

EBR-LCM3-1DD & EBR-LCM3-1DD-B

Pluggable 3+1 channel LCM DALI / DSI dimming + VFC

Overview



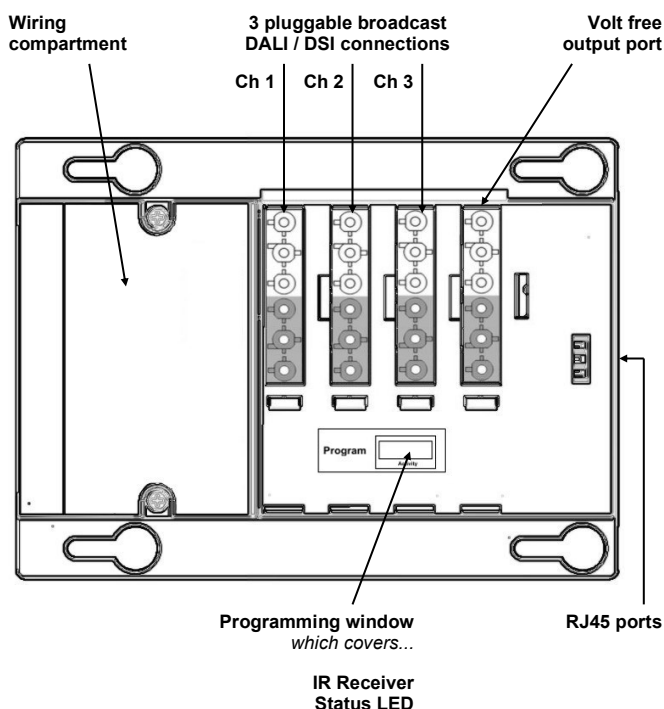
The EBR-LCM3-1DD and EBR-LCM3-1DD-B are Rapid lighting control modules designed to provide three individually addressable output channels that independently dim rows of DALI / DSI fluorescent or LED luminaires. An additional switched output is provided for the control of non-dimming devices such as ventilation or lighting equipment.

There are 3 pluggable outputs each supplying a separate channel of broadcast (non-addressable) DALI or DSI. These ports share a relay providing a switched live output and a second relay for emergency test. The 4th output is a volt free contact to control external devices.

This LCM also has a total of 11 switch inputs. 6 in the wiring compartment with screw terminals and 7 via an RJ45 port.

Features

Front features



Wiring compartment

Within the wiring compartment there are the following connections.

- Mains, including a Permanent Live used to feed the emergency test relay.
- Low Voltage connections
 - 6 x SELV inputs
 - 2 x Rapid network CAN ports

Pluggable DALI connections

Three 6 pole GST style ports with 3 separate DALI / DSI broadcast bus connections and shared 10A relay for a switched output and 6A emergency test.

