

SET-DLCM - THREE/FIVE CHANNEL, 10 WAY PLUGGABLE LIGHTING CONTROL MODULE

INSTALLATION INSTRUCTIONS

WARNING. This product works at mains potential. Be sure to take care when working with electricity. This product should only be installed by a qualified electrician in accordance with the latest edition of the IET wiring regulations and this instruction leaflet.

Mount the Daylux Lighting Control Module (SET-DLCM) in a suitable location, preferably in a location central to the area being controlled. Please note that the SET-DLCM will need to be accessed easily after installation for commissioning/setup purposes and future maintenance.

STEP 1.

Drill the required fixing holes in the material which the SET-DLCM will be fixed to. Fix the SET-DLCM to the material using the appropriate fixings for the material using the series of holes provided in the lugs on either side of the housing. If necessary use drop rods to bring the mounting height of the unit down to something more suitable for future access. (See 'Dimension & Mounting Diagram' on page 2).

STEP 2.

Wire the bare end of the output leads either directly into the light fittings or via an appropriate ceiling rose, paying attention to which light fittings are associated with which channels. (See 'Connection Diagram' on page 3).

STEP 3.

Plug the required output leads to the light fittings into the channel output connectors, again paying attention to which light fittings are associated with which channels. (See 'Connection Diagram' on page 3).

STEP 4.

Wire mains supply to the 4 pole 'SUPPLY' connector. Plug the connector into the port on the front of the SET-DLCM marked 'SUPPLY'. (See 'Connection Diagram' on page 3).

STEP 5.

Wire the required input/output devices, sensors and components to the SET-DLCM according to the 'Connection Diagram' on page 3, the 'Connection Details' on page 5, the 'Channel Self Configuration Table' on page 6, the 'Do's And Don'ts' regarding sensors and the 'PIR Detection Zones' on page 7. Please also refer to the relevant individual product installation instructions.

STEP 6.

Wire the 'Local' and 'Area' network(s) to input and output devices if applicable. Set network termination - It is necessary to terminate each end of a 'Local' and 'Area' network. This is achieved by operating a pair of PCB mounted switches. Switch 1 & 2 on will terminate the 'Area' network and switch 3 & 4 on will terminate the 'Local' network. (See 'Connection Diagram' on page 3). Note: Only terminate the first and last device on each network.

STEP 7.

The range of SET-DLCM Lighting Control Modules will self-configure depending on which sensor inputs sensors are plugged into. For example:- If a SET-DOL sensor is plugged into sensor input 'A' only, the SET-DLCM will configure all outputs as a single channel or if a SET-DOL sensor is plugged into input 'A' and another is plugged into input 'B', then the outputs will configure as two channel (channel 1's outputs work as a single channel and the remaining channel's outputs will work as the second channel). Note: The above configuration allows separate light level control. Movement detection is 'linked' across both channels. (See 'Channel Self Configuration Table' on page 6).

Sensor inputs can be re-configured from the factory defaults to control the desired channel outputs via the setup procedure detailed in the 'SET-DLCM User Guide'.

Please note: If occupancy detectors are not fitted to a system, then the SET-DLCM will configure for manual control, either via SET-DFP faceplates wired to the 'Local' network or switches wired to the switch inputs (1-5) on the 'SWITCHES' terminal block. If a light level sensor is fitted along with SET-DFP faceplate/switches, then the SET-DLCM will configure for automatic light level control based on factory default settings.

FACTORY DEFAULTS:-

Presence Detection = On
Time Out after presence = 10 minutes
Light Level (Daylight Linked) = Light Level High

If a SET-DFP7 faceplate and a light level sensor are connected to the system then the following scenes are factory set:-

Scene 1 = Automatic (Daylight linked). Output Level = High
Scene 2 = Automatic (Daylight linked). Output Level = Low
Scene 3 = Manual (Switch Controlled). Output Level = High
Scene 4 = Manual (Switch Controlled). Output Level = Low

If a light level sensor is not fitted, then Scene 1 & 2 are as per scenes 3 & 4 above.

For further details on the operation of the SET-DFP faceplate, please see the 'Daylux DLCS User Guide' and the 'SET-DFP User Guide'.

