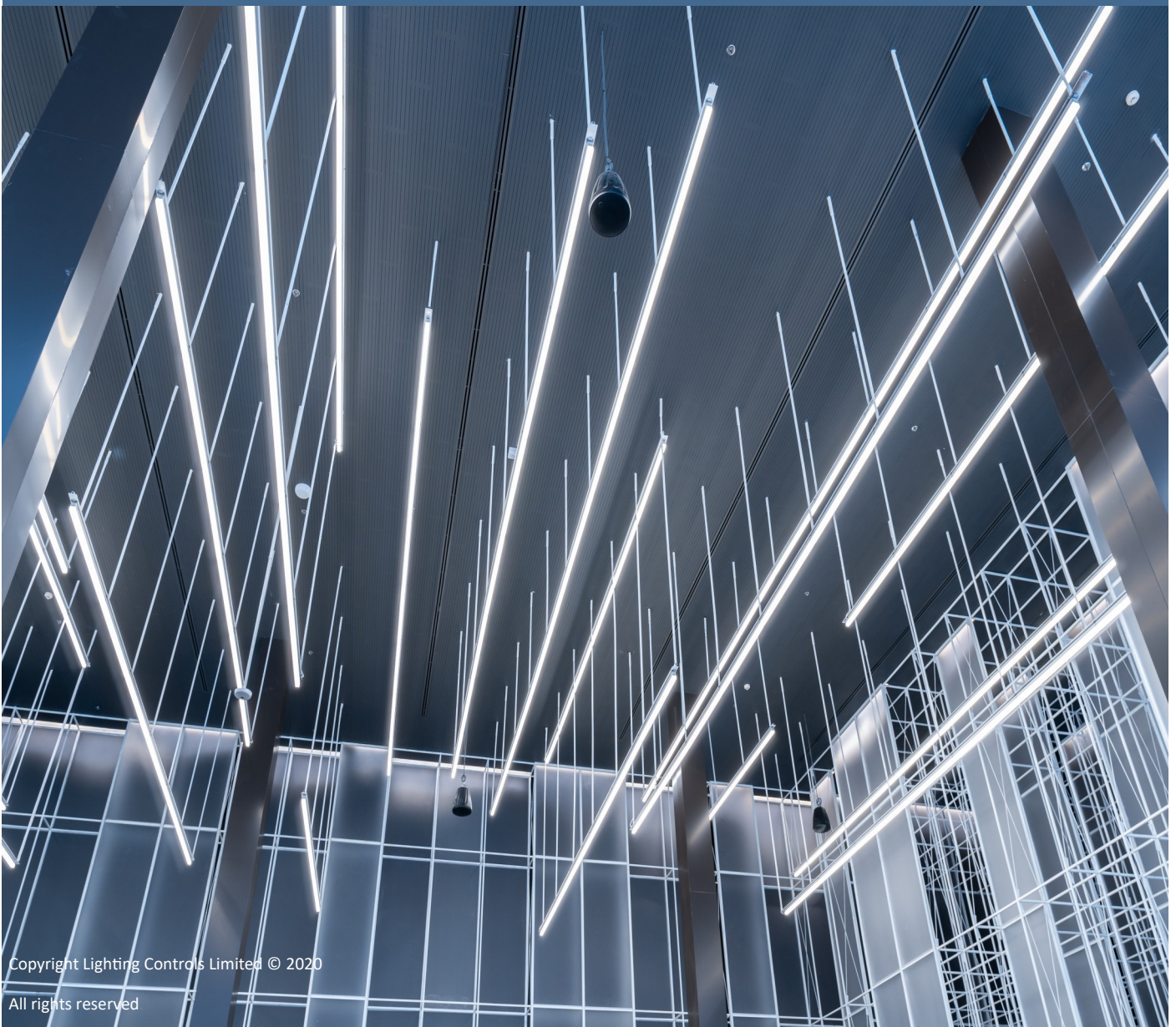


LIGHTING CONTROLS LTD

LIGHTING CONTROLS AND MODULAR WIRING

PRODUCT BROCHURE

**COST EFFICIENT LIGHTING CONTROL AND MODULAR WIRING SYSTEMS
TO REDUCE ENERGY CONSUMPTION**





PRODUCT INDEX

LCMS

DALI MODULES

SENSORS

SCENE SET PLATES & REMOTES

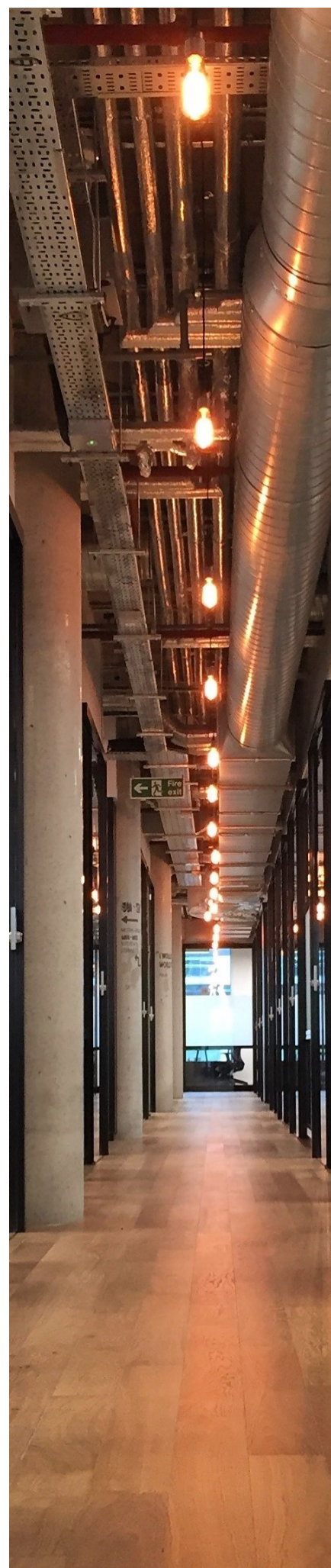
INTERFACES AND DISTRIBUTION

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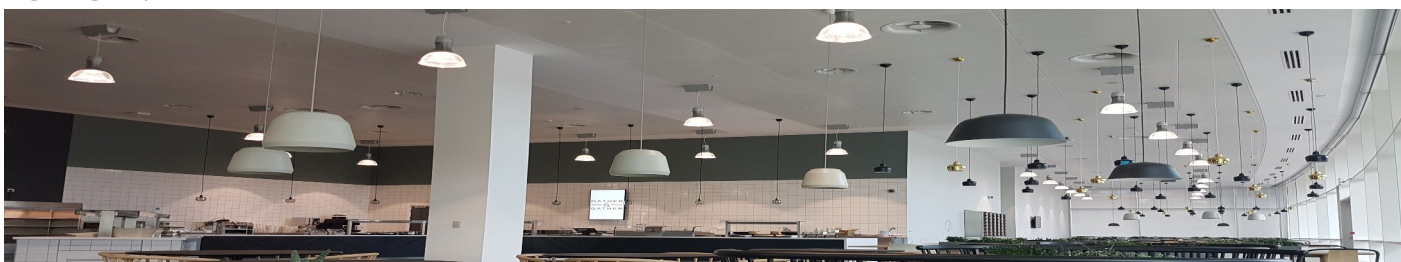




ABOUT US

A good lighting design will also include a good lighting control design with controls playing a critical role in lighting systems and enhancing the energy efficiency of a building. A well designed system will enable end users either manually or automatically to turn the lights ON and OFF using a switch and/or adjust light output up and down using a dimmer in addition to having presence detectors installed to ensure the building operates at the optimum energy efficiency when it is unoccupied.

Lighting Controls Ltd have been at the forefront of lighting technology for over a decade. We have launched some of the most technologically advanced lighting control products the market has ever seen. With the introduction of our new micro presence detector (with a 15mm mounting hole size when mounted within a luminaire), as well our BESA mounted presence detector we can provide some of the most discreet, aesthetically pleasing control systems on the market. Our solutions are quick to install, cost efficient and tailored to your needs. No matter how complex the project, our team of exceptional engineers will configure your control system to meet your exact requirements. Since our companies establishment in 2004, we have earned ourselves a formidable reputation for designing, supplying and commissioning our systems in almost every type of environment including commercial offices, schools, hotels, casinos, business parks, airports, spas, theatres and many more. You can count on us to understand your objectives, and to assist you to specify and execute your ideal lighting solution for your individual lighting requirements.



ENVIRONMENTAL PROMISE

Lighting Controls promise to continue to work towards developing and supplying innovative and eco-friendly lighting controls solutions across the country. Building regulations demand energy efficient luminaires are installed, which - if combined with an intelligent lighting control system - can yield significant energy savings. Our environmentally-friendly range of lighting controls utilise devices such as absence detectors, light level sensors, and time relays, to dim or switch off lights when a room is unoccupied. By significantly reducing the amount of power drawn, our systems do not only benefit the environment, but also reduce our customers energy bills and operating costs.

AVIATION HOUSE



WeWorks 10 storey Aviation House office space features a central location with lounges, private offices, and high-tech conference rooms.

We provided custom white LCMS and PIRs to fulfil the aesthetic brief of the designers. The building has exposed basket tray cabling systems with most of the lighting control system visible. Fire alarm override integration is provided to ensure the emergency lighting automatically comes on in the event any fire alarm should sound.

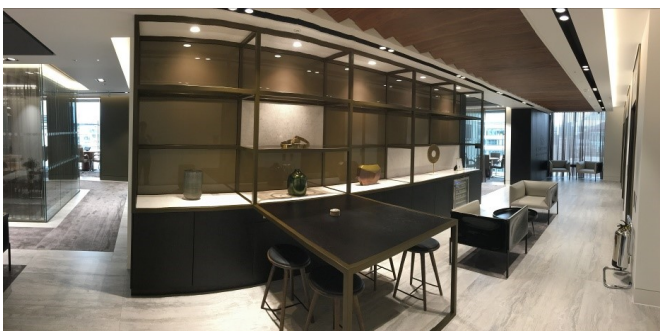
CAPSTAN HOUSE

Capstan House is a fully networked multi-floor DALI controlled lighting solution supporting single and multi-tenancy on all 11-stories as well as the central atrium at the core of the building.

Our system has a full monitoring solution to provide both luminaire status monitoring and emergency testing with compliancy emergency reporting. The solution uses the Lighting Controls system throughout and also provides the ability for individual area control, along with a daylight dimming capability around the internal perimeter and atrium areas.



LOMBARD STREET



A lighting control system was installed complete with Head End monitoring to report on the status of the emergency lighting at pre-programmed intervals. In addition we provided daylight linking to ensure constant lighting levels in any part of the building. Presence detectors and scene set plates were provided in the Cat B fitout to maximise energy efficiency and create a user friendly lighting system for the client.

PROJECTS

LOCHSIDE ACADEMY



Lighting Controls Ltd were asked to work to a lighting philosophy that utilised multiple networks to control the lighting in all areas including the swimming pool, games hall and corridors from a single point such as the facilities office. We provided our DS5 LCM along with DALI 64s and CAN PIR's and this enabled full control of both DALI and non DALI fittings throughout the school.

Our Head End was installed to provide tailored scheduling at the weekends as the school required further control of the public areas such as the swimming pool and the sports areas without the need for the facilities staff to be present.



WARNER STAND - LORDS

Lighting Controls Ltd were the natural choice to supply the fully hardwired lighting control system which was designed to enrich the visitor areas.

Safety is of course of paramount importance, so an emergency luminaire monitoring system was incorporated into a Head End PC with a BACnet interface to the BMS system. This gives complete and flexible control of the lighting system to the ground's trained facilities staff.



BUPA-THE REGENT



This modern office facility is comprised of mainly open plan layouts with cellular offices and meeting rooms, each of which feature our state of the art scene set plates. On 5 floors of The Regent there are DALI LCMs and PIR's monitored via our Head End emergency lighting monitoring system.

The Regent is one of the UK's leading private health care centres and is designed to provide a better working environment for staff. The Regent achieved the new BREEAM Excellent standard by being a sustainable and energy efficient site.

SHOWCASE CINEMA

The complex system completed in Spring 2017, comprises of a mixture of hardwired and plug and play solutions. Each auditorium has an individual control panel with an additional panel for the lighting ballasts. The auditorium lights are linked directly to the projector to prompt the correct lighting scene for guest exit and entry, advertisements and show time. An additional feature has also been added to activate/deactivate all lighting at the complex from a single control switch.

The Head End PC has been set up to control the emergency lighting with custom schedules for the external lighting. We have also interfaced with high powered dimmer packs to control the halogen lights within the bar areas.



COLMORE ROW



This magnificent building with its Grade 2 listed Victorian terrace façade overlooks Birmingham Cathedral, and has 16,000 sq. ft of grade A office space over 8 floors. £30 million was recently spent on the current renovation project.

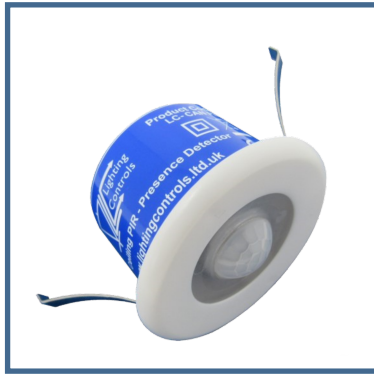
Lighting Controls Ltd is proud to have been chosen for the design and commissioning of the lighting control system for this project. The control system comprises 28 x 8 Lighting Control Modules and emergency monitoring capability, all controlled through the Lighting Controls Headend software package.

ALDWYCH HOUSE

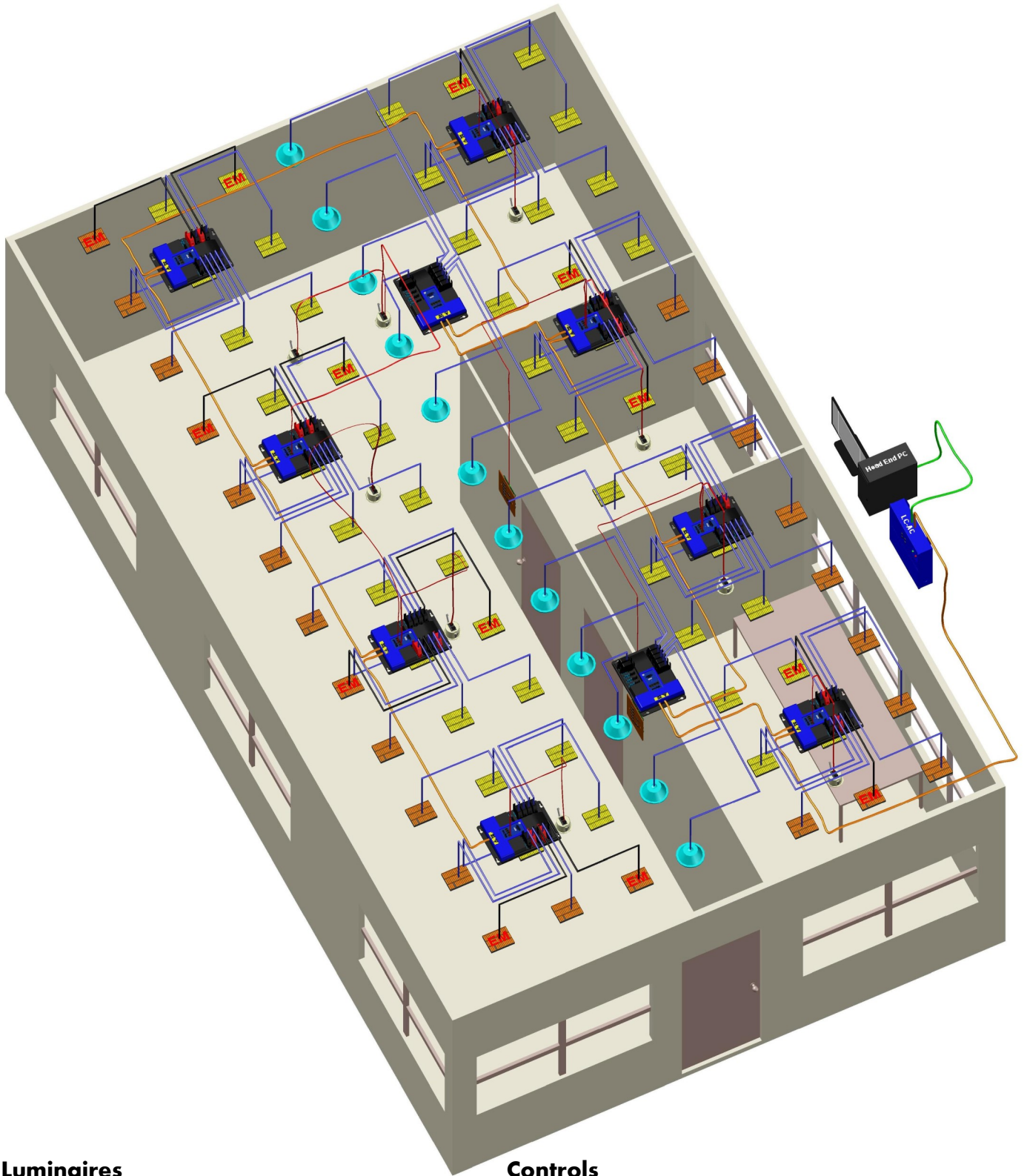
The refurbishment of this high-end office space called for a sophisticated bespoke lighting controls philosophy. The renovation feature a fit out with Head End emergency monitoring capability. The specification also called for intelligent DALI LCMs which utilise state of the art PIRs and custom scene set plates.

Daylight linking is incorporated in to the system to harvest natural light to further reduce energy costs. Our system effectively and efficiently controls the luminaires in the buildings atrium and lightwell to dramatic effect, in keeping with design concept.

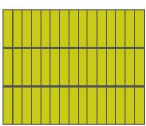




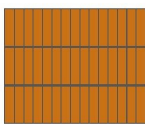
WHOLE BUILDING LCM DESIGN



Luminaires



SWITCHING
GROUP1



DAYLIGHT
LINKING



NOTIONAL
CORRIDOR

Controls



FLOOR
INTERFACE



LCM



CAN PIR



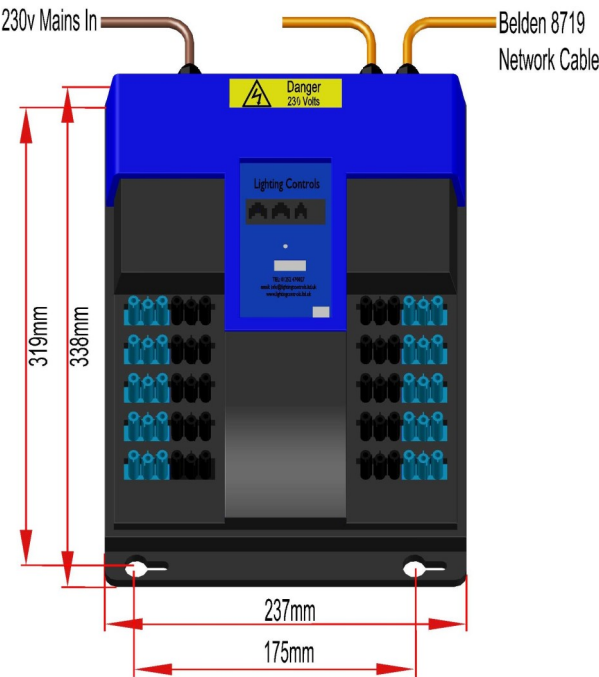
7 BUTTON
SCENE PLATE

DALI LCM WITH 5 SWITCHING RELAYS

Part Number:
LC-DSL**CM10-S5** **Black**
LC-DSL**CM10-S5/WH** **White**
Luminaire Plugs:
LC-6PMPBB/B **Black**
LC-6PMPBB/WH **White**
LC-6PMPBB/R **Emergency**



Our ECOLUX DALI DS5 LCM uses DALI protocol to control up to ten channels (ports). Five of the channels incorporate switching relays for the control of non DALI fittings. All ports can individually address DALI luminaires. Ports 6 to 10 include switched live relays with a maximum of 6A load each; 10 total. The emergency test facility is via a permanent live relay and there is an 8-way switch interface for sensing volt free contacts. Lighting can be programmed into groups with multiple group capability too. The enclosure has been designed for ease of installation and has ‘Z’ bolt fixing rails on the rear. All the connections to the unit can be pre-wired for installation. A removable memory module facilitates fast configuration of a replacement LCM should that be needed.



- Switching relays for channels 6-10
- CAN booster ready
- Emergency Test Relay
- 10x 6-pole sockets for luminaire wiring
- 2 x hard-wired CAN bus connections
- All ports able to individually address luminaires
- 3x RJ12 connections for PIRs and Scene Plates
- Single mains supply and 2 core Can bus connections.
- 10-pin hardwired connector for 8 volt-free inputs
- The LCM is not powered from the bus and requires a permanent mains supply from the relevant lighting circuits

Network Isolation

This LCM has two isolated networks. The field wiring CAN bus which networks the LCMs is isolated from the peripheral bus which connects PIRs and scene plates. Should a wiring problem occur on one LCM peripheral, it will not affect other LCMs. Should field wiring become compromised then LCMs will stand alone and continue to function.

Max no. of Scene Plates/ PIRs	10	Supply voltage	90-240 V AC 50Hz
Inputs	8 clean contact	Power consumption	Off load - 1.2 watts All channels on - 4 watts
Field comms	CAN bus, 2 internal screw terminals	Internal fuse	1AT
Local comms	CAN bus 3 x RJ12 pre-terminated	Load (total)	10A
Luminaire connection	6 way, switched Live , Earth, Neutral, Emergency Live, Dim- Dim+	Load per channel	6A
Configuration memory (removable)	256K (non-volatile)	Case material	Flame retardant ABS
		Operating Temp	-10°C to +50°C
		Max Humidity	90% RH non-condensing

DALI LCM WITH 10 SWITCHING RELAYS

Our ECOLUX DS10-S10 LCM uses DALI protocol to control addressable DALI luminaires and switched loads via 10 pluggable connections. All ten channels also incorporate switching relays for the control of non-DALI fitting and lighting can be programmed into groups with multiple group capability. There is an emergency test facility via a permanent live relay. 6-pole plug connections for luminaire wiring and RJ12 for CAN devices. The enclosure has been designed for ease of installation and has 'Z' bolt fixing rails on the rear. All the connections to the unit can be pre-wired for installation.

A removable memory module facilitates fast configuration of a replacement LCM should that be needed.

Part Number:

LC-DSL10-S10

LC-DSL10-S10/WH

Luminaire Plugs:

LC-6PMPBB/B

LC-6PMPBB/WH

LC-6PMPBB/R

Black

White

Black

White

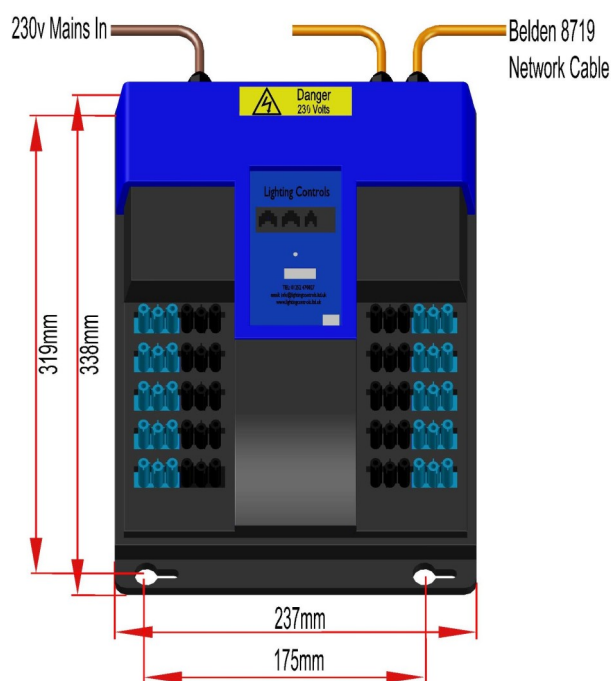
Emergency



- Switching relays for all channels
- CAN booster ready
- Emergency Test Relay
- 10x 6-pole sockets for luminaire wiring
- 2 hard-wired CAN bus connections
- All ports able to individually address luminaires
- 3x RJ12 connections for PIRs and Scene Plates
- Single mains supply and 2 core CAN bus connections
- 10-pin hardwired connector for 8 volt-free inputs
- The LCM is not powered from the bus and requires a permanent mains supply from the relevant lighting circuits

Network Isolation

This LCM has two isolated networks. The field wiring CAN bus which networks the LCMs is isolated from the peripheral bus which connects PIRs and scene plates. Should a wiring problem occur on one LCM peripheral, it will not affect other LCMs. Should field wiring become compromised then LCMs will stand alone and continue to function.



Max no. Scene Plates/ PIRs	10
Inputs	8 clean contact
Field comms	CAN bus, 2 internal screw terminals
Local comms	CAN bus 3x RJ12 pre-terminated
Luminaire connection	6 way, switched Live, Earth, Neutral, Em Live, Dim- Dim+
Configuration memory (removable)	256K (non-volatile)

Supply voltage	90-240 V AC 50Hz
Power consumption	Off load - 1.2 watts /All channels ON- 4 watts
Internal fuse	1AT
Load (total)	10A
Load per channel	6A
Case material	Flame retardant ABS
Operating Temp	-10°C to +50°C
Max Humidity	90% RH non-condensing

10 RELAY DALI BROADCAST LCM

Part Number:

LC-DD1LCM10-S10

LC-DD1LCM10-S10/WH

Luminaire Plugs:

LC-6PMPBB/B

LC-6PMPBB/WH

LC-6PMPBB/R

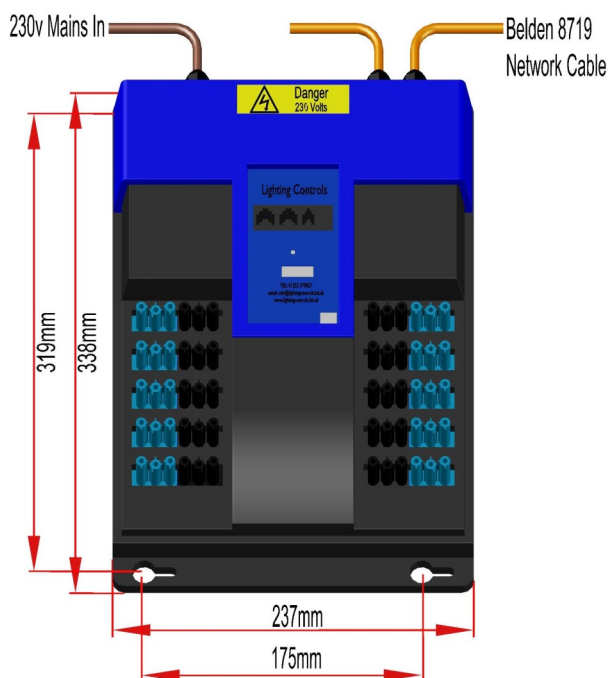
Black

White

Black

White

Emergency



Our ECOLUX DALI Broadcast LCM controls up to 10 channels, all of which can be programmed for: DALI (broadcast), DSI, 0-10V, 1-10V or switched loads via pluggable connections. All ports include switched live relays with the control method configurable on each port. There is an integral emergency test facility via a permanent live relay and 8-way switch interface for sensing volt free contacts. The enclosure has been designed for ease of installation with 'Z' bolt fixing rails on the rear. All the connections to the unit can also be pre-wired before installation.

A removable memory module facilitates fast configuration of a replacement LCM should that be needed.

