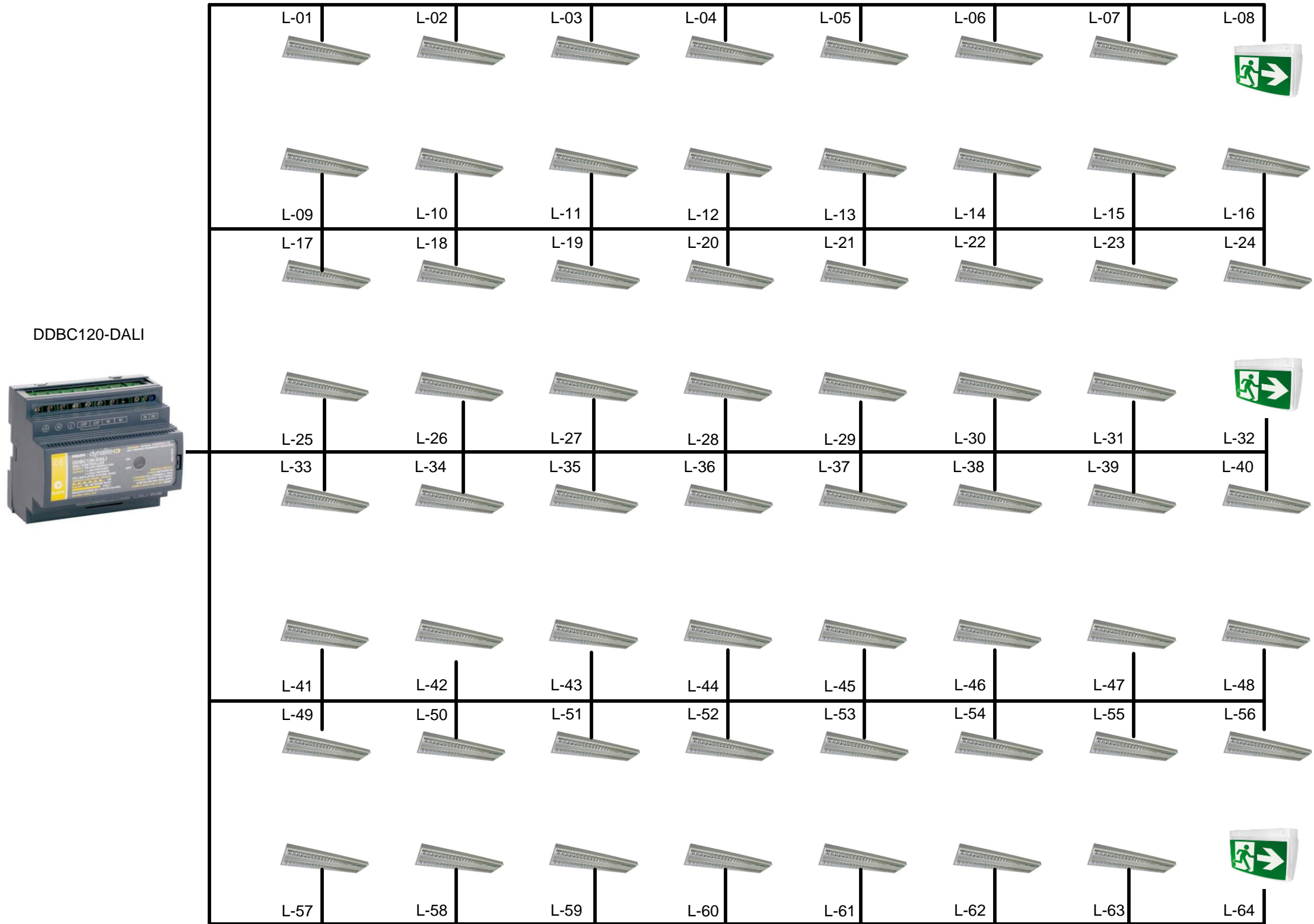


Traditional DALI networked system

— DALI Network

Notes:

- Each DALI controller (DDBC120-DALI) unit can control 64 DALI lighting fittings (L). A DALI network is referred to as a universe.
- Both normal light fittings and emergency can be controlled on the same DALI network, this allows for emergency lighting testing.
- All light fittings are connected together using a fig-8 cable. This connection is not polarity sensitive. The power connections are not shown in the schematic for simplicity.
- Each of the light fittings can be individually controlled by the DALI controller through a unique address in each of the light fittings.
- The DALI load controller can also receive network messages from the light fittings using the DALI addressing. Messages can contain information regarding lamp failure or battery test results for emergency fittings.