STEP 8.

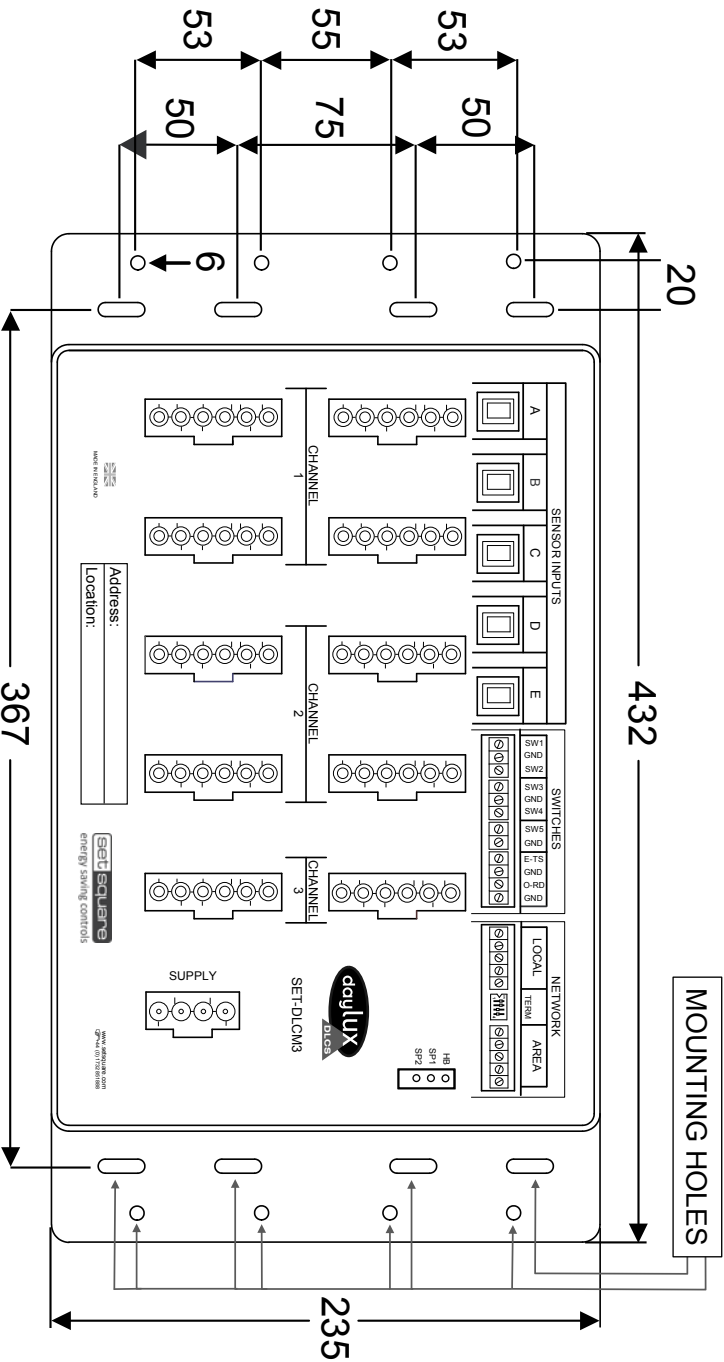
Power on the SET-DLCM and observe that the 'HB' LED blinks fast. This will continue for approximately 1 minute whilst the SET-DLCM self configures. After self configuration is complete, the LED will blink slowly indicating the system is now operational. The 'SP1' & 'SP2' LED's will be permanently lit. (See 'Connection Diagram' on page 3 for details). The lighting which is under control of the system should switch on.

The SET-DLCM has factory set defaults which will enable a system to operate with simple functionality without the initial requirement of setup, programming or commissioning. Further functionality can be achieved by following the setup procedure detailed in the 'SET-DLCM User Guide'.

STEP 9.

Carry out setup and operational checks of sensors, input devices and switches to prove functionality of the system. Once satisfied that everything is working correctly, secure all cables.

