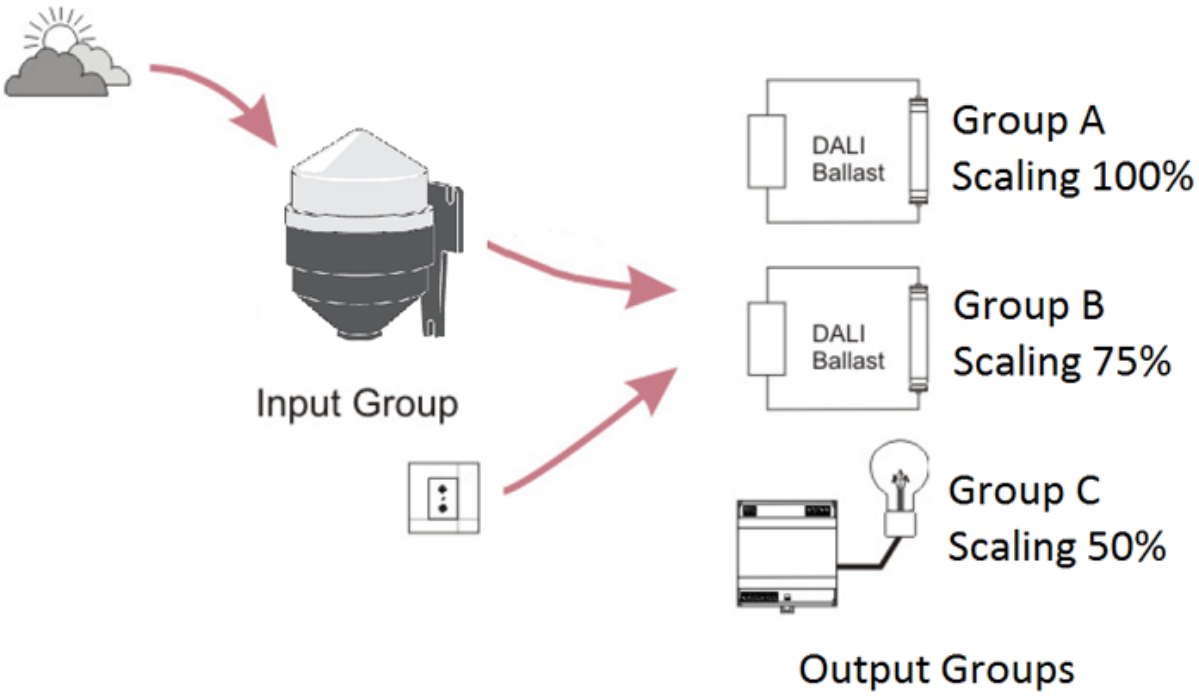
Open Loop Constant Light operation may require the use of two groups. The first of these, known as the Input Group (Light Sensor), contains the controllers that are to be used to set up and control open loop constant light operation. The second, the Output Group (Controlled Loads), contains the LIUs (Lamp Interface Units, or loads) for the lamps that are to be subject to open loop constant light control.

Tip:

- In the simple case, with a sensor controlling Constant Light in only one group of loads, the Input Group and Output Group may be the same. For more complex situations, where more than one Output Group is required, the Input Group and Output Groups must be different..

The same external light sensor (Input Group) can be used to control as many output groups as desired each simply requiring a separate Routing Entry.

A useful feature for numerous areas serviced by the same windows is to group the lighting in sections corresponding to the distance from the windows. This allows scaling from the window group(s) to the more distant groups but with the same Source Level profile.



Recall of an Open Loop Constant Light scene in the Input Group results in that scene being called in the Output Group, and the Scaling of the Source Level for Direct Proportion being applied. After a settling period, the lights in the Output Group are automatically adjusted.

Related Topics

- Open Loop Constant Light Configuration
- Open Loop Scene Recall
- Open Loop Scene Recall Configuration
- External Light Sensor (329)

Open Loop Constant Light Configuration

The difference between Constant Light and Fixed Light is:

- **Constant Light** is where the load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* (ballast/dimmer) output is automatically adjusted to compensate for changes in ambient light.
- **Fixed Light** is where the load output is NOT adjusted by the Light Sensor.

The External Light Sensor can detect levels of ambient light (i.e. daylight) reflected off surfaces and adjust the light levels to compensate for changes in ambient light.

The sensor is indicated by in the Device Tree.

Notes:

- The Light Sensor is contained within the External Light Sensor (329) [for internal light sensing, use the Multisensor (312)] and is therefore displayed as a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* of the External Light Sensor in the Device Tree.
- You must be in Editor mode to configure the Light Sensor.

To learn more about Open Loop Constant Light, see Working with Open Loop Constant Light.

Configure the Light Sensor

See Subdevice Configuration for steps on how to configure the Light Sensor.

Configure Open Loop Constant Light

Open Loop Constant Light operation allows two groups:

- **Input Group.** The Light Sensor, and the control devices (push buttons, IR *Stands for Infrared. Infrared radiation is a form of light that is invisible to the human eye, and is often used as a medium to send information between two devices.* , PIR) which are required to recall or adjust Open Loop Constant Light, must be in this group.
- **Output Group.** The loads (ballasts/dimmers) must be in this group. This is the group that the Light Sensor will send direct proportion commands to, as it responds to changes in the external daylight.

Open Loop Constant Light adjusts output light levels (by affecting the loads in the **Output Group**), according to the daylight level measured by the External Light Sensor in the **Input Group**, following the Source Level for Direct Proportion table.

An Open Loop Constant Light Routing Entry defines the Input and Output Groups, as well as the values of the Source Levels (for Direct Proportion response).

Tips:

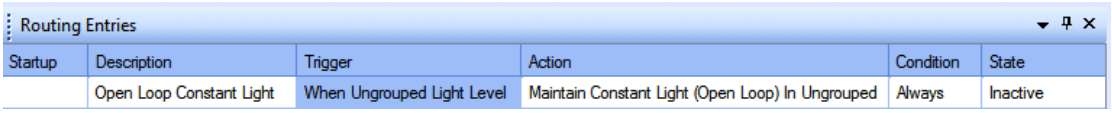
- In the simple case, with a sensor controlling Open Loop Constant Light in only one group of loads, the Input Group and Output Group may be the same. For more complex situations, where more than one Output Group is required, the Input Group and Output Groups must be different.
- Once you have configured Open Loop Constant Light, to call Open Loop Constant Light Scenes from a *control device* in the Input Group, you must set the function of the subdevice to 'Recall *Scene* (Constant Light)'. *See Subdevice Configuration.*

Notes:

- You must be in Editor mode to configure Open Loop Constant Light.
- You must be Online to activate and configure Open Loop Constant Light to the Light Sensor.
- You must be in Live mode to call and affect Constant Light Scenes in real time and in the real lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* (the Real Workgroup *A specific group of devices in the Lighting System, and its representation in Designer.*).

Open Loop Constant Light Routing Entry

1. Click to view Routing Entries.
2. Click in Routing Entries view and click or right-click and select 'Insert'.
3. Select Open Loop Constant Light. The Open Loop Constant Light Routing Entry appears in the Routing Entries view.



