

Bright Green Control Data Sheet

Bright Green Control is a range of low voltage dimmer units designed to control the brightness of our LED product range. Choose Bright Green Control to save energy, adjust brightness for your conditions or to enable remote control operation.

Features

- 9 – 32V DC low voltage operation
- Up to 240W load at 24V
- No minimum load requirement
- 0 - 100% flickerless dimming range
- Voltage, switch or potentiometer controlled
- High-accuracy PWM
- Fully protected and ruggedised

Product Range

In addition to the control options, Bright Green Control is available in high load, IP68 and extended temperature range versions.

	C-DIM-PB10	C-DIM-PT10	C-DIM-SW10	C-DIM-VC10
Nominal supply voltage range	9-32V DC			
Peak supply voltage range	5.5 - 40V			
Quiescent current, max	9mA			
Maximum current output	10A			
Continuous output power, max	120W at 12V 240W at 24V			
Peak output current	30A			
Control input impedance		10 k Ω		4.7 k Ω
Operating temperature range	-5C to 70C Extended temperature: -40C to 70C			
PWM switching frequency	240 Hz \pm 3%; 0% – 100% duty cycle			
Dimensions	52 x 52 x 31mm			
Mechanical fixing	2 x 5mm, 20mm pitch			
Electrical connection	5 x 4mm ² , rising clamp terminal block			

Mounting and Connection

Typically connection is to a low-voltage DC supply in the range 9 – 32V. The dimmers will run warm when operating loads exceed 60W, therefore it is important to secure the fixing tab to a suitable metal surface to allow heat dissipation. The units should be mounted in a cool location, away from sources of heat.

The units are sealed in epoxy resin in an ABS enclosure and are resistant to moisture and oils. The screw terminals are exposed however, and despite being zinc plated, could be susceptible to corrosion in extreme environments. It is recommended that exposure to acids and salts is minimised. Corrosion-proof IP68 rated units are available.

Connection terminals are high quality rising-clamp terminal blocks capable of receiving up to 4mm² cable. The connectors are spaced at 5mm pitch. To maximise the potential of the units, cable rated at currents exceeding the load by 1.5 times should be used to connect the units, and the use of a bootlace ferrule at the dimmer terminals is recommended.

Temperature Range

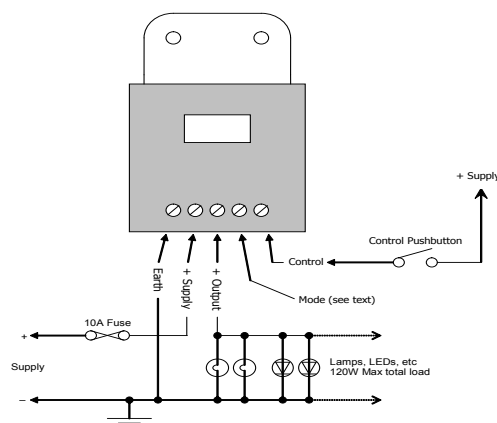
Bright Green Control operates from –5 to +70 Celsius. Extended temperature range options are available and operate from –40 to +70 Celsius.

C-DIM-PB10

C-DIM-PB10 is controlled by an integral push button.

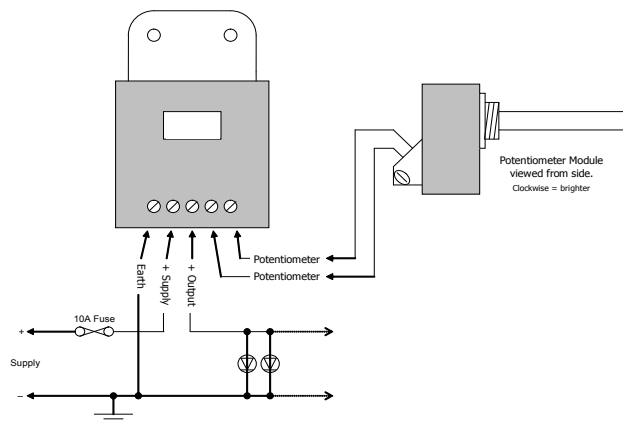
This button controls the dimmer operation; a brief press will toggle the lamp on or off and a sustained press will cause the lamp brightness to ramp up or down for as long as the button is held, repeating until the button is released at the desired brightness level.

The Mode input should be connected at installation. Leaving the Mode input unconnected ensures full brightness at power on. Alternatively, connecting the mode input to the +supply recalls the last saved brightness at power on. The brightness ramp direction swaps between switch presses for accurate and fast adjustment.