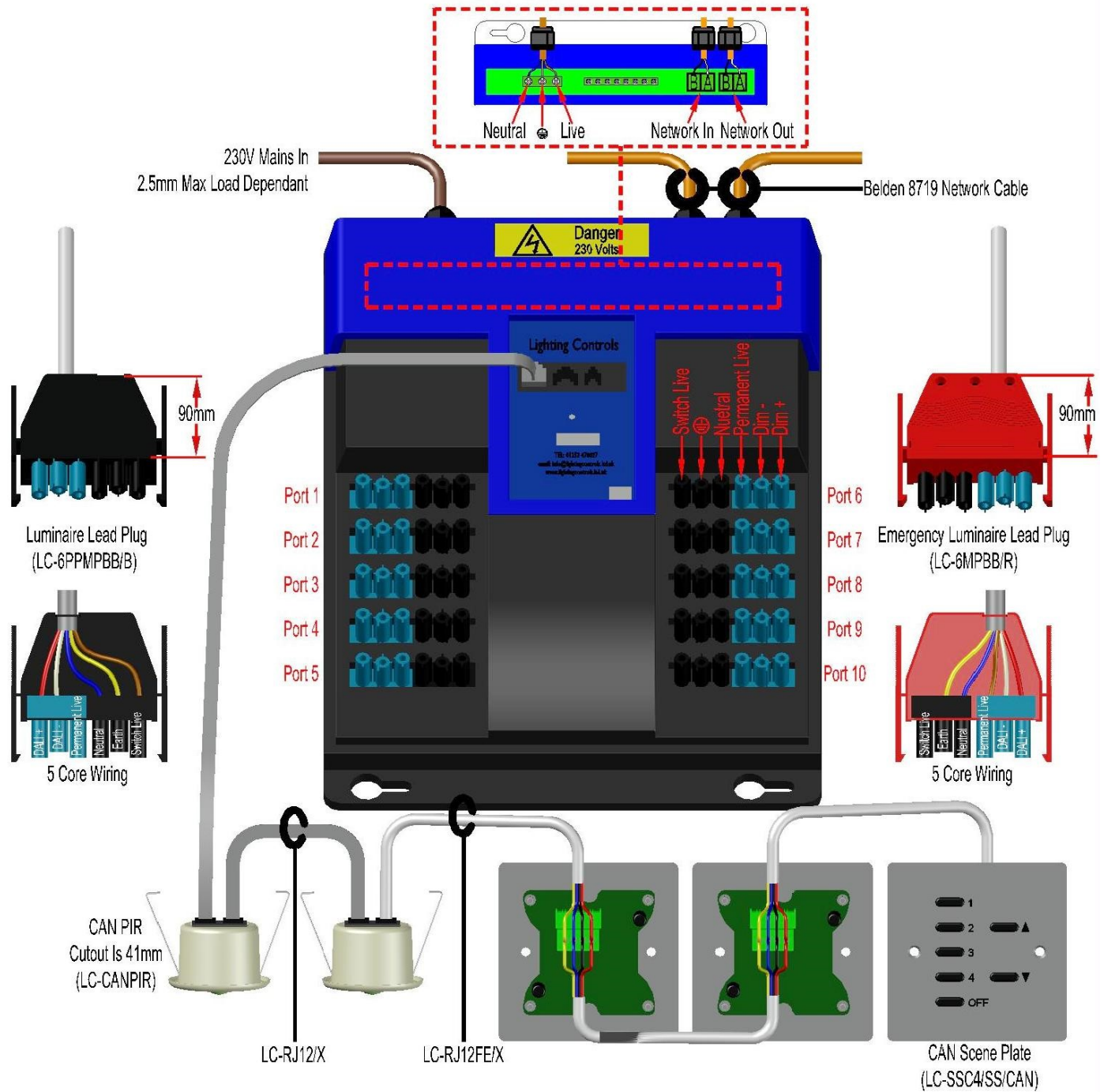
- 10x 6 pole sockets to connect fittings
- 2 internal hardwired CAN connections
- 3 x RJ12 for CAN PIRs and Scene Set Plates
- 10-pin hardwired connector for 8 volt-free inputs
- CAN booster ready
- The LCM is not powered from the bus and requires a permanent mains supply from the relevant lighting circuit
- 2 core CAN bus connections (in and out)
- 6 pole plugs for luminaire wiring

Network Isolation

This LCM has two isolated networks. The field wiring CAN bus which networks the LCMs is isolated from the peripheral bus which connects PIRs and scene plates. Should a wiring problem occur on one LCM peripheral, it will not affect other LCMs. Should field wiring become compromised then LCMs will stand alone and continue to function.

Max Scene Plates/ PIRs	10	Supply voltage	90-240 V AC 50Hz
Inputs	8 clean contact	Power consumption	Off load - 1.2 watts All channels on - 4 watts
Field comms	CAN bus, 2 internal screw terminals	Internal fuse	1AT
Local comms	CAN bus 3x RJ12 pre-terminated	Load (total)	10A
Luminaire connection	6 way, switched Live, Earth, Neutral, emergency Live, Dim- Dim+	Load per channel	6A
Configuration memory (removable)	256K (non-volatile)	Case material	Flame retardant ABS
		Operating temperature	-10°C to +50°C
		Max Humidity	90% RH non-condensing

LCM CONNECTION GUIDE



LCM MEMORY CHIP REPLACEMENT

1. Isolate power and remove lid of LCM



2. Remove memory chip



3. Install new LCM

4. Replace original memory chip



5. Replace Lid - Fully functional LCM

6 or 12 CHANNEL HARDWIRED LCM

Our ECOLUX HWM6 or HWM12 are hardwired panels with 1 or 2 modules with 6 relays per module. The relays in each controller have both normally open and normally closed contacts.

The hard wired controllers have a 4-way switch interface for sensing volt free contacts, terminal wiring for mains supplies and switched live outputs. There is also a 2 core LCM-BUS connection. The hardwired controller is not powered from the bus and requires a permanent mains supply from the relevant lighting circuit.

LCMs can be programmed in the same way as our other devices - wirelessly via Bluetooth from a laptop.

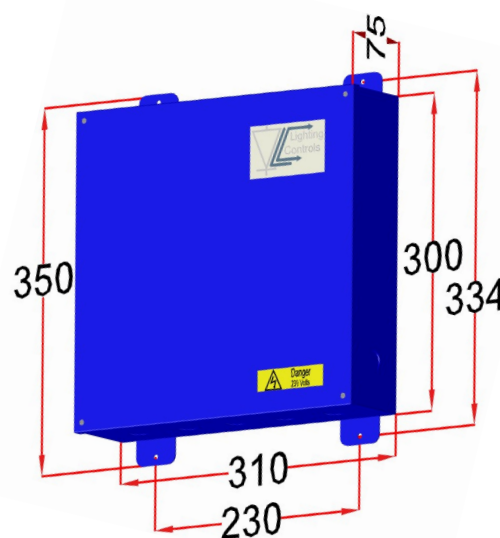
A removable memory module facilitates fast configuration of a replacement LCM should that be needed.

Part Number:

LC-HWM6

LC-HWM12

Other variants available



- Internal single-phase mains connection via terminal block 1 x 4-way hardwired screw terminal connection for DALI peripherals
- 4-way hardwired screw terminal per module for 4 volt-free inputs
- Emergency: Permanent Live
- Max. Switch Current: 10A per module/6A per relay, 230V AC
- Max number of devices: 15 on 4 wire network /8 on a 2 wire network
- 6 Channel switching interface for the control of switched loads
- Cable as per relevant DALI standard

Power

The hardwired controller is not powered from the bus and requires a permanent mains supply from the relevant lighting circuit.

Formats Available

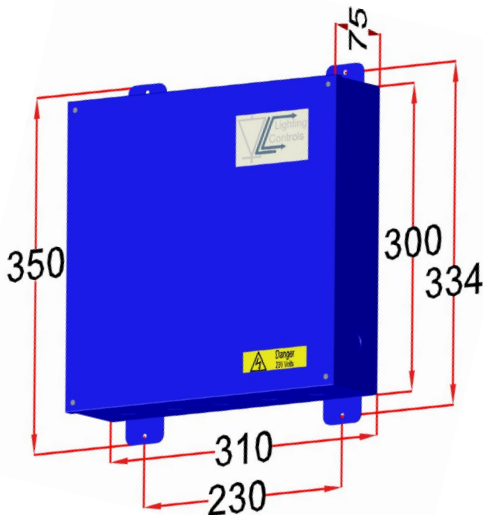
- All normally open relays
- All normally closed relays
- 5 open and 1 closed relay
- 4 open and 2 closed relays
- 3 open and 3 closed relays

Supply Voltage	90-240V AC 50 Hz
Power Consumption	Off Load 1.2 Watts All Channels ON 3.6 Watts
LOAD-Total Max	10A
LOAD-per Channel	6A
Case Material	Steel
Max Humidity	90% RH non-condensing
Operating Temperature	-10°C to +50° C

Max no. of Scene Plates/ PIRs	15 on 4-wire Network 8 on 2-wire Network
Inputs	4 clean contact
Field comms	CAN bus via internal screw terminals
Local comms	Internal screw terminals to DALI
Luminaire connection	Internal screw terminals
Configuration memory	256K (non-volatile)

5 or 10 CHANNEL HARDWIRED LCM

Part Number:
LC-HWM5
LC-HWM10
Other Variants Available



Four inputs per module, configurable as

- switch inputs
- scene control
- over-ride functions
- emergency relay control
- fire alarm inputs

Max no. of Scene Plates/ PIRs	15 on 4-wire Network/10 on 2-wire Network
Inputs	4 clean contact
Field comms	CAN bus via internal screw terminals
Local comms	Internal screw terminals to DALI
Luminaire connection	Internal screw terminals
Configuration memory (removable)	256K (non-volatile)

Our ECOLUX HWM5 or HWM10 are hardwired panels with 1 or 2 modules with 5 relays per module and an additional relay for emergency luminaire testing. The modules control switched and emergency loads and the relays in each controller have both normally open and normally closed contacts. Complete with a 4 way switching interface for sensing volt free contacts, terminal wiring for mains supplies, switched/permanent live outputs and 2 core LCM-bus connection. A removable memory module facilitates fast configuration of a replacement LCM should that be needed. LCMs can be programmed in the same way as our other devices - wirelessly via Bluetooth from a laptop.

- Internal single-phase mains connection via terminal block
- 5 luminaire outputs per module via screw terminals
- 1 emergency luminaire test output per module
- 1 x 2-way hardwired screw terminal CAN network connection
- 1 x 4-way hardwired screw terminal connection for DALI peripherals
- 4-way hardwired screw terminal per module for 4 volt-free inputs.
- Emergency: Permanent live
- Max. Switch Current: 10A per module, 6A per relay, 230V AC

Power

The hardwired controller is not powered from the bus and requires a permanent mains supply from the relevant lighting circuit.

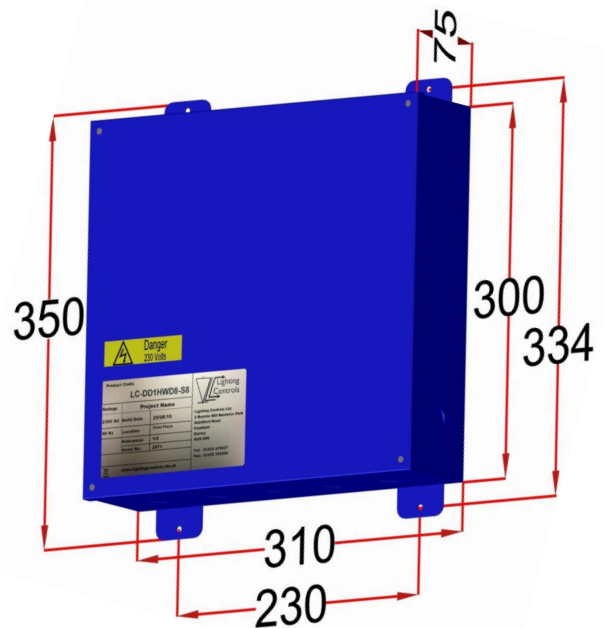
Supply voltage	90-240 V AC 50Hz
Power consumption	Off load - 1.2 watts All channels on - 3.6 watts
Load, Total Max	10A
Load, per channel	6A
Case material	Steel
Operating temperature	-10°C to +50°C
Max Humidity	90% RH non-condensing

8 CHANNEL HARDWIRED LCM

Our ECOLUX Hard Wired LCM controls up to 8 channels, all of which can be programmed for: DALI Broadcast, DSI, 0-10V, 1-10V or switching. It also has an integral emergency test relay. The enclosure has been designed in powder coated steel so it can be installed into a riser and can be supplied with a key switch for emergency and override testing.

Each Channel is capable of being programmed to control up to 5 DALI/ DSI, 1-10V or HF switching ballasts or drivers. A normally closed relay is provided for the testing of emergency Luminaires. 10 CAN PIRs and/or scene plates can be connected to the LCM with 8 inputs provided for connection of 8 push to make or 4 x 2way / off switches. All connections are via hardwired terminals. A removable memory module facilitates fast configuration of a replacement LCM should that be needed.

Part Numbers: LC-DD1HWD8-S8



- 8 channels with each channel rated for 6A load
- Configurable 0-10V or DALI control outputs
- 2x hardwired CAN connections
- 3x RJ12 for CAN PIRs and Scene Set Plates
- 10-pin hardwired connector for 8 volt-free inputs
- CAN booster ready
- Option to be supplied with a key switch
- The LCM is not powered from the bus and requires a permanent mains supply from the relevant lighting circuit.
- Terminal wiring for single mains supply and outputs
- 2 core CAN bus connection

Network Isolation

This LCM has two isolated networks. The field wiring CAN bus which networks the LCMs is isolated from the peripheral bus which connects PIRs and scene plates. Should a wiring problem occur on one LCM peripheral, it will not affect other LCMs. Should field wiring become compromised then LCMs will stand alone and continue to function.

Max no. of Scene Plates/ PIRs	10
Inputs	8 clean contact
Field comms	CAN bus, 2 internal screw terminals
Local comms	CAN bus 3x RJ12 pre terminated
Luminaire connection	Hard Wired
Configuration memory (removable)	256K (non-volatile)
Supply Voltage	90-240 V AC 50Hz

Power consumption	Off load - 1.2 watts All channels on - 4 watts
Internal fuse	1AT
Load (total)	10A
Load per channel	6A
Case material	Powder Coated Steel
Operating temperature	-10°C to +50°C
Max Humidity	90% RH non-condensing

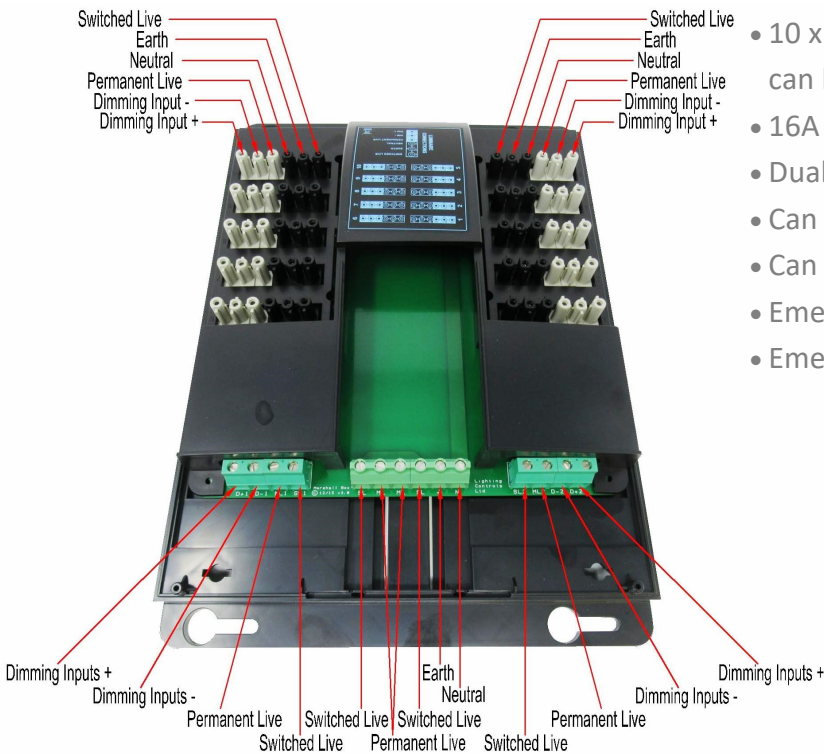
MARSHALLING BOX

- Part Number:**
LC-MB
LC-MB/WH
Luminaire Plugs:
LC-6PMPBB/B
LC-6PMPBB/WH
LC-6PMPBB/R

Black
White

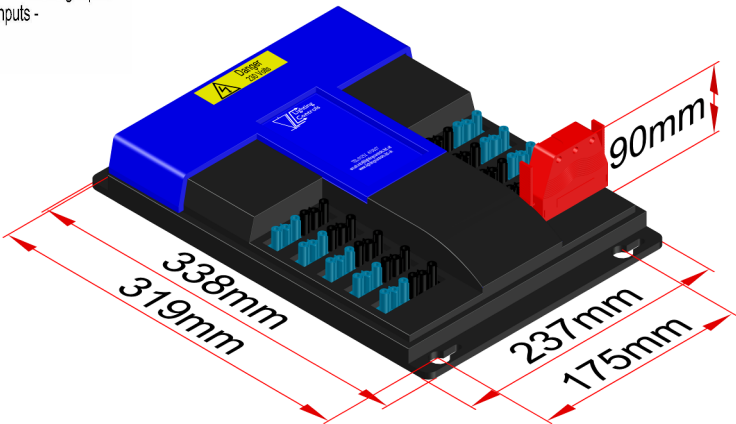
Black
White
Emergency

The ECOLUX 10 port marshalling box distributes switched live / DALI to luminaires via pluggable connections. The modular design of the LC-MB makes it quick and easy to make changes in luminaire and PIR configuration. It uses either a single or dual supply with a max of 16A load per supply. Ten luminaire outlets are provided, and connection is made via 6-pole connectors. The enclosure has been designed for ease of installation and has 'Z' bolt fixing rails on the rear. The impact-resistant, flame retardant ABS boxes provide a light, robust enclosure that can be easily mounted in any environment.

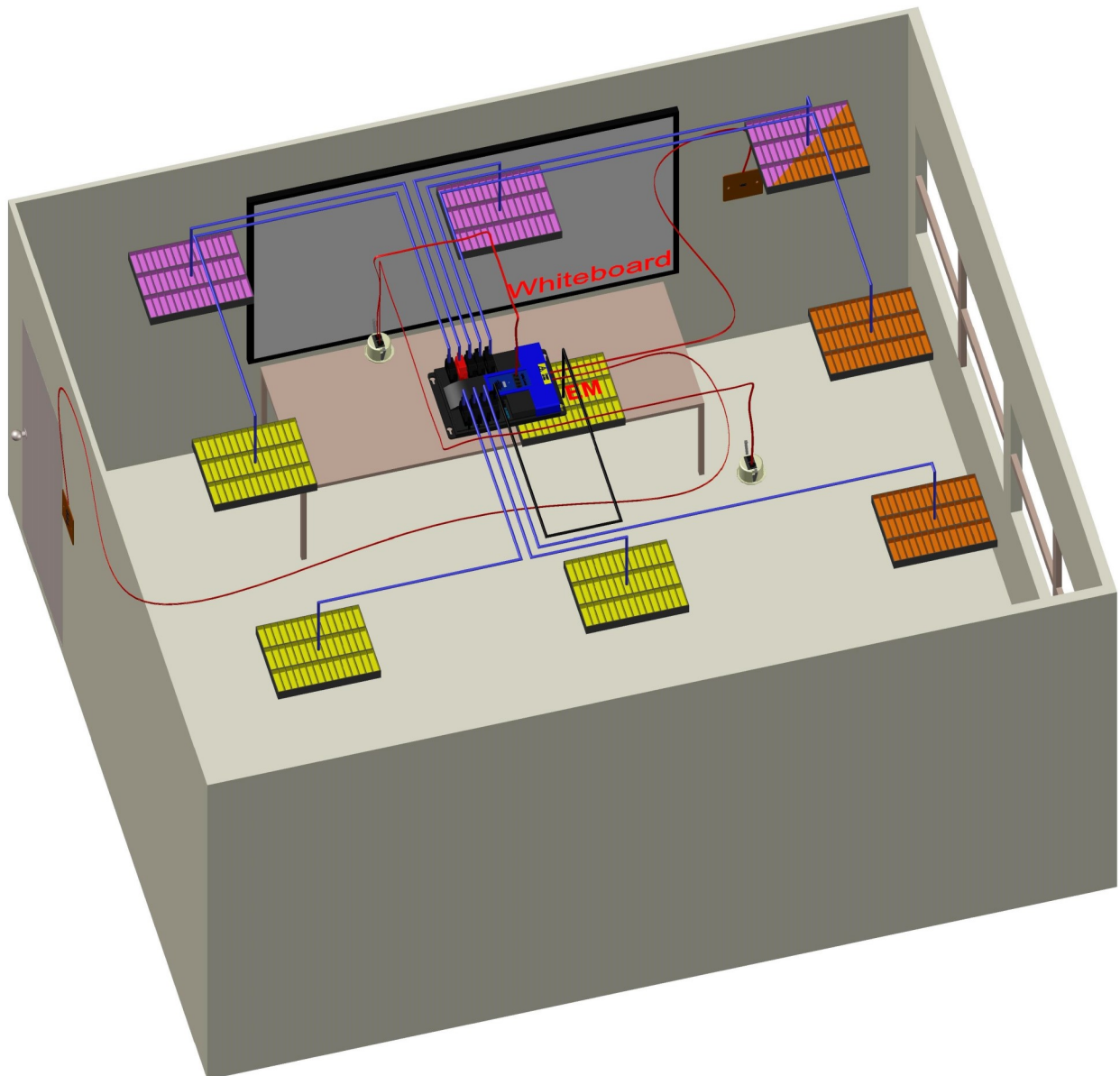


- 10 x luminaire output via 6-pole connectors which can be used as two banks of 5
- 16A max load at 230V (max. 6A per port)
- Dual fix
- Can be used in a DALI network
- Can be supplied with two circuits
- Emergency test via switch
- Emergency: Permanent Live

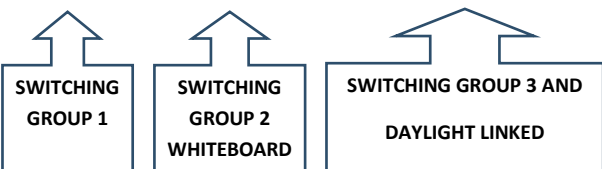
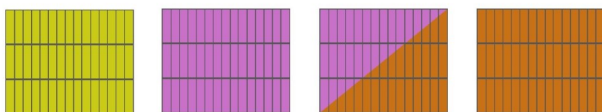
Luminaire Connection	6-pole, switched live, Earth, Neutral, Perm Live, Dim- Dim+
Load, Total Max	10A
Load, per Output	6A
Case material	Flame retardant ABS
Max Humidity	90% RH non-condensing
Input Cable	Less than 2.5mm ²



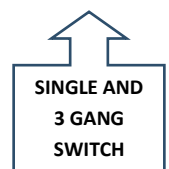
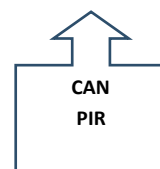
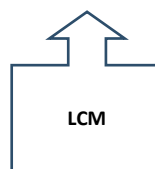
CLASSROOM WITH LCMS WITHIN FALSE CEILING



Luminaires

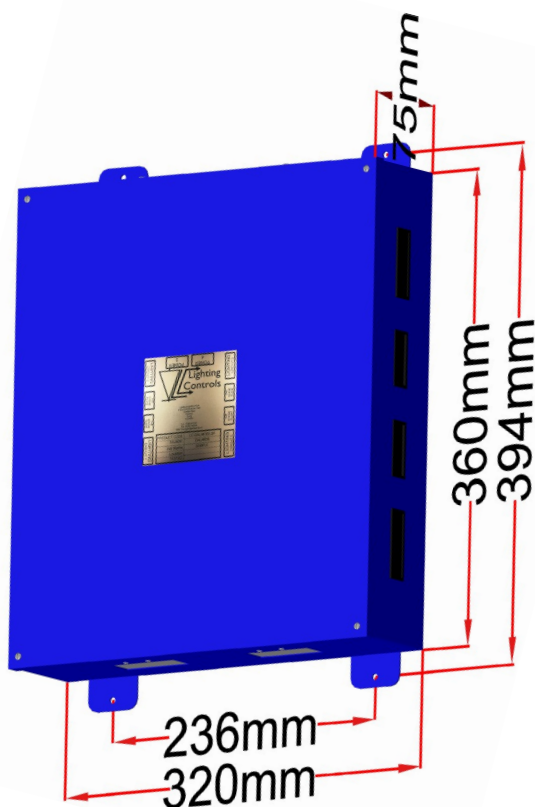


Controls



DALI MODULAR DISTRIBUTION BOX

Part Number:
LC-DALIMDB/ARM
LC-DALIMDB/LSF
LC-DALIMDB/ARM-LSF

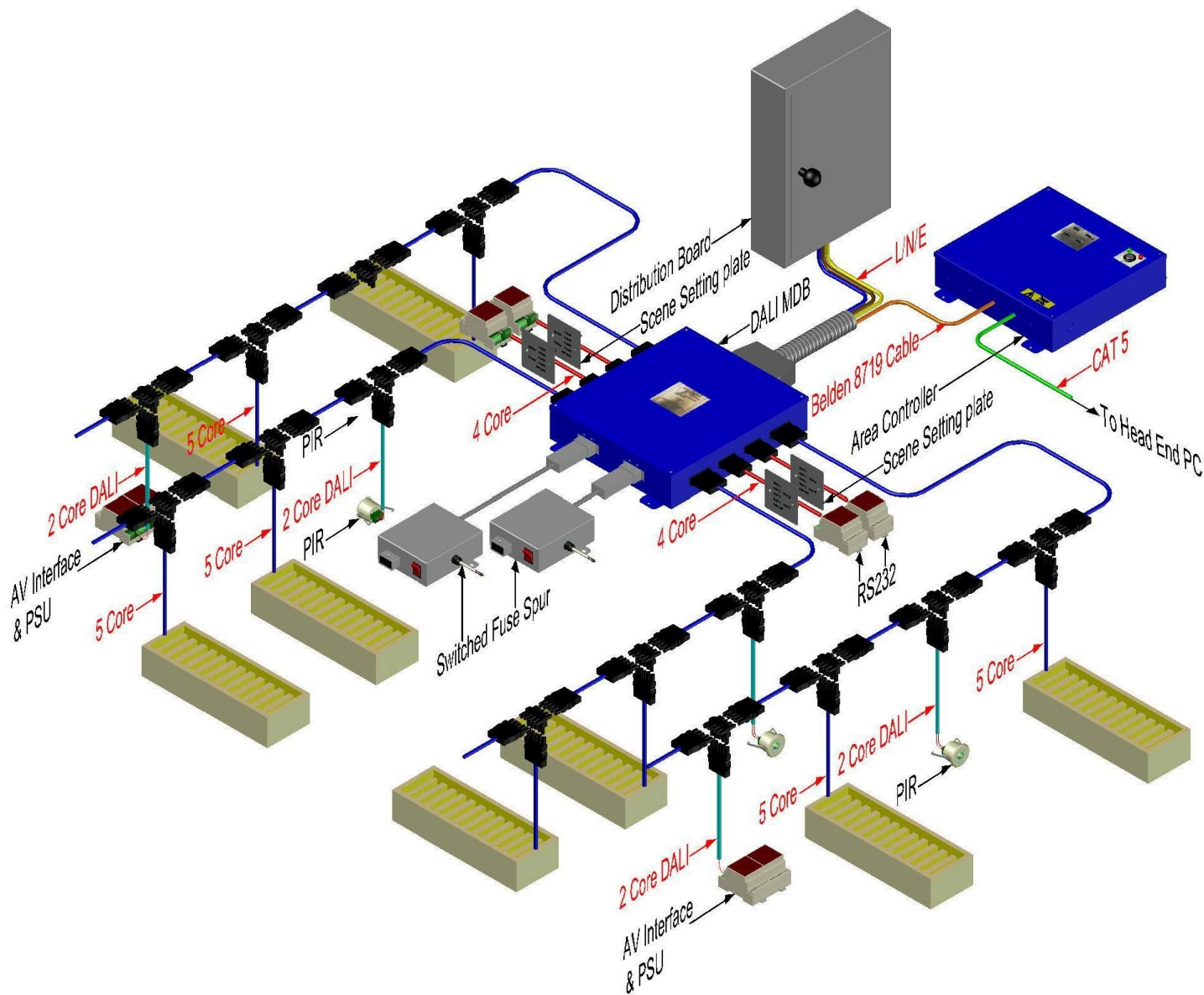


The ECOLUX DALI Modular Distribution Boxes are designed to distribute mains power and a lighting control network connection to devices such as fan coils, Luminaires, Presence detectors and Scene Set Plates. With four outlets for DALI lighting circuits, four outlets for additional Presence detectors and Scene Set Plates, and two outlets for devices such as Fan Coils, this versatile unit can interface any zone configuration required. Two power ports provide connection to fan coils or auxiliary power at up to 32 amps per output.

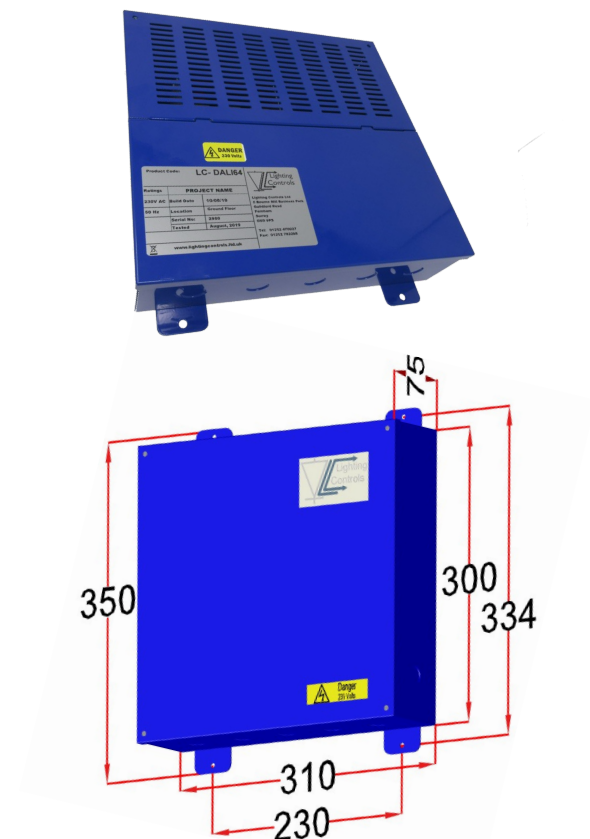
- **LC-DALIMDB/ARM** - configured for use with armoured cable for both the Power outlets and the DALI lighting outlets.
- **LC-DALIMDB/LSF** - configured for use with LSF or LSOH cable for all outlets.
- **LC-DALIMDB/ARM-LSF** - configured for use with LSF or LSOH cable for DALI lighting outputs and armoured cable for power outlets.

