

DDBC120-DALI

DALI Multi Master Controller Installation Manual



features

- **Supply** – 100-240V 50/60Hz Single Phase at 0.25A.
- **1 x DALI Output** – Suitable for DALI HF ballasts, electronic low-voltage transformers and LED fixtures. Philips Dynamalite multi master enabled for use with DPM1940-DALI and DUS804C-DALI only.
- **1 x Feed Thru Switched Circuit** – rated at 20A
- **Built-in DALI Bus Power Supply of 220mA @ 16VDC** – No external DALI power supply required.
- **Override and Status Indicator for Switched Channel**
- **Dry Contact Interface** – Can be programmed to perform many different functions. The factory settings will cause this input to transmit network identification information.
- **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, timeclocks and Philips Dynamalite user interfaces on the DALI network.
- **Simple Installation** – DIN Rail mount facilitates installation. All connection terminals accessible without disassembly.



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. The 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.

Special Programming – This device is designed for professional installation only, and will only operate in basic modes unless programmed via a computer. If programming is required, contact your local agent for details. Once the data cable is connected to the devices, the factory default settings will allow any control panel to control all channels in all dimmers.

Check Connections – Re-tighten all connections after installation.

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

Output Circuit – The load on the switched circuits should not exceed the specified capacity of 20A, these circuits should be fed via a 20A circuit breaker.

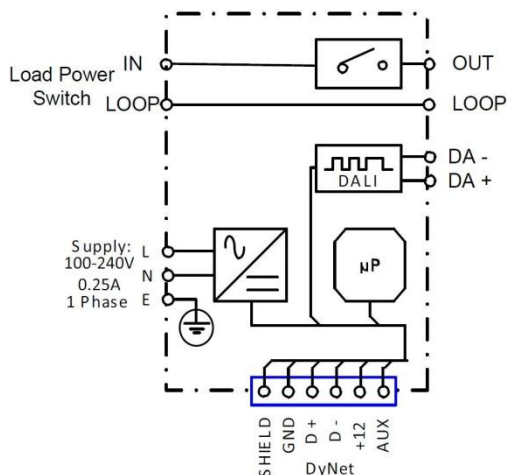
Load Control Circuit – A 2 core DALI bus cable is required to be run to the loads, this cable is in addition to the mains feed.

Load Type – This product is intended to control DALI devices and Switched devices.

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.

electrical diagram



WARNING: Do not connect any DALI terminals or wires to mains power. DALI wires are NOT SELV and should never be considered touch safe. Basic insulation or higher is required between DALI wires and mains cabling. Do not connect external DALI power supply to the same DALI bus.

installation steps

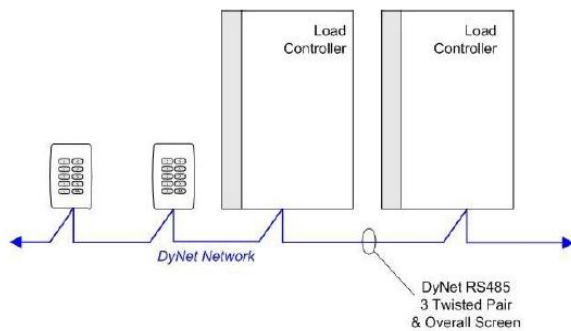
Isolate Mains supply, DALI and Dynet bus prior to wiring

1. Mount the device on a DIN rail inside an approved enclosure.
2. Connect single phase supply and earth to units supply terminals: This is required for the units operation.
3. Calculate total loading of the lighting to ensure the switched output is not overloaded. The maximum loading of this device shall not exceed 20A. Ensure load in rushing current does not exceed 500A, de-rating for electronic loads may apply. Then connect load cables between the "OUT" and "LOOP" terminals.
4. Connect 20A active supply between "IN" & "LOOP" terminals. Supply must be protected by a 20A circuit breaker maximum.
5. Connect the DALI bus cables to "DA+" and "DA-": Use a mains rated 2 core cable to connect the DALI bus to the DALI ports on all DALI devices. The DALI bus cable should not be longer than 300 Metres, and should have a minimum cross section area based on cable length as follows:
 - Up to 100 Metres: 0.5mm²
 - 100 to 150 Metres: 0.75mm²
 - 150 to 300 Metres: 1.5mm²