Tip:

- You can assign multiple Open Loop Constant Light Routing Entries to one sensor, assigning each entry to a different Out Group (i.e. to loads in different groups). This is useful if you wish the lights in different areas of the building (and therefore the lights assigned to different groups) to be affected by the same sensor. These outputs can have different scaling e.g. 50% scaling to the lights near the windows because there is more ambient light, 25% scaling to the next set of lights further in the room, then 10% to the set of lights in the centre of the room as there is the least ambient light there.

Note:

- In Online mode, the **Current Light Level** field appears in the Open Loop Constant Light Routing Entry Properties, which shows the level (0..200) of the light currently measured by the sensor.

To configure the Open Loop Constant Light Routing Entry, ensure that the entry is selected in Routing Entries view.

Name

You may wish to enter a name for the Open Loop Constant Light Routing entry, which relates to its function, for example.

1. In the **Common** section of Properties, enter a name in the **Name** field.
2. Click . *The Open Loop Constant Light Routing entry is renamed in Routing Entries.*

Assign Condition to Open Loop Constant Light

If you wish to apply a condition to the routing entry:

1. In the **Routing Entry** section, click in the **Condition** field.
2. Click and select a condition from the drop-down menu. *See Conditions for more information.*

3. Click .

Assign Open Loop Constant Light Routing Entry to Light Sensor Group (Input Group)

Tip: Enter the group to which the Light Sensor is assigned.

4. In Properties view, click in the **Group** field in the **Constant Light Sensor** section.
5. Enter the group number to which the Light Sensor is assigned.
6. Click .

Assign Constant Light Routing Entry to Loads (Output Group)

Tips:

- Enter the group of the loads that you wish the Open Loop Constant Light Routing Entry to affect. *You can assign the Light Sensor and loads to be in the same group, or in different groups, depending on what you want to achieve for this particular entry. Where there is only one group of loads to control, the Input Group and Output Group can be the same. For more complex systems, with graduated Constant Light, for example, then there must be more than one Output Group, and the Input and Output Groups must be different.*

7. In the **Controlled Loads** section, click in the **Group** field.
8. Enter the group number of the loads which you wish to affect.
9. Click .

Scaling

Scaling is the % of the Direct Proportion % at which the selected scene light levels are adjusted during Open Loop Constant Light operation, 100% being the specified proportion and 1% being 1% of the specified proportion. Setting 0% makes the proportion process ineffective and gives a fixed light scene.

Notes:

- For multiple Output Groups, the relative size of the scaling indicates the ratio by which one Output Group will vary in comparison to another Output Group. *For example, the lights in the Output Groups all start at 50%, and the first of the Output Groups has a scaling factor of 100% and the second a scaling factor of 50%, with the measured light level being at The Source Level for Direct Proportion of –60%. The lights in the first Output Group are reduced to a level of 20% (60% lower than their starting level), the lights in the second Output Group are changed by half (100/50) of this i.e. from 50% to 35% level (30% lower than their starting level)*.

1. Click in the **Percentage** field of the **Scaling** section.
2. Enter the percentage (0-100%) of scaling. *Notice that the default is 75%.*
3. Click .

Response Rates and Dead Band Size

Up Rate

This is the rate at which the Light Sensor adjusts the lighting when the measured light level has changed and requires the controlled lights to be increased in level. *The range is /10% to x10% and the default is x1%.*

1. Click in the **Up Rate** field and click .
2. Select a rate from the drop-down menu.
3. Click

Down Rate

This is the rate at which the Light Sensor adjusts the lighting when the measured light level has changed and requires the controlled lights to be reduced in level. *The range is /10% to x10% and the default is x1%.*

1. Click in the **Down Rate** field and click .
2. Select a rate from the drop-down menu.
3. Click

Dead Band

This defines the range within which the measured light level is considered to be stable and thereby not requiring further adjustment of the controlled lights. This is used to prevent the sensor searching in response to very small changes in light level. *The range is +/- 2% to +/- 10% and the default is +/- 4%.*

1. Click in the **Dead Band** field and click .
2. Select a range from the drop-down menu.
3. Click

Source Levels

You can set the source light levels for each of the Direct Proportion ratios. During Open Loop Constant Light operation, the level of the **Output Group** is modified by the direct proportion assigned to the measured light level. For intermediary light levels between the set points the direct proportion adjustment is linearly interpolated. This allows tailoring of the artificial lighting to suit daylight conditions for energy saving or aesthetic purposes. With suitable building profiling approximation to constant light control is possible .

Note:

- The source levels correspond to the measured light level.

Source Levels (0..200)	
Source Level for Direct Proportion -90%	200
Source Level for Direct Proportion -80%	180
Source Level for Direct Proportion -70%	160
Source Level for Direct Proportion -60%	140
Source Level for Direct Proportion -50%	120
Source Level for Direct Proportion -40%	100
Source Level for Direct Proportion -30%	80
Source Level for Direct Proportion -20%	60
Source Level for Direct Proportion -10%	50
Source Level for Direct Proportion -5%	40
Source Level for Direct Proportion -2%	30
Source Level for Direct Proportion -1%	20

The source level table is preset with default light values. The values can be edited to any value between 0 and 200 but the order sequence should be either ascending or descending only. Repeated values with give a “dead-band”.

1. In the **Source Levels** section, click in **Source Level for Direct Proportion...** field for the level you wish to adjust. *Notice that there is a default value for each proportion.*
2. Enter a number (0-200). Note that entering 0 (zero) gives 'Fixed Light' operation, observing the order sequence of values.
3. Click .

Calling Constant Light Scenes

- You can call Constant Light Scenes from buttons (subdevices) which are configured to recall Constant Light Scenes.
- You can also call Constant Light Scenes from Go To and the Scene Table. *See 'Go To' a Constant Light Scene for steps on how to call a Constant Light Scene from 'Go To' and the Scene Table.*

Related Topics

- Working with Open Loop Constant Light
- External Light Sensor (329)
- Subdevice Configuration
- Properties
- Go To
- Scene Table
- Device Tree

Working with Open Loop Scene Recall

Open Loop Scene Recall control is a method of automating the operation of the system's lamps based on measurements from light sensors. Its proper use can provide a great deal of convenience for the building's occupants and an increase in energy efficiency.

How Open Loop Scene Recall Works

1. The available light in a room is a mixture of ambient (daylight) and artificial light.
2. The External Light Sensor measures the amount of daylight.
3. The Light Sensor measurement is used by the lighting router system to recall a scene based on a preset trigger threshold.

The effect of this is that the lamps can be controlled to increase both comfort and reduce energy based on the level of ambient light. For example, Open Loop Scene Recall can be set so that the lights in an office are turned off when the ambient light, as seen by the light sensor, goes above a preset level.

Open Loop Scene Recall in Operation

The art of designing a successful Open Loop Scene Recall control system is to position the external sensor carefully, profile the controlled areas to understand daylight contribution under various sky conditions and to suitably match the Source Level to recall an appropriately set scene for the task to be performed.

If predictable and consistent results are to be achieved, it is essential that the light sensor measurement accurately represents the lighting conditions. For this there are two critical effects that ideally should be avoided: shadowing and hot-spotting.