Operating Voltage	90-220V AC 50Hz
Operating Temp	-10°C to +50°C
Max Humidity	90% RH non-condensing
Maximum number of Luminaires	4 x 40
Luminaire connection	Internal screw terminals
Maximum number of scene plates or PIR's	10 on 2 wire DALI (1mm ² min cable) or 15 on 4 wire DALI
Number of Power Outlets	2
Maximum Load per power outlet	32 AMPS

DALI MODULAR DISTRIBUTION BOX LAYOUT



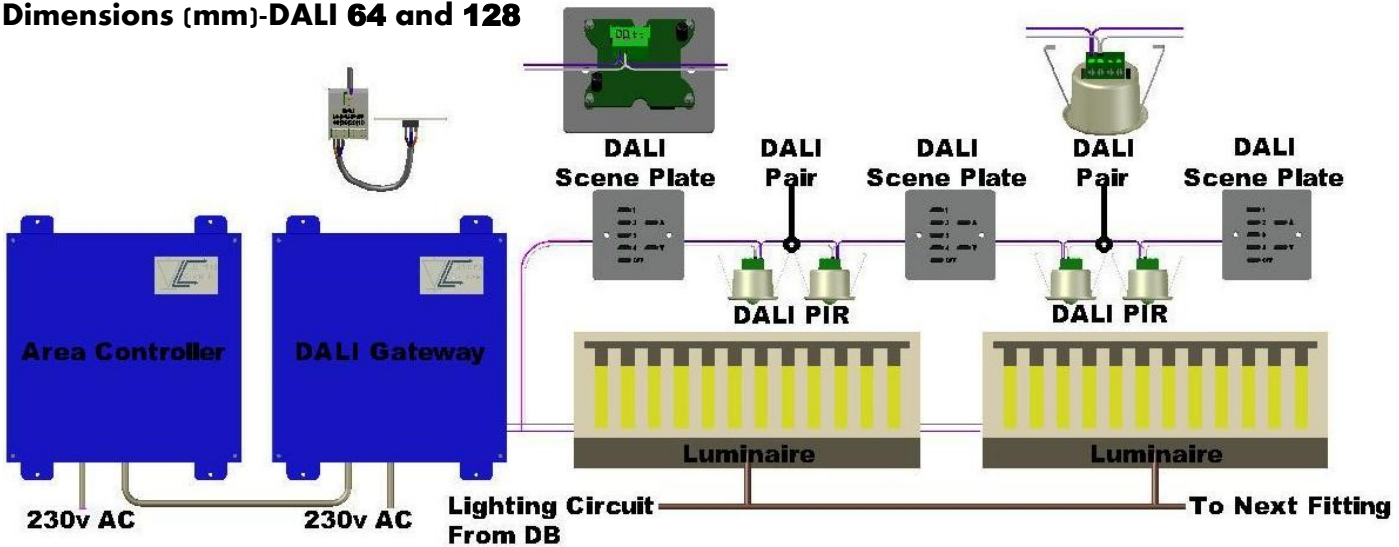
Part Number:
LC-DALI 64
LC-DALI 128
LC-DALI 192
LC-DALI 256
Other Variations available



The ECOLUX DALI64 Gateway Module provides an interface between DALI lighting products and our addressable control system. The module acts as a fully functional DALI controller with 64 individually programmable addresses such as a luminaire, emergency inverter, PIR sensor, controlled relay, scene set plate or 4IP input device. The module is DIN rail mounted and enclosed in a steel powder coated enclosure wired to industry standard terminals. The enclosure can be supplied with a 20A 5-pole female connection for a modular solution. Other versions with multiple gateway modules are available. A removable memory module facilitates fast configuration of a replacement module should that be required.

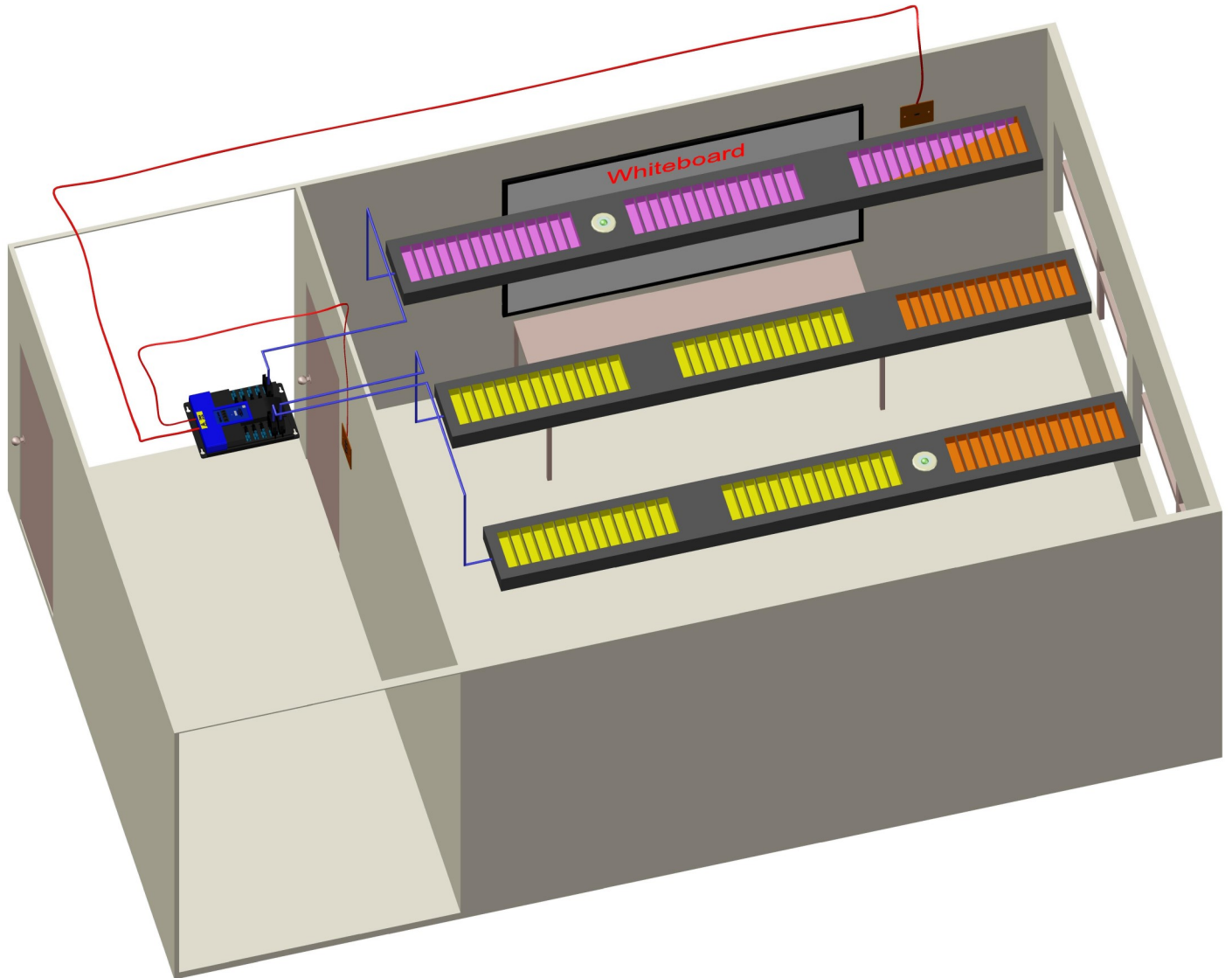
- Max 64 individually addressable DALI devices
- Supports luminaires with multiple ballasts
- Control and fault feedback indication per luminaire when used in conjunction with the ecoLUX Head End
- Allows ballasts to be grouped for faster control
- Removable plug-in memory card
- DALI emergency Invertor compatible

Dimensions (mm)-DALI 64 and 128

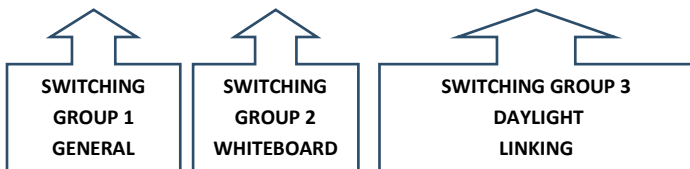
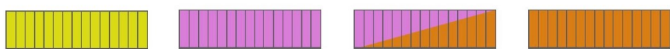


Max Humidity	90% RH non-condensing	NOTE: MUST ALLOW 2 ADDRESSES FOR DAYLIGHT LINKING	
Max no. of Scene Plates/ PIRs	15 on 4-wire DALI 8 on 2-wire DALI	Operating Voltage	90-220V AC, 50Hz
Field comms	CAN Bus internal screw terminals	Power consumption	1.2Watts
Local comms	DALI Bus screw terminals	Internal fuse 1AT	IP20
Configuration memory removable)	256K (non-volatile)	Case material	Powder-coated steel
		Operating temperature	-10°C to +50°C

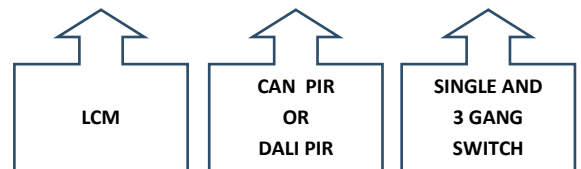
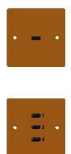
CLASSROOM DESIGN WITH SUSPENDED LUMINAIRES



Luminaires

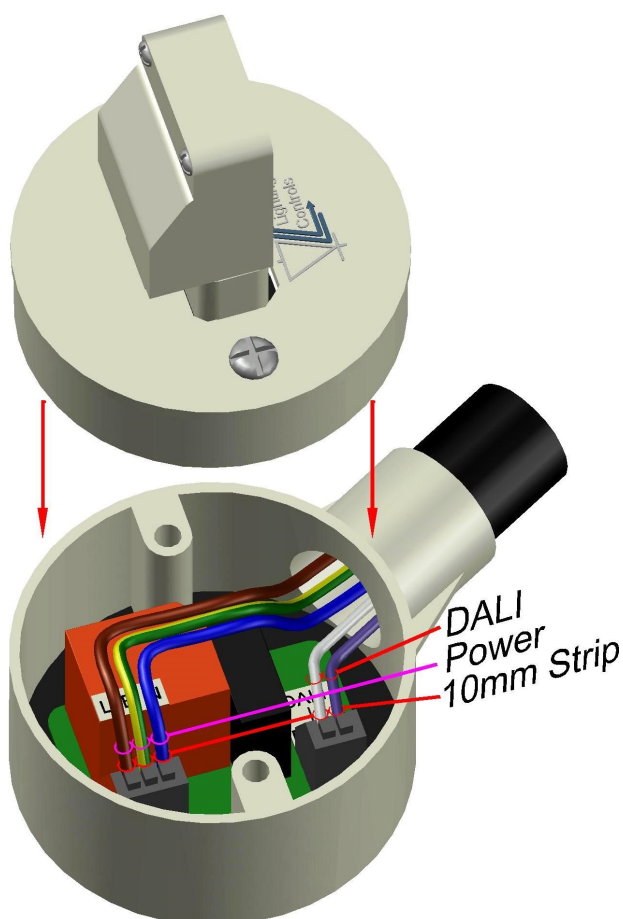


Controls



SINGLE CHANNEL DALI RELAY

Part Number: LC-DALIRELAY1



The ECOLUX DALIRELAY1 is a single relay DALI ballast for control of a switched load. It is mounted between the DALI line and a switching fitting, integrating the switching fitting to the DALI system. The relay is supplied in a standard single inlet 20mm BESA joint box housing which facilitates quick installation.

Wiring is via push fit cage clamps for incoming mains and DALI with a maximum switch current of 6 Amps and is supplied with a 3-pole plug for switched live output. The unit can be installed with any DALI control system.

- Supplied complete with 3 pole plug for easy connection
- DALI compatible and uses one DALI address
- Output rated for 6A load
- Mounted between DALI line and switching fitting
- Fits discreetly within a standard 20mm conduit system
- Cable as per relevant DALI standard



Supply voltage	240V AC
Power Consumption	250 mw (closed) 50 mw (open)
Max number of devices (2-wire connection)	64
Material (body of unit)	ABS
Temperature range	-10°C to +50°C
Max Switch Current	6 Amp/ 240V

6 CHANNEL DALI RELAY

The ECOLUX 6R-SA is a 6 Channel DALI ballast for control of multiple switched loads. It is mounted between the DALI line and a switching fitting, integrating switching fittings to the DALI system as well as controlling solenoid valves and HVAC. This relay unit has 4 switch inputs combined with 6 output relays.

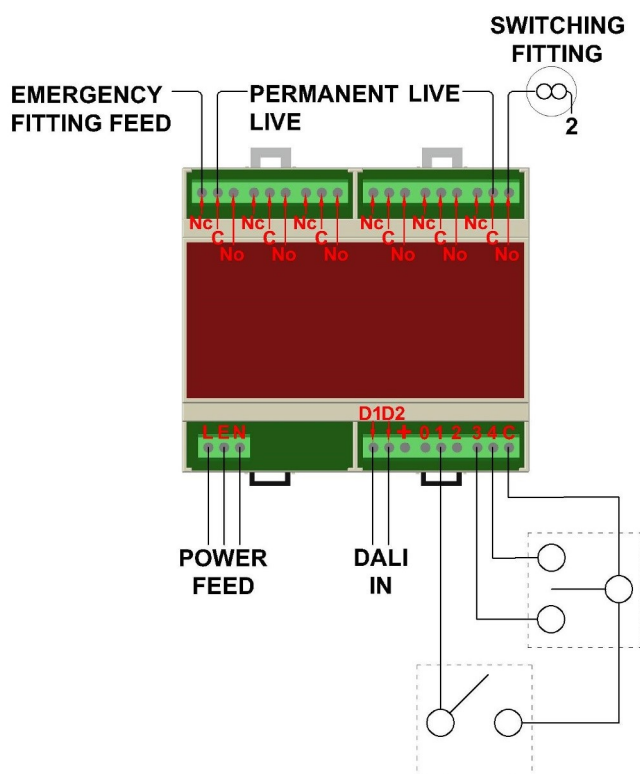
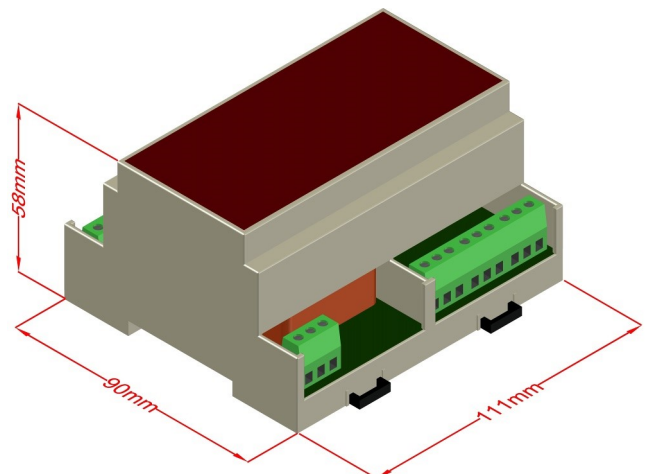
Each channel works on a separate DALI address, has normally open and normally closed connections and is rated for 10A load.

Terminal wiring for single mains supplies and switched live outputs, and a DALI pair for connection to DALI gateways or daisy chained from other devices.

Part Number:
LC-6R-SA



- 6 Channel switching interface for the control of switched loads
- Each channel rated for 10A load
- Terminal wiring for single mains supply
- DALI pair for connection to DALI gateways or daisy chained from other DALI devices
- Supplied in DIN rail box
- Cable as per relevant DALI standard



Formats Available

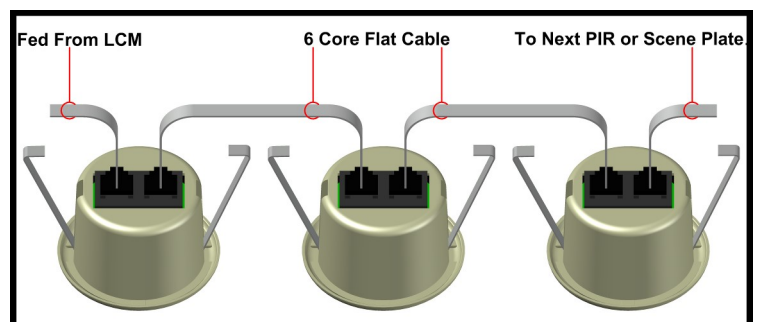
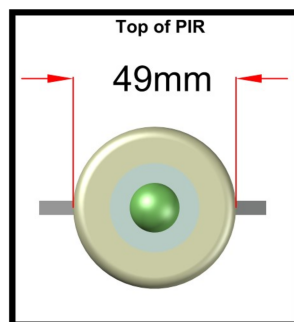
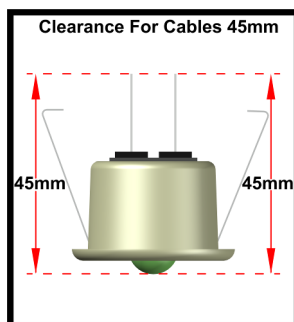
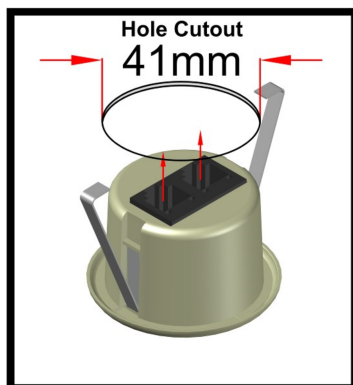
- All normally open relays
- All normally closed relays
- 5 open and 1 closed relay
- 4 open and 2 closed relays
- 3 open and 3 closed relays

Supply voltage	240V AC
Power Consumption	50-1500 mW
DALI Addresses	7
Relay Switching Voltage	250AC / 30DC
Relay Current Rating	10A Max
Relay Type	SP50
Cable Size	<1.5mm ²
DALI Switch Inputs	4
Relay Channels	6

CAN PIR

Part Number:
LC-CANPIR
LC-CANPIR/BK
LC-CANPIR/SIL
LC-CANPIR/IP

White
Black
Silver
IP65 Rated



Supply voltage	9-30 VDC
Power Consumption	120mW
Range	6m at 2.8m ceiling height
Max number of devices per sub-net	10
Fitting hole size	41mm
Material (body of unit)	Flame retardant ABS
Material (clear lens)	Clear acrylic (PMA)
Standard colour	RAL9010
Temperature range	-10°C to 35°C
Max humidity	90% CH (non-condensing)

The ECOLUX CAN PIR is a sensor for automatic lighting control. It detects movement using a PIR sensor, which updates the light controller using a CAN bus interface. When an area is no longer occupied, the device times out after a configurable period.

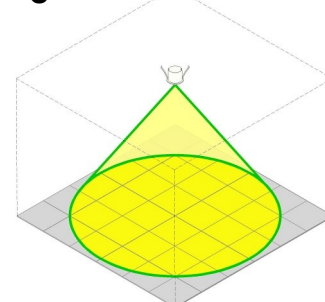
This detector features our Progressive Sensitivity function to eliminate false triggering. There is also an integral lux detector, enabling the sensor to control daylight linking. Daylight linking can be configured either to keep lights off when there is sufficient ambient light, or used as part of a closed loop to maintain a pre-set luminance level in a dimmable system.

This PIR can also be specified with custom painted bezels to further help the sensor blend into the surface on which it is mounted.

Also available in a high bay configuration.

- Connection by RJ12 connectors on the back of the unit
- Two connectors to allow easy onward connection
- Device ID is set during commissioning using an IR tool, and there is a visual alert to show when a device has not been addressed
- The walk-test mode, indicated by an LED, helps when configuring the detector

Detection Range 6m at 2.8m Ceiling Height



CAN MICRO PIR

The ECOLUX CAN Micro Presence Detector is a sensor for automatic lighting control. It detects movement using a PIR sensor, which updates the LCM using a CAN interface. When an area is no longer occupied, the device times out after a configurable period.

This detector features our **Progressive Sensitivity function** to eliminate false triggering. There is also an integral lux detector, enabling the sensor to control daylight linking. Daylight linking can be configured either to keep lights off when there is sufficient ambient light, or used as part of a closed loop to maintain a pre-set luminance level in a dimmable system.

The CANMICROPIR can be discreetly installed within luminaires to enhance the aesthetics of the installation.

Part Number:

LC-CANMICROPIR

White

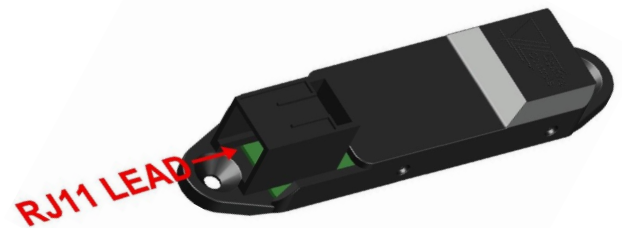
LC-CANMICROPIR/BK

Black

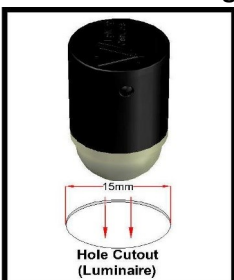


Also available in a high bay configuration

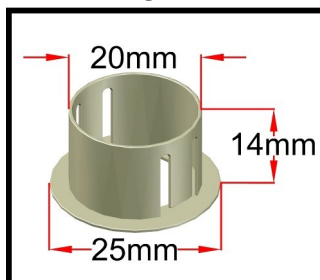
- Connected via a RJ11 plug on the interface to the LCM using a pre-made cable.
- Device ID is set during commissioning using an IR tool, and there is a visual alert to show when a device has not been addressed.
- The walk-test mode, indicated by an LED, helps when configuring the detector



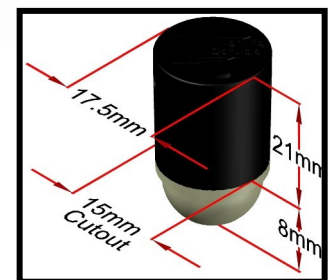
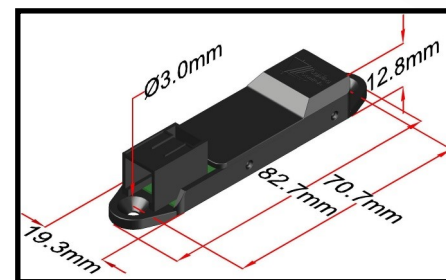
Rear Mount Fitting



Bezel Fitting

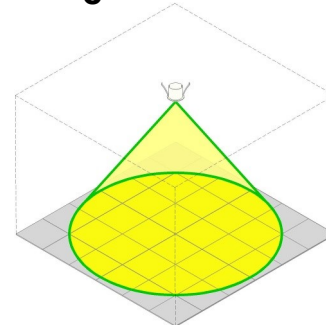


Interface



Supply voltage	9-30 VDC
Power Consumption	120mW
Range	6m at 2.8m ceiling height
Max number of devices (2-wire connection)	6
Fitting hole size	Ceiling mounted: 20mm (with bezel) Mounted in luminaire: 15mm
Temperature range	-10°C to 35°C
Material (body of unit)	Flame retardant ABS
Material (clear lens)	Clear acrylic (PMA)
Max humidity	90% CH (non-condensing)

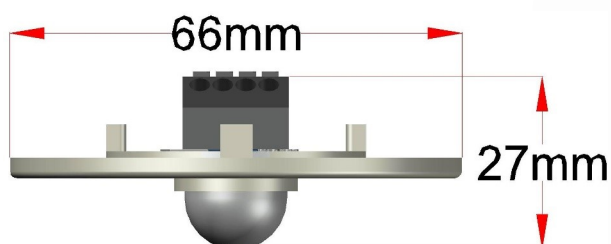
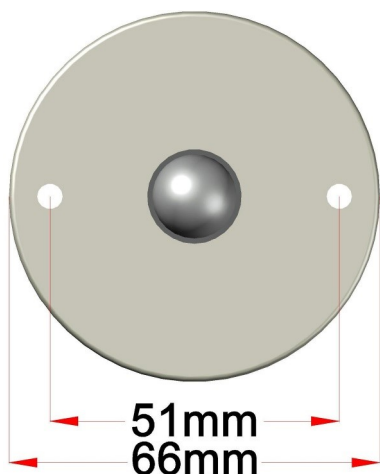
Detection Range 6m at 2.8m Ceiling Height



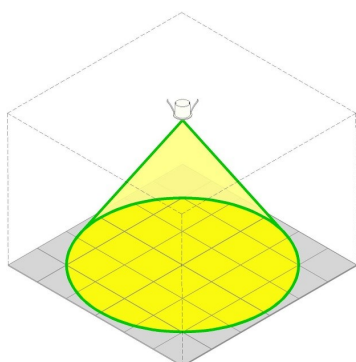
BESA BOX CAN MICRO PIR

Part Number:

LC-CANBESAMICROPIR **White**
LC-CANBESAMICROPIR/BK **Black**
LC-CANBESAMICROPIR/GV **Galvanised**



Detection Range
6m at 2.8m Ceiling
Height



The ECOLUX BESA box mounted CAN micro PIR is a sensor for automatic lighting control which has been specifically designed for mounting within a BESA system. It detects movement using a PIR sensor, which updates the LCM using a CAN interface. When an area is no longer occupied, the device times out after a configurable period.

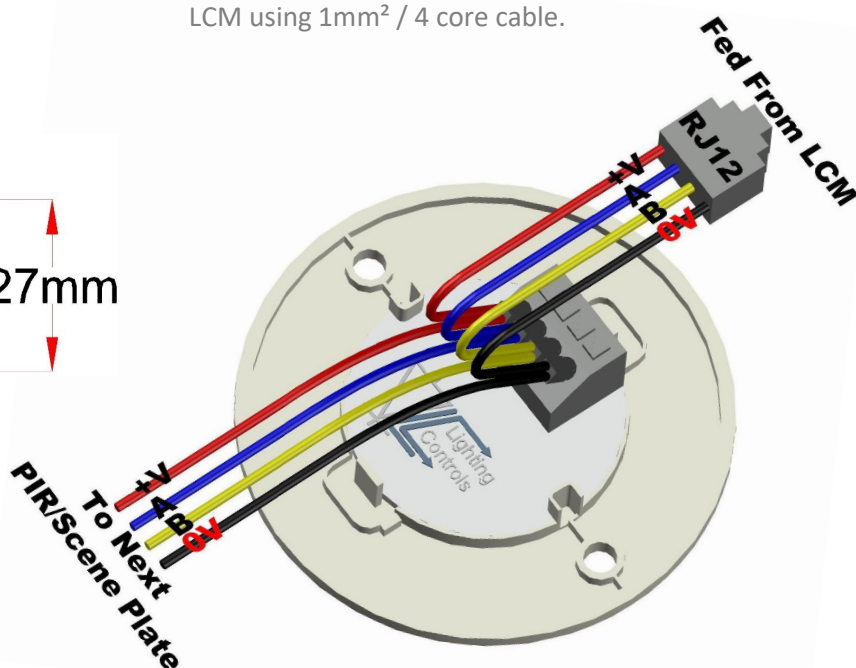
This detector features our Progressive Sensitivity function to eliminate false triggering and can be used as part of a closed loop to maintain a pre-set luminance level in a dimmable system.

The CANBESAMICROPIR fits discreetly within a standard 20mm conduit system.

Supplied in white, black and a galvanised finish.

N.B. Only the BESA lid supplied

- A visual alert to show when a device has not been addressed.
- Device ID is set during commissioning using an IR tool
- The walk-test mode, indicated by an LED, assists when configuring the detector.
- Connected via a cage clamp on the rear of the PIR to the LCM using 1mm² / 4 core cable.



Supply voltage	9-30 VDC
Power Consumption	120mW
Max number of devices (per LCM)	10
Fitting hole size	BESA mounted
Temperature range	-10°C to 35°C
Max humidity	90% CH (non-condensing)

The ECOLUX DALI PIR is a sensor for automatic lighting control. It detects movement using a PIR sensor, which updates the light controller using a DALI interface. When an area is no longer occupied, the device times out after a configurable period. This detector features our **Progressive Sensitivity function** to eliminate false triggering. There is also an integral lux detector, enabling the sensor to control daylight linking. Daylight linking can be configured either to keep lights off when there is sufficient ambient light, or used as part of a closed loop to maintain a pre-set luminance level in a dimmable system. The PIR can also be specified with custom painted bezels if required.

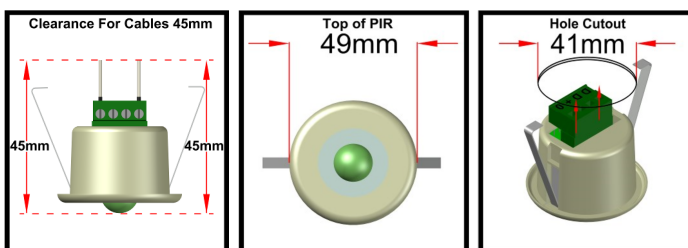
Also available in a high bay configuration

Part Number:
LC-DALIPIR
LC-DALIPIR/BK
LC-DALIPIR/SIL
LC-DALIPIR/IP

White
Black
Silver
IP65 Rated

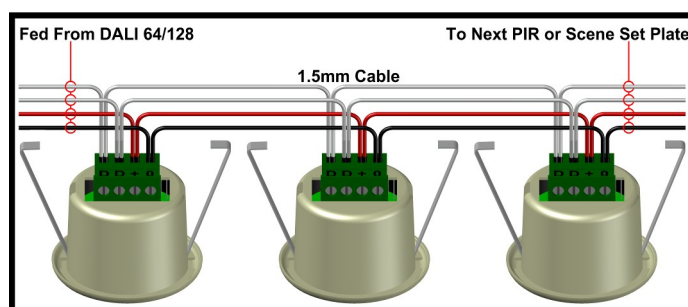


- Connected via a screw terminal on the rear in a standard DALI two wire configuration
- Powered from the DALI line.
- For applications where the current drain would be too high for the bus, PIRs can be powered from the DALI64 using a 4-wire connection.



