eDIN 4807, 4808 4809, 4810 Installation Repeater Installer's Guide

An essential component of any DMX512 distribution system, the use of eDIN Installation Repeaters permits star wiring while isolating and protecting connected equipment from harmful electrical faults. Pathway eDIN Installation Repeaters feature self-resetting protection devices on all ports to prevent internal damage when severe faults of up to 250V are accidentally applied to the connected DMX cabling.

Model 4808

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 Pathway eDIN Installation Repeater provides up to 4 eDIN opto-splitter cards, for a total possible 16 output branches. Each branch acts electrically as its own entity, unaffected by faults on other branches of the star.

Opto-isolation circuitry prevents ground loops or damage to control consoles by fault voltages on DMX lines.

MOUNTING

Pathway eDIN Installation Repeaters are designed for indoor use in a dry location. Mount the Installation Repeater to the wall with appropriate fasteners. Run conduit into the box through the knockouts provided, ensuring that line voltage wiring is kept inside the barriered power supply section.

CONNECTIONS

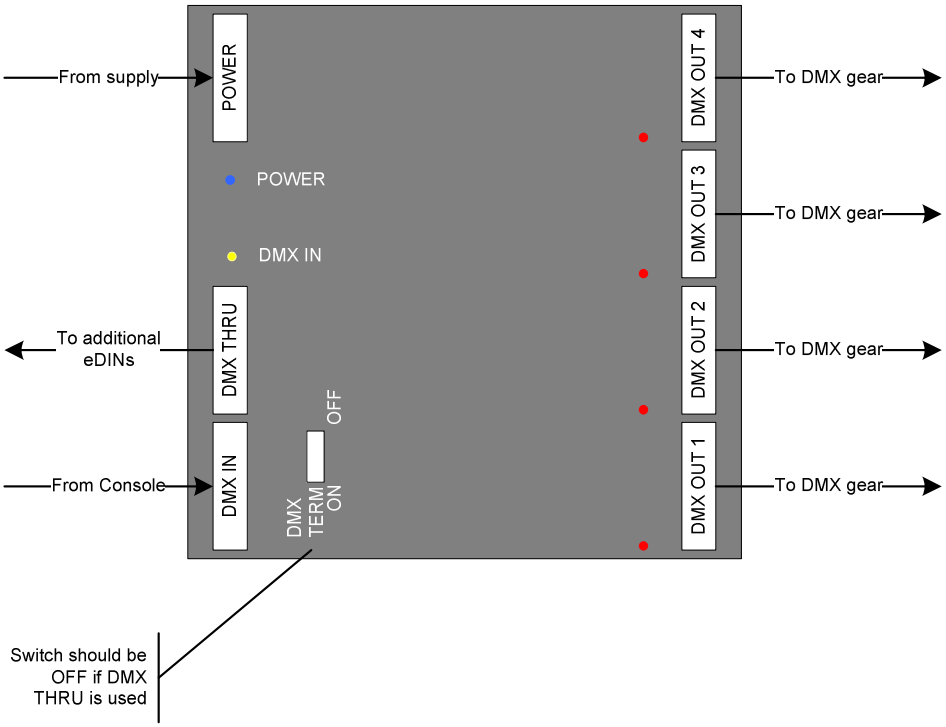
Pathway eDIN Installation Repeaters are delivered with the power supply pre-wired to the first opto card, and with all required wiring daisy-chained to any additional cards. The following connections must be done on-site.

WARNING : All DMX input/output ports must be connected to low-voltage data lines only. Do not connect high voltage sources to these connectors.

DMX IN is wired to the control console output or DMX source.

DMX OUTs are connected to the remote DMX devices or the receptacles for the equipment receiving the console signal. These may be dimmers, scrollers, or moving lights, for example.

Power. With the power off, make the appropriate connections to Ground, Neutral and Line of the power supply in the barriered section at the top of the cabinet.