Volt free output port

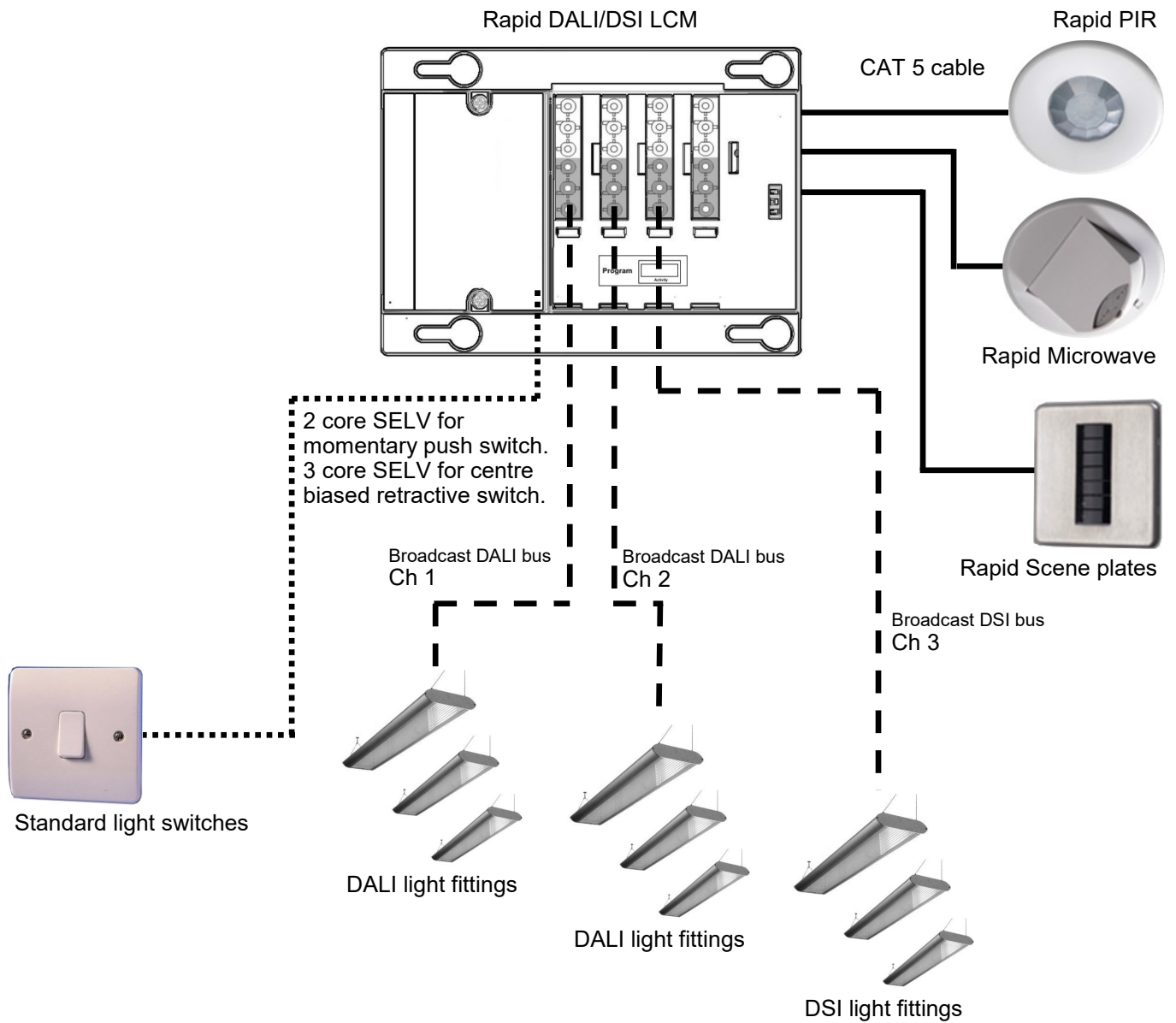
6A 230VAC Voltage free contact. Used to switch external peripherals, such as HVAC and BMS systems.