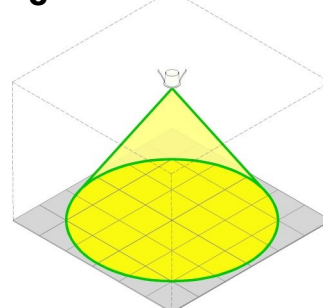
Lux Detector

When using the lux detector, an extra DALI address is assigned to the unit. The PIR ID is randomised during commissioning and there is a visual alert showing when a PIR has not been addressed. The walk-test mode, indicated by an LED, assists when configuring the detector.



Supply voltage	10-18 VDC
Power Consumption	120mW
Range	6m at 2.8m ceiling height
Max number of devices (2-wire connection)	10
Max number of devices (4-wire connection)	15
Fitting hole size	41mm
Material (body of unit)	Flame retardant ABS
Material (clear lens)	Clear acrylic (PMA)
Standard colour	RAL9010
Temperature range	-10°C to 35°C
Max humidity	90% CH (non-condensing)

Detection Range 6m at 2.8m Ceiling Height



DALI MICRO PIR

Part Numbers:

LC-DALIMICROPIR **White**

LC-DALIMICROPIR/BK **Black**

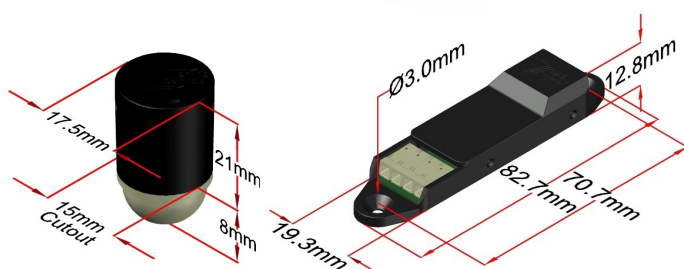


The ECOLUX DALI Micro PIR is a sensor for automatic lighting control. It detects movement using a PIR sensor, which updates the light controller using a DALI interface. When an area is no longer occupied, the device times out after a configurable period.

This detector features our Progressive Sensitivity function to eliminate false triggering. There is also an integral lux detector, enabling the sensor to control daylight linking. Daylight linking can be configured either to keep lights off when there is sufficient ambient light, or used as part of a closed loop to maintain a pre-set luminance level in a dimmable system.

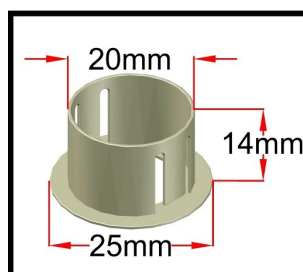
The DALIMICROPIR can be discreetly installed within luminaires to enhance the aesthetics of the installation.

Also available in a high bay configuration

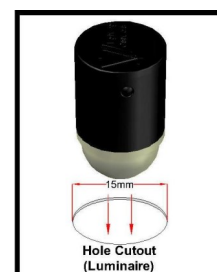


- Connected via a cage clamp on the rear in a standard DALI two wire configuration
- Powered from the DALI line
- When using the lux detector, an extra DALI address is assigned to the unit
- The device ID is randomised during commissioning and there is a visual alert showing when a device has not been addressed
- The walk-test mode, indicated by a built-in LED, assists when configuring the detector is a visual alert showing when a device has not been addressed

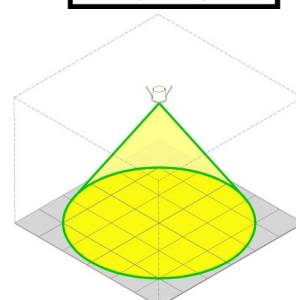
Bezel Fitting



Rear Mount Fitting



Detection Range
6m at 2.8m Ceiling
Height



Supply voltage	10-18 VDC
Power Consumption	120mW
Range	6m at 2.8 ceiling height
Max number of devices (2-wire connection)	10
Fitting hole size	Ceiling mounted: 20mm (with bezel) Mounted in luminaire: 15mm
Material (body of unit)	Flame retardant ABS
Material (clear lens)	Clear acrylic (PMA)
Temperature range	-10°C to 35°C
Max humidity	90% CH (non-condensing)

BESA BOX DALI MICRO PIR

The ECOLUX BESA box mounted DALI micro PIR is a sensor for automatic lighting control which has been specifically designed for mounting within a BESA system. It detects movement using a PIR sensor, which updates the light controller using a DALI interface. When an area is no longer occupied, the device times out after a configurable period.

This detector features our Progressive Sensitivity function to eliminate false triggering and can be used as part of a closed loop to maintain a pre-set luminance level in a dimmable system.

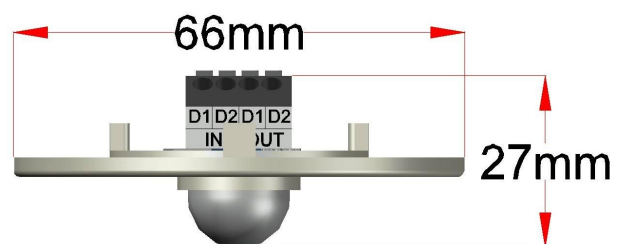
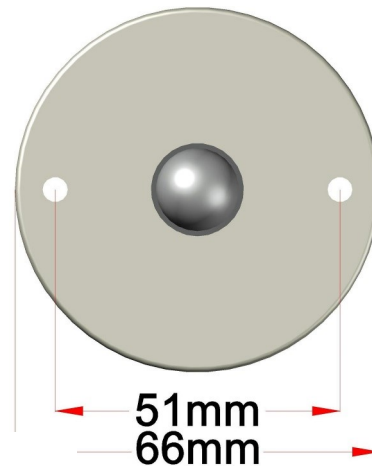
The DALIBESAMICROPIR fits discreetly within a standard 20mm conduit system.

Part Number:

LC-DALIBESAMICROPIR White

LC-DALIBESAMICROPIR/BK Black

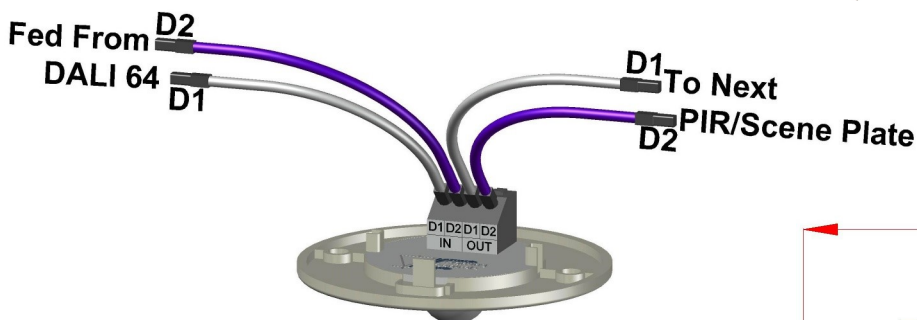
LC-DALIBESAMICROPIR/GV Galvanised



Also available in a high bay configuration

Supplied in white, black and a galvanised finish.

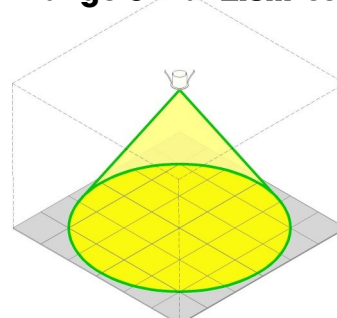
- Connected via a cage clamp on the rear in a standard 2 wire configuration
- Powered from the DALI line with 1mm² 4 core cable



Lux Detector

When using the lux detector, an extra DALI address is assigned to the unit. The device ID is randomised during commissioning and there is a visual alert showing when a device has not been addressed. The walk test mode, indicated by a built in LED, assists when configuring the detector.

Detection Range 6m at 2.8m Ceiling Height



Supply voltage	10-18 VDC
Power Consumption	120mW
Range	6m at 2.8m Height
Max number of devices (2 wire connection)	10
Fitting hole size	BESA mounted
Temperature range	-10°C to 35°C
Max humidity	90% CH (non-condensing)

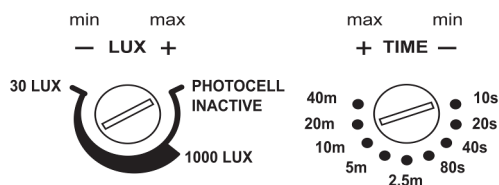
DIRECTIONAL LONG RANGE PIR

Part Number: LC-MPIR/DLR



Adjusting time and Lux

Typical settings



Operating voltage	220V AC, 50Hz
Minimum Load	2W resistive, suitable for most energy-saving lamps, LEDs and emergency fittings
IP rating	IP20
User-adjustable time delay	From 10 seconds to 40 minutes in 9 steps
User-adjustable lux level	10 to 1,000 lux and maximum (photocell inactive) at the PIR switch

The MPIR/DLR incorporates a passive infra-red quad sensor to detect movement of a warm body within their detection zone and a photocell to monitor the ambient light level. Upon detecting movement, if the ambient light is dark enough, the PIR which will turn the load on. The ambient threshold can be set by the user to between approximately 30 lux and infinite lux (photocell inactive) via the LUX adjuster. If no more movement is detected within a pre-selected time, the PIR switch will turn the load off. This time lag can be set via the time adjuster to 10 seconds, 20 seconds, 40 seconds, 1minute 15s, 2minutes 30s, 5minutes, 10minutes, 20minutes or 40 minutes. The barrel of this PIR can be rotated through 360 degrees and angled between horizontal and 45 degrees down. The longest detection range is achieved when the barrel is horizontal.

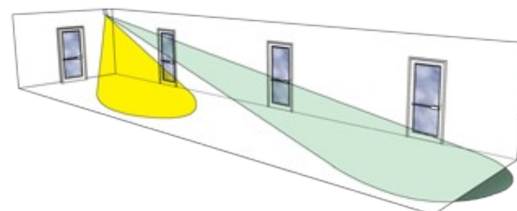
This PIR can be ceiling mounted into a Klik-AX socket.

Loads

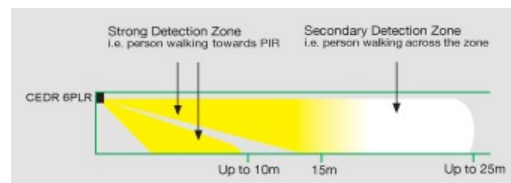
- 1500W of Resistive Loads
- 1500W of fluorescent loads
- 750W of Transformer loads
- 500W of CFL, LED and 2D lamps
- 250W of Fans

Detection Diagrams

Perspective View

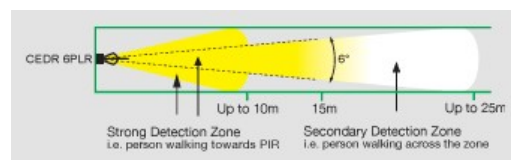


Plan View



Side Elevation

Ideal mounting height is between 2.2 and 3 m



- Strong detection zone
- Secondary detection zone

CLEAN CONTACT PIR

The ECOLUX Clean Contact Presence Detector is a sensor for automatic lighting control. It detects movement using a PIR sensor, which updates the lighting controller using a solid state galvanically isolated clean contact interface. When an area is no longer occupied, the device times out after an adjustable period.

This detector features our Progressive Sensitivity function to eliminate false triggering and features a walk test mode to help with configuration. Movement is indicated by a built-in blue LED. This starts when the unit is powered up, and expires 30 minutes after movement detection stops. Sensitivity and timeout periods are adjusted during commissioning using two timers on the rear of the unit.

Part Number:
LC-PIR/CC
LC-PIC/CC/BK
LC-PIR/CC/SIL

White
Black
Silver

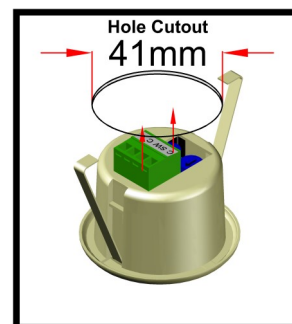
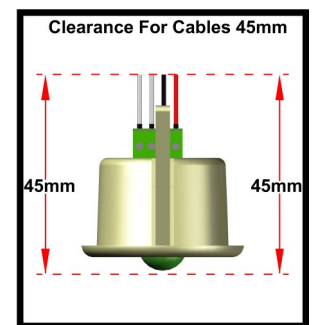
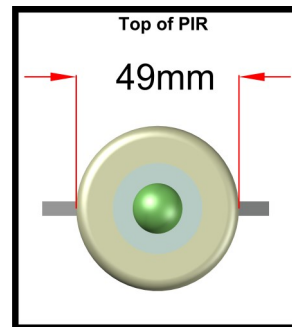


- Movement indicated by blue LED
- Can be supplied with bezels matched to any RAL number
- Progressive Sensitivity Function to eliminate false triggering
- Walk test mode to help with configuration

Compatibility

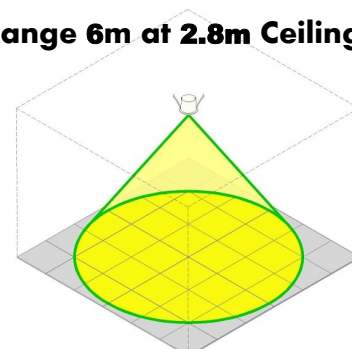
If this PIR is to be used in a system that does not require the output to be isolated, simply connect the negatives (Com) of the supply and output together at the PIR.

N.B. Because this device features a solid state isolator output connection polarity must be strictly observed.



Supply voltage	9-30 VDC
Power Consumption	180mW
Range	6m at 2.8m ceiling height
Max number of devices per sub-net	10
Fitting hole size	41mm
Material (body of unit)	Flame retardant ABS
Material (clear lens)	Clear acrylic (PMA)
Standard colour	RAL9010
Temperature range	-10°C to 35°C
Max humidity	90% CH (non-condensing)

Detection Range 6m at 2.8m Ceiling Height



FLUSH MOUNT MAINS PIR

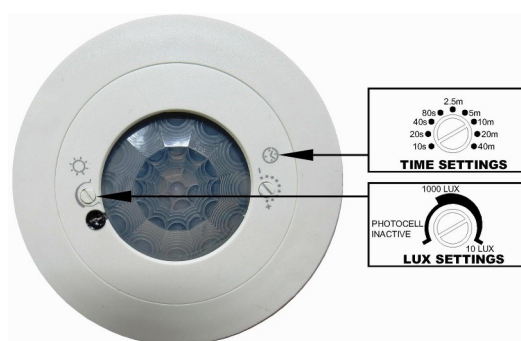
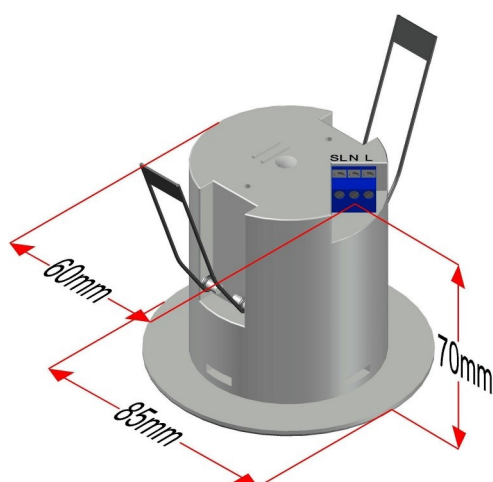
Part Number:

LC-MPIR

LC-MPIR/PS

LC-MPIR/10A

**includes KLIK-AX plug
up-rated to switch 10A
resistive loads**



The MPIR can be flush mounted into suspended and plasterboard ceilings. Configurable for any room occupancy style, via time and lux level adjusters, a passive infra-red quad sensor detects movement of any warm body within the detection zone and a photocell monitors the ambient light level.

When movement is detected and the ambient light is less than the chosen level (10 to 1000 lux), this PIR switches on the load. The ambient light threshold can be set by the user between around 100 lux and infinity (when the photocell is inactive and the load is switched on regardless of light level). If no further movement is detected within a pre-selected time (adjustable from 10 seconds up to 40 minutes), the PIR switches the load off again.

Loading

- 1000W of Resistive Loads
- 750W of fluorescent loads
- 750W of Transformer loads
- 750W of CFL, LED and 2D lamps

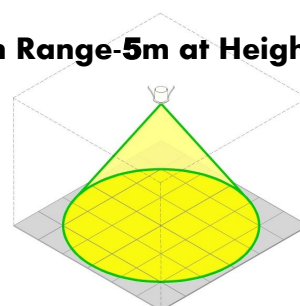
Lux set-up

1. For loads which should turn ON when ambient light is below a pre-set level, it is easiest to set the LUX control when the ambient light is at that desired level.
2. Set LUX control to minimum and wait for the load to turn off.
3. Stand to the side of the PIR and wave your hand below it and slowly decrease the LUX control until the load switches on.

NOTE: For loads which should turn on regardless of light level, set LUX control to maximum.

Operating voltage	220V AC, 50Hz
Minimum Load	2W resistive, suitable for most energy-saving lamps, LEDs and emergency fittings
IP rating	IP20
User-adjustable time delay	From 10 seconds to 40 minutes in 9 steps
User-adjustable lux level	10 to 1,000 lux and maximum (photocell inactive) at the PIR switch
Detection range	360° with 5m diameter when at a 2.4m ceiling height

Detection Range-5m at Height of 2.4m



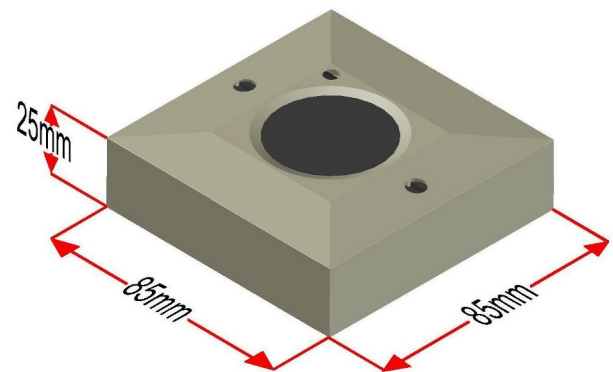
SURFACE MOUNT MAINS PIR

The MPIR/S switches on the lighting load if the area is occupied and if the ambient lux level is less than the chosen adjusted level (10 to 1000 lux). It switches off the lighting load if the area is unoccupied for the set time (up to 40 minutes). It is also suitable for non lighting loads by setting the lux adjuster to the maximum point.

It is mountable onto a back box at least 16mm deep and is configurable for any room occupancy style, via Time and Lux level adjusters

When the power is switched on, the PIR will switch on the lighting load for 1 minute then switch it off. After 2 seconds it will switch on again if it detects movement. With Time set to minimum the load will stay on for 10 seconds so the detection range can be easily assessed.

Part Number: LC-MPIR/S



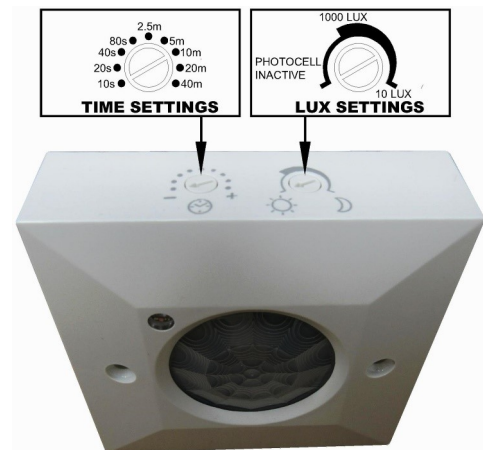
Loading

- 1000W of Resistive Loads
- 750W of fluorescent loads
- 750W of Transformer loads
- 750W of CFL, LED and 2D lamps

Lux Set-up

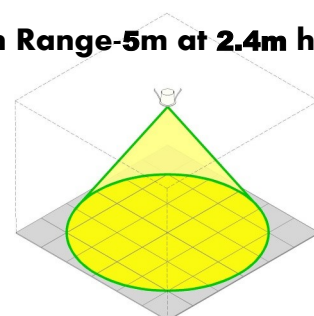
For loads which should turn on regardless of ambient light levels, set Lux to maximum (Photocell inactive). It is best to set Lux when the ambient light level is at the required minimum level. Set Lux to the minimum and wait for the load to switch off.

Without shadowing the presence detector (from daylight), slowly increase Lux whilst waving your hand below the detector until the lighting load switches on.



Operating Voltage	220V AC
Minimum Load	2W Resistive-suitable for most energy saving lamps and emergency fittings
User adjustable time delay	10 to 40 seconds in 9 steps
User adjustable lux level	10 to 1,000 Lux and max (photocell inactive) at the PIR switch
Detection Range	360° with 5m diameter when at 2.4m height.
IP rating	IP20

Detection Range-5m at 2.4m height



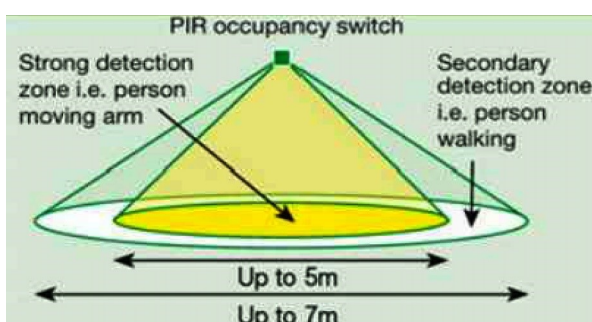
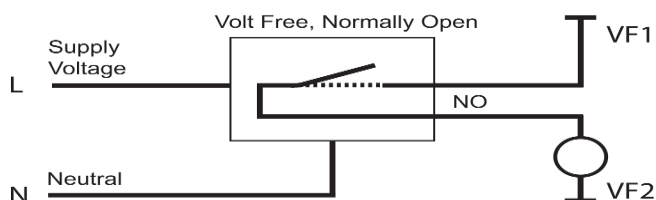
VOLT FREE MAINS PIR

Part Number: LC-MPIR/VF



Connections

VF 1	Volt free 1	Black wire
VF 2	Volt free 2	White wire
L	Live in	Brown wire
N	Neutral in	Blue wire



The ECOLUX MPIR/VF can be flush mounted into suspended and plasterboard ceilings and include a 2m flex for ease of installation. They incorporate a passive infra-red quad sensor to detect movement within the detection zone and a photocell to monitor the ambient light level. When movement is detected and if the ambient light is dark enough, the PIR switch will turn the load on. The ambient threshold can be set by the user to between approximately 30 Lux and 1000 Lux. When no more movement is detected within a pre-selected time, the PIR switch will turn the load off. This time lag is selected via the time adjuster from 10 seconds to 40 minutes.

Loads

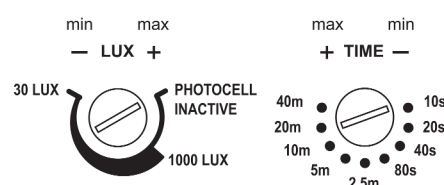
These controls are suitable for switching a secondary signal, rather than the supply voltage.

They can also switch up to:

- 6 amps (1500W) of resistive loads.
- 6 amps (1500W) of fluorescent loads.
- 3 amps (750W) of electronic and wire wound transformer loads.
- 2 amps (500W) of CFL, 2D lamps, LED Drivers, lamps and fittings.
- 1 amp (250W) of fans.

When the presence detector is powered up, it will switch on the lighting load for 1 minute then switch it off. After 2 seconds it will switch on again if it detects movement. With Time set to minimum the load will stay on for 10 seconds so the detection range can be easily assessed. If a manual override-off switch is positioned before the PIR in the circuit it will do this each time the wall switch is switched on. Alternatively, if the wall switch is placed after the PIR it will not enter the start-up mode each time.

Typical settings



The ECOLUX High Bay Presence Detector range has been designed for lighting control in areas with demanding spaces and increased mounting heights. The range is ideal for areas such as factories, sports halls and entrance halls.

It detects movement using a PIR sensor, which updates the light controller or LCM. When an area is no longer occupied, the device times out after a configurable period.

The high bay sensor is available in a number of formats (as below) and the operating/technical specification is identical to each sensor in its original format apart from its operating range. (please see appropriate data sheet)

Part Number:
LC-CANPIR/HB
LC-CANMICROPIR/HB
LC-CANBESAMICROPIR/HB
LC-DALIPIR/HB
LC-DALIMICROPIR/HB
LC-DALIBESAMICROPIR/HB

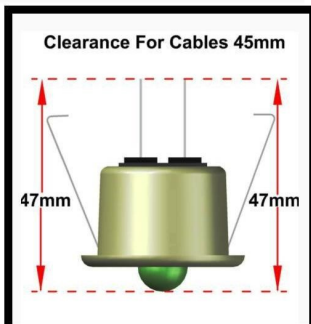
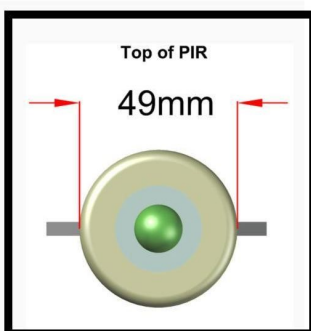


Formats available

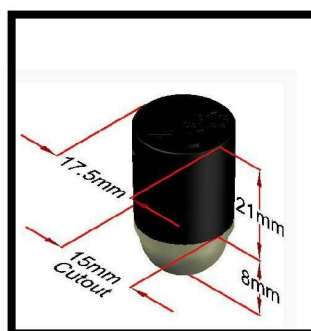
- CAN Presence Detector
- CAN Micro Presence Detector
- CAN BESA Micro Presence Detector
- DALI Presence Detector
- DALI Micro Presence Detector
- DALI BESA Micro Presence Detector

Detection Range	
Ceiling Height (m)	High Bay PIR Detection Zone Diameter
2.8m	1.14m
4.0m	1.64m
5.0m	2.1m
6.0m	2.5m
7.0m	2.9m
8.0m	3.3m

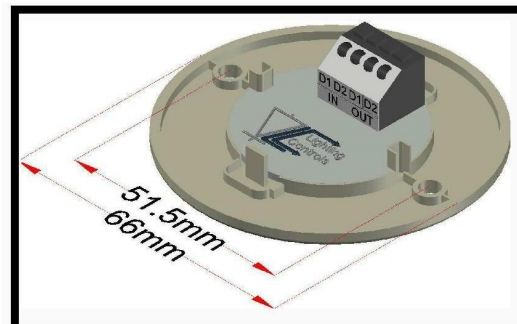
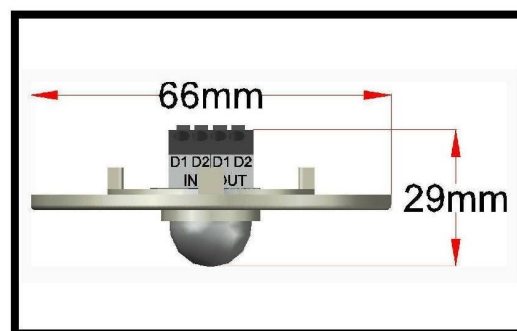
CAN/DALI PIR



CAN/DALI MICRO PIR

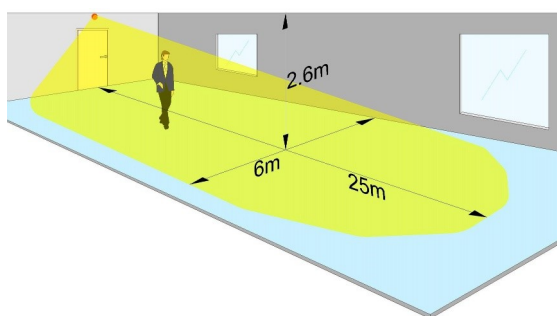
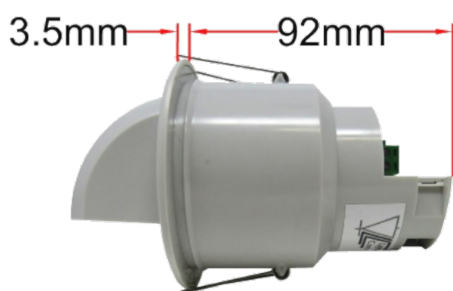


CAN/DALI BESA MICRO PIR



MAINS MICROWAVE SENSOR

Part Number:
LC-MMWAS
LC-MMWAS/VF **Volt Free Contacts**



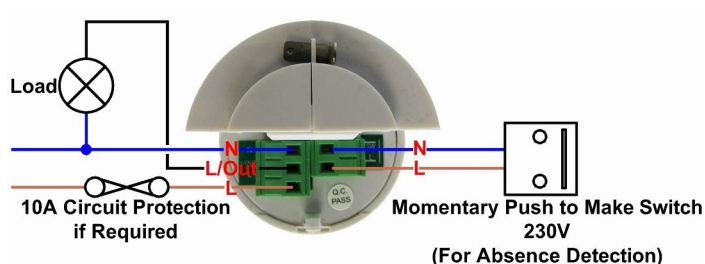
Fitting hole size	74mm
Weight	0.15kg
Supply Voltage	230VAC +/- 10%
Terminal Capacity	2.5mm ²
Temperature	-10°C to 35°C
IP rating	IP40

The MMWAS is a mains microwave sensor that provides automatic control of lighting loads with optional manually adjustable timeout control. It detects movement using a highly sensitive microwave detector. This works by emitting low power microwave signals and measuring the reflections as the signals bounce off moving objects.

