

# DDLEDC605GL

## LED Controller Installation Manual



### features

- **Single or Dual External DC Supply** – Controller supply voltage range is 10-24VDC. Dual DC supply option overcomes single DIN rail power supply limitations and allows dual voltage load control between groups 1-3 and 4-6.
- **6 x 5A Voltage Mode Common Anode LED Outputs.** Total box load 20A.
- **RS485 Serial Port supports DyNet & DMX512 protocols**
- **Many Control Options** – Control of this device can be via a combination of methods eg. Serial control port, relay contacts, push button control panels, infrared receivers and timeclocks.
- **Simple Installation** – DIN Rail mount facilitates installation. All connection terminals accessible without disassembly.



**WARNING**

ISOLATE POWER SUPPLY FROM MAINS BEFORE REMOVING THIS COVER  
NO USER SERVICEABLE PARTS INSIDE  
SERVICE BY QUALIFIED PERSONNEL ONLY

To reduce the risk of fire or electric shock, do not expose this device to rain or moisture. Do not energise unless the front cover is in place. Power supply and the shield terminal of this device must be earthed. Installation, programming and maintenance must be carried out by qualified personnel. Use Safety approved SELV double-insulated power supply only.

**Special Programming** – Once powered and terminated correctly this device will only operate in basic mode. A new Dynalite panel will turn on all lighting channels from button 1 and turn off from button 4 if network terminations are correct. Only once the full network is test correct can commissioning begin. Advanced functions can be commissioned via Envision software. If commissioning is required, contact your local distributor for details.

**Check Connections** – Tighten all load-carrying screw connections, as vibrations from transport can cause terminal block screws to become loose.

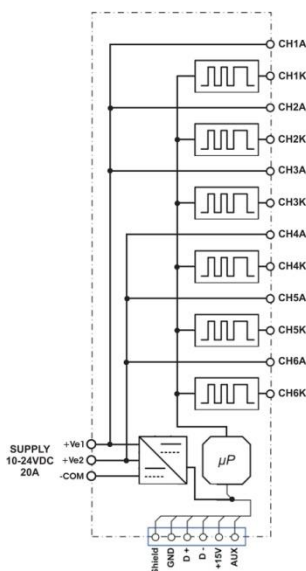
**Power Sources** – This device requires an appropriately sized single or dual external DC supply to operate. Power supply connected to terminal Ve1 supplies channels 1-3. Power supply connected to terminal Ve2 supplies channels 4-6. If single supply is used, Ve1 & Ve2 terminals need to be linked with a 2.5mm<sup>2</sup> link. DC supply shall have better than 2% regulation and less than 1Vp-p ripple at full load. Power supply must be earthed. Use safety approved SELV double-insulated power supply only.

**Output Circuits** – The device is designed to control 5A Voltage Mode Common Anode LED loads. Connecting this device to other load types may damage this controller and/or your loads.

**Mounting Location** – Install in a dry, well-ventilated location. Controllers may emit some mechanical noise. Take this into account when deciding the mounting location.

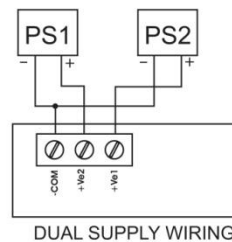
**Data Cable** – Use screened, stranded RS485 data cable with three twisted pairs. Segregate from mains cable by 300mm minimum. Connect devices in a 'daisy chain'. A data cable connected to an energized device is live. Do not cut or terminate live data cables. Shield terminal of this device must be earthed.