RJ45 ports

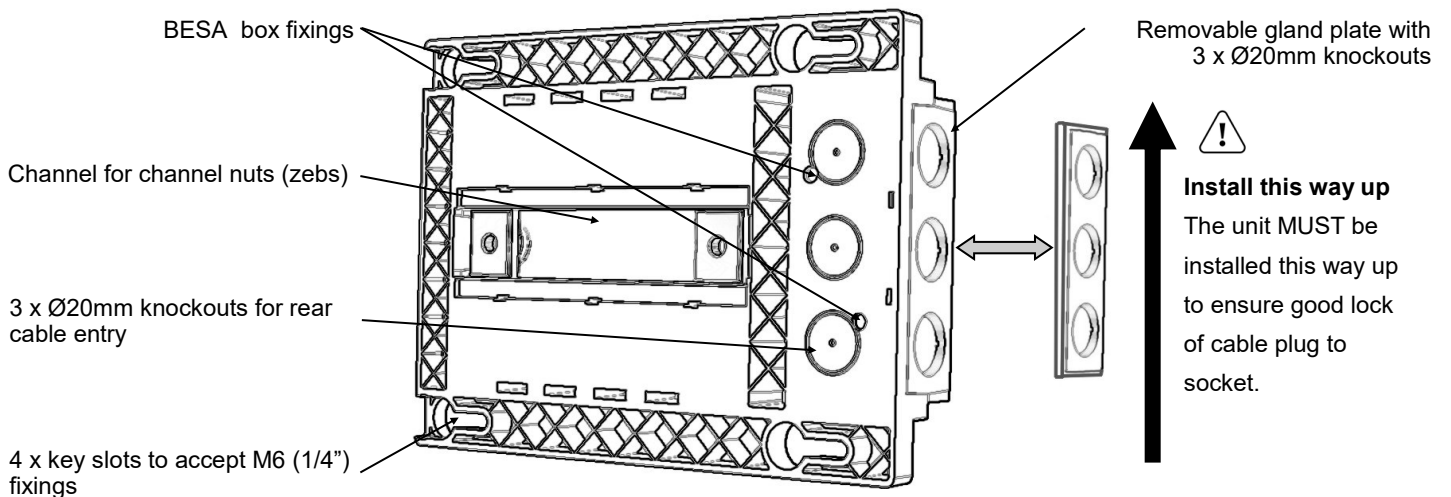
At the end of the unit there are 5 RJ45 ports.

- 2 x power and Rapid network CAN ports
- 2 x Rapid network CAN ports
- 1 x SELV switch input port (7 inputs plus common)

System wiring example



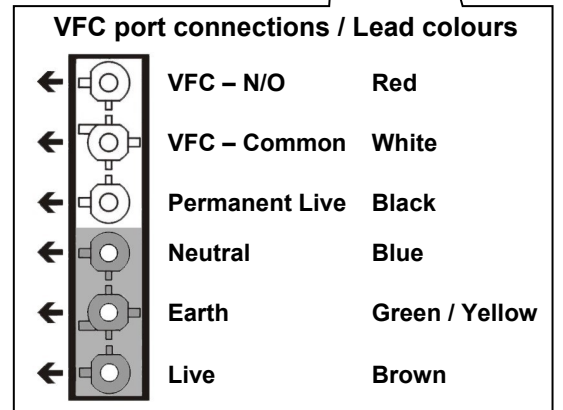
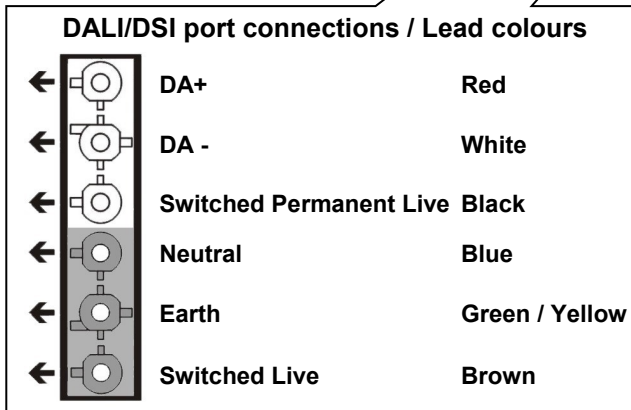
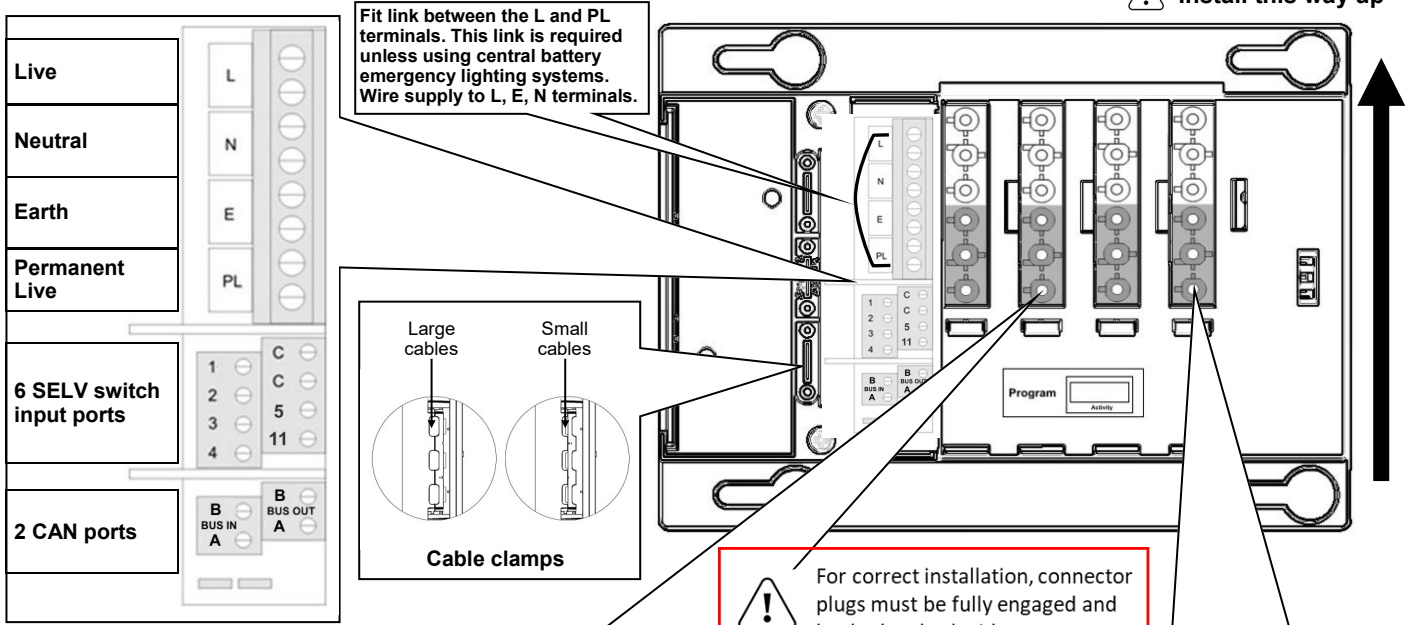
Installation