The MMWAS/VF unit additionally provides an isolated voltage free contact output and can be integrated into our full Lighting Control System. This unit will offer a wider detection pattern than a conventional PIR if required. Functioning as a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty.

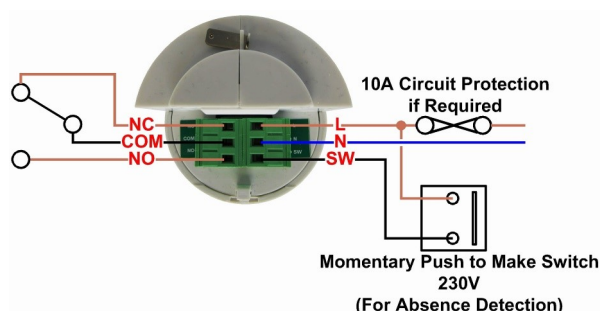
LC-MMWAS

- Surface ceiling mounted
- Manual adjustable timeout
- 30m horizontal coverage
- Switches mains loads directly, rated to 3A



LC-MMWAS/VF

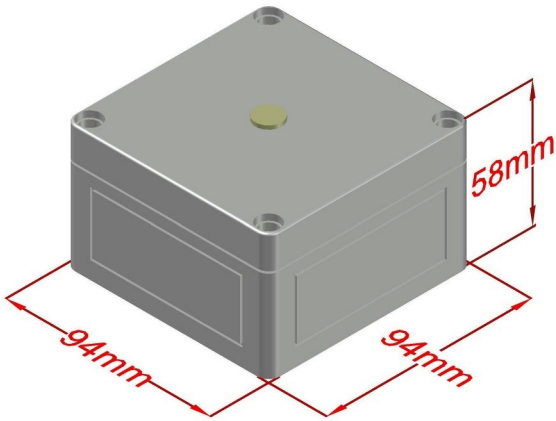
- Surface ceiling mounted
- Manual adjustable timeout
- 30m horizontal coverage
- Switches mains loads directly, rated to 3A or volt free contact



DAYLIGHT SWITCH

The ALC15 is a surface mounted photocell with manually adjustable limits that will turn artificial lighting on when the ambient light falls below a pre-set level. The artificial lighting will then be turned off either when the ambient light exceeds the pre-set level (auto off) or after a pre-set time delay (timed off). An integral 2 minute time delay prevents nuisance switching caused by, for example, car headlights or dark clouds. The unit has a highly accurate adjustable photocell, a selectable time delay and an adjustable switching Differential. The photocell is mounted in a vandal resistant IP66 enclosure.

Part Number:
LC-ALC15

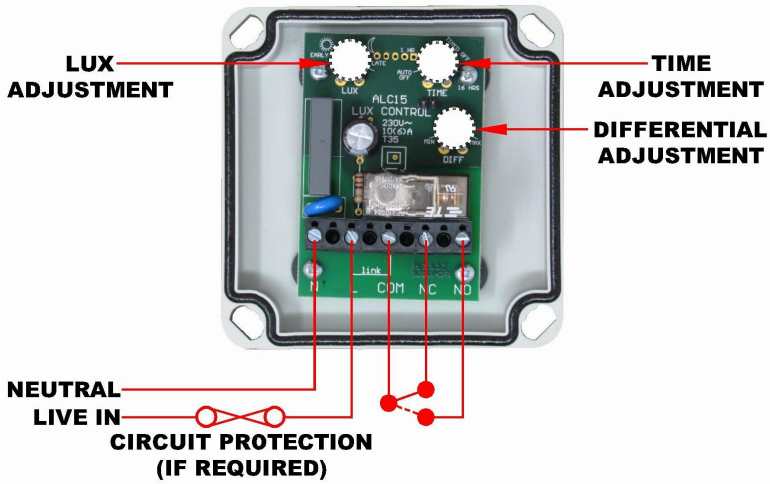


Load

- 10 Amp incandescent lighting
- 6 Amp fluorescent lighting
- 3 Amp compact fluorescent lighting
- 3 Amp low energy lighting
- 3 Amp low voltage lighting
(switch primary of transformer)

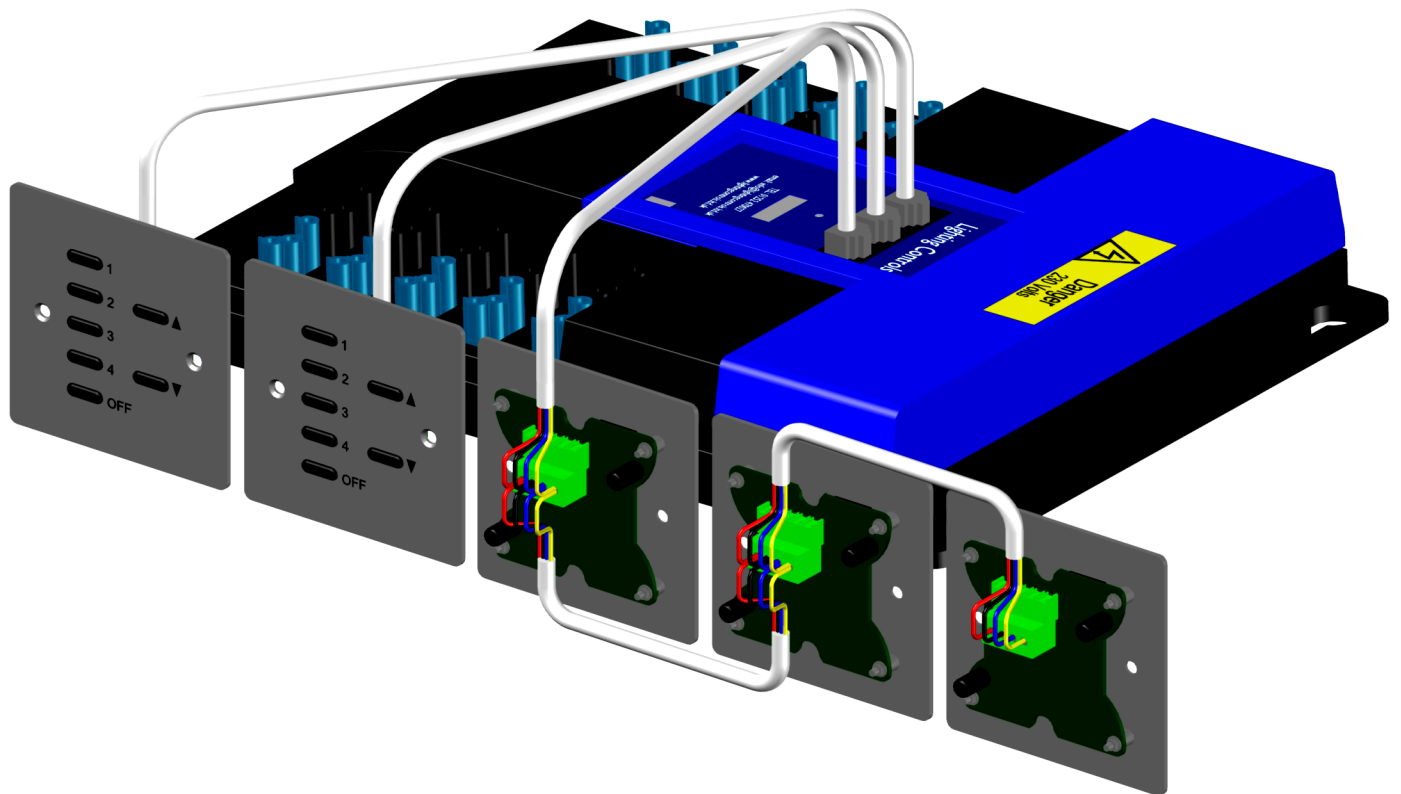
Installation

1. Ensure the load is connected and in working order.
2. Isolate the mains supply to the circuit at the main consumer unit.
3. Connect the controller via the terminal block. Live supply to the L terminal, Neutral to the N terminal.
4. For direct switching applications link L to COM and take the output from the NO terminal.
5. Set the TIME thumbwheel to AUTO OFF by turning fully anticlockwise
6. Set the LUX thumbwheel to LATE by turning fully clockwise.
7. Set the DIFF (differential) thumbwheel half way.
8. Power the unit up.
9. The lights will not come on until the ambient light level is very low.
10. Adjust the LUX level and differential.
11. Finally set the TIME thumbwheel to AUTO OFF or the desired time setting



Supply Voltage	220-240V AC 50 HZ
Time out Period	Adjustable 1 hour to 16 hrs or Auto off
Light Level	Adjustment 10LUX to 1000 Lux Approx.
Terminal Capacity	2.5 mm ²
IP Rating	IP54
Material Type	Polystyrene Class 2
Temperature	-10°C to 35°C

CAN SCENE PLATE CONNECTIONS



CAN SCENE SET PLATE

Our ECOLUX standard CAN Scene-Set Plates are 7 button plates able to recall 4 configurable scenes as well as 'OFF', 'RAISE' and 'LOWER'. They are installed with our plug-in and hardwired control modules to permit the control of different lighting groups to individual lighting levels.

4 core wiring can be connected to LCM's or daisy chained from other CAN devices.

Our CAN Scene-Set Plates are also available in custom colours as well as white, antique bronze, black and brushed stainless steel finish as standard. They are available in 4 and 2 button arrangements and architrave sizing in addition to the standard 7-button configuration.

Part Number:

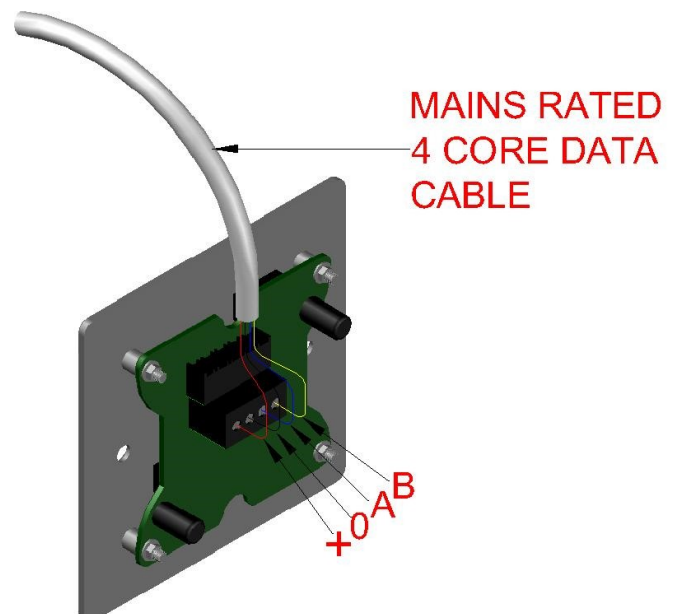
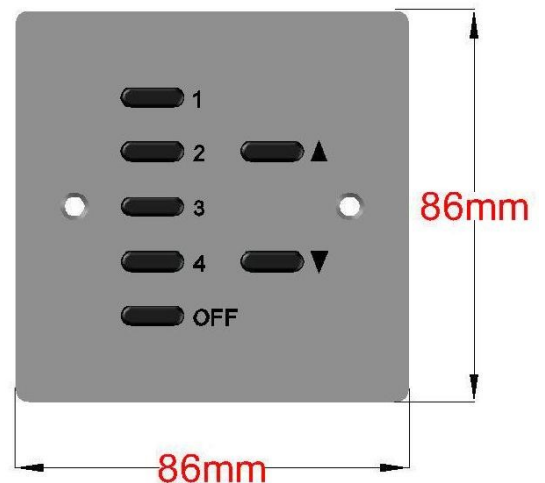
LC-SSC4/SS/CAN Brushed Stainless
LC-SSC4/WH/CAN White
LC-SSC4/BLK/CAN Black
LC-SSC4/AB/CAN Antique Bronze
LC-ASSC2/SS/CAN Architrave



- Scenes 1 - 4 can be called as well as 'Raise', 'Lower', 'On' and 'Off'. The Off button can also be programmed to a scene value. Press and hold buttons 1 - 4 to call scenes 5 - 8
- Control plates have blue LED back lighting for location and scene identification, and scenes can be programmed wirelessly via Bluetooth from a laptop.
- These Scene Set Plates conform to a standard single-gang plate profile, fitting 35mm back boxes

CAN Connection

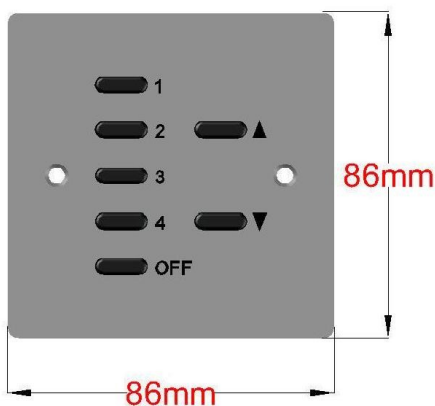
The ECOLUX range of CAN Scene-Set Plates are designed to be used with our 'Plug and Play' Lighting Control Modules. They are connected to the Lighting Control Module via an RJ12 connector and can either be connected directly to the Lighting Control Module or daisy chained off a Presence Detector.



Supply voltage	9-30 VDC
Power Consumption	120mW
Max number of devices per sub-net	10 per LCM
Fitting	Standard 25mm Single Pattress Box
Material (Front Plate)	Stainless Steel
Material (Buttons)	Acrylic (PMA)
Standard finish	Brushed Stainless Steel
Temperature range	-10°C to 35°C
Max humidity	90% CH (non-condensing)

DALI SCENE SET PLATE

Part Number:
LC-SSC4/SS/DALI **Brushed Stainless**
LC-SSC4/WH/DALI **White**
LC-SSC4/AB/DALI **Antique Bronze**
LC-SSC4/BK/DALI **Black**
LC-ASSC2/SS/DALI **Architrave**



DALI Connection

The DALI Scene Set Plates can be connected with either 2-wire DALI or 4-wire DALI and power. The maximum number of Scene Plates and PIRs on a 2 wire DALI 64 is 10. If the DALI 64 is 4 wire there can be 15 PIR's or scene plates.

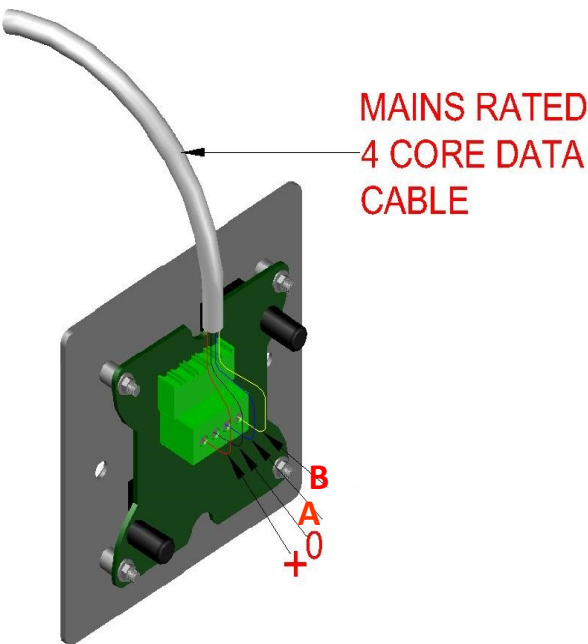
Supply voltage	10-18 VDC
Power Consumption	120mW
Max no of devices (2-wire)	10
Max no of devices (4-wire)	15
Fitting	Standard 25mm Single Pattress Box
Material (Front Plate)	Stainless Steel
Material (Buttons)	Acrylic (PMA)
Standard colour	Brushed Stainless Steel
Temperature range	-10°C to 35°C
Max humidity	90% CH (non-condensing)

Our ECOLUX standard DALI Scene-Set Plates are 7 button plates able to recall 4 configurable scenes as well as 'OFF', 'RAISE' and 'LOWER'. They are installed using our plug-in and hardwired control modules to permit the control of different lighting groups to individual lighting levels.

2 or 4 core wiring can be connected to DALI Gateways or daisy-chained from other DALI devices.

Our DALI Scene-Set Plates are also available in custom colours as well as white, antique bronze, black and brushed stainless steel finish as standard. They are available in 4 and 2 button arrangements and architrave sizing in addition to the standard 7-button configuration.

- Scenes 1 - 4 can be called as well as 'Raise', 'Lower', 'On' and 'Off'. The Off button can also be programmed to a scene value. Press and hold buttons 1 - 4 to call scenes 5 - 8
- Control plates have blue LED back lighting for location and scene identification, and scenes are programmed wirelessly via Bluetooth from a laptop
- These Scene Set Plates conform to a standard single-gang plate profile, fitting 35mm surface or flush mounted back boxes.



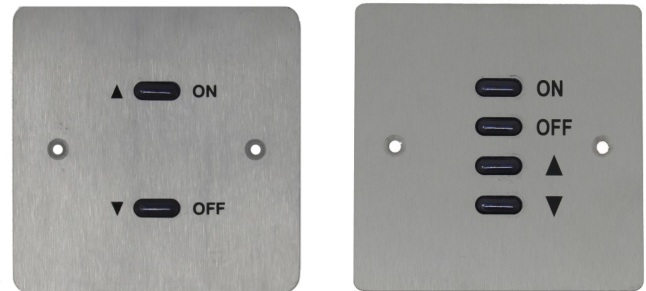
SWITCH PLATE

Our ECOLUX Switch Plates are designed to match our Scene Set plates and conform to a standard single-gang plate profile, fitting 25mm surface or flush mounted back boxes. The buttons can be configured as On and Off, or Raise and Lower when used to control a dimmed system. Plates can be supplied in different button configurations if required and the standard stock finish on these plates is brushed stainless steel. Other plate finishes can be supplied including white, antique bronze and black.

Part Number:

LC-1GD/SS

LC-2GD/SS

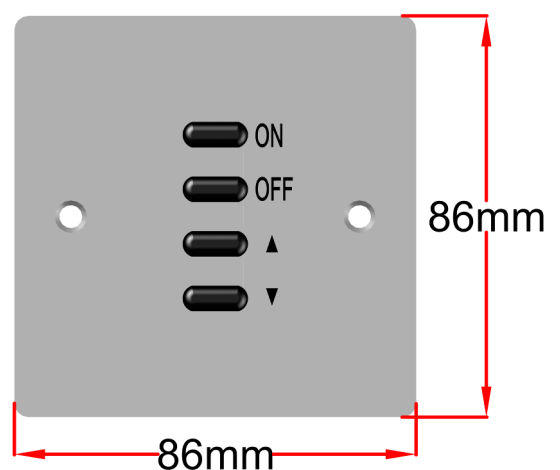
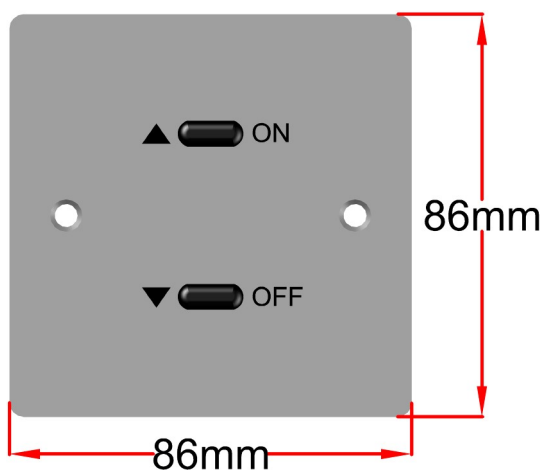
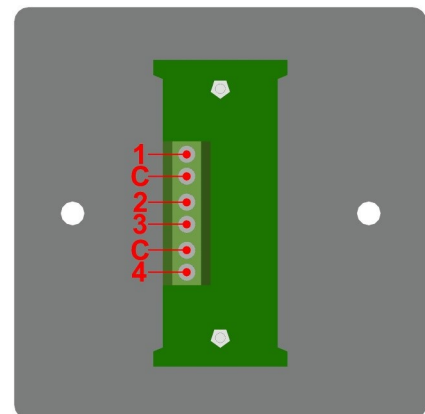


1 Gang Switch

- 1 gang /2 button dimmer switch labelled ON and OFF
- Can be held for RAISE or LOWER
- 3 core volt free wiring

2 Gang Switch

- 2 gang /4 button dimmer switch
- Buttons are labelled ON, OFF, RAISE and LOWER
- 5 core volt free wiring



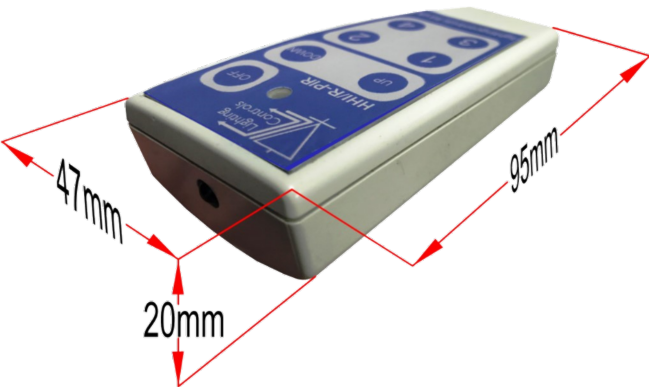
Max Voltage	32 VDC	Temperature Range	-10°C to 70°C
Max Current	50 m Amps	Max Humidity	90% CH (non-condensing)
Material (Front Plate)	Stainless Steel	Standard Colour	Brushed Stainless Steel
Material (Buttons)	Acrylic (PMA)	Fitting	Standard 25mm Pattress Box

SCENE SET PLATE REMOTE

Part Number:
LC-HHI/R-SSP **7 Button**
Other formats on request
LC-HHI/R-CRA **Cradle**

The ECOLUX ‘Hand held Scene Plate’ remote performs the functions of a scene set control plate. This is used with our plug in and hardwired control modules to control different lighting groups at different levels as well as some other non-lighting functions, such as electric blinds.

The remote requires no commissioning, but requires a programmed scene set control plate to function with.



- Available in any format up to 7 button
- Programmed for use as ‘hand held scene plate’
- Cradle for wall mounting if required.
- Can call scenes 1-4 /raise /lower and off.
- Extra scene recall by holding buttons 1-4
- Allows the end user full control of lighting levels.

Programming

Working with any Lighting Controls Ltd scene set control plate, the seven buttons on this remote mimic the buttons on the scene set control plate. Using the remote you can call Scenes 1 - 4, Raise, Lower, and Off. The Off button can also be programmed to a scene value. By pressing and holding buttons 1 - 4 you call scenes 5 - 8.

Supply/Battery	2x 3V AAA Alkaline Battery
Material	ABS Flame Retardant
Humidity	90%CH (non-condensing)
Working Temperature	-10°C to +70°C
Max Number Buttons	7

The ECOLUX PIR Remote is highly flexible and communicates with the lighting control network through a PIR. Up to eight buttons can be configured to do any control task that can be performed by the PIR from scene changes, over rides or dimming, to heating or window blind control.

The remote can be supplied with a custom label so that if one button was programmed to turn on the heating, this function would be marked as such on the label. Also, if fewer functions than 4 were required then buttons would simply be eliminated from the label graphics.

- Part Number:
- LC-HHI/R-PIR

LC-HHI/R-PIR-4B

LC-HHI/R-PIR-7B

LC-HHI/R/CRA
- 2 Button

4 Button

7 Button

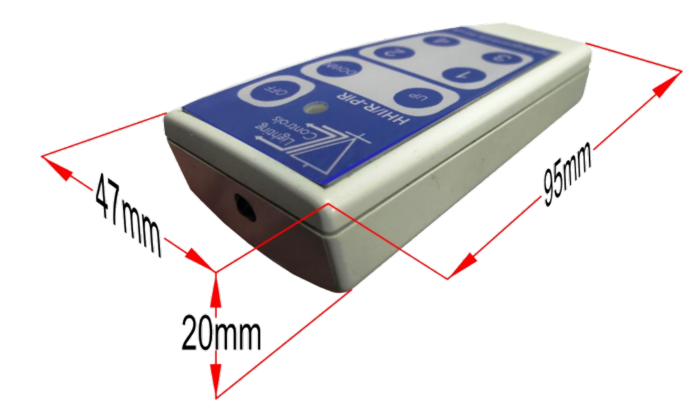
Cradle



- Available in 2 button or 4 button format as standard
- Can be programmed to include functionality for both heating and window blind control
- Cradle for wall mounting if required
- Can be programmed to control up to 16 PIRs individually
- Allows the end user full control of lighting levels

Programming

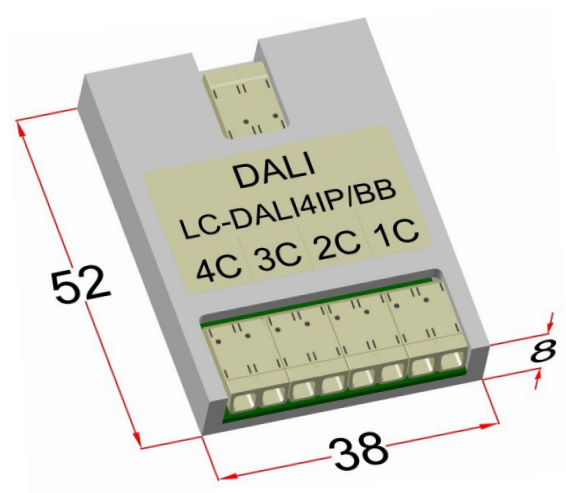
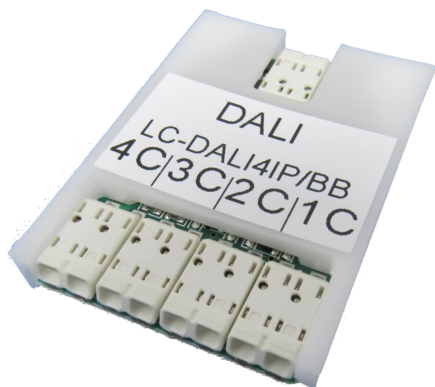
The PIR Remote can be programmed with an address from 1 to 16 so that it is tied uniquely to a particular PIR and will not interfere with or communicate through any other PIR. In an open plan office environment, for instance, the remote will only control a particular zone and will not interfere with lights in an adjacent area.



Supply/Battery	2 x 3V AAA Alkaline Battery
Material	ABS Flame Retardant
Humidity	90% CH (non-condensing)
Working Temperature	-10°C to +70°C
Max Number Buttons	8

4 CHANNEL DALI INTERFACE

Part Number:
LC-DALI4IP/BB



Compatibility

The LC-DALI4IP/BB can be installed with all Lighting Controls Ltd DALI addressable modules including LCMs and the DALI64.

Connection

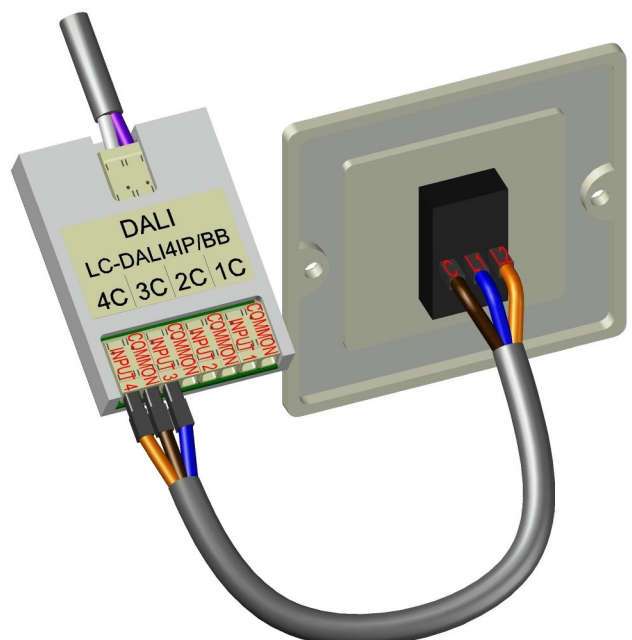
The unit can be connected directly to the DALI connection on a luminaire to quickly and cost effectively add switching and dimming functions to an existing system.

Supply voltage	Dali Line
Power Consumption	60mW
Max number of devices (2-wire connection)	8
Material (body of unit)	Flame retardant ABS
Temperature range	-10°C to 35°C
Max humidity	90% CH (non-condensing)

The ECOLUX DALI4IP/BB, is a 4 channel switch input module, powered by the DALI bus, which permits retractive or conventional two pole switches to be connected to a DALI network. Being of very low profile (8mm thick), the unit can be installed behind a standard light switch in a 28mm pattress box.

The slim size makes the LC-DALI4IP/BB input module ideal when a DALI switch interface is needed in an existing installation, for instance, when it is required to use antique switches to control lights on a DALI network, or when the wiring to existing light switches is inaccessible.