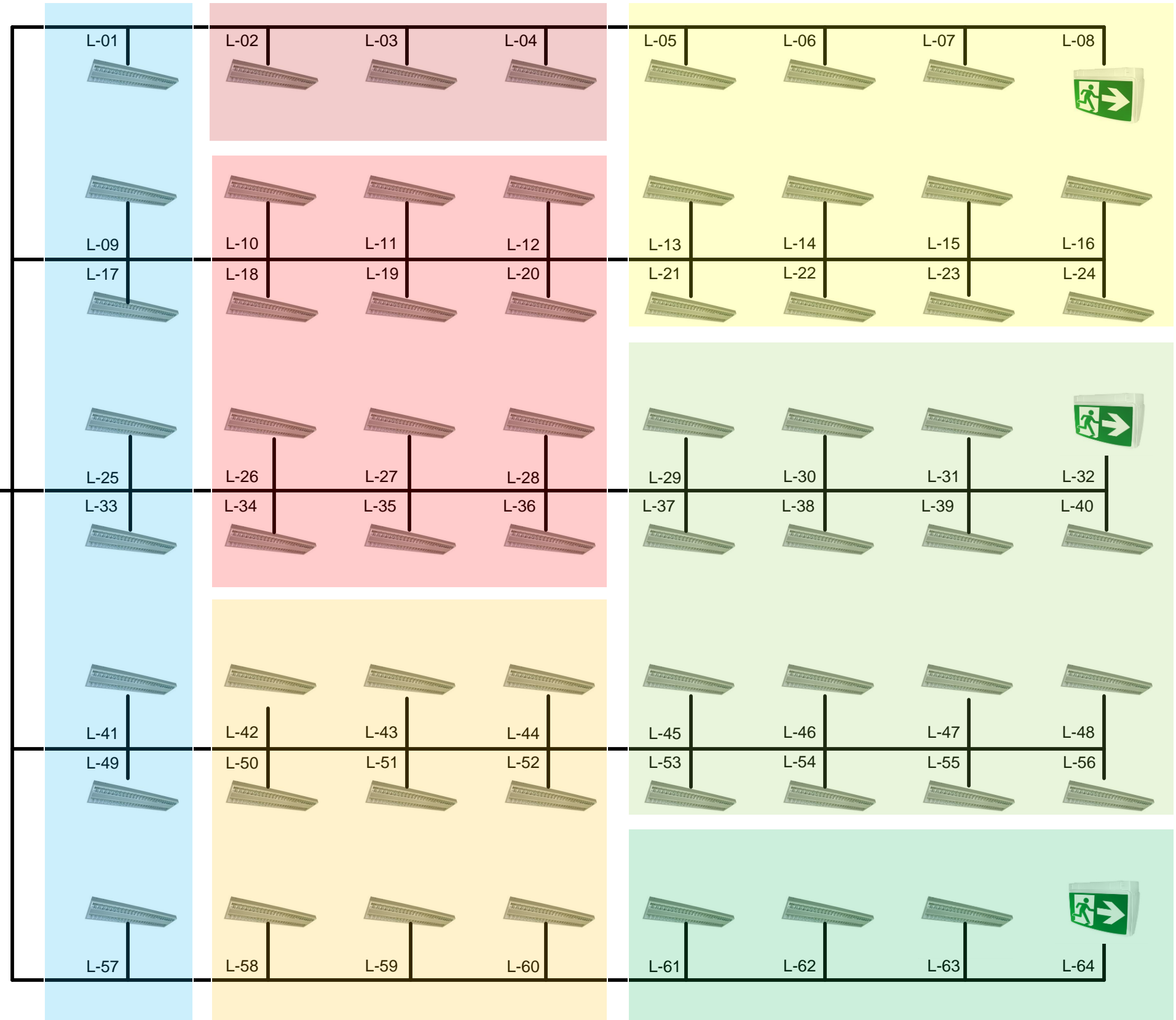
DALI Groups

— DALI Network

Notes:

- Each of the light fittings can also be assigned into logical lighting groups. These logical lighting groups are used to define the way individual lamps need to work together, suiting the end users requirements and required lighting groups.
- DALI can natively support 16 native logical lighting groups. By grouping the different lamps into the areas the system can then control the lamps at the same time giving a uniformed response to required changes. If more than 16 areas are required the Philips Dynalite system can simulate this but the light fittings will have a staggered response to lighting changes.
- Each area can recall 16 lighting scenes. These scenes are stored with in the light fittings to give a faster response.
- A Philips Dynalite DALI load controller can edit the lighting groups and lighting scenes when ever required through the Dynet protocol.

DDBC120-DALI



- Logical Lighting Group 1
- Logical Lighting Group 3
- Logical Lighting Group 4
- Logical Lighting Group 5
- Logical Lighting Group 6
- Logical Lighting Group 7
- Logical Lighting Group 8

Introducing Philips Dynalite's Multi Master system

Philips Dynalite has developed a range of products that utilise the DALI network to communicate between user interfaces such as sensors and push button panels. This not only reduces the system complexities but can also cut the required network field wiring by half.



DDBC120-DALI

- Fully features DALI load controller supporting two way communication to 64 DALI lamps with out the need of any external devices.
- Unique DALI communication to Philips Dynalite user interfaces allows for 10 devices per network.
- Built in DALI power supply and 20A lighting power relay.
- Able to zone and re zone logical DALI areas with out changing network wiring.
- Small size and requiring only one commissioning tool for setting up DALI network and all other Philips Dynalite devices.



DUS804C-DALI

- Multi function sensor
PIR motion or presence detection
Direct light level measurement allows for multiple response set points.
- Fully powered by DALI network requiring no extra external power supply.
- Full communication through DALI network requiring no additional cabling.
- All settings can be remotely adjusted over the DALI network allowing the sensor to perform differently between "trading" and "after hours".

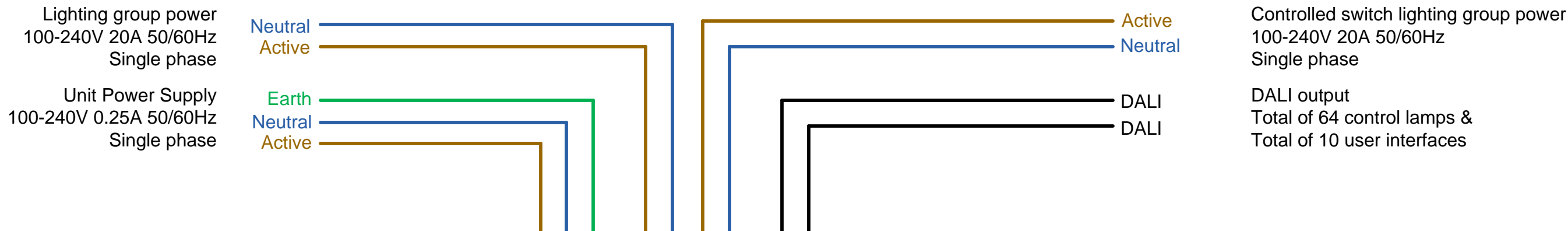


DPMI940-DALI

- 4 x Dry contact inputs integration.
- Utilises the DALI network for power and communications.
- All setting can be performed remotely through the DALI network.
- Small size allows the unit to be mounted inside most panel wall boxes.
- Supports all functions of a typical Philips Dynalite control panel.

