

DMX-Relay

User's Guide



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I N T R O D U C T I O N

Overview

The DMX-Relay provides a compact method of translation between the DMX512 protocol and up to 24 change-over relays.

The DMX512 input is optically isolated and conforms to both DMX512 (4uS) and DMX512 1990 standards.

The start address of the received DMX512 is set by three front panel thumbwheel switches. The front panel also provides LED indication of power and data received.

Start Address

The start address is used to select the DMX512 channel, which controls the first output of the DMX-Relay. For example, a start address of 005 means that the first relay of the DMX-Relay is controlled by DMX512 channel 5, the second relay is controlled by DMX512 channel 6 and so on.

The three rotary switches on the front panel are used to select the start address. Valid start addresses are in the range 001 to 512.

Test Mode

The DMX-Relay provides a test mode, which allows any single relay to be switched on without a DMX512 signal.

Selecting the 'hundreds' wheel to '7' sets test mode.

The 'tens' and 'units' wheels are then used to select the channel. For example, a code of 701 turns on the first relay, whilst the code 724 turns on relay 24.

Front Panel Indicators

The front panel shows status for both power and DMX512.

The Power LED is illuminated when power is applied to the DMX-Relay.

The Data LED is illuminated when valid DMX512 is received.

DMX512 Input

The DMX512 input is connected to the male 5 pin XLR on the rear panel. The female 5 pin XLR provides a passive loop through such that multiple DMX512 receivers can be connected to the same signal.

When the DMX-Relay is to be used at the end of a DMX512 cable, a termination connector should be fitted to the loop through.

The DMX512 input is optically isolated from the analogue outputs and mains earth.

Cable connection is as follows:

Pin 1	Protective ground	Connect to cable screen
Pin 2	Data complement	Connect to twisted pair wire
Pin 3	Data true	Connect to twisted pair wire
Pin 4	Not used	
Pin 5	Not used	

The termination connector is constructed by soldering a 120 ohm resistor between pin 2 and pin 3 of a male 5 pin XLR connector.

Relay Outputs

The relay outputs are all accessed via the 25 pin female DB connectors on the rear panel. Cable connection is as follows:

Connector Pin	O/P Con1	O/P Con 2	O/P Con 3
1	Relay 1 NC	Relay 9 NC	Relay 17 NC
2	Relay 1 Com	Relay 9 Com	Relay 17 Com
3	Relay 1 NO	Relay 9 NO	Relay 17 NO
4	Relay 2 NC	Relay 10 NC	Relay 18 NC
5	Relay 2 Com	Relay 10 Com	Relay 18 Com
6	Relay 2 NO	Relay 10 NO	Relay 18 NO
7	Relay 3 NC	Relay 11 NC	Relay 19 NC
8	Relay 3 Com	Relay 11 Com	Relay 19 Com
9	Relay 3 NO	Relay 11 NO	Relay 19 NO
10	Relay 4 NC	Relay 12 NC	Relay 20 NC
11	Relay 4 Com	Relay 12 Com	Relay 20 Com
12	Relay 4 NO	Relay 12 NO	Relay 20 NO
13			
14	Relay 5 NC	Relay 13 NC	Relay 21 NC
15	Relay 5 Com	Relay 13 Com	Relay 21 Com
16	Relay 5 NO	Relay 13 NO	Relay 21 NO
17	Relay 6 NC	Relay 14 NC	Relay 22 NC
18	Relay 6 Com	Relay 14 Com	Relay 22 Com
19	Relay 6 NO	Relay 14 NO	Relay 22 NO
20	Relay 7 NC	Relay 15 NC	Relay 23 NC
21	Relay 7 Com	Relay 15 Com	Relay 23 Com
22	Relay 7 NO	Relay 15 NO	Relay 23 NO
23	Relay 8 NC	Relay 16 NC	Relay 24 NC
24	Relay 8 Com	Relay 16 Com	Relay 24 Com
25	Relay 8 NO	Relay 16 NO	Relay 24 NO

Relay Ratings

Each relay channel has the following electromechanical specification:

Maximum Voltage	30V
Maximum switch current	500mA
Minimum contact load	100mA @ 5V
Electrical Life	100,000 operations at rated load
Mechanical life	100,000,000 operations
Typical operation time	10mS
Typical release time	5mS
Typical bounce time	10mS
Shock resistance	10g

Power Supply

The internal power supply accepts 90-250VAC. The mains fuse should only be replaced with the type specified on the rear panel.

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