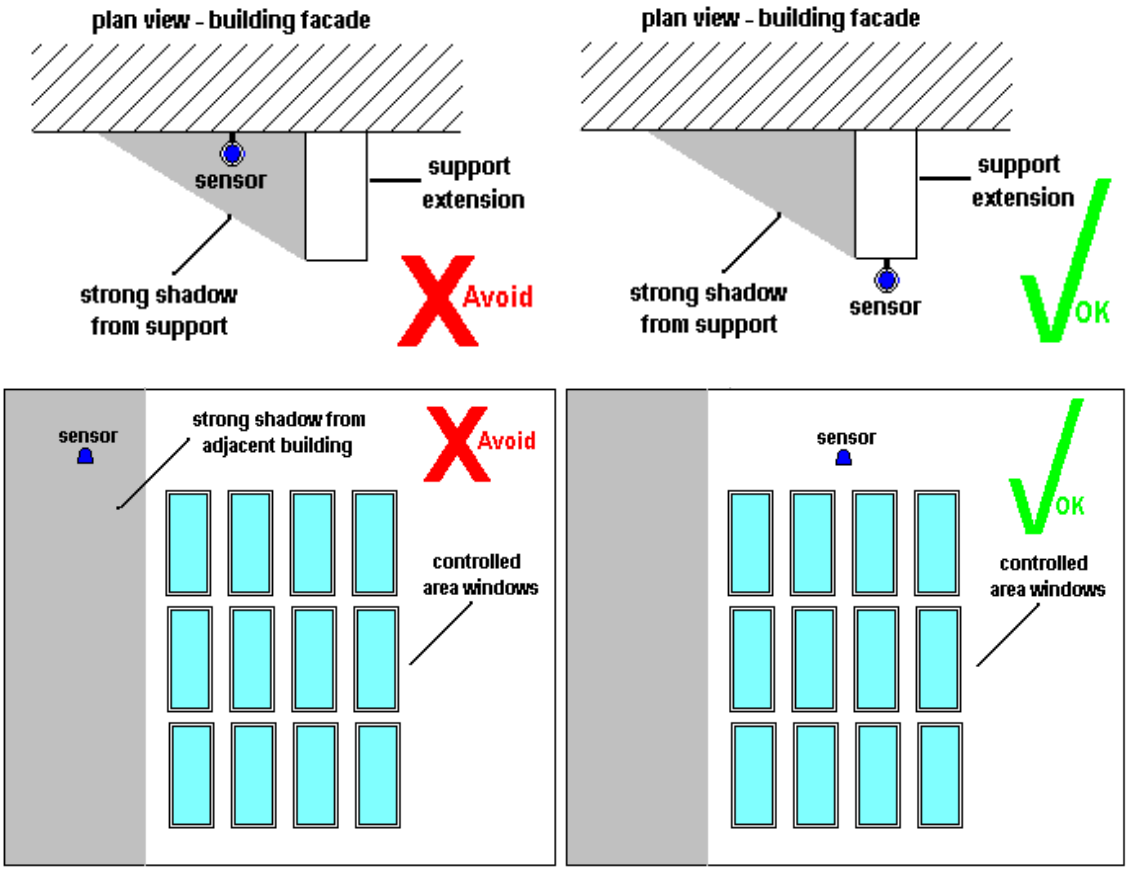
1) Shadowing

In the ideal a building would be isolated and removed from other structures with a sensor mounted on the roof and away from obstructions.

In practice there will be adjacent buildings and obstructions that can give strong shadows at various times of the day and during the course of the year. One solution is for the sensor to be mounted in association with the controlled area and thereby minimise compromise. In all cases careful thought to sensor siting will save programming and response compromises.

Where a single sensor is to be used with multiple controlled areas or if simply there are practical restrictions to mounting location and height then compromises will be inevitable and these must be understood and accommodated. Typically the control system could be programmed to ignore light changes at certain times of the day or month etc.

When complex shadowing cannot be avoided it can be beneficial to locate the sensor in permanent shadow such that it measures the skylight only. This will give a consistent measurement but will not reflect the local effects of strong sunlight interspersed with shadow.



2) Hot-spotting

Hot-spotting is a consequence of an unwanted reflection giving additional light to the sensor. Predicting a problem can be difficult. For example, the effect of opening a nearby window can easily be missed.

There are important practical factors to be aware of:

A) Setting the Source Level

The external sensor functions on an open loop principle, and has no means of knowing either the capabilities of the lamps or the effect of modifying their output. This means that it is possible to set the source level correctly for one type of light whilst being totally inappropriate for another. Correct profiling, that is understanding the effect of modifying the artificial light level for the controlled area with respect to the contributing daylight, is essential in achieving the intended operation.

B) Interacting with other controls

If there are methods of controlling the daylight locally, such as blinds, then this must be factored into the design strategy. For example, if the blinds are controlled as part of the lighting control system then conditions can be applied to the Open Loop Scene Recall routing entry to effect a change in response.

C) Setting Specific Levels

The light level measured by the external light sensor is the LUX value at its location and cannot be calibrated to correspond to a specific LUX level produced by the lighting system.

Attaining specific LUX levels for your installation requires accurate profiling to determine the appropriate scene settings to apply to alter the artificial lighting in response to available daylight.

Related Topics

- Open Loop Scene Recall Configuration
- Working with Open Loop Constant Light
- External Light Sensor (329)

Open Loop Scene Recall Configuration

Configure the Light Sensor

This routing entry supports two types of light sensor:

- A light sensor from the Helvar Digidim system range

For steps on how to configure Helvar Digidim light sensors see the Configure subdevice section.

- An appropriate analogue light sensor when used in conjunction with a Helvar 942 Analogue input unit.

For steps on how to configure the Helvar 942 see Analogue Input Configuration*.*

Configure Open Loop Scene Recall

Open Loop Scene Recall operation allows two groups:

- **Light Sensor.** The Light Sensor which is required to operate the Open Loop Scene Recall, must be in this group.
- **Controlled Loads.** The loads (ballasts/dimmers) must be in this group. This is the group and block that scene recalls will be directed to in response to changes in the external daylight.

Open Loop Scene Recall Light adjusts output light levels (by affecting the loads in the **Output Group**), according to the daylight level measured by the External Light Sensor in the **Input Group**, following the thresholds set to trigger a specified scene recall. Thresholds for up to 16 scenes may be set.

Tips:

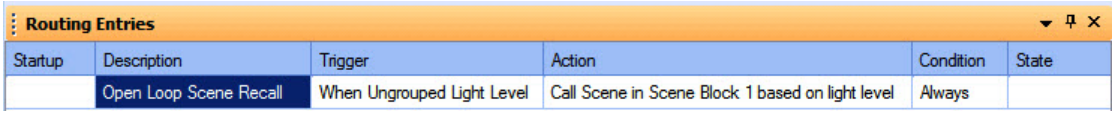
- In the simple case, with a sensor controlling Open Loop Scene Recall in only one group of loads, the Light Sensor Group and Controlled Loads Group may be the same. For more complex situations, where more than one Controlled Loads Group is required, the Light Sensor Group and Controlled Loads Groups must be different.

Notes:

- You must be in Editor mode to configure Open Loop Scene Recall.
- You must be Online to activate and configure Open Loop Scene Recall to the Light Sensor.
- You must be in Live mode to call and affect Scene Recall Light Scenes in real time and in the real lighting system.

