DMNG232

RS232 to DyNet Serial Port Interface
Installation Manual

features

- **1 x RS232 Port** - Operation of the port is programmable

- **1 x RS485 DyNet Port -** Available on a 5 way terminal strip and a RJ12 socket

- **Powerful Internal PLC -** Custom scripts can be written to provide process control based on conditional logic and protocol translation between Dynalite's DyNet and other protocols

- **Powered from the DyNet Network** – No need for an external power supply

- Pre Programmed "Plain English" Text Inte **rpreter -** The factory default settings will allow control of a Dynalite system via plain English text strings that can be sent by a terminal program or AV controller.

- **Simple Installation -** Compact enclosure allows the device to be conveniently placed near the device to be controlled. All connections are accessible without disassembly

important notes

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

Special Programming – This device will only operate in basic modes unless programmed via a computer. If programming is required, contact your local agent for details. The factory default settings will allow control of a Dynalite system via plain English text strings. Consult the DNG232 Programming Manual for information on custom programming for this device

Installation Location – Install in a dry location, close to the equipment to be interfaced with.

RS232 Cable Length - Should not exceed 15 meters for baud rates up to 9600. Baud rates higher than 9600 may require maximum RS232 cable lengths of less than 15 meters.

RS485 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.

plain english text interpreter

The factory settings will allow control of a Dynalite system via plain English text strings which can be easily sent from a terminal program. To use the Microsoft terminal program, from the Start menu go to Programs > Accessories > Communications > HyperTerminal, then enter any name for the connection then select your PC's COM port (usually COM1) at 9600 baud with no flow control.

Examples of plain English commands ([enter] means the Enter key on the computer's keyboard):

Desired Action	Type this string	Device will reply with this string
Selecting Preset 8 in Area 1 with a fade of 3 seconds	Preset 8 Area 1 Fade 3 [enter]	Preset 8 Area 1 Fade 3
Request the Current Preset for Area 1	RequestCurrentPreset Area 1 [enter]	Reply with Current Preset x Area 1 Join ffhex
Fade Channel 4 in Area 1 to a level of 70%	Channel 4 Area 1 Level 70 Fade 3 [enter]	Channel 4 Area 1 Level 70 Fade 3
Request the current level for Channel 1 Area 1	RequestChannelLevel 1 Area 1 [enter]	Channel 1 Area 1 Level 70
Request a full list of commands available	help [enter]	

Most commands have abbreviated versions, which are detailed in the help section. As well as using a Terminal program, commands may be sent and received via automation software. To facilitate this the astrix character * may precede a command to flush the transmit buffer of any information, eg.

* Channel 4 Area 1 Level 70 Fade 3 <CR>

Note the preceding * which will flush any existing information from the transmit buffer, see the "help" function for more details.

installation steps

1. Decide if the equipment to be connected to the RS232 port is classified as COMPUTER (DTE) or MODEM (DCE). The factory setting for the RS232 port is Computer. To change this setting to MODEM remove the cover and move the mode jumpers to the MODEM position.
2. Connect the RS232 port on the DNG232 to the RS232 port on the other device using a 9 pin D connector straight through cable.
3. Connect the RS485 cable to the DyNet 5 way terminal strip. Note that this device consumes 40mA of power from the DyNet network
4. The factory settings will allow control of a Dynalite system via plain English text strings that can be sent by a terminal program such as the one included in Microsoft Windows, which allows the DNG232 to be easily tested. See the section on Plain English commands. Detailed programming information is available in the document: DNG232 Programming Manual

connecting RS232 data cable

**RS232 Connector:** 9 pin Female D connector

RS232 Connector Pinouts

| Pin	Function	Implementation
1	DCD (data carrier detect)	Not connected
2	RD (received data)	Connected to UART
3	TD (transmitted data)	Connected to UART
4	DTR (data terminal ready)	Not connected
5	SG (signal ground)	Connected to Ground
6	DSR (data set ready)	Not connected
7	RTS (request to send)	Software controlled
8	CTS (clear to send)	Software controlled
9	RI (ring indicator)	Not connected

connecting data cable

Connect Data Cable in a 'Daisy Chain'
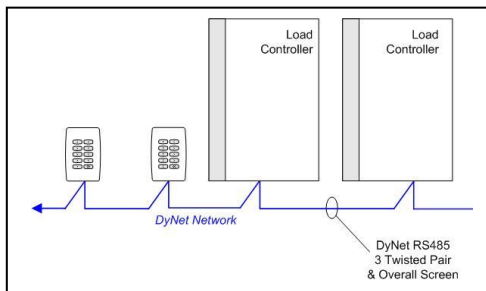
RJ12 Socket Connections
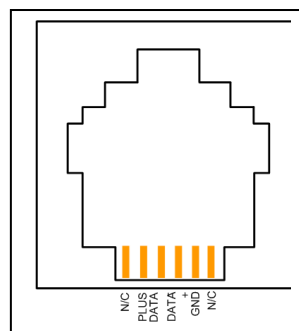
Serial Cable Permanent Connections
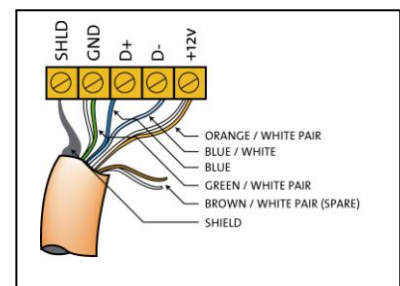
recommended cable colour coding

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

recommended cable types

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

product specifications

RS485 Serial Port:	1 x RS485 unterminated DyNet, consisting of 1 x RJ12 socket & 1 x 5 way terminal strip, for permanent connections
RS232 Serial Port:	1 x RS232 9 pin female D connector
RS232 Port Modes:	COMPUTER (DTE), MODEM (DCE)
RS232 Data Formats:	Baud rate: 1200 - 460800, Max packet length: 254 bytes, Data bits: 7/8, Stop bits: 1/2, Parity: odd/even/none
User Controls:	Service Switch, Diagnostic LED
Internal Controls:	Programmable Logic Controller
Operating Environment:	0º to 50ºC ambient temperature, 0% to 95% RH non condensing
Power Consumption:	40mA from the DyNet network
Compliance:	CE, C-Tick
Ambient Temperature:	50°C max.
Construction:	ABS plastic stand alone enclosure
Dimensions:	H 30mm x W 80mm x D 150mm
Weight:	0.15Kg

DMNG232 Instruction Manual Rev E.Doc Specifications subject to change without notice
Dynalite manufactured by WMGD Pty Ltd (ABN 33 097 246 921) Unit 6, 691 Gardeners Road Mascot NSW 2020 Australia Tel: +61 2 8338 9899 Fax: +61 2 8338 9333
E-Mail: **info@dynalite-online.com**   Web: **dynalite-online.com**