Wiring

DDBC120-DALI Controller terminations

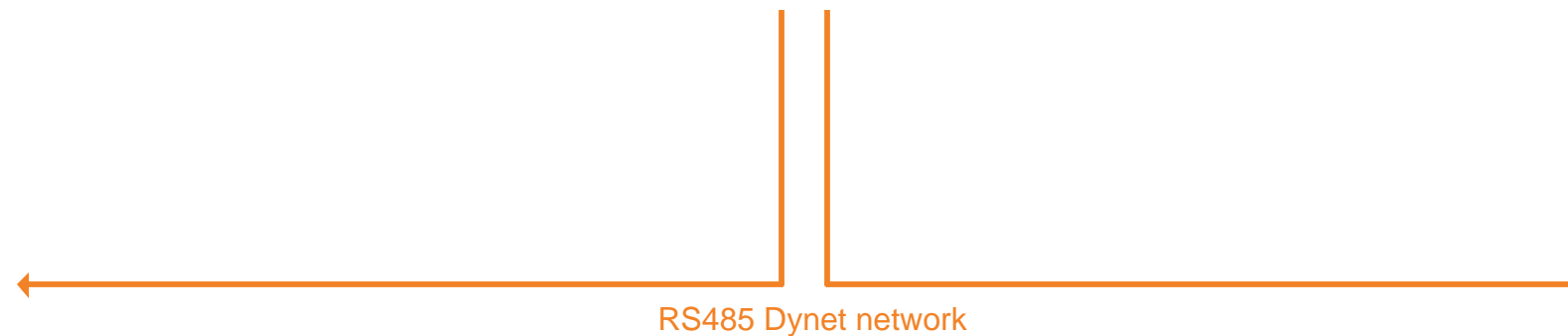


Notes:

- DDBC120-DALI supply 100 – 240V 0.25A 50/60Hz
- Built in 20A relay for powering lamps on DALI universe.
- Unit must be mounted inside an approved electrical enclosure with earth and neutral bars.
- A total of 64 DALI compatible lighting fittings (including emergency) may be controlled.
- A total of 10 user interfaces (DUS804C-DALI & DPMI940-DALI) may be connected directly onto the DALI bus.
- Network messages from one DALI universe may be sent to another via the use of Dynet.
- No need for external unit power supplies or DALI power supplies.