Open Loop Scene Recall Routing Entry

1. Click to view Routing Entries.
2. Click in Routing Entries view and click or right-click and select 'Insert'.
3. Select Open Loop Scene Recall.
   The Open Loop Scene Recall Routing Entry appears in the Routing Entries view.



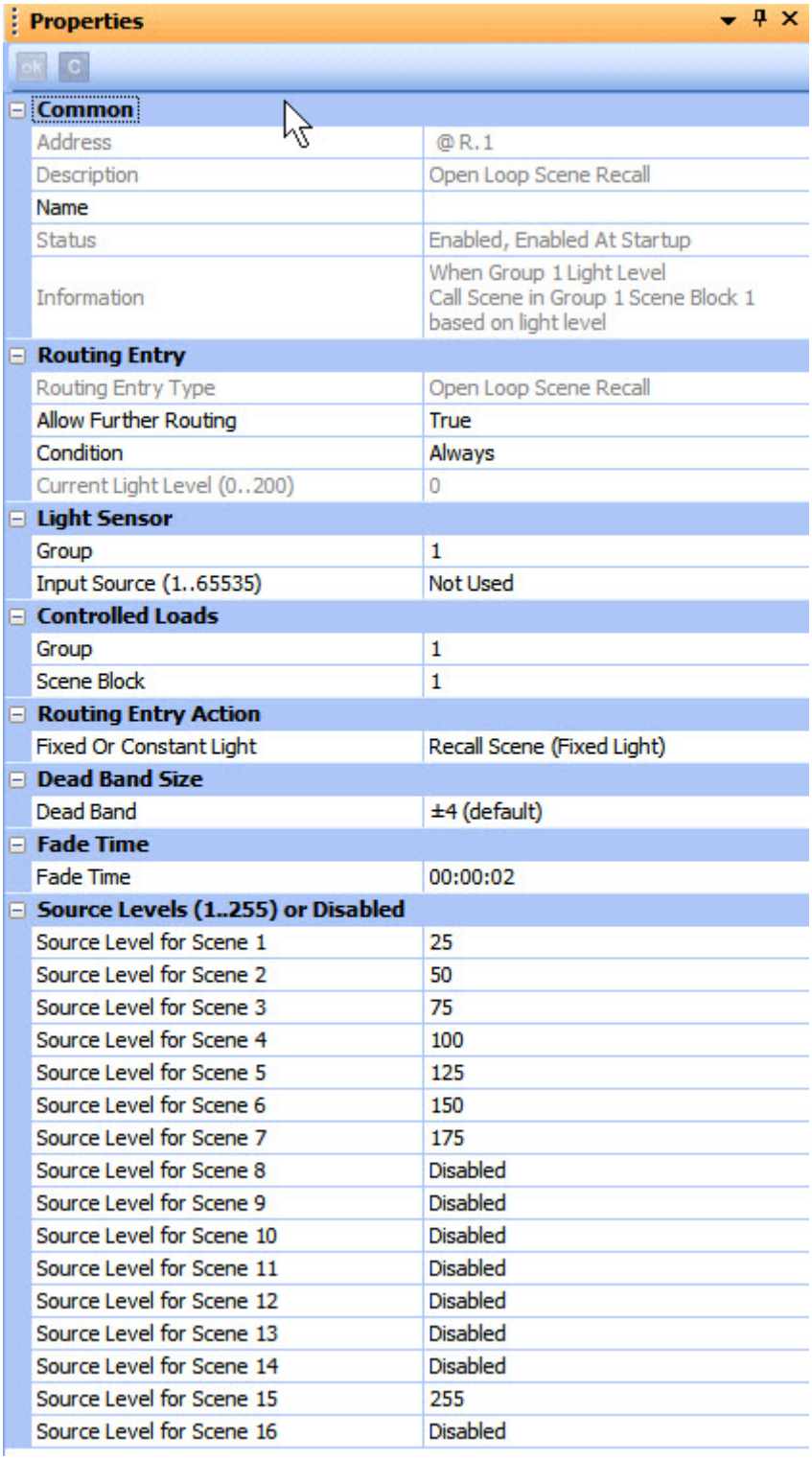
Tip:

- You can assign multiple Open Loop Scene Recall Routing Entries to one sensor, assigning each entry to a different Controlled Loads Group (i.e. to loads in different groups). This is useful if you wish the lights in different areas of the building (and therefore the lights assigned to different groups) to be affected by the same sensor.

Note:

- In Online mode, the **Current Light Level** field appears in the Open Loop Scene Recall Routing Entry Properties, which shows the level (0..255) of the light currently measured by the sensor.

To configure the Open Loop Scene Recall Routing Entry, ensure that the entry is selected in Routing Entries view.



Name

You may wish to enter a name for the Open Loop Scene Recall Routing entry, which relates to its function, for example.

1. In the **Common** section of Properties, enter a name in the **Name** field.
2. Click ok. *The Open Loop Scene Recall Routing entry is renamed in Routing Entries.*

Assign Condition to Open Loop Scene Recall

If you wish to apply a condition to the routing entry:

1. In the Routing Entry section, click in the Condition field.
2. Click and select a condition from the drop-down menu. See Conditions for more information.
3. Click .

Assign Open Loop Scene Recall Routing Entry to Light Sensor Group

Tip: Enter the group to which the Light Sensor is assigned.

1. In Properties view, click in the **Group** field in the **Light Sensor** section.
2. Enter the group number to which the Light Sensor is assigned.
3. Click .

2.

Note:

- The steps below are necessary only when using a light sensor in conjunction with an Analogue Input Unit.
  When using Helvar Digidim light sensors the Input Source must be set to 'Not Used'.

3.
4. If using an analogue light sensor, click in the **Input Source** field
5. Enter the same input source number as given for this light sensors in the properties for the Analogue Input unit. The default is 'Not Used'.

Assign Open Loop Scene Recall Routing Entry to Controlled Loads

Tips:

Enter the group of the loads that you wish the Open Loop Scene Recall Routing Entry to affect.

You can assign the Light Sensor and loads to be in the same group, or in different groups, depending on what you want to achieve for this particular entry. Where there is only one group of loads to control, the Input Group and Output Group can be the same.

1. In the **Controlled Loads** section, click in the **Group** field.
2. Enter the group number of the loads which you wish to affect.
3. If required, click in the **Scene Block** field.
4. Enter the block number to which the scene recalls will be directed for this group.
5. Click .

Routing Entry

It is possible to recall either Fixed Light or Constant Light scenes to the Controlled Loads group.

1. If required, click in the **Fixed Or Constant Light** field of the **Routing Entry Action** section.
2. Select either Recall Scene (Fixed Light) or Recall Scene (Constant Light). *Note that the default is Fixed Light.*
3. Click .

Dead Band

This defines the range within which the measured light level is considered to be stable and thereby not requiring further adjustment of the controlled lights. This is used to prevent the sensor searching in response to very small changes in light level.

