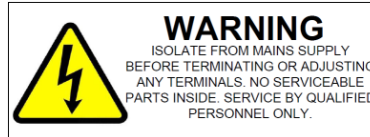




To reduce the risk of fire or electric shock, do not expose this device to rain or moisture. Installation, programming and maintenance must be carried out by qualified personnel. All local wiring and electrical regulations must be followed when installing device.

## Overview

- **Single-phase supply** – 100 - 240 VAC 50 / 60 Hz at 0.25 A
- **1 x DALI Output** – Suitable for DALI HF ballasts, electronic low-voltage transformers and LED fixtures. Philips Dynalite multi master enabled for use with DPMI940-DALI and DUS360CR-DALI only.
- **1 x Feed-through Switched Circuit** – Rated at 20 A
- **Built-in DALI Bus Power Supply of 220 mA @ 16 VDC** – Auto restart on overload or short circuit on DALI output. No external DALI power supply allowed.
- **Override and Status Indicator for Switched Channel**
- **Many Control Options** – Control of this device can be via a combination of methods, such as serial control port, relay contacts, push button control panels, infrared receivers, timeclocks and Philips Dynalite user interfaces on the DALI network.
- **Dry Contact Interface** – Can be programmed to perform many different functions. The factory settings will cause this input to transmit network identification information.
- **Simple Installation** – DIN rail mount facilitates installation. All connection terminals accessible without disassembly.



**Warning** – Read the instructions - We recommend that you read this instruction manual prior to commencement of installation.

**Standards** - The temperature limits and carrying capacity of communication wires must comply with HD 384.5.523 and the installation of home and building automation and control systems must comply with HD 60364-4-41.

**Special Programming** – This device is designed for professional installation only, and will only operate in basic modes unless programmed via a computer. If programming is required, contact your local agent for details. Once the data cable is connected to the devices, the factory default settings will allow any control panel to control all channels in all dimmers.

**Check Connections** – Re-tighten all connections after installation.

**Power Sources** – This device should only be operated from the type of supply specified on the front cover. This device must be earthed.

**Output Circuit** – The load on the switched circuits should not exceed the specified capacity of 20 A, these circuits should be fed via a 20A circuit breaker.

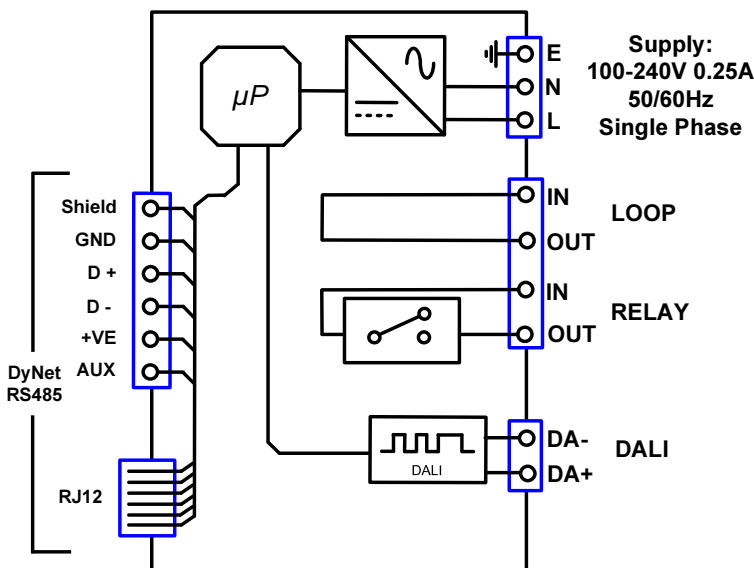
**Load Control Circuit** – A 2 core DALI bus cable is required to be run to the loads. This cable is in addition to the mains feed.

**Load Type** – This product is intended to control DALI drivers and devices.

**Location** – Install in a dry, well-ventilated location. Controllers may emit some mechanical noise. Take this into account when deciding the mounting location.

**Data Cable** – Use screened, stranded RS485 data cable with three twisted pairs. Segregate from mains cable by 300mm minimum. Connect devices in a 'daisy chain'. A data cable connected to an energized device is live. Do not cut or terminate live data cables.

## Electrical Diagram



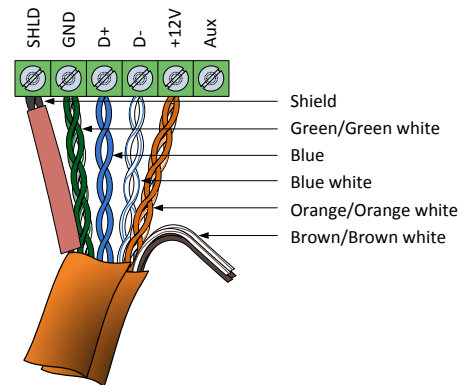
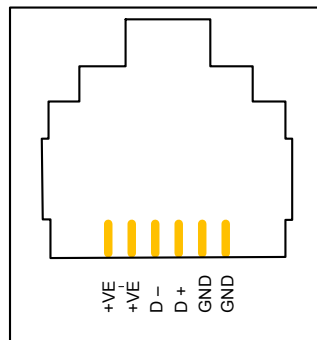
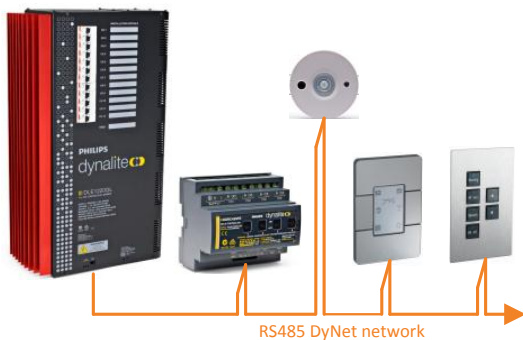
**WARNING:** Do not connect any DALI terminals or wires to mains power. DALI wires are NOT SELV and should never be considered touch safe. Basic insulation or higher is required between DALI wires and mains cabling.