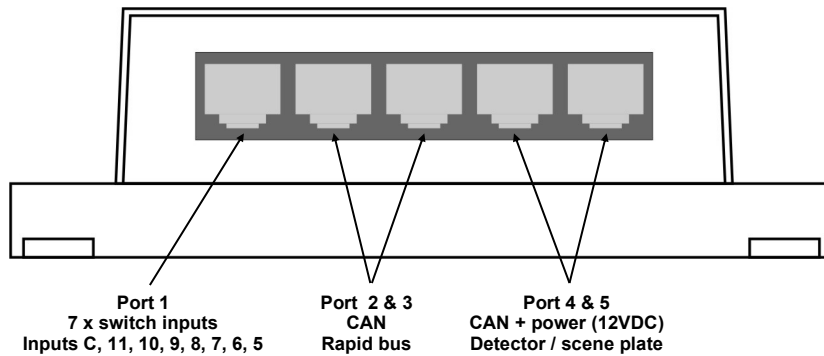
Warning. This device works at mains voltage. Be sure to take care when working with electricity.

- The box should be fixed on a smooth, flat surface or using drop rod fixings attached to channel nuts.
- Ensure that there is easy access to the wiring compartment and all connectors once the box is in-situ.

⚠ Install this way up



RJ45 ports



Switch	RJ45 pin	Colour
C	1	White/orange
11	2	Orange
10	3	White/green
9	4	Blue
8	5	White/blue
7	6	Green
6	7	White/brown
5	8	Brown

Application - Classroom - Presets 1 & 2

The LCM3-1 has standard Rapid LCM default values and is not configured for any application. However using a preset the unit can be set-up for a typical classroom consisting of.

- 3 rows of lighting.
- 1 switched output typically for the whiteboard.
- Absence mode with manual switch on for all three rows and the white board with auto timed out off.
- 1 detector.

Note. A EBR-BT Bus terminator needs to be connected to CAN port 3 when using any preset option.