1. Click in the **Dead Band** field and click ok.
2. Select a range from the drop-down menu. The options in levels are: ±2; ±3; ±4; ±6; ±10
3. Click ok

Example:

Dead band size:	±4
Source level for Scene 1:	25
Source level for Scene 2:	50
Source level for Scene 3:	75

When the light level moves from 49 to 50, Scene 2 is recalled.

If the light level then goes back to 47, Scene 2 will remain recalled.
For Scene 1 to be recalled, the light level must drop to (50 – 4) = 46.

Fade Time

This is the fade time for the scene changes, and applies to all scenes listed in the Source Levels table.

1. Click in the **Fade Time** field and click ok.
2. Enter the required fade time.
3. Click ok.

Notes:

- DALI loads are limited to a maximum fade time of 90 seconds.
- S-DIM loads are limited to a maximum fade time of 46 hours.

Source Levels

You can set the trigger source levels for each of 16 scenes in the controlled loads group and block. If a scene is not required it's source level can be set to Disabled. During Open Loop Recall Scene operation, the level of the light sensor is compared with the set trigger source thresholds, if a rising or falling changed is detected (taking in to account the dead band setting) the corresponding scene is recalled to the controlled loads group and block.

Note:

- The source levels correspond to the measured light level.

The source level table is preset with a number default light values.

The values can be edited to any value between 0 and 255 or set to Disabled.

1. In the **Source Levels** section, click in **Source Level for Scene...** field for the level you wish to adjust.
2. Enter a number (0-255) or Disabled.
3. Click ok.

Related Topics

- Working with Open Loop Scene Recall
- External Light Sensor (329)
- Analogue Input Configuration

- Subdevice Configuration
- Control Device Configuration
- Properties
- Go To
- Scene Table
- Device Tree

IR Receiver Panel (170)

Infrared Receiver - 170

This control device *A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.* is part of the Digidim Modular Panel range. It comprises an infrared remote control receiver.

Modular control panels are a DALI *Stands for Digital Addressable Lighting Interface. Standardised digital protocol for lighting control, allowing communication between control devices and LIUs (control gear).* compatible range of user interfaces that allow adjustment of light levels within the lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* . The range includes push-button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.*, rotary and slider *A slider is a subdevice that is operated by the user. A slider is used to adjust lighting level(s).* controls in several panel finishes. Each button is fitted with an indicator LED *A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* and an infrared receiver that gives the option of remote operation using the Digidim Remote Control Handset. The hand-held remote control also allows additional control of the system's functions.

The IR *Stands for Infrared. Infrared radiation is a form of light that is invisible to the human eye, and is often used as a medium to send information between two devices.* Receiver (170) can receive several different selections (input signals), made via the Remote Control Handset. There are seven selections available, which correspond with the buttons of a Button Panel (125).

- To learn more about this product, see the Helvar Website.

Configure Device

You can configure this device and its controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration

Related Topics

- Infrared Receiver (170) Mimic
- IR Remote Control Receiver
- Device Tree
- Device Configuration
- Subdevice Configuration
- Properties
- Remote Control Handset
- Remote Control Handset Configuration

Infrared Receiver - 170

This control device *A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.* is part of the Digidim Modular Panel range. It comprises an infrared remote control receiver.

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You can configure this device and its controls via the Properties view, in the following ways:

- Device Configuration
- Subdevice Configuration

Related Topics

- Infrared Receiver (170) Mimic
- IR Remote Control Receiver
- Device Tree
- Device Configuration
- Subdevice Configuration
- Properties
- Remote Control Handset
- Remote Control Handset Configuration

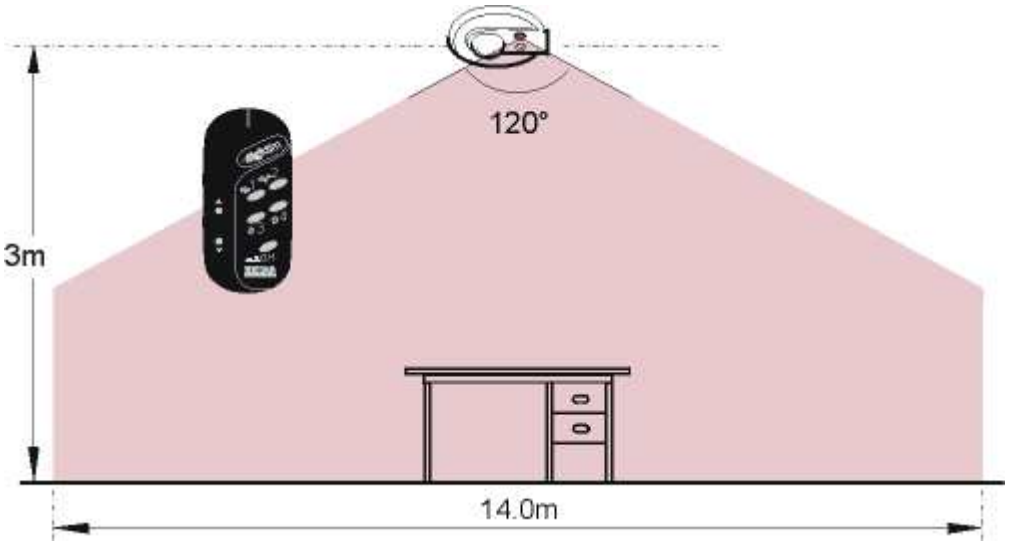
IR Remote Control Receiver

Infra-Red Remote Control Receiver

The IR Remote Control Receiver is contained within control devices which support infrared communication. *To learn how to enable infrared communication for devices, see Device Configuration - Enable IR Communication.*

The IR Receiver operates in conjunction with the Digidim IR Remote Control Handset to select desired light levels.

The IR Receiver must have a clear field of vision to the IR Remote Control user's position, and is responsive up to the following distances:



To learn how to configure the IR Receiver, see IR Remote Control Receiver Configuration.

Related Topics

- IR Remote Control Receiver Configuration
- IR Receiver (170)
- Multisensor (312)
- PIR Detector
- Constant Light Sensor
- Remote Control Handset
- Properties
- Device Tree
- Device Configuration

IR Remote Control Receiver Configuration

The IR Remote Control Receiver is indicated by in the Device Tree.

Note:

- The IR *Stands for Infrared. Infrared radiation is a form of light that is invisible to the human eye, and is often used as a medium to send information between two devices.* Remote Control Receiver is contained within the control device *A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.* , and is therefore displayed as a subdevice *A physical object that forms part of another device, with which you can interact, either directly or via Designer.* in the Device Tree .
- You must be in Editor mode to configure the IR Sensor.

Enable Infrared for the IR Remote Control Receiver

To configure the devices which you wish to communicate with the IR Sensor, see Device Configuration - Enable IR Communication and IR Filter.

Note:

- The IR Remote Control Receiver is disabled by default on all devices, except for the Multisensor (312) and the IR Receiver (170).

Configure IR Remote Control Receiver

See Subdevice Configuration for steps on how to configure this subdevice.