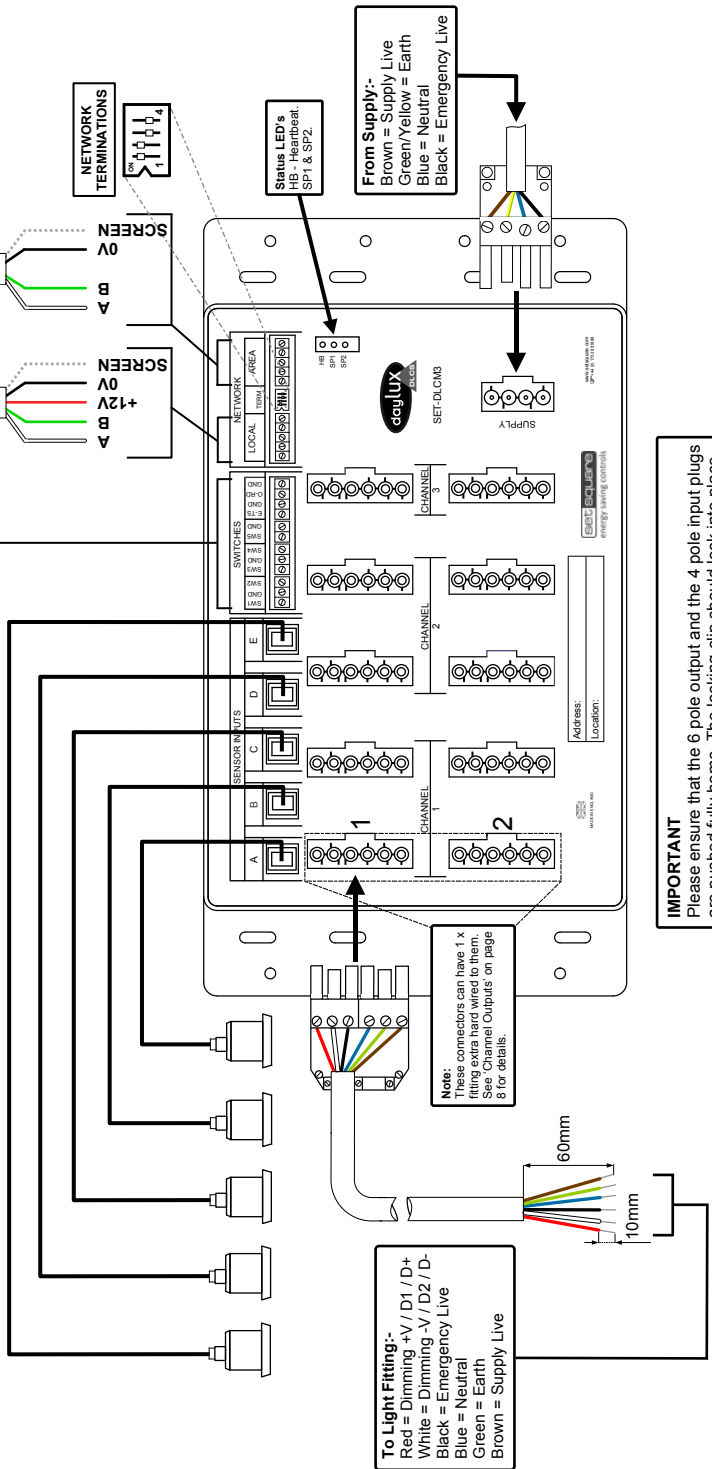
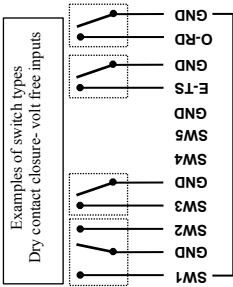
DIMENSIONS & MOUNTING DIAGRAM.



