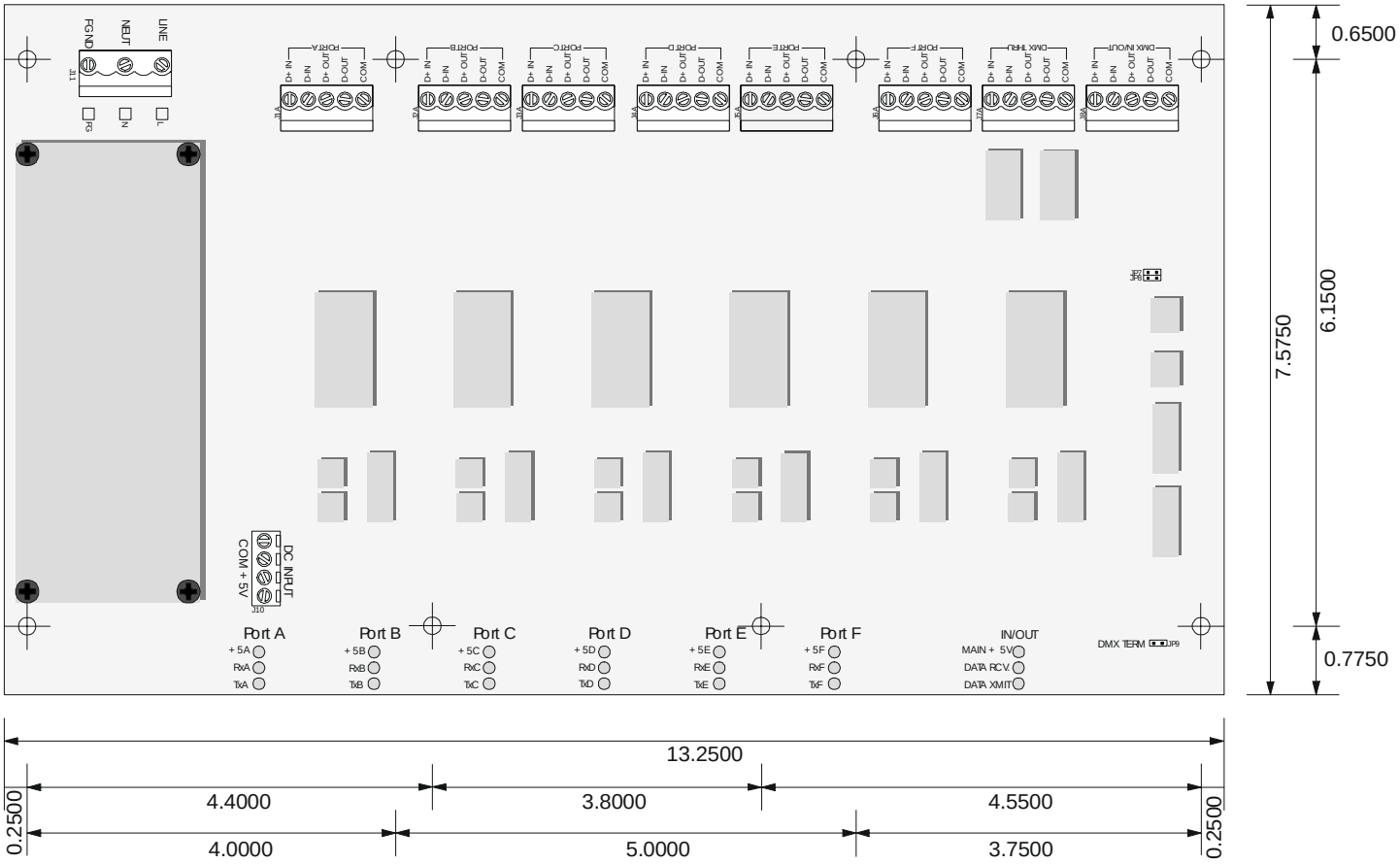
LCOR16 Repeater/Isolator *User Guide*



Operational Philosophy

To ensure trouble free operation, DMX512 standards require that DMX devices be installed in a daisy chain, with no tees, wyes or stars in the DMX wiring. However, site conditions may make star wiring desirable or even mandatory. A Gray Interfaces LCOR16 in ***repeater mode*** permits star wiring by making each branch of the star appear electrically as its own entity, unaffected by the other branches of the star. Additionally, opto-isolation circuitry isolates each branch to prevent ground loops or accidental damage from fault voltages on DMX lines.