DMX WIRING PIN OUTS

Standard RS422/485 Conductor Pin Outs (ie Belden, Proplex, etc)	
Terminal Pin	**Wire Color Manufacturer Specific**
Pin 1	Shield
Pin 2	Data – (pair 1 complement)
Pin 3	Data + (pair 1 true)
Pin 4	Optional Data – (pair 2 complement)
Pin 5	Optional Data + (pair 2 true)

Cat5, Cat5e and Cat6 Wiring Pin Outs		
Wire Color and #	**Function**	**Pin Number**
White/orange (1)	Data +	3
Orange (2)	Data –	2
White/green (3)	Optional Data +	5
Green (6)	Optional Data –	4
Blue (4)	Unused/unconnected	
White/blue (5)	Unused/unconnected	
White/brown (7)	Data signal common	1
Brown (8)	Data signal common	1

RECOMMENDED WIRING PRACTICE

Keep all DMX cabling away from high voltage/power cables to maintain data integrity. Use the appropriate wire for all connections.

- DC Power Connections: Insulated #18-16 AWG, stranded or solid core
- DMX wire cable shield may be earth-grounded at one end only, preferably at the control console.
- The last DMX device on the line must be terminated with a termination switch or resistor with a value of 100 to 120 ohms between pin 2 and 3. RDM capable ports are self-terminated automatically.

EXPANSION INSTRUCTIONS

eDIN Installation Repeaters may hold up to two opto-splitter cards (model 4807 and 4808) or four cards (models 4809 and 4810). If the original enclosure holds less than its limit, it is possible to add cards. It's also possible to pass through data and low voltage power to a second enclosure.

DMX THRU is wired to the DMX IN connector on the additional module. While not isolated, DMX THRU can also be used to pass signal to other devices.

Power can also be daisy-chained using the second pair of V+ and V- terminals. Polarity should be followed at the receiving device.

WARNING: Always disconnect main power before removing the enclosure's cover. eDIN Installation Repeaters are designed to operate on a mains voltage of 90-250 volts AC.

DMX TERMINATION

If nothing is connected to the DMX THRU terminal block of the final opto-splitter card, then the termination switch on this card must be set to the ON position. All the other cards are not terminated (switch in the OFF position).

If another card is added, or the signal is passed through to another device, the switch on the final card will need to be moved to the OFF position and the termination applied at the new final device. Always make sure the final receiving device connected to any output or branch line is properly terminated using its internal switch or jumper or if necessary a resistor of 120 Ω between pins 2 and 3.

INDICATORS

The face of each card inside the Installation Repeater has the following LEDs:

- The Power LED will illuminate when power is connected to the card. There is no on/off switch.
- The DMX IN LED will illuminate and flicker rapidly when DMX data is being received.
- Each DMX output has a DMX OUT LED that will illuminate and flicker when DMX is being output by that branch.

DMX 512A COMPLIANCE

This product complies with the DMX512-A standard, under the non-compatible connector (NCC) provision. All ports are protected to 250V.

MODEL DESCRIPTIONS

4807	4-way eDIN Installation Repeater
4808	8-way eDIN Installation Repeater
4809	12-way eDIN Installation Repeater
4810	16-way eDIN Installation Repeater

SPECIFICATIONS

POWER SUPPLY:	Universal input (90-250V, 50/60 Hz)
PSU CONNECTIONS	Screw-down terminals; 12 –18 AWG
INPUT & OUTPUT SIGNAL:	USITT DMX512/1990 and E1.11 (DMX512-A) or any EIA422/485-based protocol
ISOLATION:	2500V opto-isolation input to output
PROTECTION:	Up to 250V AC/DC on all port pins
DATA CONNECTIONS:	Two piece compression screw terminals, 16 - 24 AWG
SIZE:	
Models 4807/4808	260mm x 509mm x 115mm (10.25" x 13.25" x 4.5")
Models 4809/4810	260mm x 509mm x 115mm (10.25" x 23.25" x 4.5")

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