### electrical diagram

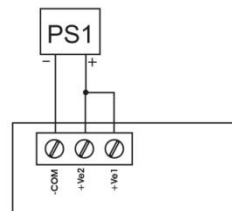


### power supply wiring diagram

DDLEDC605GL EXTERNAL POWER SUPPLY WIRING DIAGRAM



DUAL SUPPLY WIRING



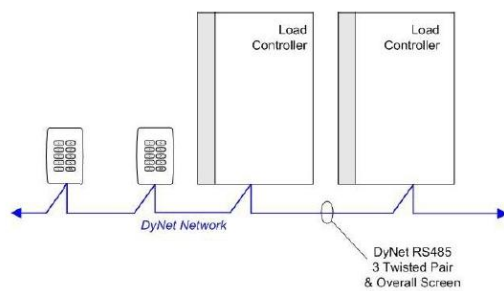
SINGLE SUPPLY WIRING

# installation steps

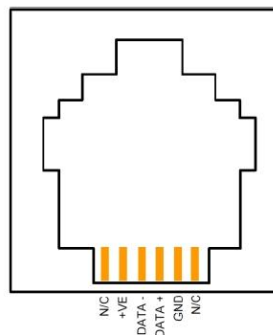
1. Mount the device on a DIN rail inside an approved enclosure.
2. Calculate loads to ensure channels are not overloaded, then connect loads to the output channels. The maximum loading of this device is as follows:  
**Maximum Channel Load: 5A (minimum channel load requirement is 10mA)**  
**Total Box Load: 20A**
3. Check the type of drive your LED array requires against the output mode of this controller, which is: Voltage Mode, Common Anode. LED fixtures must be suitable for SELV connection. Connect the LED arrays to the output terminals.
4. Determine the type of external DC supply required for your load. The nominal voltage should fall within the controller's rate supply range and be compatible with the LED loads, including provision for 0.25V internal voltage drop. DC supply should be rated at 20A if the device is to be fully loaded, have better than 2% regulation and < 1V p-p ripple at full load. The DC output of the power supply must be SELV. Contact your Dyalite distributor for advice in selecting a suitable DC supply.
5. Connect the DC supply to the Supply terminals. Be careful of polarity when connecting the supply, + to + and - to -. Use a cable size that can withstand the short circuit current of the power supply you are using, with 2.5mm<sup>2</sup> cable size being the minimum. Keep the cable length between the DC supply and the DDLEDC605GL under 1m for 12V supply and under 2m for 24V supply. Single power supply option requires 2.5mm<sup>2</sup> wire link between Ve1 & Ve2. Keep the cable length between DDLEDC605GL and load under 10m for 12V supply and 20m for 24V supply. Longer cable lengths are allowed and may result in greater than 10% voltage drop.
6. Connect data cables to the device as per diagrams below.

## Connecting Data Cable

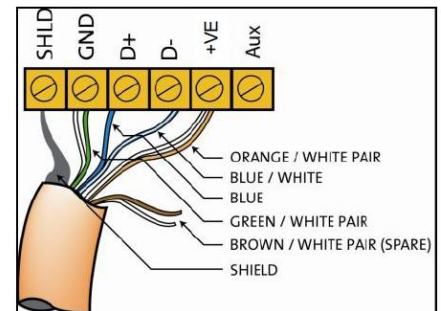
Connect Data Cable in a 'Daisy Chain'



RJ12 Socket Connections



Serial Cable Permanent Connections



## Recommended Cable Colour Coding

<b>Green/White Pair</b>	paralleled for GND
<b>Orange/White Pair</b>	paralleled for +12V
<b>Blue/White Pair</b>	Blue for DATA+
	White for DATA-
<b>Brown/White Pair</b>	Spare, use for Shield on unshielded cable

## Recommended Cable Types

Belden:	9503	M&M cable:	B9503CS
Garland:	MCP3S	Multicables:	AWME120236209220
Hartland:	HCK603	RS Components:	368-687
M&M Cable:	B2003CS	Dyalite:	DYNET-STP-CABLE

## product specifications

<b>Supply:</b>	10-24VDC
<b>Load Outputs:</b>	6 x 5A Voltage Mode Common Anode LED Outputs
<b>Output Capacity:</b>	20A Box Total
	5A per individual channel, minimum load requirement is 100mA
<b>Output Protection:</b>	Electronic overload/short circuit protection. Self resetting fuse on each channel.
<b>Supply Terminals:</b>	2 x Ve, 1 x -COM, up to 1 x 4mm <sup>2</sup> cable per terminal
<b>Load Terminals:</b>	CHxA(+). CHxK(-) for each channel, up to 1 x 2.5mm <sup>2</sup> conductor size per terminal
<b>IO:</b>	1 x RS485 DyNet/DMX512 opto isolated serial port,
<b>DyNet DC Supply:</b>	120mA
<b>Preset Scenes:</b>	170
<b>Compliance:</b>	CE, C-Tick, EN61347-1
<b>Operating Environment:</b>	0° to 40°C ambient temperature
	0% to 90% RH non-condensing
<b>Construction:</b>	Polycarbonate plastic DIN rail mount
<b>Dimensions:</b>	H 94.5mm x W 105mm x D 75mm
<b>Weight:</b>	1.0kg