Note:

By default, the modes of the buttons for infrared communication from the Remote Control Handset are as follows:

- Buttons 1-4 on the handset (shown as 'Ungrouped Scene *Collection of lighting levels for each channel assigned to the same group as the scene.* 1.1-4' on the Device Tree) are set to 'Single Press'.
- The On/Off button *A button is a digital pushbutton subdevice that can be operated by the user, either directly or via the Infrared Remote Control Handset.* (shown as 'Ungrouped Toggle Block' on the Device Tree) is set to 'Toggle Block'.
- The Up and Down buttons (shown as 'Ungrouped Up'/'Ungrouped Down' on the Device Tree) are set to ' Modifier *A control used to modify a level, such as a fade button on a control panel.* '.

Related Topics

- IR Remote Control Receiver
- Remote Control Handset
- Remote Control Handset Configuration
- Device Tree
- Device Configuration - Enable IR Communication
- Device Configuration - IR Filter

- Subdevice Configuration
- Properties
- Multisensor (312)
- IR Receiver (170)

Remote Control Handset

Remote Control Handset

This control device *A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.* is a battery-operated hand-held device, used to control or programme any Digidim device that has an enabled infrared receiver.

The Helvar Remote Control is fitted with seven buttons which can be used to directly control basic device functions, such as on/off, raising and lowering of light level, and selecting from four pre-programmed scenes.

- To learn more about this product, see the Helvar Website.

Configuration

This control device is configured directly, not via Designer. *See* Remote Control Handset Configuration *for steps on how to do this.* Configuration of Digidim control devices to work with this device is made via the Properties view. *See Device Configuration.*

Related Topics

- Remote Control Handset Configuration
- Remote Control Handset Mimic
- Device Tree
- Device Configuration
- Properties
- IR Remote Control Receiver

Remote Control Handset

This control device *A device which, upon input, sends a control message to the router, which then processes the information and forwards the message to the relevant Control Gear (see). For example, when a user presses a button on a button panel control device, a Scene is called.* is a battery-operated hand-held device, used to control or programme any Digidim device that has an enabled infrared receiver.

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Configuration

This control device is configured directly, not via Designer. *See* Remote Control Handset Configuration *for steps on how to do this.* Configuration of Digidim control devices to work with this device is made via the Properties view. *See Device Configuration.*

Related Topics

- Remote Control Handset Configuration
- Remote Control Handset Mimic
- Device Tree
- Device Configuration
- Properties
- IR Remote Control Receiver

Remote Control Handset Configuration

Some Digidim control devices support infrared communication. For communication to occur, the relevant controls and Remote Control Handset must be using the same *IR Stands for Infrared. Infrared radiation is a form of light that is invisible to the human eye, and is often used as a medium to send information between two devices.* Filter value.

To learn more about configuring the infrared features of controls, see Device Configuration.

Configuration

The Remote Control Handset has a rotary switch that is accessed by opening the battery compartment.

- Turn the rotary switch to an IR Filter value so that the handset can only control devices that have their **IR Filter** field (in the **Properties** view) set to the same value. The value can be from **0** to **9** or **A** to **E**. *See Device Configuration.*

Tip:

- If you want the Remote Control Handset to control all Digidim control devices, no matter what IR Filter value they are set to, set the channel *A channel pertaining to a Load (also known as Control Gear or LIU), see entry for Load. A ballast has one channel whereas a dimmer or relay unit can have numerous channels.* to **0**.
- Setting the **IR Filter** field to **Broadcast Only** for the selected device *A physical item with which you can interact, either directly or via Designer.* (in the **Controls** section of the **Properties** view), means that the device will ONLY accept messages from handsets which are set to **0**.

Related Topics

- Remote Control Handset
- Infra-Red Remote Control Receiver
- IR Remote Control Receiver Configuration
- Device Tree
- Device Configuration
- Properties

Security

Designer includes many features that allow you to change the way the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* works. Use of these features by an inexperienced or unauthorised person may cause changes to be made to the lighting system that are undesirable. To avoid this possibility, Designer utilises three levels of security, each one granting access to certain features of the software. These are as follows:

	Live mode	Editor mode	**Router** *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* **Configuration and Upload modes**
Level 1 (lowest)	✓	✗	✗
Level 2	✓	✓	✗
Level 3 (highest)	✓	✓	✓

Each level of security grants you access to the features associated with that level, plus the features accessible at lower levels of security. For example, Level 2 grants you access to Editor and Live modes, but not Router Configuration and Upload modes. Level 3 grants you access to all features, without restriction.

Related Topics

- Password Entry
- I Have Forgotten My Password
- Security Settings

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Security Settings

When Designer is first installed, a default password exists. To ensure security, we recommend that you change the default password:

1. Click **Tools / Options**.
2. In the **Security Settings** section, click in the appropriate field for each level of security (password levels 1, 2 and 3).
3. In the **Enter Password** dialogue, enter the default password. *The **Enter Password** dialogue refreshes.*
4. In the **Password** field, enter the new password.
5. In the **Confirm Password** field, re-enter the new password.
6. Click **OK**.

Notes:

- Security configuration is on a per-computer basis. If you want the same level of security on all copies of Designer in your lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* , then you must configure the security for each computer separately. We recommend that you use the same password for a given level of security on each computer.
- We recommend that you use a different password for each level of security. However, if you use the same password for more than one level, then use of that password will grant you access to the highest of the levels.

Warnings:

- Make a note of the passwords you have chosen for access to each level of security in Designer.
- If you forget a password, you will not be able to access features at the corresponding level of security. Direct intervention by Helvar Customer Support will be required to restore access.

Related Topics

- Security
- I Have Forgotten my Password
- Options
- Firewall

Password Entry

Designer includes many features that allow you to change the way the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* works. Use of these features by an inexperienced or unauthorised person may cause changes to be made to lighting system that are undesirable. To avoid this possibility, Designer utilises three levels of security, each one granting access to certain features of the software.

At the password prompt:

1. Enter the password for the level of access you require.
2. Click **OK** to proceed.

Related Topics

- Security
- Security Settings
- I Have Forgotten My Password

I Have Forgotten My Password

Designer security features are designed to prevent unauthorised access to its features. Without a valid password, there is no way to access these features. However, there are some things you can try to overcome the problem.

Solutions

- If you have forgotten your Level 1 password, you can still access those features by providing a higher level password. For example, if you need to access a feature that is protected by a Level 1 password, by using a Level 2 password you can access that feature, plus all other features allowed at Level 1 and Level 2.
- If you have forgotten a Level 1 password, use a Level 2 or Level 3 password instead. With Level 2 clearance you can reset the Level 1 password, and with Level 3 clearance you can reset the Level 1 and Level 2 passwords.
- If you have forgotten your password and have no higher level password available to you, you will not be able to access those features of Designer.
- Contact Helvar Customer Support for further assistance.

Related Topics

- Security Settings
- Password Entry
- Security
- Helvar Customer Support

Customer Support

Helvar Customer Support

At Helvar we are always happy to hear from our customers, but before contacting us please check the Troubleshooting page, which may help to resolve the problem you have encountered.

Helvar Regional Support

Helvar has a global network of representatives, who can provide support in your local language. See www.helvar.com for details.