- 4 switched inputs to interface with retractive or latching two pole switches
- Uses just 1 DALI address out of the 64 available on the controller
- Cage clamps for easy connection to ¼ - 1mm² cable
- Slim size to fit into a 28mm backbox behind existing switch
- 2 core wiring
- Can be connected to DALI gateways or daisy chained from other DALI devices using cable size as per the DALI standard

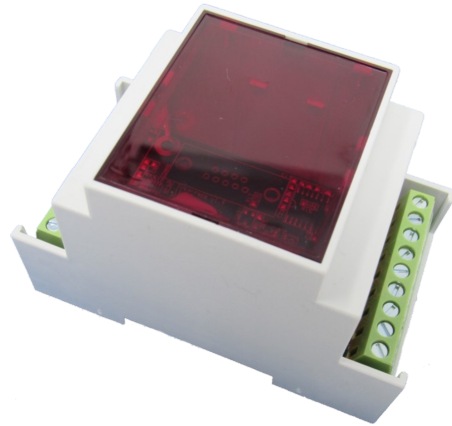


8 CHANNEL DALI INTERFACE

The ECOLUX DALI8IP, is an 8 channel switch input module, powered by DALI , which provides 8 switching inputs enabling fire alarms and intruder alarms to be integrated onto a DALI network. The module can be Din rail mounted or supplied as a stand alone product.

The DALI8IP input module is ideal when a DALI switch interface is needed in an existing installation, for instance, when inputs are required to either switch or dim luminaires. It can also be used to interface with Fire and intruder alarms for connection to a DALI network.

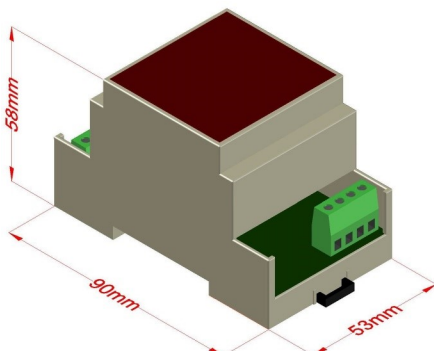
Part Number:
LC-DALI8IP-SA



- 8 way switch interface for sensing volt free contacts
- Uses just 1 DALI address out of the 64 available on the controller
- DIN rail mounted with screw connectors
- Can be supplied as part of a panel or as a standalone product
- Can be integrated with all of our DALI modules including DALI gateways or can be daisy chained from other DALI devices
- Terminal wiring for single mains supply and DALI pair
- Cable as per relevant British standard

Connection

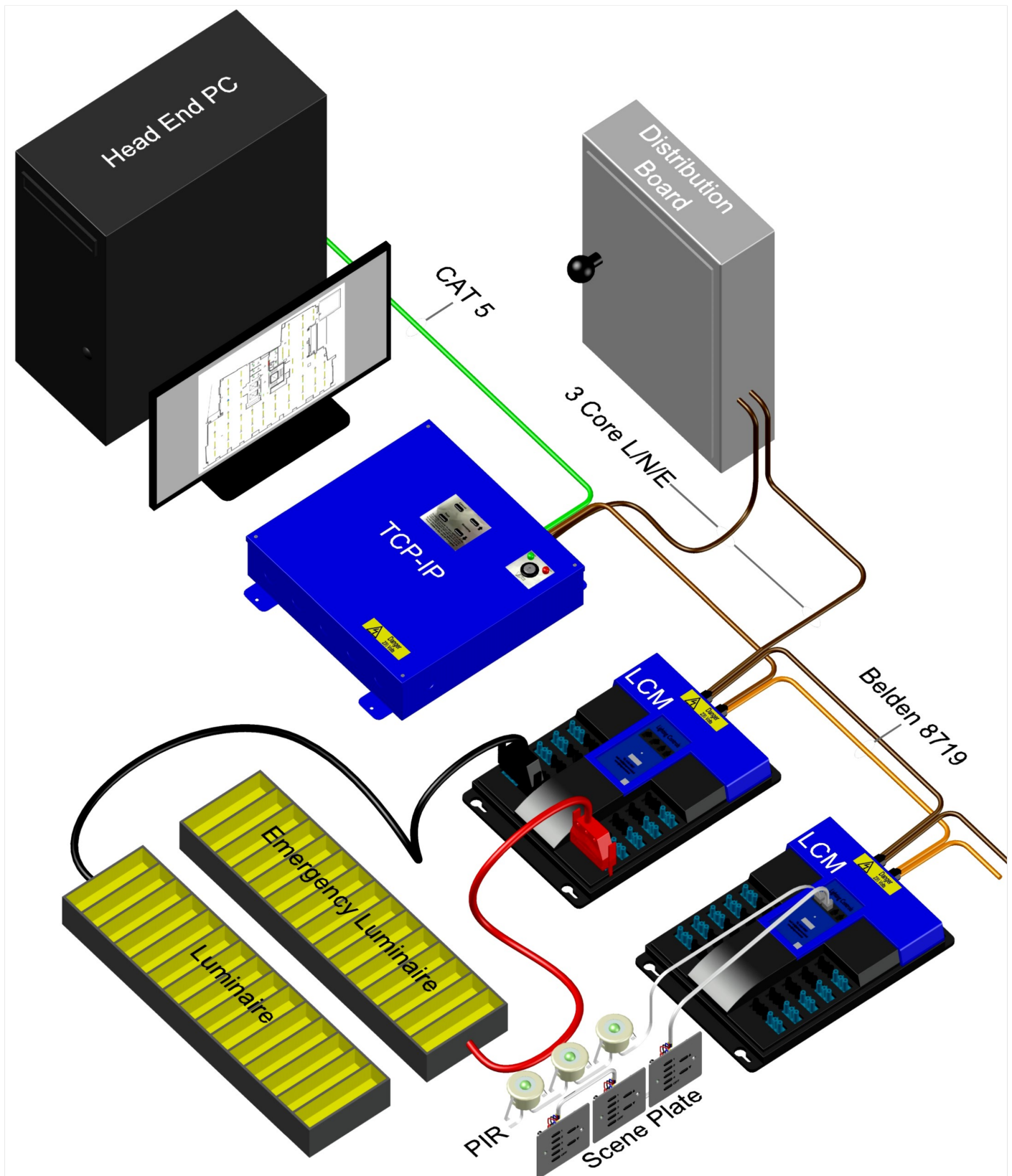
The unit can be connected directly to the DALI connection on a luminaire to quickly and cost effectively add switching and dimming functions to an existing system or can be installed in a lighting panel to enable wider connectivity.



Wiring -when not supplied as part of a panel.

Supply voltage	Dali Line 8-15V
Power Consumption	60mW
Max number of devices (2-wire connection)	10 (this is reduced if PIR's/Scene plates or 4IP are installed).
Material (body of unit)	Flame retardant ABS
Temperature range	-10°C to 35°C
Max humidity	90% CH (non-condensing)

HEAD END



HEAD END GRAPHICAL INTERFACE

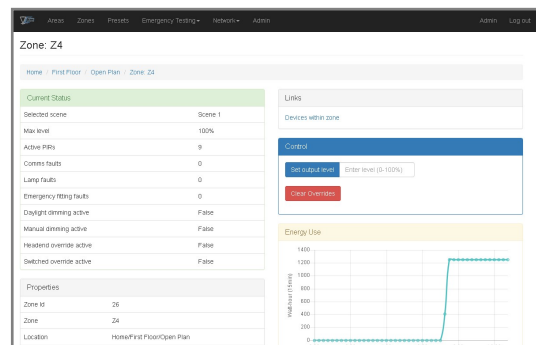
The ECOLUX Graphical Interface enables the control of lighting and ancillary equipment via any computer, laptop, tablet or smart phone over a dedicated intranet network. A high priority in designing this software based system was the simplicity of the interface. An advanced user access system allows different operators to be associated with specific areas of the building. For example, a user (a tenant, for instance) assigned to a particular area can only control the lighting in that location.

Any device with a browser can be used to control lighting and ancillary devices on the network. Adjustments can be made in real time with the operator positioned within the zone.

Part Number:
LC-HEPC
LC-EMSOFTWARE
LC-HE-GRAPHICS
LC-HE-SETUP

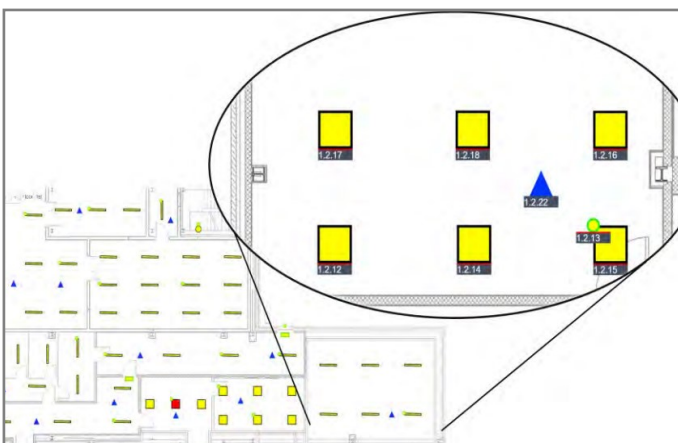


- Central monitoring down to individual light fittings.
- Control and manage the testing of emergency lighting
- Adjust lighting levels remotely by zone or individual fitting, and update PIR settings.
- Detailed energy monitoring.
- Enables remote diagnosis by Lighting Controls engineers without the requirement for a site visit (where internet access is available)
- Use of a tablet or PC enables adjustments to be made in situ, rather than from a central location
- Lighting Levels can be observed in real time
- Users can be created with different levels of access
- Energy usage can be stored and displayed



The Graphical Interface tracks and logs the status of every zone under its control in real time with the functionality of every fitting. It has the capacity to control light levels in each zone down to individual fittings. Detailed energy monitoring data is also stored at 15 minute intervals down to the level of individual zones. Pre-sets that describe various light levels can be created and scheduled. These pre-sets can be overridden from the ecoLUX Graphical Interface for, say, a special event. These scheduling options are extremely flexible, offering options daily, weekly, by month day, by week day of month, last day of month, etc. An astronomical clock is also incorporated to enable scheduling, for instance, according to sunrise/sunset without having to rely on optical sensing.

Each area controlled by the Graphical Interface is represented as a floor plan with visualisation of lighting status down to individual devices.

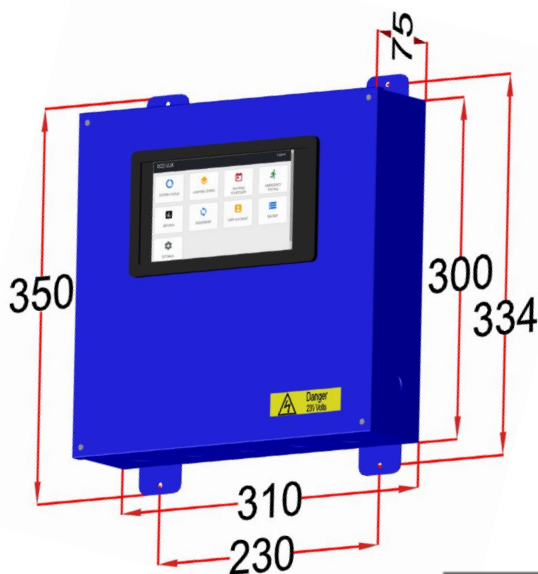
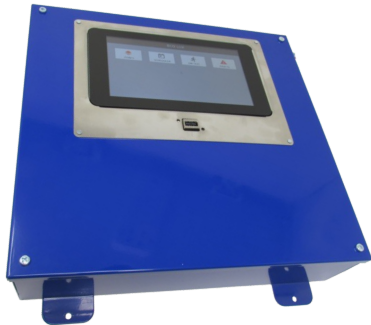


TOUCH SCREEN FLOOR CONTROLLER

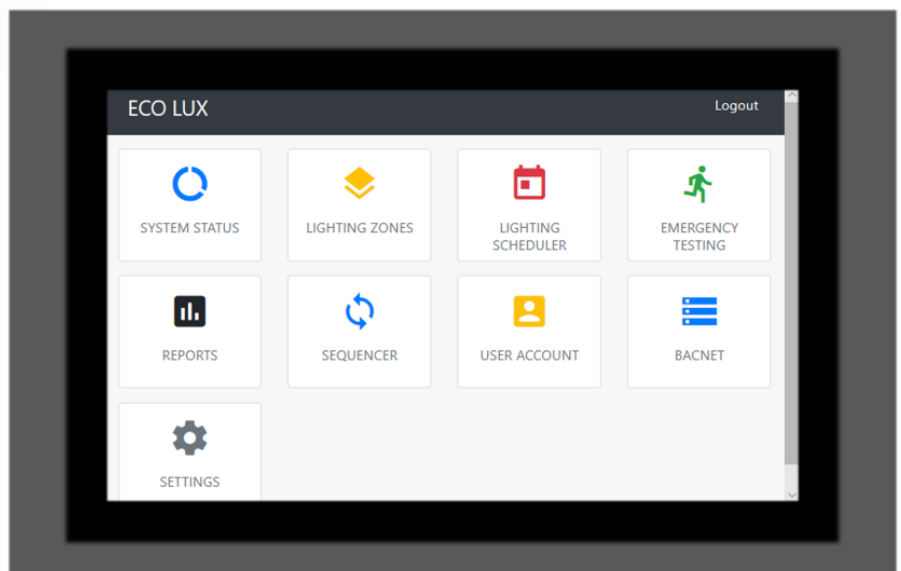
Part Number:

LC-TFC	Screen
LC-TFC/EM	Emergency Monitoring
LC-TFC/CR	Circadian Rhythms
LC-TFC/FP	Floor Plan Graphics
LC-TFC/BAC	BACnet Server
LC-TFC/SQ	Lighting Sequencer

Our ECOLUX TFC is a computer-based, touch screen area controller. It is programmed to control lighting systems on a floor by floor basis. All models include an integral smart, mains powered, UPS which will shut down in a controlled sequence in the event of loss of power to maintain settings and schedules and prevent loss of information. The TFC has additional modules available to allow for the monitoring and reporting of emergency luminaires and to interface with BMS systems through BACnet. A graphical representation of the floor can also be added to the system to aid monitoring. Circadian rhythms can also be created to control the colour and intensity of DALI 8 type fittings over the course of a day. The TFC can be supplied in two formats to either fit within the riser or wall mounted in a convenient location.



- Add-on options to tailor each controller to individual requirements
- Switch lighting zones on and off
- The Lighting Scheduler supports re-occurring events on a daily, weekly, or monthly basis. Flexible monthly repeat patterns can also be programmed such as “1st of the month” or “Last Saturday of the month”
- User permissions can be programmed to restrict who has access to certain lighting zones
- Terminal Wiring for mains supply and outgoing LCM-bus connections or wiring back to LC-TCP-IP



Optional Modules

Emergency Testing Module — EM

- When conducting test procedures you can select:
 - All luminaires
 - Luminaire groups
 - Individual luminaires. (Luminaires require a DALI inverter).
- Test reports show the location, test results, and a floor plan link to individual fittings. Selecting the link takes you to the relevant floorplan and highlights the appropriate fitting. If a test fails, the reason for the failure is clearly displayed; if a test could not be completed this is also displayed.
- Emergency luminaires can be split into 'test groups' allowing half the luminaires in an area to remain operational while the other half are under test.
- There is no limit to the number of test groups and any luminaire can be placed in any test group (typically setup by our engineers during commissioning).
- Tests can be limited to devices that either have a fault or where a test is overdue. This is useful for repeating tests once faults have been rectified, thus avoiding the re-test of all luminaires.
- Displays the current status of all emergency luminaires within the system at any time.

Circadian Module — CR

- Controls the colour and intensity of DALI Type 8 luminaires over a 24 hour period.
- Lighting Schemes can be based on fixed times or vary according to the astronomical clock.
- Both timing and lighting colour is fully configurable by the end user.

Floor Plan Module — FP

- View fittings on a interactive floor plan.
- Each floor plan shows the status and location of individual luminaires.
- Zoom in or out to inspect floor layout.

BACnet Module — BAC

- Control and view the status of lighting over BACnet.
- Connect the lighting system to a BMS.

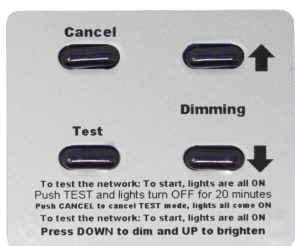
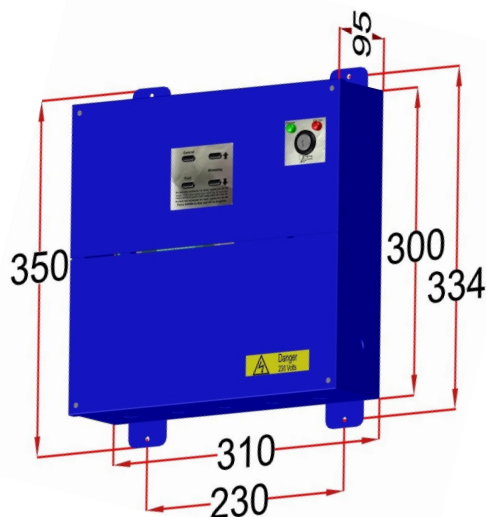
Lighting Sequencer Module — SQ

- Programme sequences to control coloured lights
e.g. fade from blue to green and back.



FLOOR INTERFACE

Part Number:
LC-TCP-IP
LC-TCP-IP/TC (Time clock)



The ECOLUX TCP-IP is installed when communication is required between floors or if a Head End graphics package is to be installed for the monitoring of the lighting control system. It enables manual duration testing of the emergency lighting system, and also provides an override 'On' facility for luminaires. These facilities are controlled by a key switch.

The TCP-IP also features important test functions, allowing a lighting control network to be checked before commissioning. In other words, the integrity of the installation can be checked when the network wiring is completed, and the lighting system fully working. All DALI strings are also tested. This protocol allows the building lighting to be functional before a Category B fit out but without commissioning costs.

- 2 Clean contact mains rated outputs and 2x clean contact inputs for 'Fire override on' or 'Intruder alarm override off' etc
- Override facilities for key switch commands
- Functions provide 'Emergency test' and 'Override all on'
- Tests the integrity DALI strings prior to commissioning
- Ethernet allows communications between CAN buses and with Head end or server system
- Terminal wiring for mains supply and CAN bus connections
- Punch down wiring for CAT5 or similar
- 2-way interface for sensing volt free contacts
- A Time clock for timed events can be added

Network Testing

The TCP-IP has four buttons used for testing prior to commissioning:

- Two to check that the lamps dim and brighten.
- One button to start the Test function.
- One button to cancel the Test function.

Pushing the Test button causes the lights to go OFF either for 20 minutes or until the Cancel button is pushed.

Supply Voltage	90-230 V AC
Power consumption	2W
Input	4 Volt-free and 24 Virtual inputs, configurable via head end software
CAN bus connector	Screw terminal
TCP/IP Configuration	External DHCP
Ethernet Connection	Punch Down

AREA CONTROLLER

The ECOLUX Area Controller is installed when no head end monitoring is required. It enables manual duration testing of the emergency lighting system, and also provides an override 'On' facility for luminaires controlled by a key switch. The Area Controller has two clean-contact mains-rated outputs and two clean-contact inputs which can be used for fire or intruder alarm overrides. Provided are over-ride facilities for key switch commands; standard functions provide an 'Emergency Test' and an 'Override All On'.

The controller also features test functions, allowing a lighting control network to be checked before commissioning, when the network wiring is completed, and the lighting system fully working. All DALI strings are also tested. This protocol allows the lighting to be functional before a Category B fit out but without commissioning costs.

- Built in override and emergency test key switches for control access across a CAN Bus.
- Pre-commissioning test buttons to verify installation
- Terminal wiring for mains supply and outgoing CAN bus connections
- LC-AC : 6 way interface for sensing volt free contacts
- LC-AC/TC : way interface for sensing volt free contacts and timeclock for timed events on the CAN bus

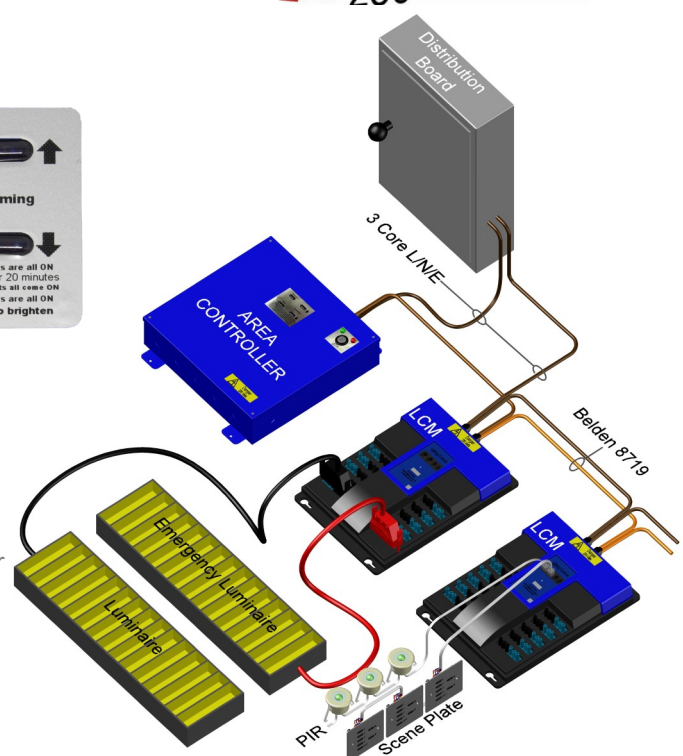
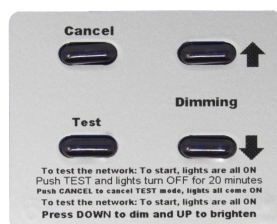
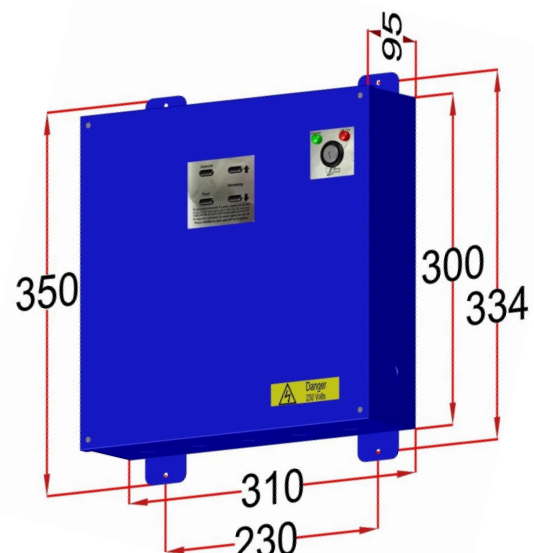
Network Testing

The area controller has four buttons used for testing prior to commissioning:

- two to check that the lamps dim and brighten
- one button to start the Test function
- one button to cancel the Test function

Pushing the Test button causes the lights to go OFF either for 20 minutes or until the Cancel button is pushed.

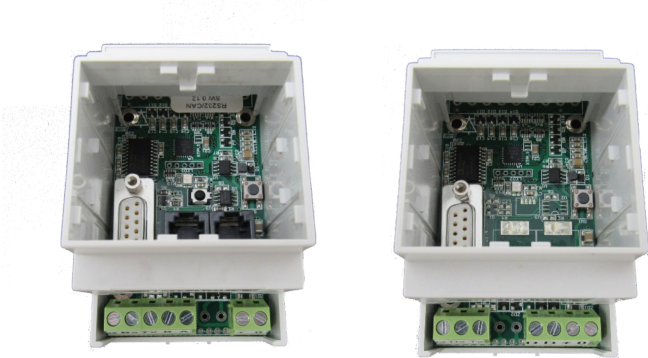
Part Number:
LC-AC
LC-AC/TC (Time Clock)



Supply Voltage	90-230 V AC
Power consumption	2W
Input	2 Volt-free
CAN bus connector	Screw terminal

AV INTERFACE

Part Number:
LC-RS232AV/CAN
LC-RS232AV/DALI

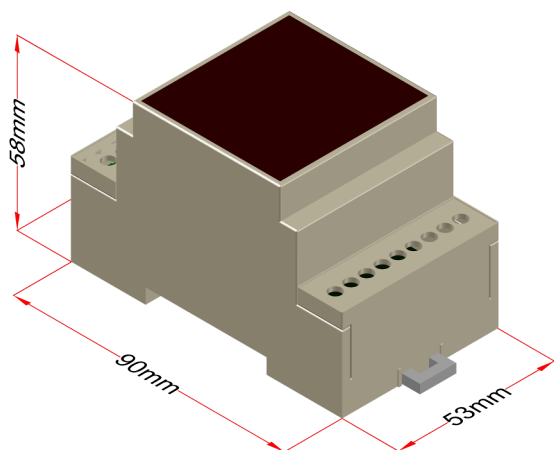


The ECOLUX RS232AV/CAN and RS232AV/DALI provide an interface between the lighting control system and devices with an RS232 port such as audio/video equipment.

The RS232AV/CAN controls via a local CAN bus, and in the RS232AV/DALI version, via DALI, which can be connected to a 2-wire or 4-wire DALI network without the need for a power module.

For ease of installation, both models are supplied in DIN-rail enclosures.

Both screw terminals and a 9-pin D-connector are provided, and when used on a DALI sub-address line, one address is required for both the DALI and CAN versions.



- Recalls 16 Configurable scenes
- Interface comms via RS232 Protocol
- D-Sub or terminal wiring for RS232 Input

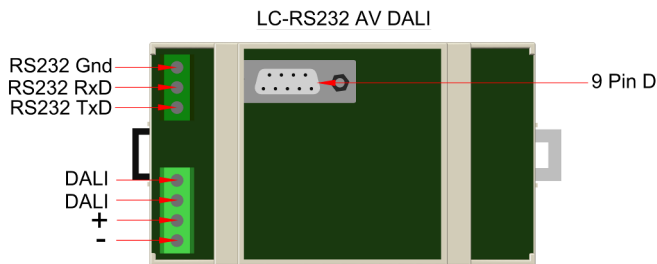
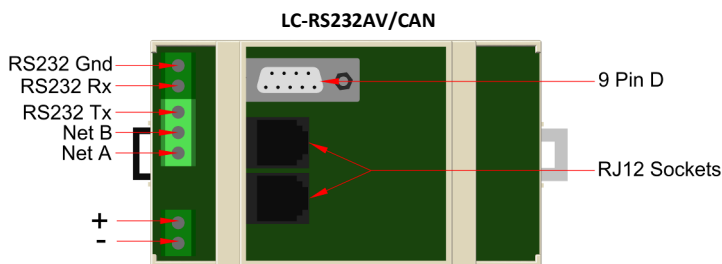
RS232AV/CAN

- RJ12 socket wiring , able to be connected to LCM’s or daisy chained from other devices

RS232AV/DALI

- 4-core wiring, able to be connected to DALI Gateways or daisy chained from other DALI devices

Wiring Instructions

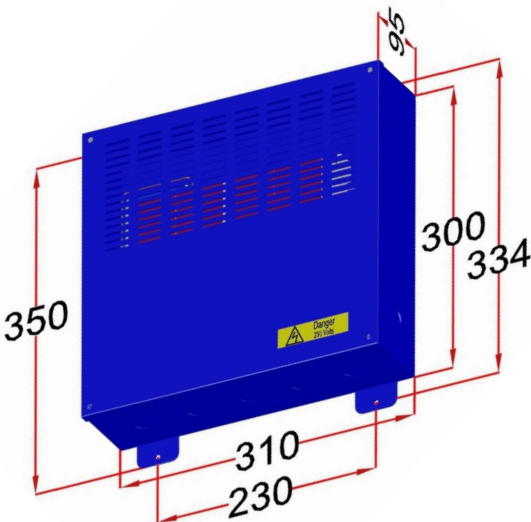
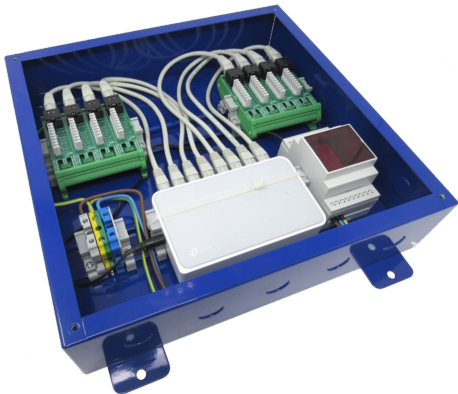


Supply Voltage	10-18 VDC	RS232 Connection	3 Way Screw terminal and 9PIN D-Type
Power Consumption	150mW	Serial Port Configuration	57600 baud, 8 data bits, no parity, 1 stop bit
Max number of devices (2 Wire DALI)	8	CAN Connection	2-way screw terminal, 2x RJ12
Max number of devices (4 Wire DALI)	15	Power Connection	2-way screw terminal
Max number of devices (CAN BUS)	15	DALI Connection	2-way screw terminal
Maximum Humidity	90%(non condensing)	Temperature Range	-10°C to +50°C



4 or 8 PORT NETWORK SWITCH

Part Numbers:
LC-NS4
LC-NS8

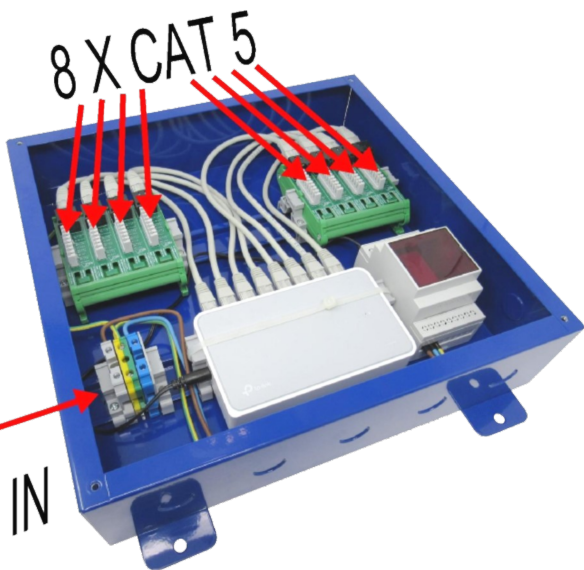


The ECOLUX NS4 and NS8 is dedicated Network Switch for the connection of Cat5e or Cat6 cables from each Lighting Controls networked device such as the Head End (LC-HEPC) and Floor Interface (LC-TCP-IP). Inter-floor Communication is possible when each Area Controller is terminated back to the Network Switch, meaning control devices from an entire project can operate any output elsewhere e.g. building-wide hold of Atrium lighting.