Programming method

Using the UNLCDHS. *Ensure that the Rapid PIN has been entered to allow Detector IDs to be set.*

LCM3-1

Rapid > LCM > Program > Preset Config (1, 2 or 3) > Send (pointing at LCM). The definition of Presets 1, 2 or 3 is within the LCM.

Detector Presets 1, 2 & 3

Rapid > Detector > Program > Detector ID 101 > Send.

Rapid > Detector > Program > Timeout 20 > Send.

Rapid > Detector > User > Light Level 600 > Send.

Note. Press Record on each of these three commands to make a macro, which can then be played back into any detector.

Settings - Preset 1

Preset 1 is for a centre-retractive switch for absence.

- The settings are timeout period 20 minutes, with a Lux setting in the detector of 600 Lux. The dimming is set so that the window row will dim down no more than DALI DPC 152 (to protect the lamps), the middle row no more than DALI DPC 228 and the door row has no dimming.
- Switch interface ID's:-
Channel 1 ID 101, Switch Yes, Two Button Yes, Momentary Yes.
Channel 3 ID 102, Switch Yes, Two Button Yes, Momentary Yes.
Channel 5 ID 103, Switch Yes, Two Button Yes, Momentary Yes.
Channel 7 ID 104, Switch Yes, Two Button Yes, Momentary Yes.
- Detector Settings
ID 101, Time out 20 mins, Lux 600
- LCM settings
Channel 1, detector dependency 101, interface dependency 101, Min value 60, DALI on.
Channel 2, detector dependency 101, interface dependency 102, Min value 90, DALI on.
Channel 3, detector dependency 101, interface dependency 103, Min value 99, DALI on.
Channel 5, detector dependency 101, interface dependency 104, Min value 99 (not used), DALI on (not used).

Settings - Preset 2

Preset 2 is for a momentary manual switch for absence.

- The settings are timeout period 20 minutes, with a Lux setting in the detector of 600 Lux. The dimming is set so that the window row will dim down no more than DALI DPC 152 (to protect the lamps), the middle row no more than DALI DPC 228 and the door row has no dimming.
- Switch interface ID's:-
Channel 1 ID 101, Switch Yes, Two Button No, Momentary Yes, Dim Yes, Relative Yes.
Channel 2 ID 102, Switch Yes, Two Button No, Momentary Yes, Dim Yes, Relative Yes.
Channel 3 ID 103, Switch Yes, Two Button No, Momentary Yes, Dim Yes, Relative Yes.
Channel 4 ID 104, Switch Yes, Two Button No, Momentary Yes, Dim Yes, Relative Yes.
- Detector Settings
ID 101, Time out 20 mins, Lux 600
- LCM settings
Channel 1, detector dependency 101, interface dependency 101, Min value 60, DALI on.
Channel 2, detector dependency 101, interface dependency 102, Min value 90, DALI on.
Channel 3, detector dependency 101, interface dependency 103, Min value 99, DALI on.
Channel 5, detector dependency 101, interface dependency 104, Min value 99 (not used), DALI on (not used).

Application - Classroom- Presets 3

Preset 3 is for a typical classroom consisting of;

- 4 continuous linear rows of lighting with perimeter dimming (DALI)
- 1 switched output typically for the whiteboard (Row 4)
- Absence mode with manual switch on for all three rows (1 switch for rows 1-3) and the white board 1 switch for row 4) with auto timed out off.
- 1 detector.