Helvar UK Service

Helvar provides a range of support services, including:

- Field Service on a contract or request basis.
- Final commissioning and programming of your new lighting system *A network of Client PCs, Routers, Control Devices, Control Gear and lamps.*
- Bench service for those occasions things cannot be repaired on site

How to contact the UK Service Department:

Email	service@helvar.com
Telephone (Main)	+44 (0) 1322 222211
Telephone (Service Department)	+44 (0) 1322 282265
Fax	+44 (0) 1322 282216
Post	Helvar Limited Hawley Mill Hawley Road Dartford Kent DA2 7SY UK

The Helvar Website

- For further information about Helvar products and services, in a variety of languages, see www.helvar.com.

Related Topics

- Troubleshooting
- Upgrade Router Firmware
- Installing and Running Designer

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Troubleshooting

We are always happy to hear from our customers, but before contacting Helvar Support, please read these pages, as they may provide a solution to the problem you have encountered.

- DALI subnet devices are behaving erratically
- Router incompatible
- Router firmware update has failed
- I have forgotten my password
- Routers view does not show any routers
- Upload fails

The LEDs located on the front panel of the 905, 910 and 920 routers are pre-programmed to flash a specific set of colours when an error state has been detected. For a detailed breakdown of *LED A light-emitting diode (LED) is a semiconductor device that emits incoherent monochromatic light when electrically biased in the forward direction. This effect is a form of electroluminescence. The color depends on the semiconducting material used, and can be near-ultraviolet, visible or infrared.* states during Helvar Application Errors and Operating System errors including the error codes and their descriptions, see 905/910/920 LED Flash Codes After Detection of an Error State

If you have not found the solution to the problem you have encountered, please contact the Helvar Customer Support representative in your region.

Related Topics

- Helvar Customer Support
- Upgrade Router Firmware
- 910/920 LED Flash Codes After Detection of an Error State

Update Router Firmware

IMPORTANT:

- Make a backup of your system before upgrading router *In the sense of a Lighting System, a Router is an intelligent device whose software and hardware perform the tasks of routing and forwarding messages (data) from Control Devices to the Control Gear. A Router contains two or more Subnets.* firmware *Software that is embedded in a hardware device that allows reading and executing of the software, but does not allow modification.*. *See Save a Real Workgroup.*
- To upgrade firmware you will require a password. Please contact your Helvar representative for this.

Each Helvar router contains software stored in its hardware that allows it to perform its various tasks. Such software is known as firmware . The firmware can be upgraded to provide new features or to allow it to work with a newer version of Designer. All routers in the *lighting system A network of Client PCs, Routers, Control Devices, Control Gear and lamps.* must have the same firmware version.

The router also stores the configuration of the lighting system as set up by the customer / installer.

It is vitally important that the programming of the Workgroup's routers is backed up before starting the router firmware upgrade process. Not only does this ensure you have all the settings in a design file, ready to be uploaded into your system once the router's firmware has been upgraded, but it also provides a precaution in case of an unexpected failure during the process, resulting in data loss.

Notes:

- Updated firmware is included in Designer. In some instances, Helvar may require you to provide the router serial number(s) and current firmware version. You can obtain the serial number and firmware version number of a router from the Routers view.
- It is important to remember that a router cannot function without properly installed firmware. In common with updating the firmware of any such device *A physical item with which you can interact, either directly or via Designer.*, failure of the upgrade will render the device inoperable until the firmware has been installed.
- Install only firmware designed for use with your router.
- Before updating router firmware, it is recommended to enable auto-healing for the appropriate subnets (see DALI subnet configuration for details).

Before upgrading the router firmware, you must perform certain procedures, illustrated in the upgrade router firmware procedures diagram below, which shows an example of upgrading firmware from version 4.0.x and 4.1.x to version 4.2.x.

Workgroup designs of the same minor version maintain compatibility. In the event of upgrading/downgrading between designs saved in different major versions, it will be necessary to open the design in each intermediate major version of Designer and re-save it to generate a workgroup design file that can be uploaded back into the system in the event of problems. This ensures the integrity of the lighting system's settings and programming during the upgrade process and that the process runs smoothly. For example, to use a design file from version 4.0.7 with version 4.2.1, first open it and save it in Designer 4.1.1, before opening in version 4.2.1.

Note:

- Major version differences are indicated by the two most significant version digits being different. For example, **4.0**.4 and **4.0**.7 are considered minor version differences, and

4.0.7 and **4.1**.1 are major version differences.

Example - Upgrading from 4.1.1 to 4.2.1

For example, if you have been using Designer version 4.1.1 and wish to upgrade to 4.2.1, then you only need to:

1. Start Designer 4.1.1
2. Go Online to your lighting system
3. Save the Real Workgroup (real lighting system) design file (using File / Save As) from Designer 4.1.1 (giving the version number in the file name)
4. Close Designer 4.1.1
5. Start Designer 4.2.1
6. Upgrade each router's firmware to 4.2.1 (see Upgrade router firmware below)
7. Check the settings and operation of system

Example - Upgrading from 4.0.7 to 4.2.1

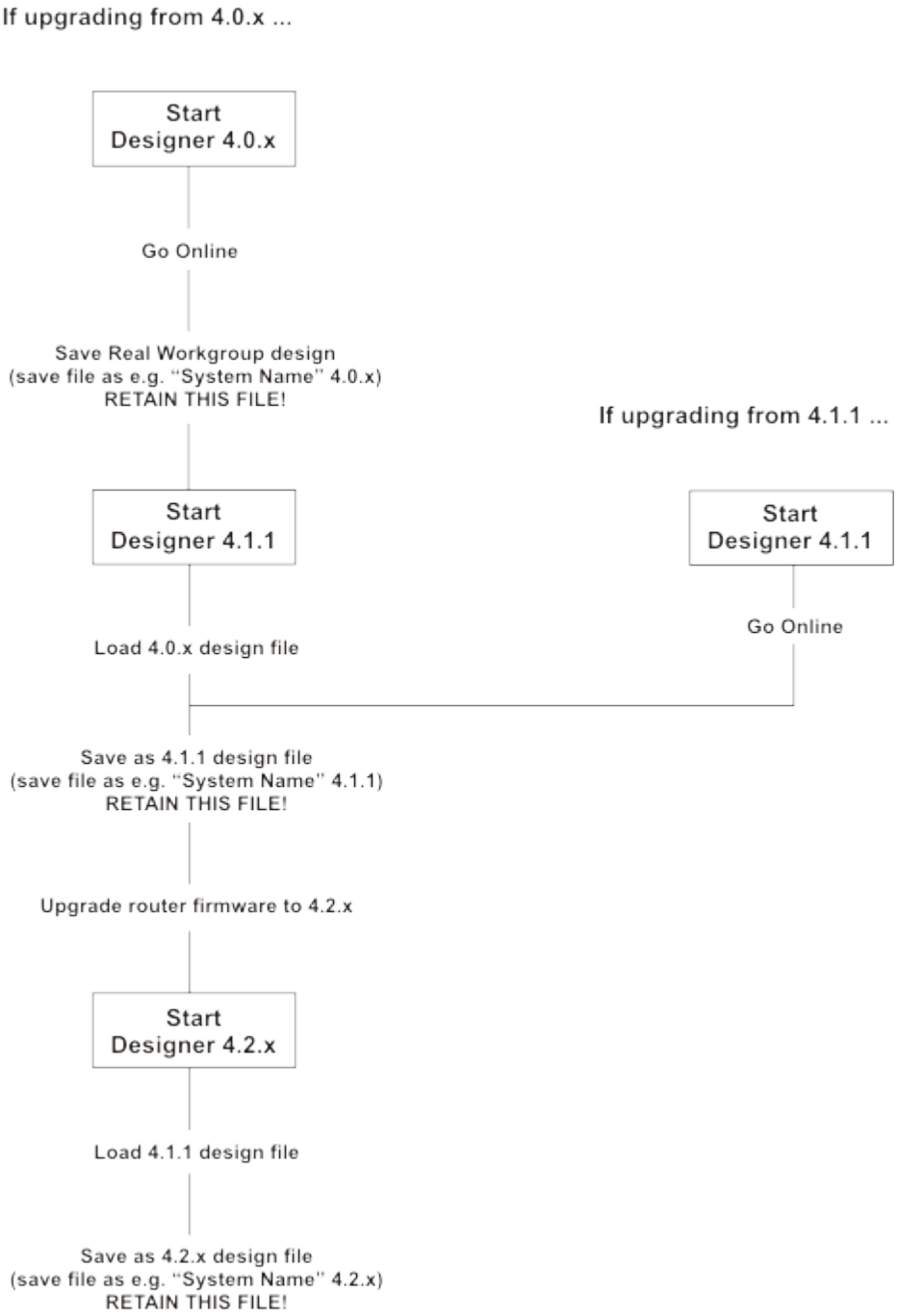
However, if you have been using Designer version 4.0.7 and wish to upgrade to 4.2.1, then you must:

1. Start Designer 4.0.7
2. Go Online to your lighting system
3. Save the Real Workgroup design *A simulation of a Lighting System, which may or may not correspond to the devices in a Real Workgroup.* file (using File / Save As and giving the version number in the file name)
4. Close Designer 4.0.7
5. Start Designer 4.1.1
6. Load *For example, dimmers, relay units, ballasts etc. Receives messages from control devices and performs the relevant action e.g. sets the lighting it controls to the relevant level. Some control may be possible at the device itself. Also known as Control Gear or LIU, see entries for both.* the design file into Designer 4.1.1
7. Save the design file (using File / Save As) from Designer 4.1.1 (giving the new version number in the file name)
8. Close Designer 4.1.1
9. Start Designer 4.2.1
10. Upgrade each router's firmware to 4.2.1 (see Upgrade router firmware below)
11. Check the settings and operation of system

Tip:

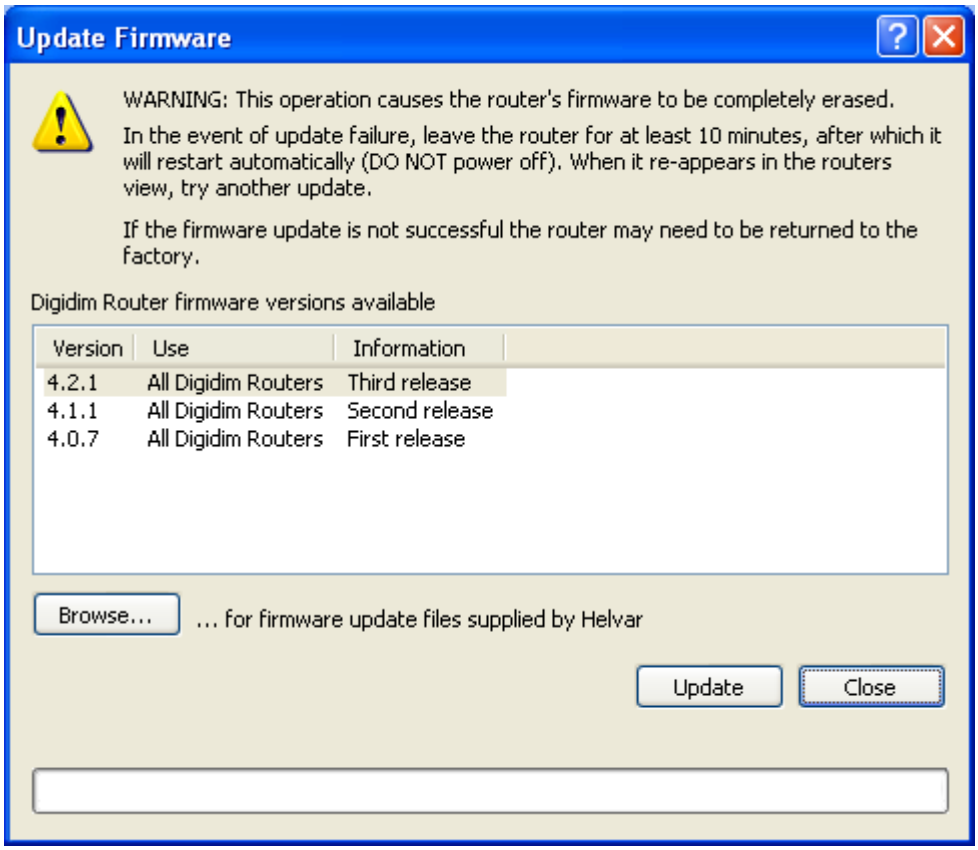
- For each version of Designer in which you backup your Real Workgroup (system), save every design, naming it clearly with the version number. This makes it easier for you to decipher which design needs to be loaded / uploaded into the next version of Designer.

Upgrade router firmware procedures



Upgrade router firmware

1. Go Offline.
2. Click **View / Routers** to open the Routers view.
3. Check the firmware version of the routers in the **S/W Version** field to see which ones require upgrading.
4. In Routers view, right-click on the router that requires upgraded firmware (or multi-select routers and right-click).
5. Click **Upgrade Firmware**.
6. Enter the password provided by your Helvar representative in the dialogue provided. *The **Update Firmware** dialogue will appear.*



7. From the list, choose the required firmware version to upgrade to.

   OR if you have been provided with an upgrade file by your Helvar representative, click **Browse** to search for and select the firmware file.
   *The firmware is stored in an upgrade file called **Designer.huf**. This can only be used on routers with particular serial numbers.*

8. Click **Update** to start the upgrade. *The firmware is installed on the router(s).*
9. *The **Firmware update successful** dialogue appears.* Click **OK**.
10. Click **Close** to close the **Update Firmware** dialogue.
11. Wait for the router(s) to restart and reappear in routers view. *DO NOT TURN OFF THE ROUTER(S).*

Downgrade router firmware

Note:

- Contact Helvar Customer Support for more guidance.

Using the version of Designer corresponding to the current firmware version:

1. Back up the system design file.
2. Unplug subnet *A subnet is a part of a Router, and there are two or more Subnets on each Router. It allows the flow of network traffic between hosts to be segregated, based on network configuration. By organising hosts into logical groups and joining them, subnetting, network security and performance can be improved.* connectors on router.
3. Erase router settings (In Routers view, select all routers, right-click then select **Erase Flash**. *Note: You must be in Editor mode to do this*).
4. Downgrade firmware using the supplied HUF file or BIN file.

5. Configure router in Routers view.
6. Go Online.
7. Configure lighting system settings as required.

Related Topics

- Routers
- Router Firmware Upgrade Has Failed
- Router Incompatible
- Router Configuration
- Save a Real Workgroup

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