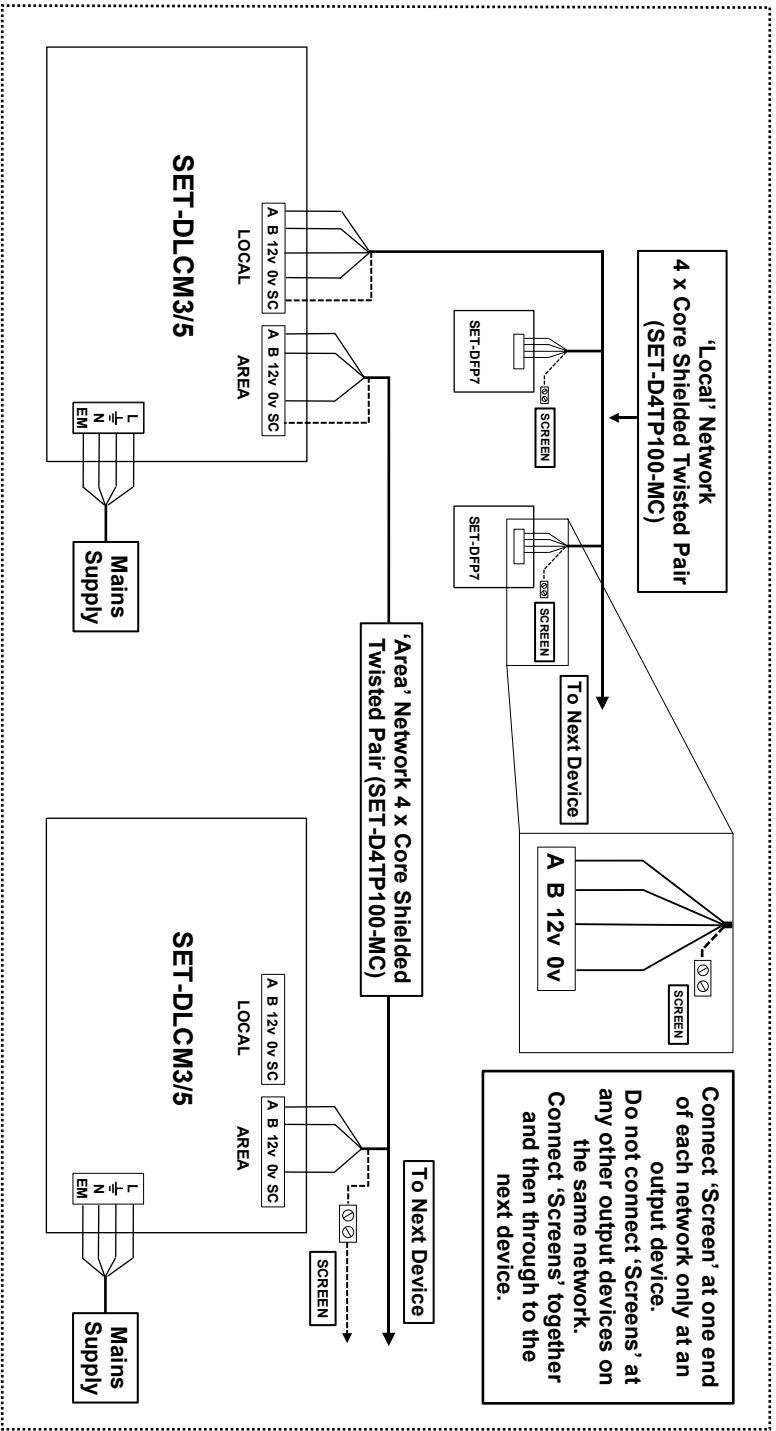
All dimensions are in millimetres.

CONNECTION DIAGRAM

Please note: the diagram below shows a 6 pole, 6 core output connector and cable. This type of connector and cable is for a system based on dimming through three control protocols (DALI, DSI and 1-10v Analogue). 6 pole, 5 core output cables are used for dimming control without emergency supply, 4 core for switched control with emergency supply and 3 core for switched control without emergency supply.



'Screen' Connection Schematic.



CONNECTION DETAILS.

Connections should be made to the relevant connectors based on the requirements of the system design/specification i.e. If the system is going to be used for occupancy detection, light level control using either faceplates/switches or automatic via light level sensors.

SUPPLY

Mains input connector (Supply).

Supply to controller. L (Line) = Brown, Earth = Green/Yellow, N (Neutral) = Blue and Emergency Live (Permanent) = Black. Please ensure that the correct circuit protection is provided at the point of distribution.

SENSOR INPUTS

Sensor input connectors A to E.