Settings - Preset 3

Preset 3 is for centre-retractive switch for absence

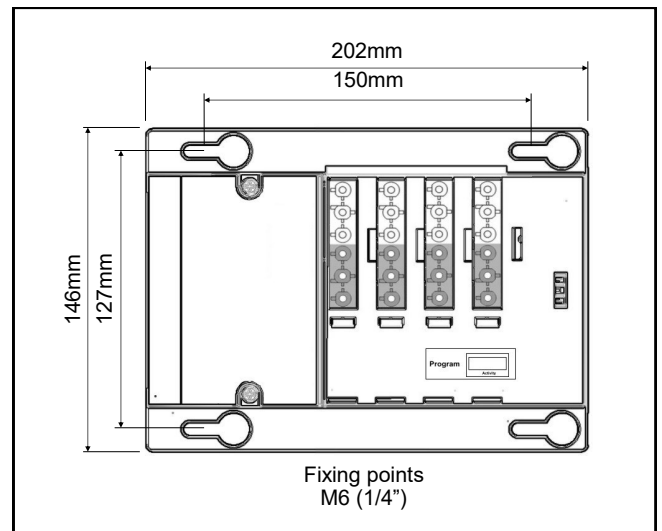
- The settings are timeout period 20 minutes, with a Lux setting in the detector of 600 Lux. The dimming is set so that the window row will dim down no more than DALI DPC 152 (to protect the lamps). The feed to the DALI ballasts will be switched via the relay shared by outputs 1-3 so as to switch the fixed output ballasts on the linear raft.
- Switch interface ID's:-
Channel 1, ID 101, switch interface, Two Button Yes, Switch Yes, Momentary Yes, Relative Yes, dim Yes.
Channel 3, ID 102, switch interface, Two Button Yes, Switch Yes, Momentary Yes, Relative Yes, dim Yes.
Channel 5, ID 51, interface, emergency test.
- Detector Settings
ID 101, Time out 20mins (or set to required time out), LUX 600.
- LCM settings
Channel 1, detector dependency 101, interface dependencies 101, 51. Min value 60, DALI On.
Channel 2, detector dependency 101, interface dependencies 101, 51. Min value 60, DALI On.
Channel 3, detector dependency 101, interface dependencies 101, 51. Min value 60, DALI On.
Channel 5, detector dependency 101, interface dependencies 102, 51.

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Technical data

Dimensions	See diagrams opposite
Weight	0.45kg
Supply Voltage	220-240VAC
Frequency	50Hz
Relay rating	Switched live 10A Switched permanent live 6A Volt free output (VFC) 6A
Terminal Capacity	Mains - 4mm ² in wiring compartment Switched inputs and CAN - 2.5mm ² in wiring compartment
Load per LCM	10A
Load per channel	6A fluorescent and incandescent lighting 3A compact fluorescent lighting 3A low energy lighting 3A low voltage lighting (switch primary of transformer) 3A fans and ventilation equipment Switch SON lighting loads via a contactor
Dimming	Maximum 22 ballasts per channel (current limit 50mA per channel). Cable lengths for dimming outputs: 100m using 0.5mm ² wire 150m using 1.00mm ² wire 300m using 1.5mm ² wire
Temperature	-10°C to 35°C
Humidity	5 to 95% non-condensing



Height - allow 150mm for total height of unit (including connectors and cable)

Material (casing)	Flame retardant ABS and PC/ABS
Classifications	Insulation Class II Purpose Operating control Construction Independently mounted control for surface mounting Type of action Type 1.B action micro disconnection Software class Class A Pollution Degree 2

Compliance EMC-2014/30/EU
LVD-2014/35/EU
For further compliance information visit www.cpelectronics.co.uk/compliance



Part numbers

	Part number	Description
Control modules	EBR-LCM3-1DD	Pluggable 3 channel LCM DALI / DSI dimming grey connectors
	EBR-LCM3-1DD-B	Pluggable 3 channel LCM DALI / DSI dimming blue connectors
Detectors	EBR-CPIR	Ceiling PIR presence detector
	EBR-MINPIR	Miniature PIR Presence Detector
	EBR-MWS3A	Ceiling microwave presence Detector
Scene plate	EBR-4SC	Scene select plate
Accessories	UNLCDHS	Universal LCD programming handset
	EBR-BT	Bus terminator
	EBR-BR	Bus repeater

IMPORTANT NOTICE!

This device should be installed by a qualified electrician in accordance with the latest edition of the IEE Wiring Regulations and any applicable Building Regulations.



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