**Do not connect external DALI power supply to the same DALI bus.**

# Installation Steps

Isolate Mains supply, DALI and DyNet bus prior to wiring

1. Mount the device on a DIN rail inside an approved enclosure.
2. Connect single phase supply and earth to the supply terminals.
3. Calculate total loading of the lighting to ensure the switched output is not overloaded. The maximum loading of this device shall not exceed 20 A. Ensure load inrush current does not exceed 500 A for longer than 200  $\mu$ s. Supply must be protected by a maximum 20 A circuit breaker.
4. Connect load cable to the "OUT" relay terminal and connect 20A active supply to the "IN" relay terminal. The IN and OUT LOOP connections can be used to pass through, if required, and are shorted internally.
5. Connect the DALI bus cables to "DA+" and "DA-": Use a mains rated 2-core cable to connect the DALI bus to the DALI ports on all DALI devices. The DALI bus cable should not be longer than 300 Metres, and should have a minimum cross section area based on cable length as follows:
  - Up to 100 Metres: 0.5mm<sup>2</sup>
  - 100 to 150 Metres: 0.75mm<sup>2</sup>
  - 150 to 300 Metres: 1.5mm<sup>2</sup>
 The DALI bus is not SELV and must be treated as a mains cable. DALI is not polarity conscious. A maximum of 64 DALI devices plus 10 Philips Dynalite user interface devices (DPMI940-DALI & DUS360CR-DALI) can be connected together in a DALI network.
6. Connect DyNet data cables to the device as per diagrams below. Ensure there is segregation between data cables and mains powered cables.
7. If the Auxiliary input is to be used, connect a dry contact switch between the AUX and GND terminals. Keep this cable under 20 metres. Function of the Auxiliary input will need to be programmed at the time of commissioning.
8. Recheck all terminated cables and once safe power the unit on. Correct termination of the DALI ballasts can be verified by pushing the service switch 4 times. This will invoke a test sequence, where all the correctly terminated ballasts will cycle between 100% for 3 seconds, 40% for 3 seconds and 0% for 3 seconds. This test sequence will continue for 5 minutes after which all ballasts will return to their first powered state. Press the Service button on the controller to terminate the test sequence.



## Recommended Cable Type

Dynalite DYNET-STP-CABLE or equivalent shielded three twisted-pair cable. See datasheet for more information.

## Product Specifications

<b>Input voltage</b>	100 - 240 VAC 50/60 Hz single phase at 0.25 A; IEC Overvoltage Category III IEC (Max 4kV surge)
<b>Control Output</b>	1 x DALI Control Output, supporting one full DALI universe of 64 channels, including back channel and Multi Master communication to Philips Dynalite user interfaces.
<b>Mains Output</b>	1 x 20 A, 250 VAC feed-through switched circuit for DALI ballast mains supply
<b>Control Inputs:</b>	1 x DMX512 / RS-485 DyNet serial port 1 x Programmable dry contact AUX input
<b>Supply Terminals:</b>	1 x Phase, 1 x Neutral, 1 x Earth, 1 x 4mm <sup>2</sup> max conductor size
<b>Output Terminals:</b>	1 x Ballast power circuit – Line in, Line out, Loop, Loop - 1 x 4mm <sup>2</sup> max conductor size 1 x DALI Ballast circuit - DA-, DA+ - 1 x 4mm <sup>2</sup> max conductor size
<b>Control Inputs:</b>	1 x RS485 DyNet serial port consisting of: 1 x RJ12 socket & 1 x 6-way terminal block including 1 x AUX dry contact input
<b>DALI BUS DC Supply:</b>	16 VDC, 220 mA nom, 250 mA max; Auto restart on overload or short circuit on DALI output. No external DALI power supply allowed.
<b>DALI Insulation System:</b>	Basic
<b>DyNet DC Supply:</b>	120 mA (capacity for approximately 6 user interfaces)
<b>Preset Scenes:</b>	64
<b>Compliance:</b>	CE, RCM, IEC62386
<b>Operating Environment:</b>	-25° to 50°C ambient temperature @ 0% to 90% RH non-condensing; IEC Pollution Degree II
<b>Construction:</b>	Polycarbonate DIN rail mount
<b>Dimensions:</b>	H 96 mm x W 105 mm x D 75 mm
<b>Weight:</b>	0.45 kg

## Recommended Cable Color Coding

**Green/White Pair**  
**Orange/White Pair**  
**Blue/White Pair**  
**Brown/White Pair**

Paralleled for GND  
Paralleled for +12VDC  
Blue for DATA+ White for DATA-  
Spare, use for SHIELD on unshielded cables