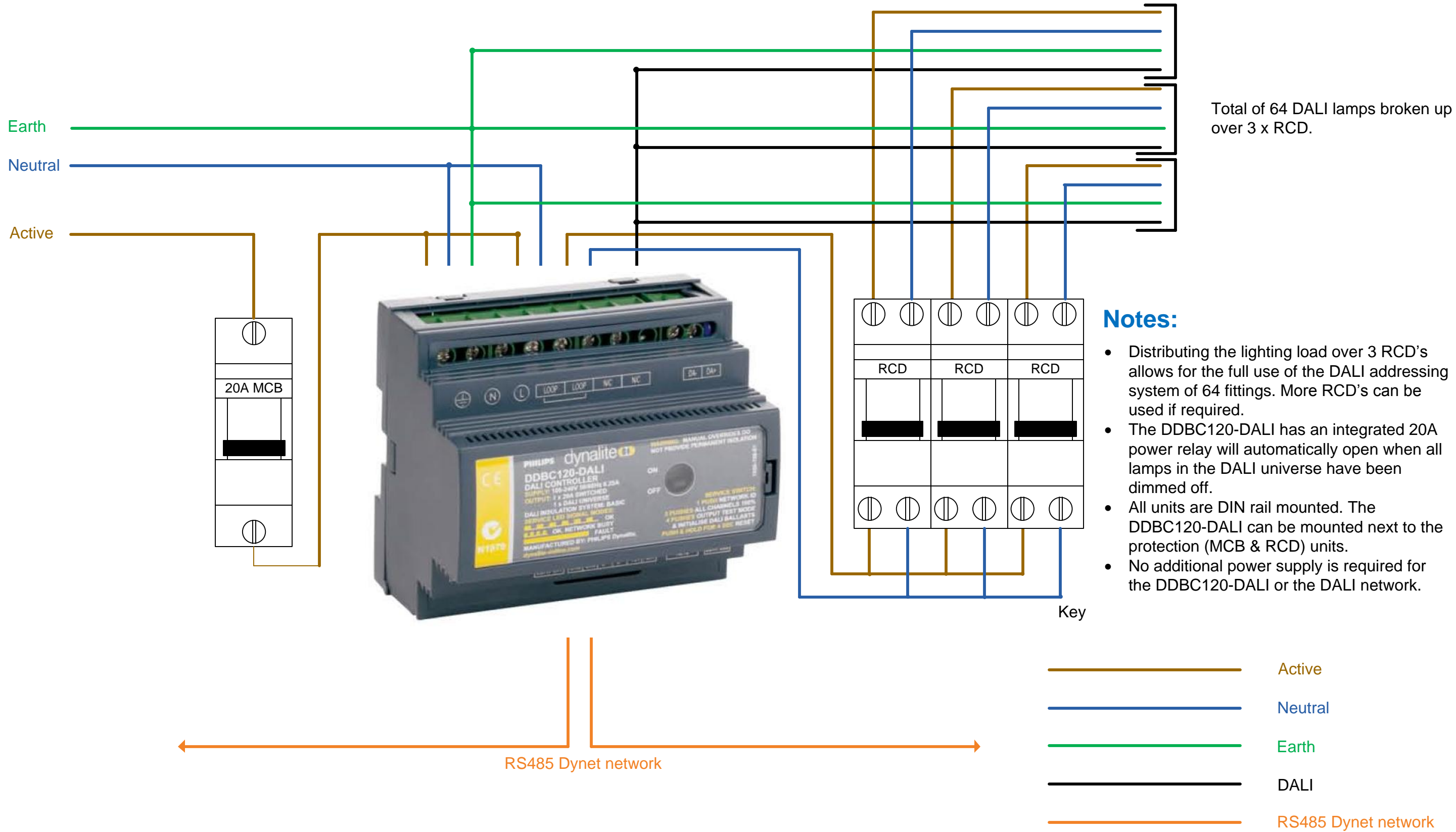


- The unit will directly transmit the DALI protocol to the light fittings and user interface devices with out the need for any external devices.
- The unit can reconfigure the DALI lamps with the use of Envision software.
- Pressing the exposed service switch 4 times will flash all DALI fittings to test for correct termination on site.
- Dimensions H 94mm x W 105mm x D 75 DIN rail mounted (6 units wide)
- The DDBC120-DALI has been designed to work inside the electrical switch board.
- Dynet port allows for multiple devices to be connected together as well other Philips Dynalite devices



Wiring

Recommended power wiring



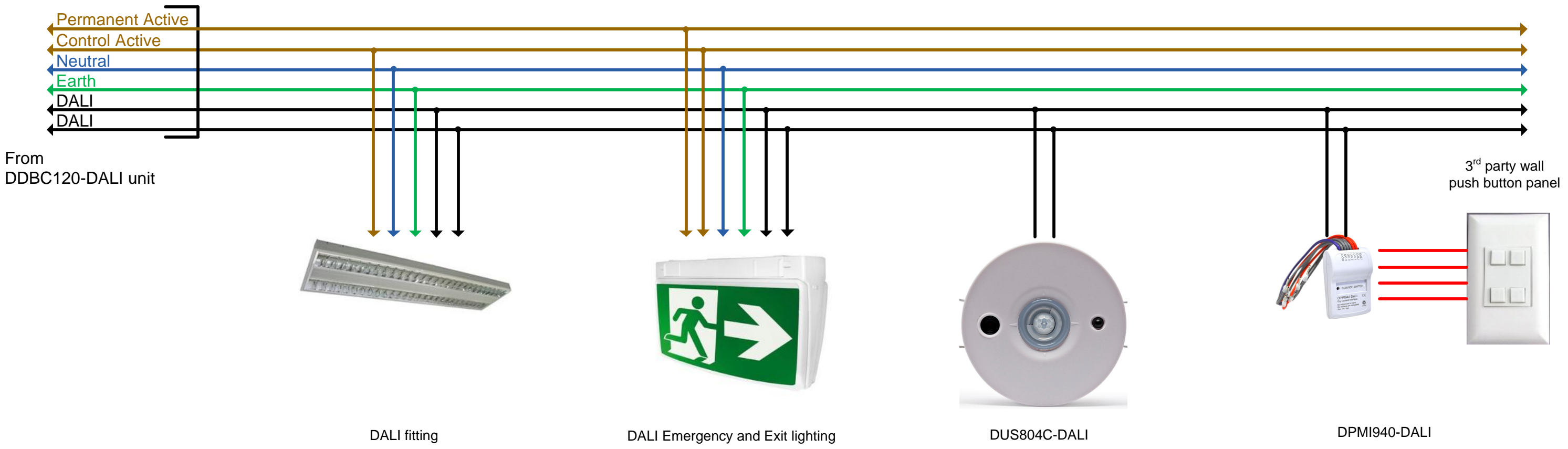
Total of 64 DALI lamps broken up over 3 x RCD.

Notes:

- Distributing the lighting load over 3 RCD's allows for the full use of the DALI addressing system of 64 fittings. More RCD's can be used if required.
- The DDBC120-DALI has an integrated 20A power relay will automatically open when all lamps in the DALI universe have been dimmed off.
- All units are DIN rail mounted. The DDBC120-DALI can be mounted next to the protection (MCB & RCD) units.
- No additional power supply is required for the DDBC120-DALI or the DALI network.

Wiring

Field device wiring



Notes:

- All fittings must be DALI compatible
 - A total of 64 fittings can be controlled on a single DALI universe. If control over more fittings are required an additional DALI controller will be needed.
 - Power to the fitting is supplied by the DDBC120-DALI
 - The DALI group addressing can be changed by the DDBC120-DALI unit with the Envision software.
 - Full DALI reporting on current lamp statues is available. Reports on test can be generated with the Envision software.
- All Emergency and Exit fittings must be DALI compatible
 - Including Emergency and Exit lighting a total of 64 fittings can be controlled on a single DALI universe. If control over more fittings are required an additional DALI controller will be needed.
 - Some Emergency and Exit fittings use two DALI address per fitting. See manufactures data sheet for details.
 - Power to the fitting is supplied by the DDBC120-DALI
 - The DALI group addressing can be changed by the DDBC120-DALI unit.
 - Full DALI emergency reporting on current lamp statues is available. Reports on test can be generated with the Envision software.
- Sensor transmits messages directly onto the DALI network
 - The DUS804C-DALI is powered from the DALI network requiring no addition cabling
 - Capable of motion detection and light level measurement at the same time.
 - Able to control fittings located on different DALI universes
 - All settings of the device are configured remotely through the DALI network by the Envision software. No manual adjustment required.
 - Capable of variable time out setting between trading and after hours modes.
- 4 x Dry Contact input interface for DALI network.
 - Able to transmits messages directly onto the DALI network
 - The DPMI940-DALI is powered from the DALI network requiring no addition cabling.
 - Able to control fittings located on different DALI universes
 - All settings of the device are configured remotely through the DALI network by the Envision software. No manual adjustment required.