The included patching panel allows for standard punch-down terminations and networking testing.

The enclosure is wall mountable with a shallow depth for ease of installation in riser cupboards and other areas with access limitations.

- 4 or 8 Cat 5/6 ports available
- Dedicated network switch for ethernet connection from each TCP-IP and the HEPC for linking up to either 3 or 7 separate areas i.e. floors with the same building
- Multiple cabinets can be linked for system expansion
- Can be used to integrate with exist building networks i.e. BMS
- Terminal wiring for mains supply
- Punch down wiring for CAT 5



Supply voltage	230-240VAC, 50Hz
Power Consumption	2W
Power Supply + Wiring	13A Fuse Spur (1m free-end lead supplied)
Number of Cat5e or Cat6 ports	4 or 8
Temperature range	0°C to 40°C
Max humidity	90% CH (non-condensing)

16 or 24 PORT NETWORK SWITCH

The ECOLUX NS16 or NS24 is a dedicated Network Switch for connection of Cat5e or Cat6 cables from each Lighting Controls networked device such as the ecoLUX Head End (LC-HEPC) and Floor Interface (LC-TCP-IP)

Inter-floor Communication is possible when each Area Controller is terminated back to the Network Switch, meaning control devices from an entire project can operate any output elsewhere e.g. building-wide hold of Atrium lighting.

The included patching panel allows for standard punch-down terminations and networking testing.

The enclosure is wall mountable with a shallow depth for ease of installation in riser cupboards.

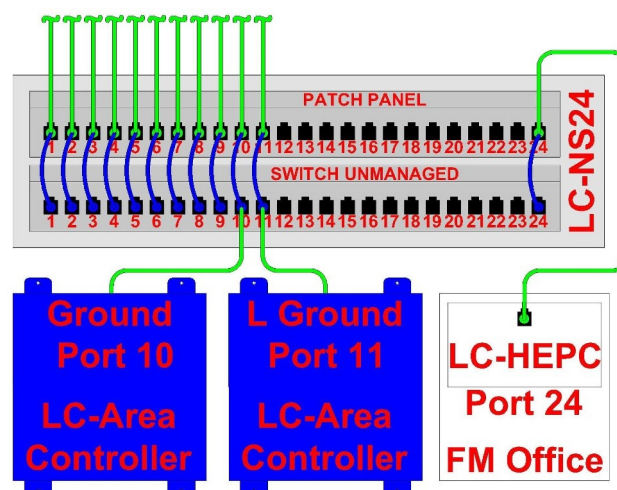
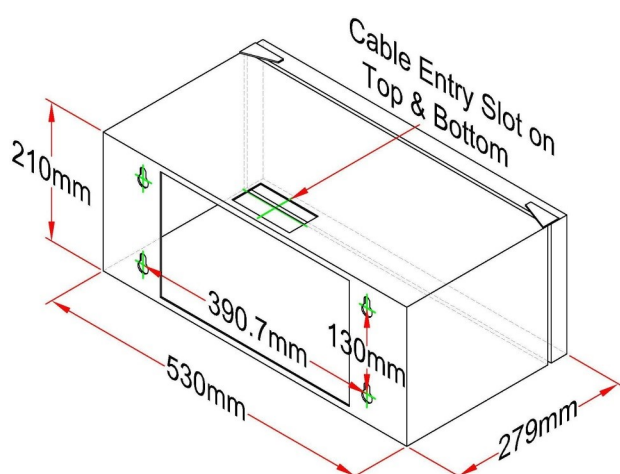
Part Number:

LC-NS16

LC-NS24



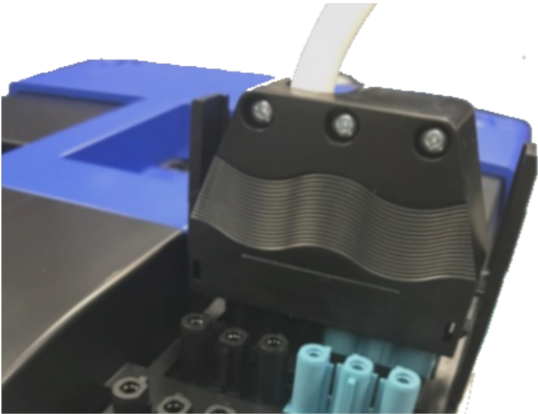
- 16 or 24 Cat 5/6 ports available
- For linking up to either 15 or 23 separate areas i.e. floors within the same building
- Multiple cabinets can be linked for system expansion.
- Can be used to integrate with existing building networks i.e. BMS
- Free-end IEC power lead supplied



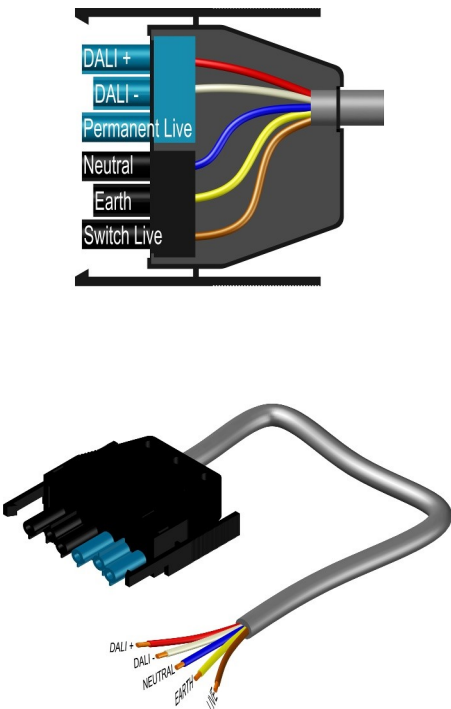
	LC-NS16	LC-NS24
Supply voltage	230-240VAC, 50Hz	230-240VAC, 50Hz
Power Consumption	2W	2W
Power Supply + Wiring	13A Fuse Spur (1m free-end lead supplied)	13A Fuse Spur (1m free-end lead supplied)
Number of Cat5e or Cat6 ports	16	24
Temperature range	0°C to 40°C	0°C to 40°C
Max humidity	90% CH (non-condensing)	90% CH (non-condensing)

LUMINAIRE LEADS

Part Number:
Available on request



Non Emergency Fittings



LSF Cable Technical Specification

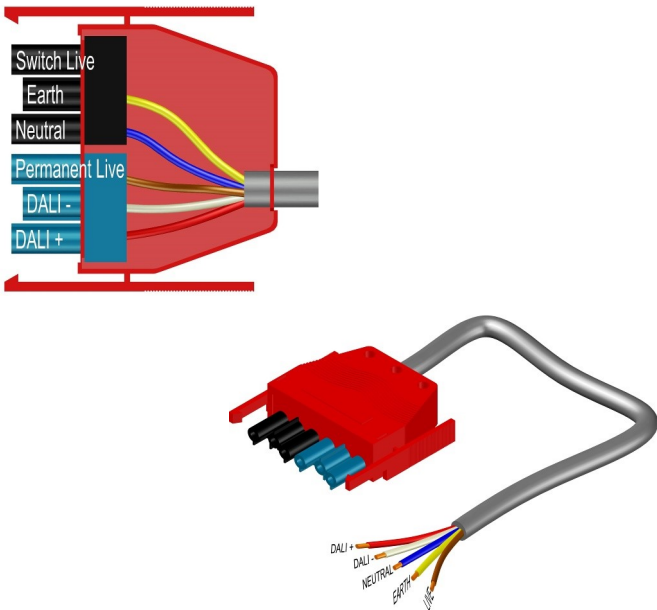
Rated Voltage	300-500V
Temperature Range	5°C
Max. Temp of short circuit	150°C
Min. internal bending radius	9xOD
Max. mech stress	5 KG/mm²

Lighting Controls manufacture a range of luminaire leads that provide a pluggable connection between an LCM and luminaires. These leads can be manufactured with a variety of plugs such as Metway, Enstow, Wago and Wieland to ensure compatibility with any luminaire within a building. The leads can also be manufactured in any length and to any cable/core specification.

We can provide hoods and bases in red for use with emergency fittings if it is advantageous to differentiate between luminaires and emergency fittings. Our connectors have a double latching system to ensure secure attachment to the LCM.

- Can be supplied in any required length
- Can be fitted to free issue luminaires
- Manufactured with any plug requirement
- 1mm² or 1.5mm² LSF cable
- Manufactured in any core requirement

Emergency Fittings



Conductor	Class 5 flexible copper to EN 60228
Insulation	Thermoplastic polyvinyl chloride compound type R2
Sheath	Thermoplastic polyvinyl chloride compound type TM2
Standards	Flame and fire retardant. Low emission of halogendric acids. IEC 332.3 Cat. C, EN 50267-2-1, RoHS 2011/65/UE

Part Number:
LC-RJ12/Length
LC-RJ12FE/Length
LC-RJ12-RJ11/Length

CAN PIR
CAN Scene Set Plate
CAN Micro PIR

CAN PIR LEADS

Our CAN PIR Leads are manufactured in the format of RJ12 to RJ12. The leads are plugged into the reverse of the CAN PIR and then to the LCM.

These leads can be manufactured to any required length but can be supplied from stock in 5, 7 and 10 metre lengths.



CAN SCENE SET PLATE LEADS

Our CAN Scene plate leads are manufactured in the format of RJ12 to free end. The free ends are ferruled for ease of wiring to the reverse of the Scene set plate. The RJ12 end is then plugged directly into the LCM.

These leads can be manufactured to any required length but can be supplied from stock in 7 and 10 metre lengths.



CAN MICRO PIR LEADS

Our CAN Micro PIR leads are manufactured in the format of RJ11 to RJ12. The RJ11 plugs into the interface of the CAN Micro PIR with the RJ12 plugging into the LCM.

These leads can be manufactured to any required length but are supplied from stock in 5/7 and 10 metre lengths.



Rated Voltage	300V
Temperature Range	80° C
Conductor DC Resistance	<132 OHMS/KM
Insulation Resistance	>200 OHMS/KM

MODULAR WIRING



Off-site pre-fabrication is now the accepted practice for maximising installation efficiency and cost effectiveness within the building industry. The Lighting Controls pre-wired system is modular and can be used for power distribution, high level lighting, fan coil systems (VAV units), and underfloor power distribution.



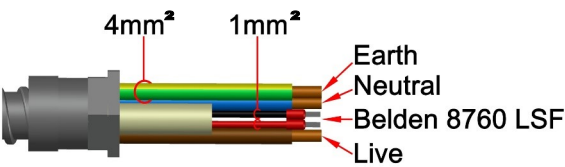
Pre-wired systems offer designers the flexibility to realise sophisticated configurations that would be costly and challenging using conventional wiring methods. The products can be installed around more rigid components, such as those in heating and ventilation systems, due to their flexibility. The high design quality of this system enables easy reconfiguration of an installation .



The **ECOFLEX** 6 port Master Distribution Box (MDB) comprises of a galvanized steel enclosure with output ports along three sides. The output ports are configured for either lighting or power and are orientated, usually in the configuration of 3 lighting/3 power or 3 lighting / 2 power.

The MDB is supplied pre-wired with a home run cable containing up to six circuits of LSOH cable. The system can also incorporate selected bus cable for a fully integrated lighting and controls solution.

Part Number:
LC-AWMDB65334/B/Length

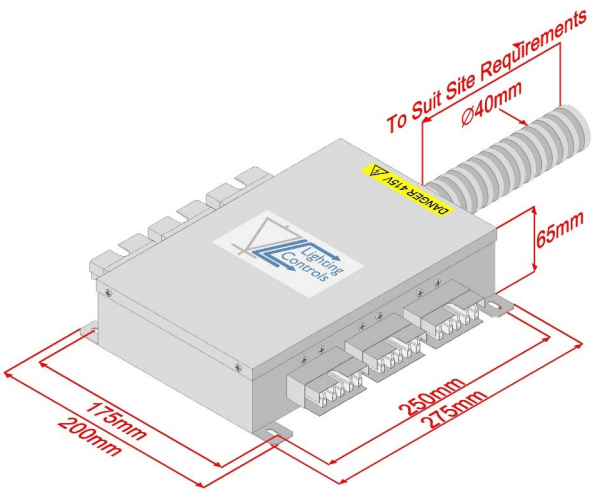


- Any configuration utilizing the six circuits available.
- The MDB facilitates either direct or ceiling drop-rod fixing methods
- The home run cable can be supplied to any required length
- Retention Force- >120N with locking device
- Beldon - 8760 LSF
- Cable - BASEC approved BS7211 LSOH 6491B
- Connectors– Polyamide 6./6 UL94-VO Halogen Free

Home Run Cable

The home run cable comprises of a galvanized steel flexible conduit up to 40mm diameter, BASEC approved 6491B LSOH singles up to 6.0mm².

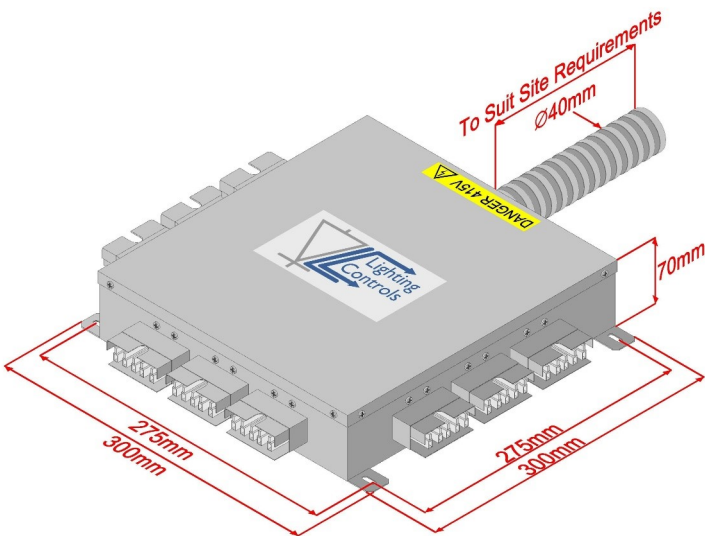
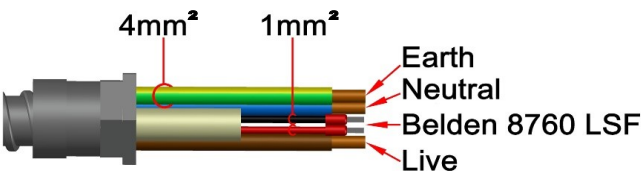
The number of cores is dependent on the number of circuits, but a 6 port MDB would typically have 18 cores. A gland and lock nut is supplied and attached at the open end. If network cables are required a 600 Volt rated cable, (typically Belden 8760 is provided.)



Metal Housings	Bright Spangled Galv BS10142:2000
Protection Class	IP20
Conduit	Galv-BSEN50086
Current Rating	25A
Voltage Rating	400V/6kV/3.1IEC60664
Manufacturing British Standard	BS 8488

9 PORT MDB

Part Number:
LC-AWMDB965334/B/Length



The **ECOFLEX** 9 port Master Distribution Box (MDB) comprises of a galvanneal steel enclosure with output ports along three sides. The output ports are configured for either lighting or power and are orientated, usually in the configuration of 6 lighting /3 power or 5 lighting / 4 power.

The MDB is supplied pre-wired with a home run cable containing up to nine circuits of LSOH cable. The system can also incorporate selected bus cable for a fully integrated lighting and controls solution.

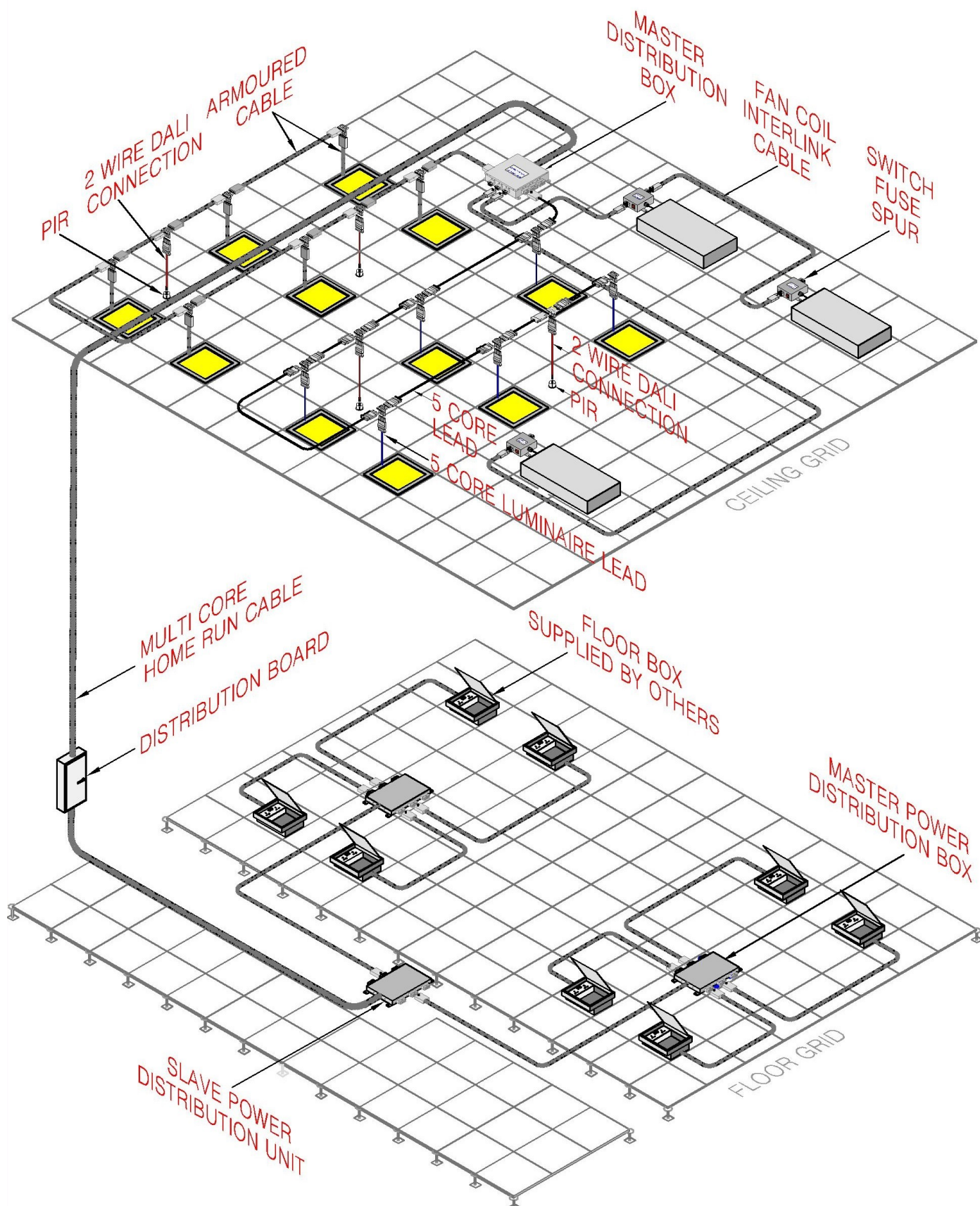
- Any configuration available utilizing the nine circuits available
- The MDB facilitates either direct or ceiling drop-rod fixing methods
- The home run cable can be supplied to any required length
- Network Cable - Belden 8760 LSF
- Retention Force- >12 N with locking device

Home Run Cable

The home run cable comprises of a galvanneal steel flexible conduit upto 40mm diameter, BASEC approved 6491B LSOH singles upto 6.0mm². The number of cores is dependent on the number of circuits, but a 9 port MDB would typically have 28 cores. A gland and lock nut is supplied and attached at the open end. If network cables are required a 600 Volt rated cable, (typically Belden 8760) is provided.

Metal Housings	Bright Spangled Galv BS10142:2000
Protection Class	IP20
Conduit	Galv-BSEN50086
Current Rating	25A
Voltage Rating	400V/6kV/3.1IEC60664
Manufacturing British Standard	BS 8488

TYPICAL MODULAR WIRING SCHEMATIC



3 POLE POWER/5 POLE LIGHTING STARTER CABLE

Part Number:
LC-AWSL33401-1m 3 Pole Power Starter
LC-AWSL53201-1m 5 Pole Lighting Starter

A range of armoured Starter Cables designed to provide the start of a power and data supply to a circuit not connected to a MDB. They are a cost effective approach for single circuit supplies on a radial circuit. Leads are supplied as pre-wired female to free end in various lead lengths to suit the installation and are supplied with a 16mm conduit with glands to the metal housing (female), the other to a free end.

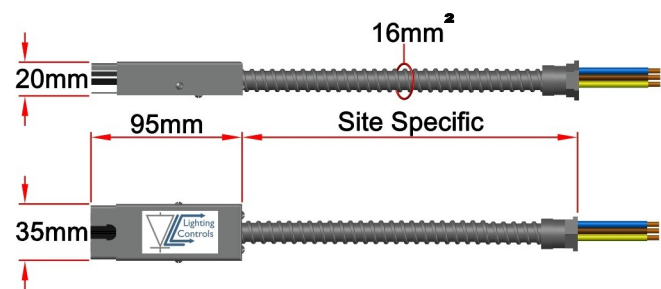
3 Pole Power Starter



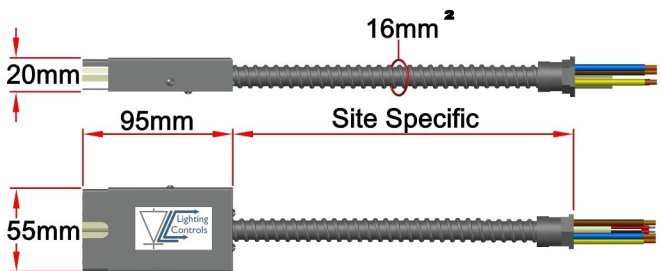
5 Pole Lighting Starter



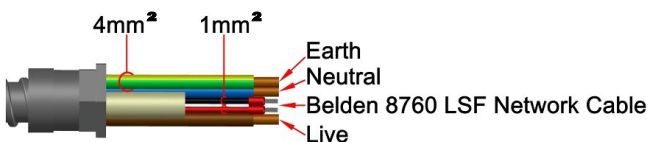
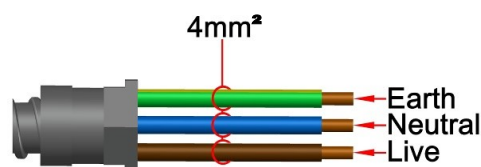
3 Pole Power



5 Pole Lighting Starter



- 4.0mm² mains for 3 pole power starter cable
- 2.5mm² mains and network cable for 5 pole lighting starter cable
- Retention Force- >120N with locking force
- Connectors– polyamide 6./6UL94-VO Halogen Free
- Network Cable– Belden 8760 LSF



Metal Housings	Bright Spangled Galv BS10142:2000
Protection Class	IP20
Conduit	Galv-BSEN50086
Current Rating	25A
Voltage Rating	400V/6kV/3.1IEC60664
Manufacturing British Standard	BS 8488

3 POLE POWER/5 POLE LIGHTING END CABLE

A range of armoured end cables designed to provide the final power and data at the end of a radial circuit, therefore eliminating an open end on a lighting tee or fan coil unit.

Leads are supplied as pre-wired male to free end in various lead lengths to suit the installation and are supplied with a 16mm² conduit with glands in 2.5mm² cable with the addition of 2 core network cable in the 5 pole.

2.5mm² for lighting and 4.0mm² for power.

Part Number:

LC-AWSL33401 - 3 Pole End Cable

LC-AWSL53201 - 5 Pole End Cable

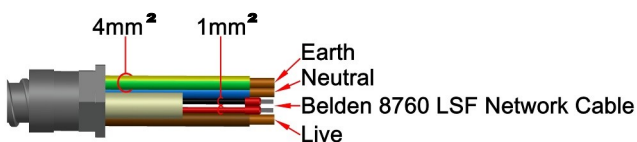
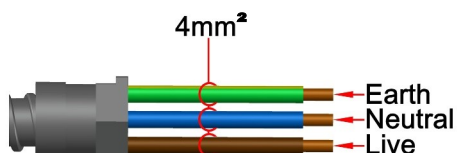
3 Pole End Cable



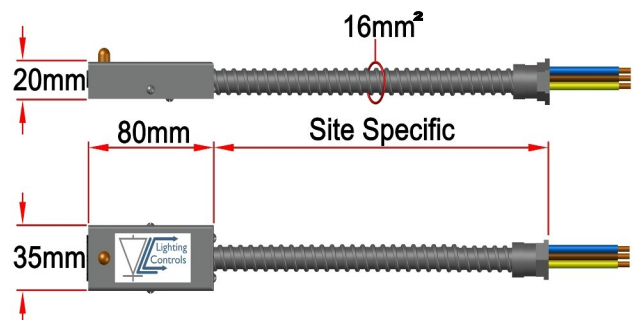
5 Pole End Cable



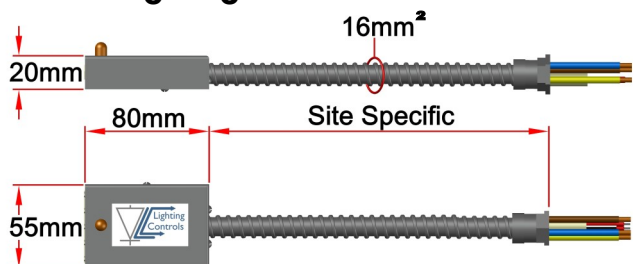
- Network Cable- Beldon 8760 LSF
- Flexible Conduit- Galvanised Steel to BSEN50086
- Connector Housings- Galvanised Steel to BSEN10142:200
- Voltage Rating- 400V/6KV/3.1IEC60664
- Current Rating- up to 25A
- Retention Force- >120N with Locking Device



3 Pole Power End



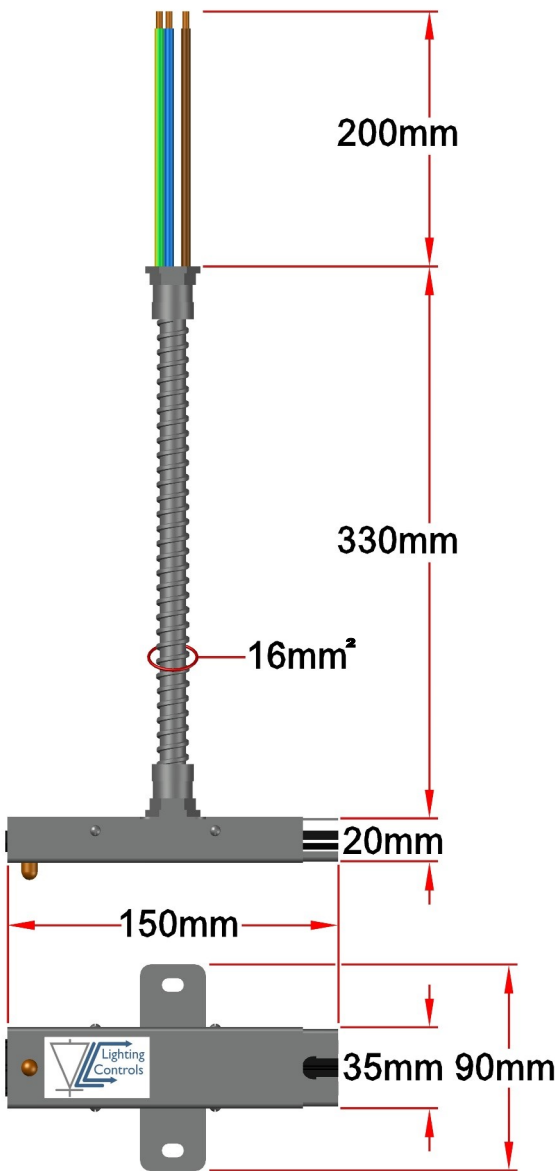
5 Pole Lighting End



Metal Housings	Bright Spangled Galv BS10142:2000
Protection Class	IP20
Conduit	Galv-BSEN50086
Current Rating	25A
Voltage Rating	400V/6kV/3.1IEC60664
Manufacturing British Standard	BS 8488

3 POLE FLYING TEE - POWER

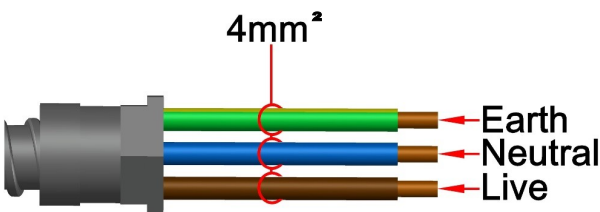
Part Number:
LC-AWFT33401 **1m drop**
LC-AWFT33403 **3m drop**



Our armoured Power Tee is designed to provide a power in and out facility enabling low level power circuits to be connected in series. The tee would be fitted to the FCU or independently fixed in the ceiling void. The tees can be free issued to a third party luminaire manufacturer for off site assembly .