C-DIM-PT10

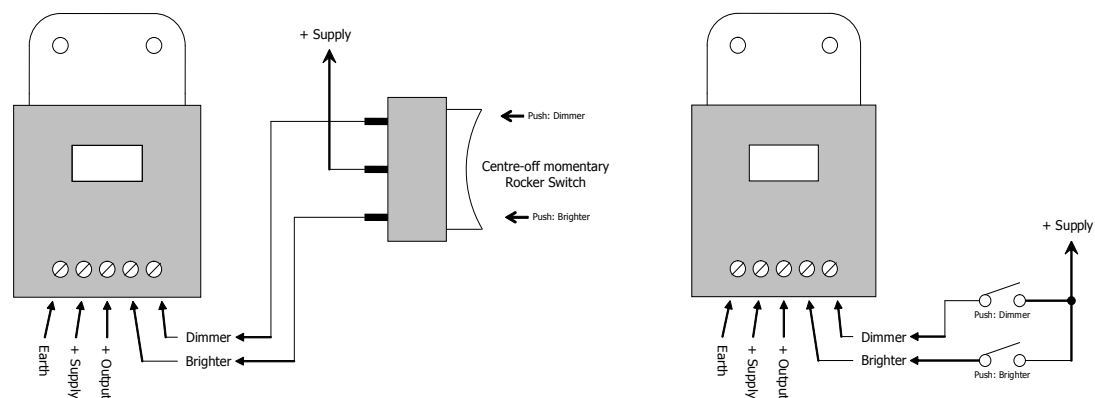
C-DIM-PT10 is connected to the external potentiometer unit with 2-core cable. Turning the potentiometer shaft clockwise will increase the lamp brightness, anti-clockwise will decrease the lamp brightness. C-DIM-PT10 features a fail-safe feature whereby in the event of an open circuit between the dimmer and the potentiometer unit, the output will default to full brightness. The dimming control can be any resistance such as a thermistor – for temperature controlled dimming, or an LDR – for light controlled dimming. 0Ω = fully off, $10k\Omega$ = full brightness.



C-DIM-SW10

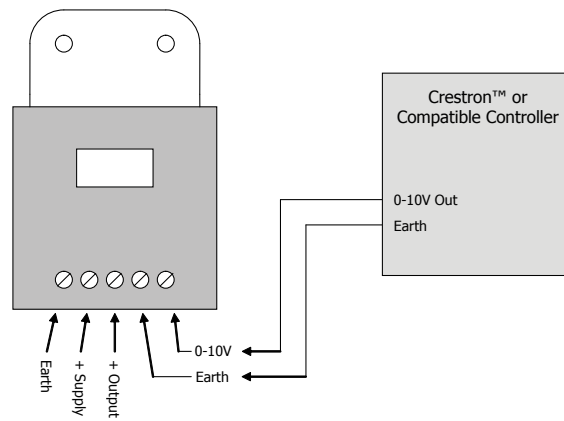
The 'Brighter' and 'Dimmer' inputs should be switched to positive through a suitable rocker switch or push buttons (not supplied) – a centre-off momentary rocker switch is shown below-left, and push buttons are shown below-right. A brief press of the switch will increase or decrease the brightness a small amount. If the switch is pressed continuously, the brightness will increase or decrease for as long as the switch is held, until either the fully-on or fully-off state is reached. The 'switch' can be any kind of switch, including relay contacts, but it must be switched to the positive supply voltage.

The C-DIM-SW10 has a built-in function to save the current brightness setting. The brightness level remains in memory when power is removed and is restored when power is re-applied.

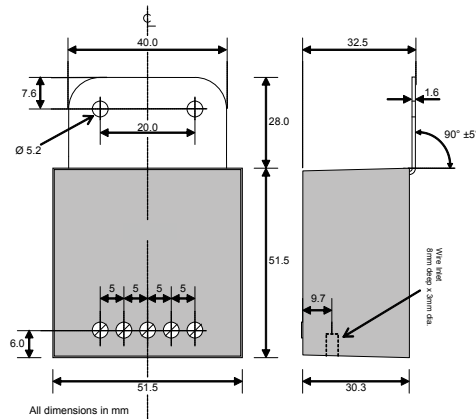


C-DIM-VC10

The control input is designed to accept an analogue 0-10V control signal from a PLC, lighting controller, Crestron™ controller, or similar. As the input signal is varied between 0 and 10V the brightness changes synchronously. An input of less than 0.2V turns the lamp fully off and more than 9.8V turns the lamp fully on. The two earth connections on the unit are internally tied together and only one of them can be connected if desired. The control input is protected against over-voltage, although it should never exceed the unit's supply voltage. The control voltage input and the dimmer supply voltage are not electrically isolated from each other.



DIMENSIONS



ADDITIONAL OPTIONS

C-DIM-RF10 is a radio controlled dimmer. Brightness up, brightness down and on/off can be controlled from a small key-fob radio transmitter that's small enough to fit on a key-ring. The unit will work up to 150m away. Refer to the RF-DM data sheet for detailed specification.

C-DIM-SL10 is designed to connect to one of the other Bright Green Control series units to increase its power. Up to 100 C-DIM-SL10s can be connected to a single controller providing dimming for up to 12kW of lighting. Refer to the data sheet for detailed specification.



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