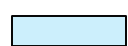
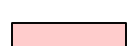
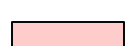
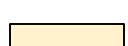
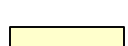

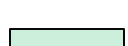
Total of DALI devices on one DALI network = 64

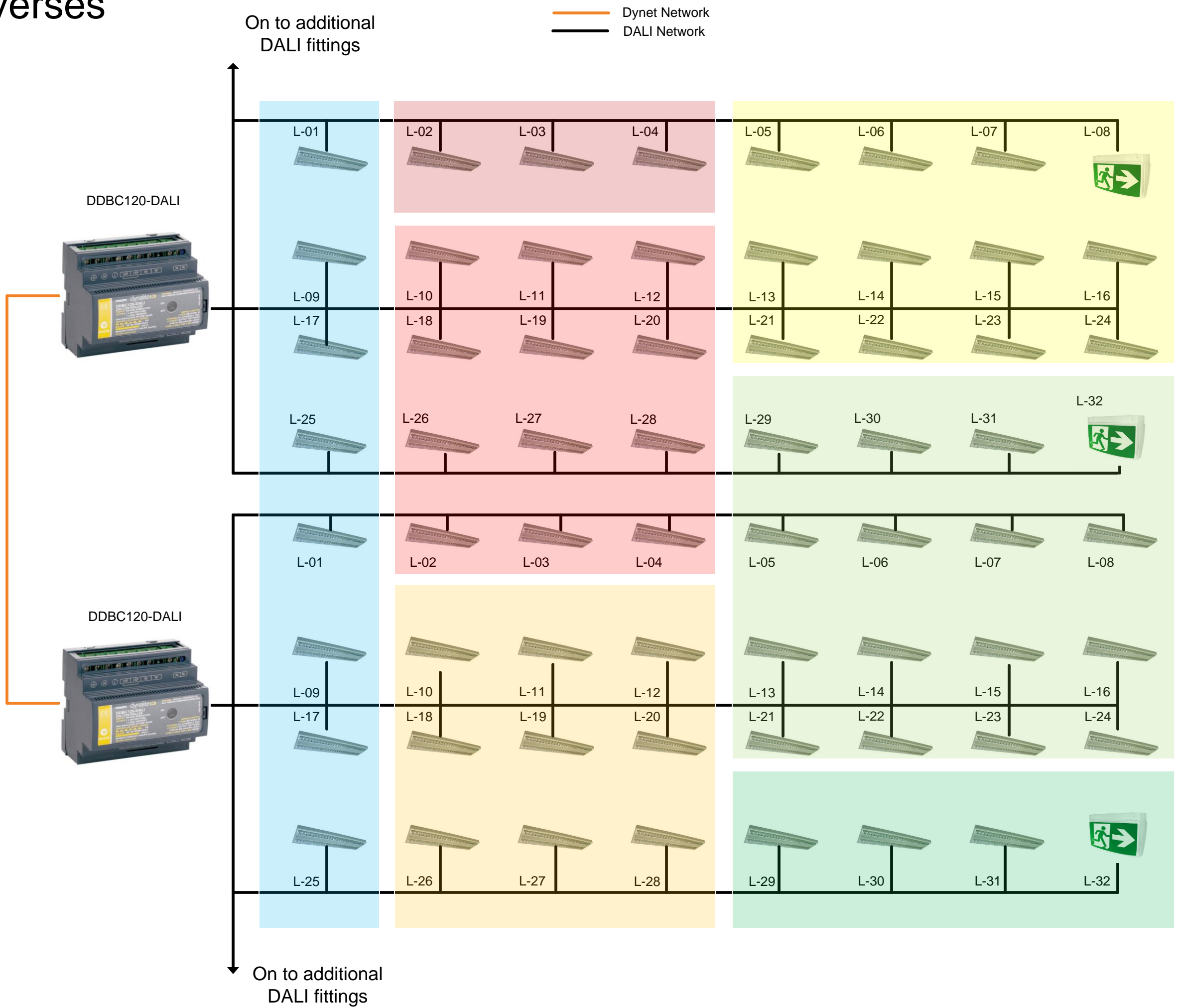
Total of User interfaces on one DALI network = 10 www.philips.com/dynalite

Multiple DALI universes

Notes:

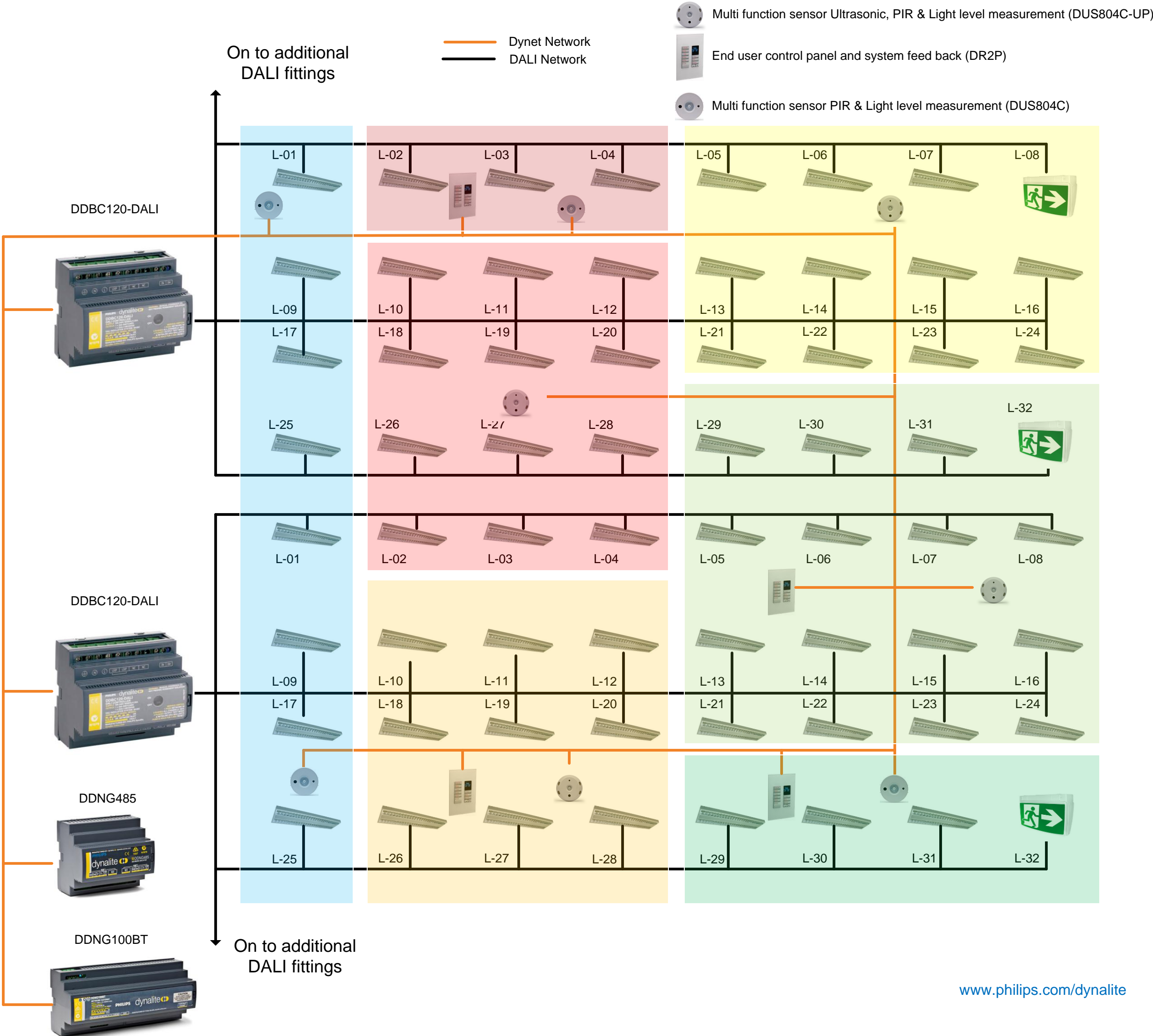
- Often projects require control of more than maximum number of DALI fittings allowed per universe (64).
- By linking multiple DALI controllers (DDBC120-DALI) together, the scope of control can be increased. This allows the Philips Dynalite system to be infinitely scalable.
- The two DALI load controllers are connected directly to each other with out the need for additional network devices or central processor. The DDBC120-DALI have all the built in functionality to control the DALI universe and communicate directly with each other any other Dynalite devices.
- By using Dynet to link the two DALI networks together the Dynalite system can over come the physical boundary of the DALI network wiring. This way they end user does not need to interact with multiple system that are in a single physical area.
- Three of the logical areas shown in this example over lap the two physical DALI networks. The Philips Dynalite system over comes this by using the Dynet network creating one seamless system.

-  Logical Lighting Group 1
-  Logical Lighting Group 3
-  Logical Lighting Group 4
-  Logical Lighting Group 5
-  Logical Lighting Group 6
-  Logical Lighting Group 7
-  Logical Lighting Group 8



Dynet & DALI

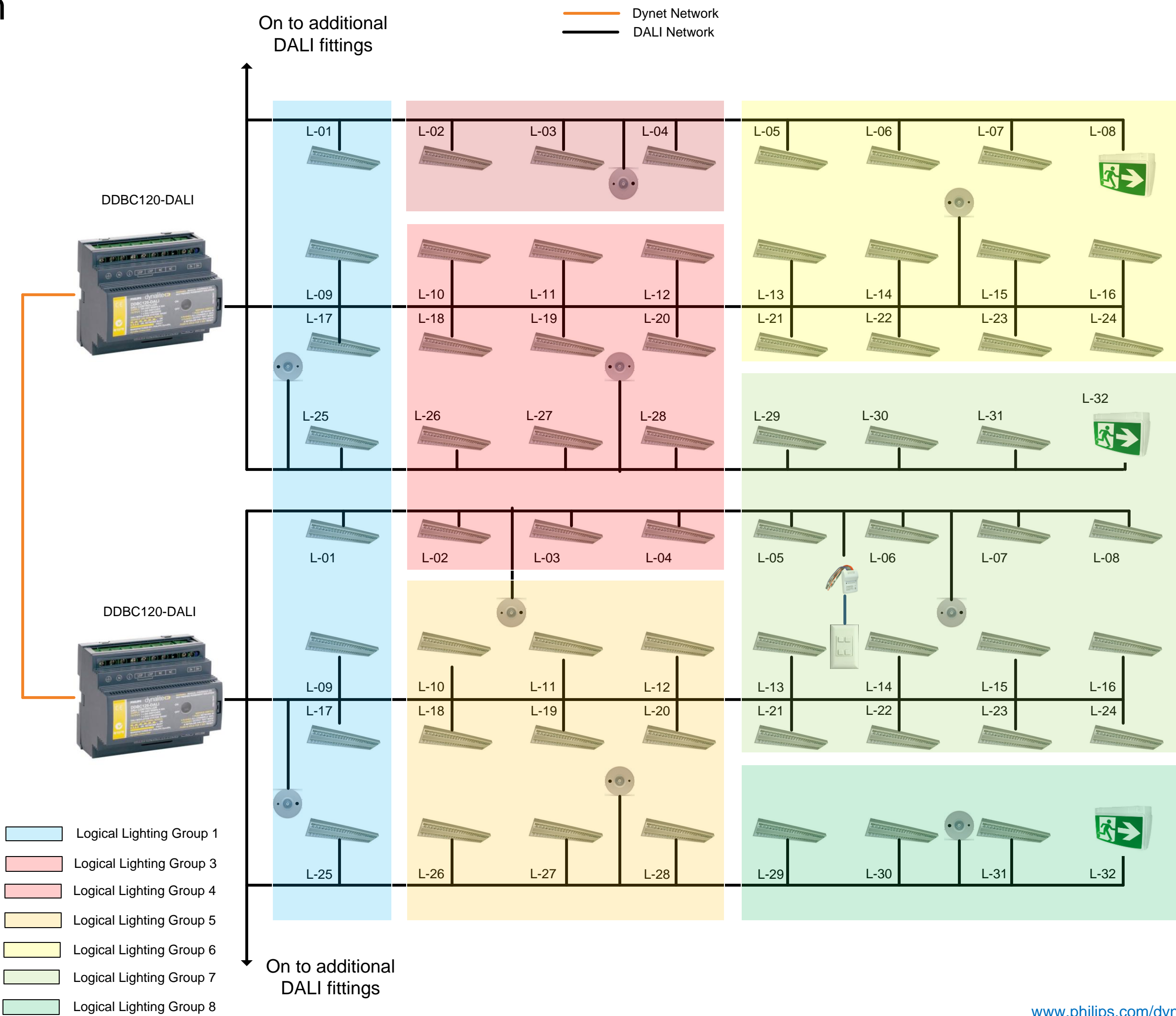
- All Philips Dynalite network devices are connected together using Dynet. This allows all the Philips Dynalite devices to pass messages between each other and onto the DALI load controller for adjusting the current lighting control setting.
- User interfaces panel (DR2P) can be used to directly change the current lighting control system statuses. From any one lighting control panel an end user can take control of the whole system if required. This can be useful for turning off all the lighting at the end of the day.
- Sensors (DUS803C-UP & DUS804C) will automatically adjust the lighting depending on detected motion or the current measured light level. A sensor can not only control its own logical area but also pass messages onto adjacent areas holding on corridor lighting or taking light level measurement for multiple logical areas.
- Many different integration opportunities are available through network gateways (DDNG485 & DDNG100BT) which can connect to 3rd party systems so that there is seamless conductivity between different control systems. This reduces the amount of systems an end user needs to interact with for adjusting an area to meet their requirements.



