

# DDRC820FR

## 8 x 20A Relay Controller Installation Manual



### features

- **8 x Feed thru Outputs** Latching Relays rated at 20A Inductive, no de-rating necessary
- **Separate Control Supply** - 1 phase at 0.1A
- **Manual Overrides for each channel**
- **Powerful Internal PLC** - Custom scripts can be written to provide process control based on conditional logic
- **Many Control Options** - Control of this device can be via a combination of methods, eg. serial control port, relay contacts, push button wall stations, infrared receivers and time clocks
- **Simple Installation** - DIN Rail mount facilitates installation. All connection terminals are accessible without disassembly



**WARNING**

ISOLATE FROM  
MAINS SUPPLY 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. This device must be earthed. Installation, programming and maintenance must be carried out by qualified personnel.

**Warning** – This is a class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

**Read Instructions** – We recommend that you read this Instruction Manual prior to commencement of installation.

**Manual Override Switches** - These switches do not provide permanent isolation. Isolate at the supply before performing work on load circuits.

**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.

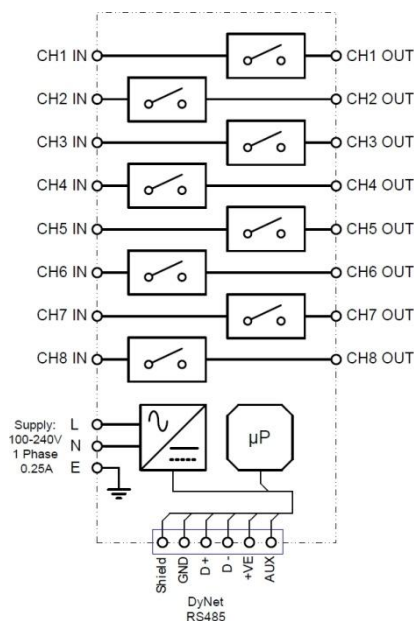
**Power Sources** – This device should only be operated from the type of supply specified on the front cover. This device *must* be earthed.

**Output Circuits** – The load on a circuit should not exceed the specified capacity of 20A. Loads should be calculated to ensure that the overall maximum capacity of 160A is not exceeded. Each channel shall be protected with a HRC fuse or MCB rated 20A or less.. Output circuits are suitable for 1 Phase with Neutral, 3 Phase with neutral (Star) and 3 Phase without neutral (Delta).

**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 cables by 300mm minimum. Connect devices in a 'daisy chain'. A data cable that is connected to an energised device is live. Do not cut or terminate live data cables.

### electrical diagram

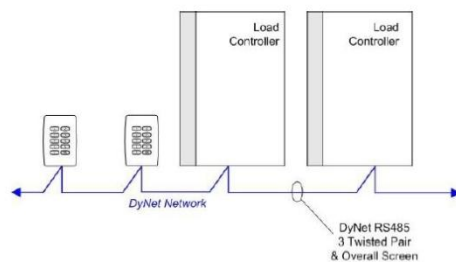


# installation steps

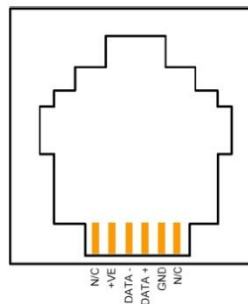
1. Mount the device on a DIN rail inside an approved enclosure.
2. Calculate loads to ensure any channels are not overloaded, then connect loads to the output channels. The maximum loading of this device is as follows:  
**Maximum Channel Load: 20A 250V AC**  
**Total Box Load: 160A**  
 Connect supply and load cables to each channel. Note that this device must have an individual supply circuit for each channel. The supply circuits can be on any phase. Single Phase, 3 Phase Star and Delta are all supported.
3. Connect a single phase 0.1A feed to the control circuit supply terminals. This device must be earthed.
4. Connect data cables to the device as per diagrams below.
5. If the Auxiliary input is to be used, connect a dry contact device in between the AUX and GND terminals. Keep cable runs between the device and the dry contacts under two metres. The function of the Auxiliary input will need to be programmed at the time of commissioning.

## Connecting Data Cable

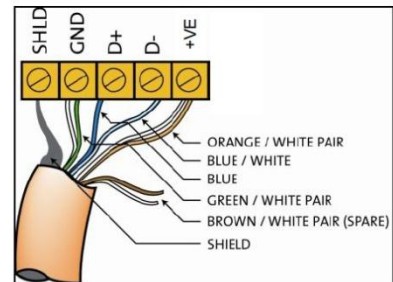
Connect Data Cable in a 'Daisy Chain'



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	Dynalite:	DYNET-STP-CABLE

<b>Control Supply:</b>	100-240V 50/60Hz Single Phase at 0.1A
<b>Load Outputs:</b>	8 x Feed Thru Outputs at 20A per channel, max total box load is 160A Wiring topologies supported: 1 Phase & Neutral, 3 Phase & Neutral (Star) 3 Phase no Neutral (Delta)
<b>Switching Device:</b>	Relay – 50A 230V AC inductive (5000W Lighting Load rated)
<b>Supply Terminals:</b>	1 x Phase, 1 x Neutral 1 x Earth, up to 1 x 4mm <sup>2</sup> cable per terminal
<b>Load Terminals:</b>	IN, OUT for each channel, up to 1 x 4mm <sup>2</sup> cable per terminal
<b>IO:</b>	1 x RS485 DyNet/DMX512 serial port 1 x AUX programmable dry contact input
<b>DyNet DC Supply:</b>	120mA (supply for approx 6 panels)
<b>Presets:</b>	170
<b>Programmable Logic:</b>	8 Tasks, most UPAN mnemonics supported
<b>Compliance:</b>	CE, C-Tick
<b>Ambient Temperature:</b>	0°-50°C Ambient temperature; 0% - 90% RH non-condensing.
<b>Construction:</b>	Polycarbonate plastic DIN rail mount
<b>Dimensions:</b>	Height 93mm x Width 211mm x Depth 75mm
<b>Weight:</b>	1.0 kg