Tees can be supplied either with suitably sized 3 or 4 core LSOH flexible cable of flexible metal conduit containing 3 or 4 core LSOH cables. An integral bus version is available but only as a 3 core system plus 2 poles for bus.

- Flexible conduit -Galvanised Steel to BSEN500086
- Current Rating - up to 25A
- Retention Force >120N with Locking Device
- Through Resistance - 20A and 32A systems –0.5m ohms between male and female contacts
- Connectors– Polyamide 6./6 UL94-VO Halogen Free



Metal Housings	Bright Spangled Galv BS10142:2000
Protection Class	IP20
Conduit	Galv-BSEN50086
Current Rating	25A
Voltage Rating	400V/6kV/3.1IEC60664
Manufacturing British Standard	BS 8488

5 POLE FLYING TEE - LIGHTING

Our armoured Lighting Tee is designed to provide a power and data in and out facility enabling lighting control modules, light fittings and other equipment to be connected in series. The flying tee would be fitted to our LCM, or supplied to a third party luminaire manufacturer for connection to their fitting. Our lighting tee can be supplied with any drop length.

Tees can be supplied either with suitably sized 3 or 4 core LSOH flexible cable of flexible metal conduit containing 3 or 4 core LSOH cables. An integral bus version is available but only as a 3 core system plus 2 poles for bus.

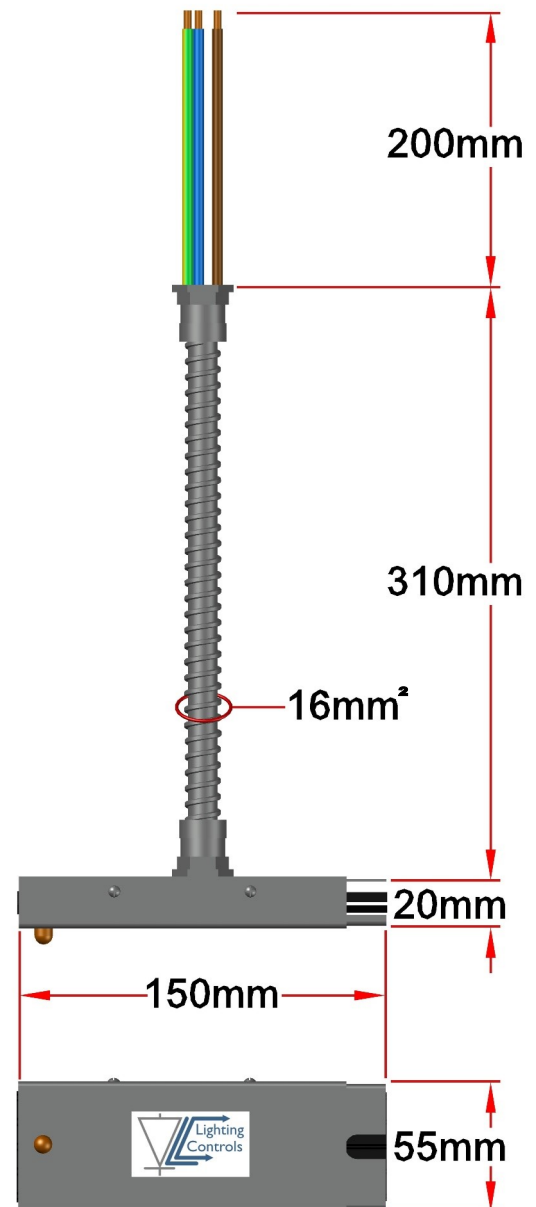
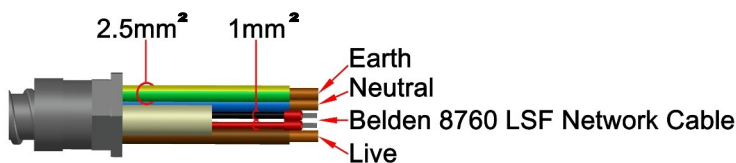
Part Number:

LC-AWFT532300CL/BS 300mm drop

LC-AWFT532500CL/BS 500mm drop

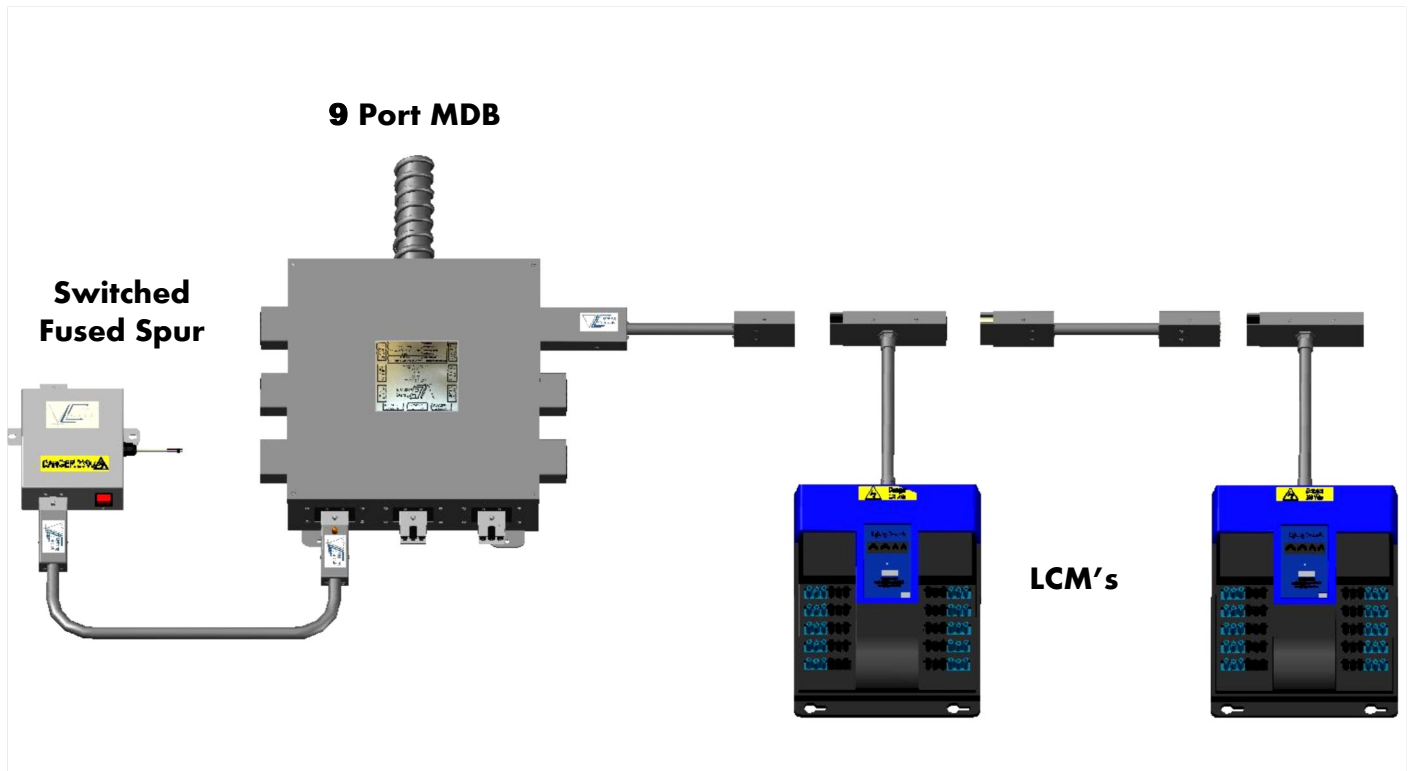


- Network Cable- Belden 8760 LSF
- Cable- BASEC approved BS7211 LSOH 6491B
- Conduit- Galvanised Steel to BSEN50086
- Retention Force- >120N with locking device
- Connectors- Polyamide 6./6 UL94-VO Halogen Free



Metal Housings	Bright Spangled Galv BS10142:2000
Protection Class	IP20
Conduit	Galv-BSEN50086
Current Rating	25A
Voltage Rating	400V/6kV/3.1IEC60664
Manufacturing British Standard	BS 8488

SWITCHED FUSED SPUR



SWITCHED FUSED SPUR

The Switch Fuse Spur provides a 13A protected supply to a fan coil unit via either a flexible conduit containing suitably sized LSF cables or a multi-core LSOH flexible cable.

An integral bus can be provided within the conduit if required, but would make it a 5 pole system.

Other fuse ratings are also available.

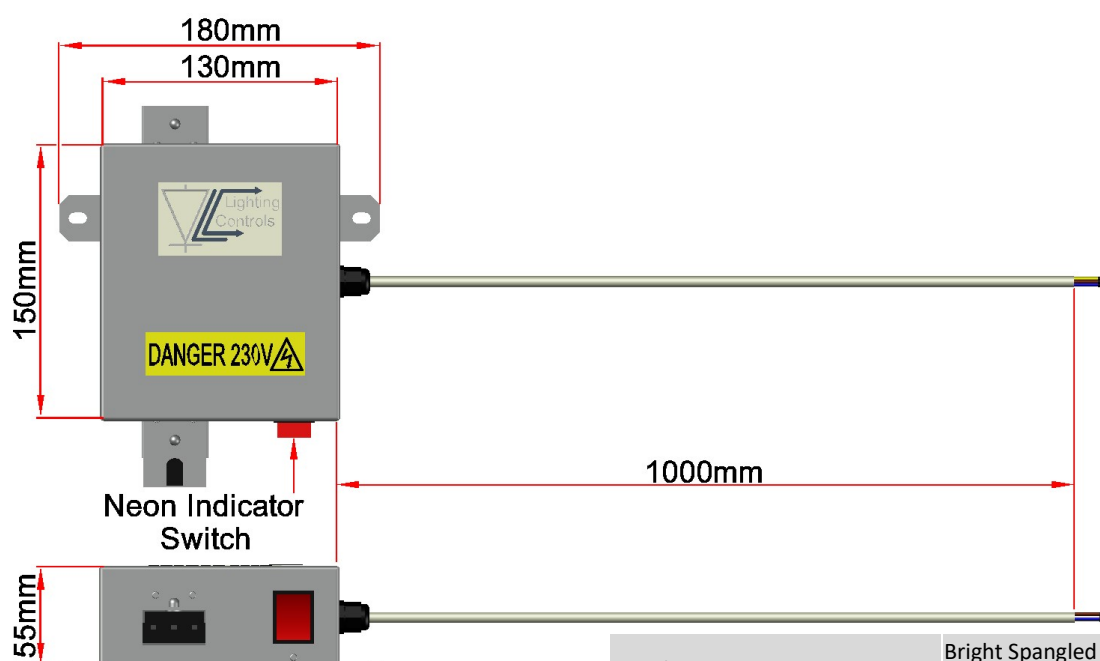
Connection is via a 3 pole 25A male/female ported connection to allow for interlink leads of various lengths to connect the spur back to a MDB. Typically there would be 10FCU on a radial circuit from a port on the MDB.

The unit is connected via Interlink leads.

Part Number:
LC-AWFS33101



- Connected via a 3 pole 25A male/female ported connection
- Allows for interlink leads of various lengths to connect the Spur back to a MDB
- Typically you would expect there to be 10 FCU on a radial circuit from a port on the MDB



Metal Housings	Bright Spangled Galv BS10142:2000
Protection Class	IP20
Conduit	Galv-BSEN50086
Current Rating	25A
Voltage Rating	400V/6kV/3.1IEC60664
Manufacturing British Standard	BS 8488

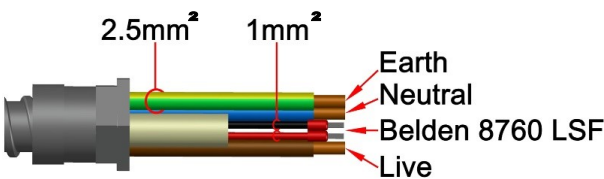
5 POLE LIGHTING INTERLINK CABLE

Part Number:
LC-AWIC53201L/BS **1m Lead**
LC-AWIC53205L/BS **5m Lead**

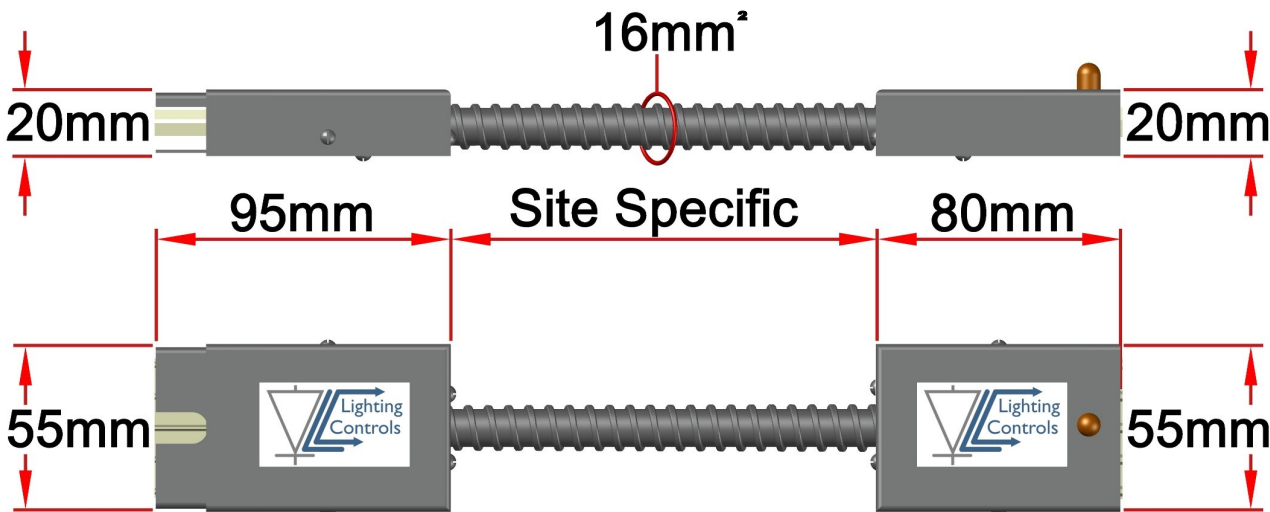
Our armoured lighting interlink cable is designed to provide a link between two points within a modular cabling system, typically between a Master Distribution Box (MDB) and a flying tee on a lighting control module LCM.

Leads are supplied pre-wired, male to female, in custom lengths to suit site requirements.

They are supplied as a 16mm conduit, pre-glanded, to a metal housing, one end male the other female, in 2.5mm 6491B plus suitable bus 2 core cable.



- Network Cable - Belden 8760 LSF
- Connectors - Polyamide 6./6 UL94-VO Halogen Free
- Retention Force ->120N with locking device
- Flexible conduit- Galvanised steel to BSEN50086
- Cable—BASEC approved BS7211 LSOH 6491B



Metal Housings	Bright Spangled Galv BS10142:2000
Protection Class	IP20
Conduit	Galv-BSEN50086
Current Rating	25A
Voltage Rating	400V/6kV/3.1IEC60664
Manufacturing British Standard	BS 8488

3 POLE POWER INTERLINK CABLE

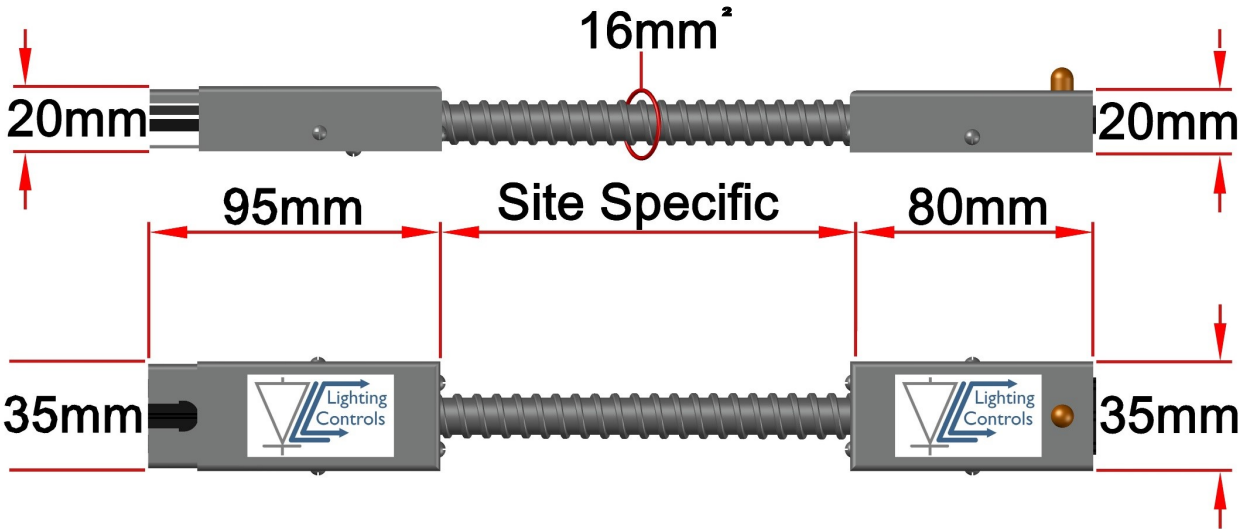
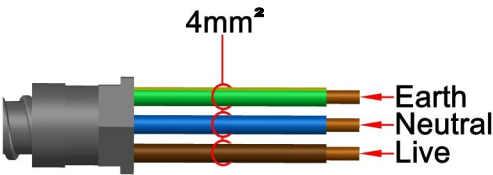
Our armoured lighting interlink cable provides a power and network link between two points within a modular cabling system, typically between a Master Distribution Box MDB and a fan coil unit.

Leads are supplied pre-wired, male to female, in custom lengths to suit site requirements and are supplied as a 16mm² conduit pre-glanded to a metal housing in 4.0mm² with a 2 core network cable; one end male the other female.

Part Number:
LC-AWIC33401 **1m lead**
LC-AWIC33405 **5m lead**



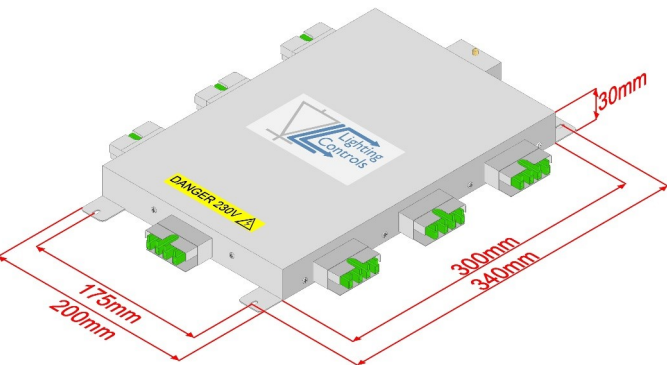
- Connectors-Polyamide6./6 UL94-VO Halogen Free
- Flexible Conduit - Galvanised Steel to BSEN50086
- Protection Class - IP20 for connectors
- Retention Force- >120N with Locking Device



Metal Housings	Bright Spangled Galv BS10142:2000
Protection Class	IP20
Conduit	Galv-BSEN50086
Current Rating	25A
Voltage Rating	400V/6kV/3.1IEC60664
Manufacturing British Standard	BS 8488

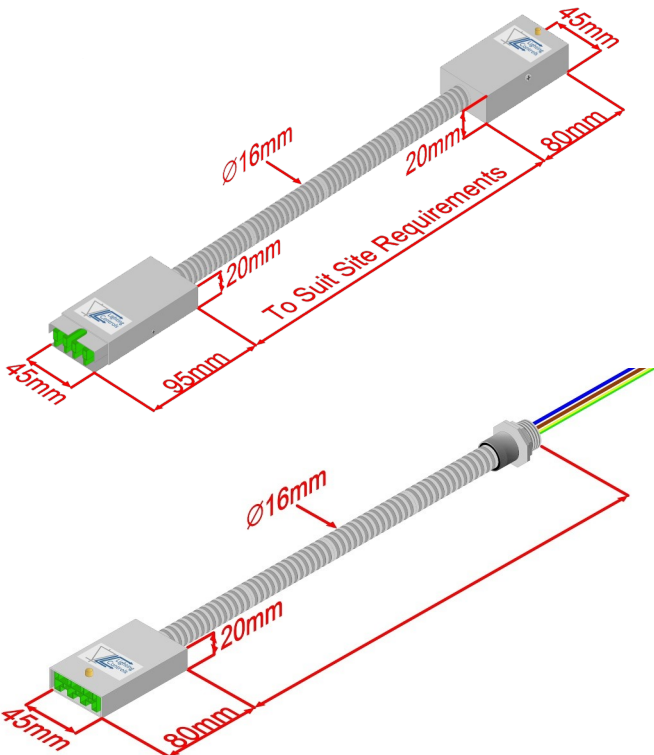
32A UNDERFLOOR POWER DISTRIBUTION

- Part Number:**
LC-PDU74363/S
LC-AWIC43401
LC-AWSC43401
- 6 Port Master Power Distribution Unit**
4 Pole Power Interlink Cable
Power Tap Off



6 Port Master Power Distribution Unit

Our 6 port Master Power Distribution unit (PDU) is supplied pre-wired with a home run cable or with a male and female 4 pole 32A connector. The male connection on the PDU is the incoming connection from the power supply lead with a female starter 3 or 4 core 4.0mm² BASEC approved BS7211 LSOH 6491B cable. Similarly, the connection between PDU's can be plug and socket or pre-glanded to custom lengths.



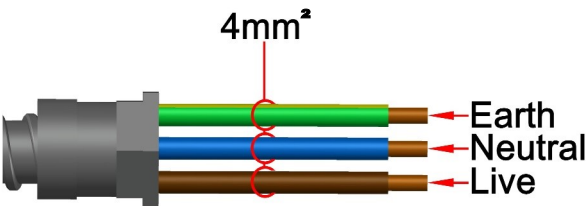
4 Pole Power Interlink Cable

Our armoured power interlink cable provides power between two PDU's. Leads are supplied as a pre-wired male to female 4 pole, 3 or 4 core LSOH cable and are typically supplied in custom lengths of one metre increments.

Power Tap Off

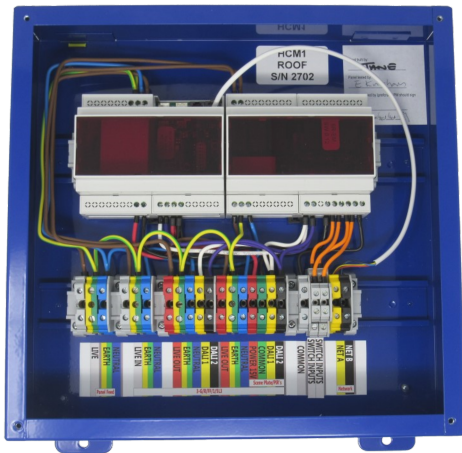
The armoured Tap Off is manufactured using flexible metal conduit and fully shrouded plugs. Each type of armoured tap off is available with up to 4 cores of LSOH cable with male plugs. The leads are manufactured in custom lengths starting at one metre and increase in increments of one metre.

Metal Housings	Bright Spangled Galv BS10142:2000
Protection Class	IP20
Conduit	Galv-BSEN50086
Current Rating	25A
Voltage Rating	400V/6kV/3.1IEC60664
Manufacturing British Standard	BS 8488

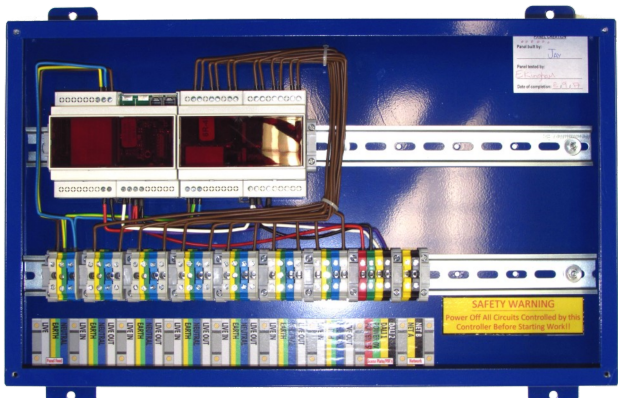


Our panels can be produced using any third party modules and tailored to any specification. Each panel is individually checked for functionality and operation before it leaves our facility. Our metal enclosures can be produced in any RAL number depending upon individual requirements.

Part Number:
Available on request



- Supplied in powder coated metal enclosure up to a size of 2m x 1.5m
- Cable entry through knock outs or slots through any side panel or back panel
- Range of terminal sizes can be fitted from 2mm to 6mm
- Design can include RCBO's, Isolators and MDB's
- Range of lid options including Screw, inter lid and otter door with a locking option
- Can be wired for any modules including Lighting Controls, Lutron, Crestron and KMX



CLIENTS WE HAVE HELPED ACHIEVE THEIR OBJECTIVES:

CUNDALL

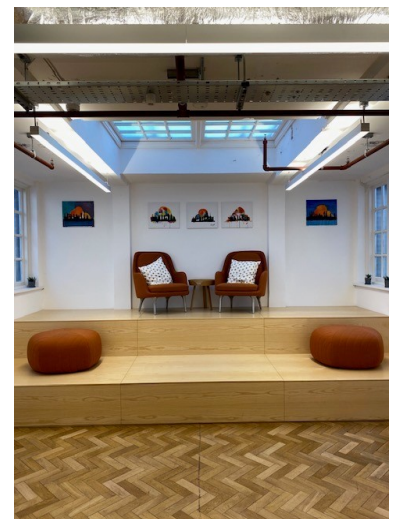
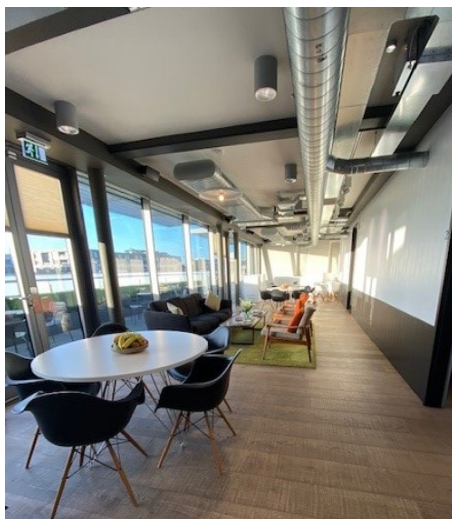
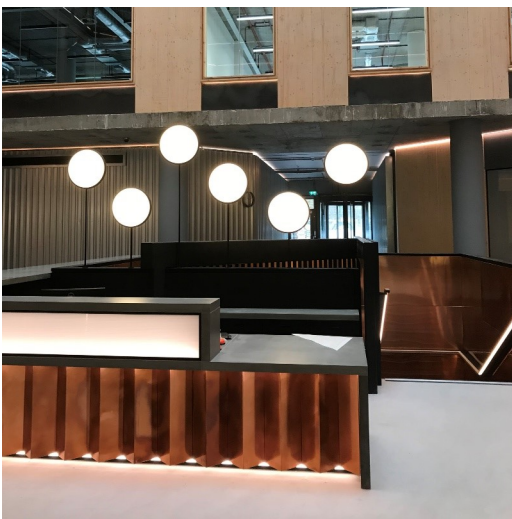
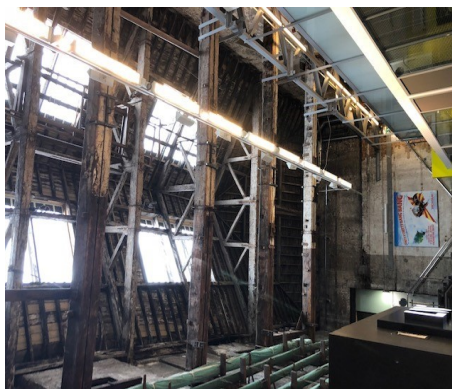


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GENELEC®



ARK
DATA CENTRES



YOUR OPTIONS

All Lighting Controls Ltd products are protected by our standard two year warranty against manufacturing defects. We can also provide additional maintenance packages to offer added peace of mind. Our packages allow for clients to work to an agreed yearly budget with regular system service visits. In the unlikely event there is a system failure, our commissioning engineers are available within a pre-specified time schedule to attend and rectify any issues.

THE **SILVER** OPTION OFFERS YOU:

- ♦ One on-site system check per year **FREE**
- ♦ A given discount of the cost of repair or replacement of parts
- ♦ The labor cost in uninstalling and reinstalling the item that was defective is covered. 100% during years 1 and 2, 50% during years 3 and 4, 33% during years 5 and 6, and 25% from year 7 onwards if this extended warranty is valid
- ♦ A guarantee that our engineers will be at your site to replace or repair the product within 3 working days of you informing Lighting Controls Ltd of your problem

THE **GOLD** OPTION OFFERS YOU:

- ♦ Three on-site system checks per year **FREE**
- ♦ Software and firmware updates **FREE**
- ♦ Emergency Test Procedures conducted remotely (where applicable) **FREE**
- ♦ 100% repair or replacement of faulty components
- ♦ 100% coverage of the labor cost of uninstalling/reinstalling the faulty item if this extended warranty is valid
- ♦ A guarantee that if we cannot solve the problem remotely, an engineer will be on site within 48 hours of our being informed of your fault

MAINTENANCE CONTACTS:

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louise.jordan@lightingcontrols.ltd.uk

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To find out more about the range of products and services we offer and how these solutions can benefit you, **contact us today.**

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