Connect a SET-DOL-RJ (combined light level and movement), SET-PDOCH-RJ (movement) or SET-ALD5-RJ (light level) sensors here as required using RJ12 to RJ12 patch leads. For further information on sensor wiring, please refer to the relevant sensor installation instruction and the 'Channel Self Configuration Table' on page 6 for details on which sensor inputs control which channel outputs.

CHANNEL OUTPUTS

Output - Channels 1 to 3 (DLCM3) or 1 to 5 (DLCM5).

Connect to the required DSI, DALI, Analogue or switched fittings. See 'Channel Self Configuration Table' on page 6 for details on which sensor inputs control which channel outputs and the 'Connection Diagram' on page 3.

LOCAL

RS485 Network bus connector (Local).

Local Bus connection. For connection of 'Local' networked input devices such as SET-DFP type faceplates or other local network devices. **Note: Please refer to the 'Screen Connection Schematic' on page 4 for the correct termination of 'Screens'. If a termination point does not exist on a device, then make sure that continuity is preserved by connecting the 'screens' together in a terminal block.**

AREA

RS485 Network bus connector (Area).

Area Bus connection. For connection of 'Area' networked output devices such as other SET-DLCM's, SET-DDC's etc.

Note: Do not connect +12v DC (red) between this and other devices. Please refer to the 'Screen Connection Schematic' on page 4 for the correct termination of 'Screens'. Make sure that continuity is preserved by connecting the 'screens' together in a terminal block. Ensure that all 'screens' are connected to 'Earth' at one end of the network only.

SWITCHES

Switch input connector.

5 x switch inputs are provided for manual control. Wire any volt-free single pole momentary or SPDT centre off switch(es) here for various control options.

1 x 'Emergency Test' switch input is provided for emergency test control. See 'DLCM User Guide' and the 'Connection Diagram' on page 2 for more details. The factory default setting for emergency test is to 'fail' all lighting, thus discharging any emergency packs.

1 x 'Override' switch input is provided which will facilitate an 'Override On' function. This will operate all lighting on at full brightness until the switch is operated off. When the system is in override, all inputs received from any sensors or input devices are ignored.

SWITCH INPUTS - DEFAULTS & OPERATION

Pre-programmed switch settings are:-

Switch 1: Pre-set to 'Up, Down, On, Off'.

Switch 2: Test Mode (10 second time delay after movement detection has ceased). A secondary function of this switch is to allow an easy means of invoking a 'System Reboot'. Press and hold the switch for more than 5 seconds then release. The device will restart without losing any previously programmed settings.

Switch 3: Programming Mode. Allows quick and simple programming options to be selected. A short press on this switch will toggle between DSI & DALI dimming modes. A secondary option on this switch is to allow a simple method of changing and 'storing' a default output level.

If there is a SET-DFP7 faceplate fitted to the device you wish to change the output level for, first select the scene you wish to change by pressing button 1-4 on the faceplate. Next, set the desired lighting output level by using the raise/lower buttons on a faceplate or a switch wired to switch input 1. Press and hold the switch for 3 seconds then release. This will store the newly selected scene's output to memory. If a SET-DFP7 faceplate is not fitted the default scene (Scene 1) will be effected.

Another function of this switch is to enable a quick method of invoking a 'Factory Reset'. Press and hold the switch for more than 5 seconds then release. The device will reboot with all previously programmed settings being cleared from memory.

SWITCH FUNCTIONS TABLE

	SHORT PRESS	PRESS HOLD	SHORT PRESS	PRESS HOLD
SW1	LIGHTS ON	INCREASE LEVEL*	LIGHTS OFF	DECREASE LEVEL*
SW2	TEST ON		TEST OFF	(And Release) REBOOT
SW3	DSI/DALI TOGGLE	STORE SCENE	DSI/DALI TOGGLE	(And release) RESET TO DEFAULTS

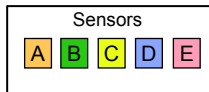
Notes: A 'short press' is less than half a second. 'Press and hold' is for longer than half a second. *Raise and Lower will only function when dimmable lighting is being controlled.

CHANNEL SELF CONFIGURATION TABLE.