Similarly, when there are several possible control console locations within a facility, the DMX standards preclude daisy chaining of console receptacles. Not only can this can result in un-terminated tee's, but the outputs of two or more consoles could be inadvertently shorted together. A Gray Interfaces LCOR16 in ***isolator mode*** permits star wiring of six console inputs.

Connections

REPEATER MODE

- The control console output (DMX source) is connected to D IN terminals on *DMX IN/OUT*
- DMX receptacles, connected to devices such as dimmers, scrollers or moving lights, are connected to D OUT terminals on *Ports A-F*.
- *DMX Thru* is used to connect the console output to additional DMX*Repeaters or other similar devices,* and would in turn be connected to DMX *IN/OUT* on the next unit in line.

ISOLATOR MODE

- The control console receptacles (DMX sources) are connected to the D IN terminals on *Ports A-F*
- The DMX receiving device, such as the dimmer or another opto-repeater, is connected to the D OUT terminals on *DMX IN/OUT*.
- *DMX Thru* is not used in Isolator Mode.

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Power

The LCOR16 is designed to work on voltages from 100-240 volts AC, 0.2A (10W). It will automatically sense the incoming voltage and adjust accordingly.

TURN OFF ALL POWER SUPPLIES BEFORE MAKING POWER CONNECTIONS.

Make your AC power connections to the terminals marked LINE, NEUT (neutral) and FGND (ground).

DMX Termination

Repeater Mode

If only one LCOR16 is used, and nothing is connected to the DMX THRU port, the termination jumper (JP9) must be installed to terminate the incoming DMX signal from the console. If several LCOR16s are connected together using the DMX THRU connector on each board, only the last LCOR16 in the chain is terminated, all the others are not terminated (jumper is not installed).

DMX receiving devices such as dimmers or scrollers are generally provided with a termination switch, termination jumper or other means of connecting the required termination resistance across the DMX line. Always make sure that the last receiving device connected to any output line is properly terminated.

NOTE:

To ensure that the incoming console DMX signal is not excessively terminated, the LCOR16 termination jumper also disables the DMX THRU connection.

Isolator Mode

The termination jumper (JP9) must be installed at all times when the LCOR16 is being used in Isolator Mode.

Indicators

LED indicators are provided on the face of the LCOR16 for diagnostic purposes. Each group of three port LED's corresponds to one of the DMX ports from A to F. The single group immediately to the left of the termination jumper corresponds to the DMX input/output.

Red LEDs are provided for the main (Input) +5 volt power supply and the six isolated supplies (+5V A, B, C etc.), green LEDs are provided for transmit data and amber LEDs are provided for received or talkback data, if used.

In **repeater mode** operation, the following should be observed:

- All red LED's should be illuminated whenever the unit is powered.
- The amber IN/OUT DATA RCV (receive) LED and six green transmit data LEDs should illuminate once a functioning console is connected to DMX Input.

If devices using DMX Talkback are used:

- The amber Talkback LED will illuminate at the output port (A to F) with the functioning Talkback device connected.
- The green Talkback LED should illuminate at the IN/OUT section.

In **isolator mode** operation, the following should be observed:

- The amber RX (A, B, C etc.) (receive) LED corresponding to the active console input should illuminate.
- The green IN/OUT DATA XMIT (transmit) LED should illuminate.

If DMX Talkback is used, the amber DATA RCV LED at the IN/OUT section and the green Tx LED at the console port (A-F) will be illuminated.

Specifications

Power Supply:	Universal input (100-240V, 50/60Hz)
Connections:	Two part compression screw terminals
Isolation	2500V Opto-isolation on DMX lines 4000V Mains isolation
Size:	13.25 x 7.575 (336 x 192 mm)
Protocols:	USITT DMX512 or any RS422 or RS485 based protocol

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