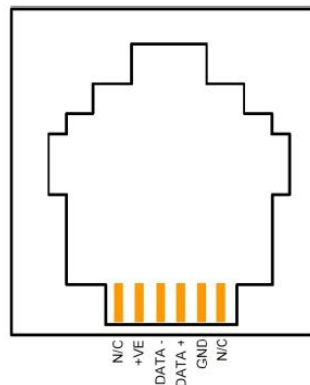
The DALI bus is not SELV and must be treated as a mains cable. DALI is not polarity conscious. A maximum of 64 DALI devices plus a 10 Philips Dynalite user interfaces devices (DPMI940-DALI & DUS804C-DALI) can be connected together in a DALI network.
6. Connect Dynet data cables to the device as per diagrams below. Ensure segregate between data cables and mains powered cables.
7. 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 AUX terminals and the dry contacts under two metres. Function of the Auxiliary input will need to be programmed at the time of commissioning.
8. Re check all terminated cables and once safe power the unit on. Correct termination of the DALI ballasts can be verified by pushing the service switch 4 times. This will invoke a light chase, where all the correctly terminated ballasts will cycle between 100% for 3 seconds, 40% for 3 seconds and 0% for 3 seconds. This chase will repeat for 5 minutes after which all ballasts will return to their original state when first powered.

Connecting Dynet Data Cable

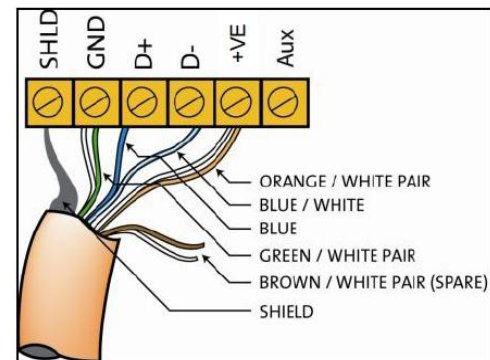
Connect Data Cable in a 'Daisy Chain'



RJ12 Socket Connections



Serial Cable Permanent Connections



Recommended Cable Colour Coding

Green/White Pair	paralleled for GND
Orange/White Pair	paralleled for +12V
Blue/White Pair	Blue for DATA+
	White for DATA-
Brown/White Pair	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

product specifications:

Supply:	100-240V 50/60Hz Single Phase at 0.25A
Control Output:	1 x DALI Control Output, supporting one full DALI universe of 64 channels, including backward channel and multi master communication to Philips Dynalite user interfaces.
Mains Output:	1 x 20 Amp feed thru switched circuit for DALI ballast mains supply
Supply Terminals:	1 x Phase, 1 x Neutral, 1 x Earth, 1 x 4mm ² max conductor size
Output Terminals:	1 x Ballast power circuit – Line in, Line out, Loop, Loop - 1 x 4mm ² max conductor size 1 x DALI Ballast circuit - DA-, DA+ - 1 x 4mm ² max conductor size
Control Inputs:	1 x RS485 DyNet serial port consisting of 1 x RJ12 socket & 1 x 5 way terminal block 1 x AUX dry contact input and ground
DALI BUS DC Supply:	Inbuilt, Rated 220mA @ 16VDC current unit max 250mA
DyNet DC Supply:	120mA (capacity for approximately 6 panels)
Preset Scenes:	170
Compliance:	CE, C-Tick
Operating Environment:	0° to 40°C ambient temperature 0% to 90% RH non-condensing
Construction:	Polycarbonate DIN rail mount
Dimensions:	H 93 mm x W 105mm x D 75mm
Weight:	0.45kg

DDBC120-DALI Instruction Manual Rev B.doc. Specifications subject to change without notice.

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