SENSOR INPUTS					OUTPUT CHANNELS	
CH A	CH B	CH C	CH D	CH E	SET-DLCM3	SET-DLCM5
SENSOR				SENSOR	1 to 3	1 to 5
SENSOR			SENSOR	SENSOR	1&2, 3	1 to 4, 5
SENSOR		SENSOR	SENSOR	SENSOR	1&2, 3	1 to 3, 4&5
SENSOR	SENSOR	SENSOR		SENSOR	1, 2&3	1&2, 3 to 5
SENSOR	SENSOR			SENSOR	1, 2&3	1, 2 to 5
SENSOR	SENSOR	SENSOR			1, 2, 3	Not Applicable
SENSOR	SENSOR	SENSOR	SENSOR		1, 2, 3	1, 2, 3 to 5
SENSOR	SENSOR	SENSOR	SENSOR	SENSOR	Not Applicable	1, 2, 3, 4&5
SENSOR	SENSOR	SENSOR	SENSOR	SENSOR	Not Applicable	1, 2, 3, 4, 5

Sensor Inputs and Channel Outputs.

Sensors will control the desired output channels through self-configuration on light level according to the table above. Movement detection is 'linked' across all channels.



CHANNEL OUTPUTS

SET-DLCM5 - Channel 1 = 2 x fittings + 2 x hard wired fittings consisting of 1 x fitting on output connector 1 & 1 x fitting on output connector 2 only maximum*.

Channel 2 to 4 = 2 x fittings each maximum*.

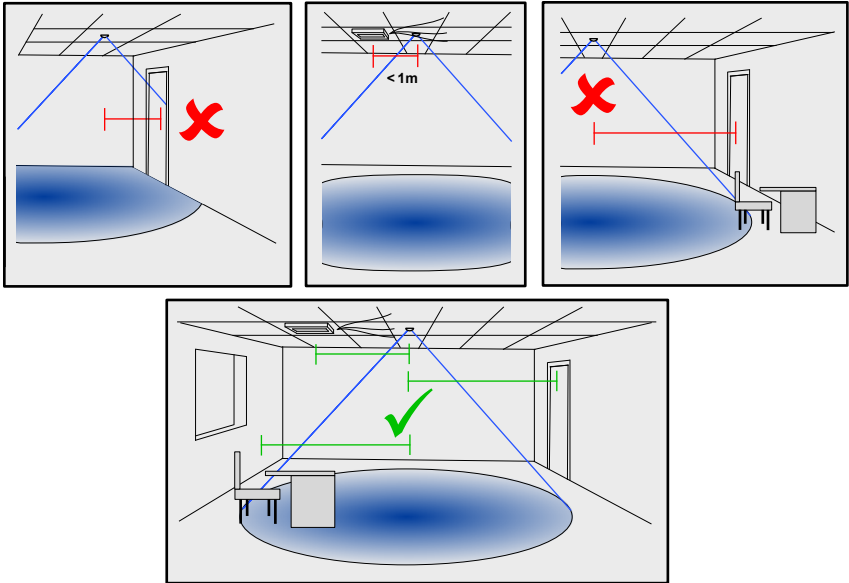
SET-DLCM3 - Channel 1 = 4 x fittings + 2 x hard wired fittings consisting of 1 x fitting on output connector 1 & 1 x fitting on output connector 2 only maximum*.

Channel 2 = 4 x fittings maximum*.

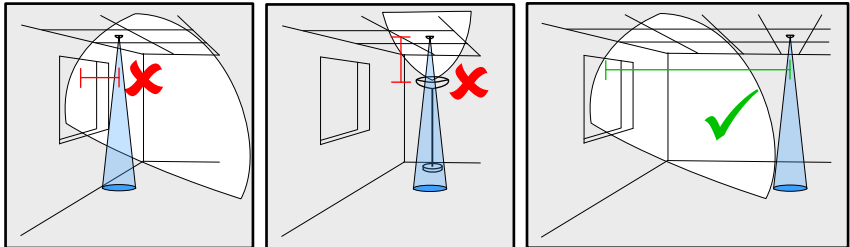
Channel 3 = 2 x fittings maximum*.

*Based on a maximum of 1 x HF Ballast per fitting.

DO'S AND DON'TS - PIR.



