

## Welcome to the CMD-16 driver unit

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The CMD-16 driver unit provides the control signals to run 4 groups of CM-50 colour downlighter heads. Each group may contain up to 4 heads, allowing a maximum of 16 CM-50 heads to be controlled from each CMD-16 unit.

## Connecting up

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First install the CM-50 downlighter units in the desired location, then connect them to the CMD-16 driver units using the 6-way flat cables.

Install a mains power feed to the CMD-16 unit.

If your installation includes several CMD-16 units, you can control them all together by linking them using 3-pin XLR cables. The cables should be plug-to-socket, wired straight through.

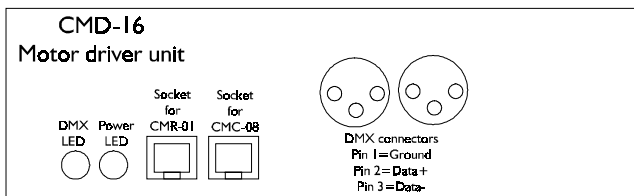
## System controllers

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The system may be controlled using a CMR-01 remote control, a CMC-08 programmable controller, or any other lighting controller using the DMX control standard.

If you use a CMR-01 remote control, you can only control one CMD-16 driver unit. You cannot link the driver units with this controller. Connect the CMR-01 unit to the CMD-16 unit using a 4-way cable into the socket nearest the LEDs.

If you use a CMC-08 control unit, connect it to the first CMD-16 unit in the line (the one with a free DMX input plug) using a 4-way cable into the socket farthest from the LEDs.



The CMR-01 and CMC-08 take power from the motor box and do not need a power supply.

If you are using a standard DMX controller, connect it to the first CMD-16 unit in the line (the one with a free DMX input plug). The wiring of the DMX signal should be ground on pin 1, "Hot" signal on pin 2, "Cold" signal on pin 3.

You can also use 0-10V analogue control signals, but channels 1-2 and 3-4 are linked together.

## Addressing the units

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The CMD-16 unit has dip switches which allow you to set the DMX start address of the unit. The start address may be set at any channel from 1 to 511.

Dip switch 10, when turned on, links all 4 channels together, so all outputs work from the base DMX channel, or analogue input 1.

If you are using the CMR-01 controller, dip switches 1-9 have no function. All 4 outputs are set to the same colour.

If you are using the CMC-08 controller, start addresses 1-8 may be set on the dip switches. If you set an address higher than 8 the unit will not respond.

If you are using another DMX controller, you can set any start address up to the output of the controller.

The dipswitches are set in binary code (1=switch 1 on). To work out how you need to set the dipswitches to get a certain channel number, use the following step-by-step procedure:

Step 1: Is number more than 256? If so turn switch 9 on and subtract 256.

Step 2: Is number more than 128? If so turn switch 8 on and subtract 128.

Step 3: Is number more than 64? If so turn switch 7 on and subtract 64.

Step 4: Is number more than 32? If so turn switch 6 on and subtract 32.

Step 5: Is number more than 16? If so turn switch 5 on and subtract 16.

Step 6: Is number more than 8? If so turn switch 4 on and subtract 8.

Step 7: Is number more than 4? If so turn switch 3 on and subtract 4.

Step 8: Is number more than 2? If so turn switch 2 on and subtract 2.

Step 9: Is result 1? If so turn switch 1 on.

# Testing the units

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When you turn on the power, all downlighter heads connected will change to white in an initialisation movement which takes about 20 seconds. Then the heads will move to their set positions.

The red light on the units indicates power to the unit is OK. The green light indicates that DMX data is being received OK.

If you are using the CMC-08 controller, the green light should be on.

If the red light is on, but the motors do not respond, you may have a wiring problem. Test the outputs of the unit using a single downlighter head on a short cable, with no other heads connected.

# Specifications

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Control protocol: DMX512 (4 channels occupied)

Analog control: 0-10V (2 channels)

DC output to CMC-08: 12V unregulated

DC output to CMR-01: 10V regulated, 20mA maximum

DMX control values (intermediate values snap to the nearest colour):

- 0=White
- 43=Amber
- 75=Green
- 108=Pink
- 140=Cyan
- 173=Blue
- 205=Orange
- 254=Autoscroll

Analog control voltages (intermediate values snap to the nearest colour):

- 0V=Stop
- 1V=White
- 2V=Amber
- 3V=Green
- 4V=Pink
- 5V=Cyan
- 6V=Blue
- 7V=Orange
- 8V=Autoscroll

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