DALI-MM system

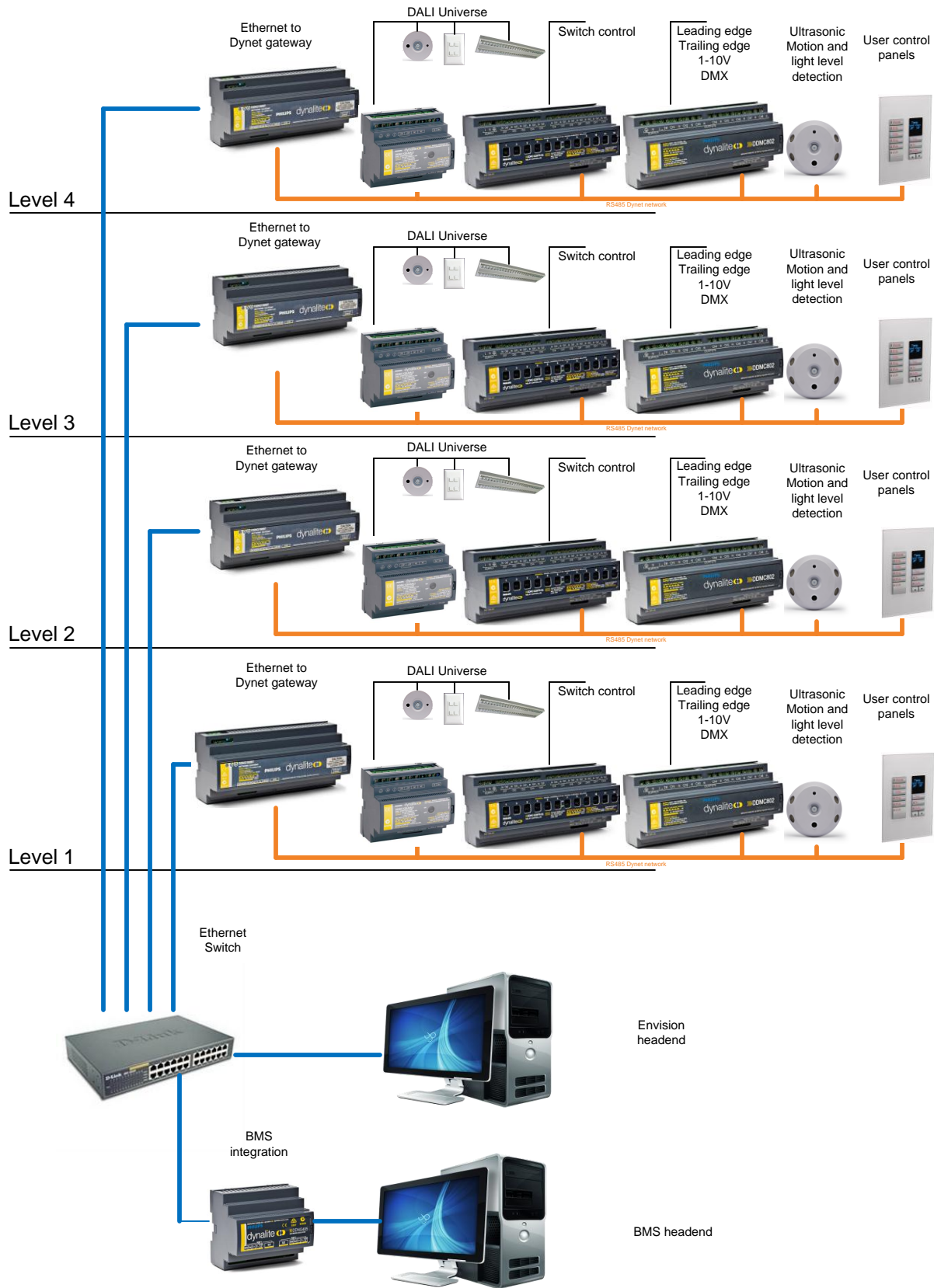
Notes:

- With the use of the Envision software the DALI light fittings can be grouped together in almost any configuration.
- A lighting group may cross over many different physical DALI universes.
- A DALI User interface mounted in one DALI universe can send commands to light fittings in any other DALI universe
- With the use of the Envision software, end users can re zone the lighting groups to suit their own needs.
- The DDBC120-DALI is capable of performing DALI emergency lighting tests and report back through the Envision software.
- Network messages from DALI UI devices can be sent to non DALI controllers through the use of the Dynet network.
- Other Dynalite UI (DUS804C-UP, DR2P, Integration or load controllers) that use Dynet can be added to the same system and be used to control any of the DALI universe or lighting control system.

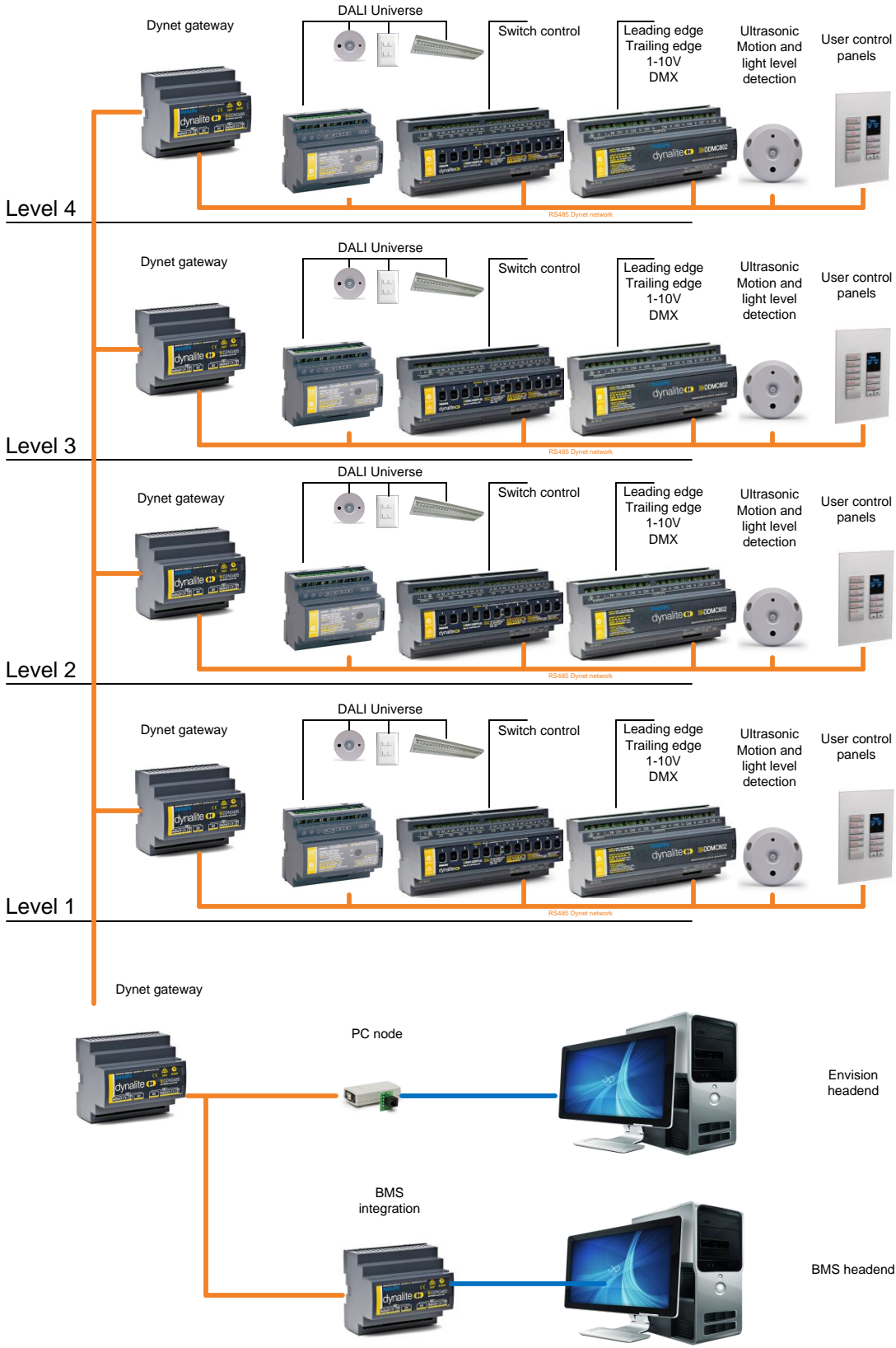


Project networking options

Ethernet option



Dynet option



Notes:

- Multiple sub network can be linked together to form one larger system. A trunk and spur network topology allows for a scalable and robust network architecture.
- Many different integration opportunities are available such as LON, KNX & BACnet. With integration the BMS can trigger timed events and check system current status. Other network gateways allows for DMX and AV integration
- Additional types of Philips Dynalite load controllers can be used simultaneously on the same Dynet network to control other types of lighting such as LED, Metal halide & Incandescent.

Controller options include:

Trailing/Leading edge for the dimming of incandescent and LED fittings.

DSI/1-10V dimming for other styles of dimmable lamps.

Relay controllers for any type of switch load and window blind control.

DMX transmitter (DDNG485) for control over theatrical style of lighting or receive input from mixing desk.

- Additional types of Philips Dynalite user interfaces can be used to meet the end users requirements

User Interface option include:

DR2P panels with back light engraved switch caps and indicating LED

Ultrasonic sensors with built in light level detection

Touch screens allowing for system feed back and graphical interface