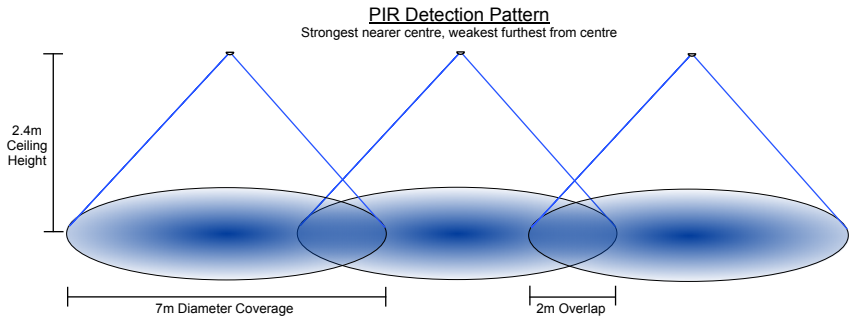
DO'S AND DON'TS - Light Level.



PIR Detection Zones.

The PIR detection pattern consists of two 'zones', an inner and outer zone. The outer zone will detect large movements such as someone walking and the inner zone will detect smaller movements such as the movement of a hand or arm.

PIR sensors should be mounted every 5 meters to ensure the best possible coverage, reducing 'dead spots' and ensuring optimum movement detection.



Technical Data.

Supply Voltage: 110 to 230v A.C. 50hz/60hz.

Total Power consumption: Standby = 4.0 Watts.

Switch Inputs: 5 x Inputs to accept volt-free switches, relays or contact closures etc switching to 0v DC.
1 x Emergency Test input and 1 x Alarm Override input. Maximum cable capacity = 1 x 2.5mm² per terminal.

Sensor Inputs: 5 x Inputs each accepting either 1 x SET-ALD5-RJ12 for light level control or 1 x SET-DOL-RJ12 for light level and occupancy control or 1 x SET-PDOCH-RJ12 occupancy control.

Local Network: RS485. Max. 4 x Input Devices. (SET-DFP's, SET-DIR's, SET-DMI's, SET-DCI's etc).

Area Network: RS485. Max. 127 x Output Devices. (other SET-DLCM's or SET-DDC1's, SET-DDC2's etc).

Network Cable Specifications: 4 x core shielded twisted pair such as Setsquare SET-D4TP100-MC, Belden 8723 or equivalent. Please Note: SET-D4TP100-MC cable can be run in the same containment as mains wiring and is also LSOH.

Supply Input Connector: 4 Pole 'Industry Standard' GST18i4. Maximum cable capacity = 1 x 2.5mm² per terminal.

Lighting Output Connectors: 6 x Pole 'Industry Standard' GST18i6. Two poles are assigned for dimming signal. Maximum cable capacity = 1 x 2.5mm² per terminal.

Dimensions: L=432mm x W=235mm x D=54mm.

Material: Off White Flame Retardant ABS.

Weight: 1.5 kilograms.

Operating Temperature: 0-40°C.

Product Codes:

SET-DLCM3 - 3 Channel Switching.

SET-DLCM3A - 3 Channel Analogue Dimming (1-10v).

SET-DLCM3D - 3 Channel Digital Dimming (DALI/DSI).

SET-DLCM5 - 5 Channel Switching.

SET-DLCM5A - 5 Channel Analogue Dimming (1-10v).

SET-DLCM5D - 5 Channel Digital Dimming (DALI/DSI).

WARNING

This product contains electronic devices.

Do not perform any high voltage tests on this product or to any equipment connected to it. Mains connections can be high voltage tested in accordance with BS 7671:2008, IET Wiring Regulations 17th Edition section 612.3.3.

The DLCS SET-DLCM is part of a range of energy conservation products available from Setsquare. This apparatus maybe turned on by high powered RF interference and should not be installed near pager aerials or Inductive loop equipment. It will recover when the RF ceases.



WEEE Directive.

Electrical and electronic equipment should never be disposed of with general domestic or commercial waste but collected for their proper treatment and recovery. The crossed out wheelee bin symbol is to remind you of the need to dispose of this product at the end of its life in a way that will assist in the recovery, recycling and reuse of many of the materials used in this product. Where possible also recycle the packaging.



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