eDIN

Models 4813, 4814, 4815

DMX/RDM Installation Splitter Installer's Guide

An essential component of any DMX512 distribution system, DMX/RDM Installation Splitters permit star wiring in systems required to support E1.20 Remote Device Management (RDM), while fully isolating and protecting connected equipment from harmful electrical faults of up to 2500V.

OPERATIONAL PHILOSOPHY

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 DMX/RDM Installation Splitter provides up to 3 eDIN modules, for a total possible 12 output branches. Each branch acts electrically as its own entity, unaffected by faults on other branches of the star. Opto-isolation prevents ground loops or damage to control consoles by fault voltages on DMX lines.

The RDM standard requires that splitters be capable of half-duplex bi-directional communication. The standard stipulates that no more than four RDM-enabled splitters may be daisy-chained together.

DMX/RDM Installation Splitters transparently handle all RDM data and meet the timing constraints of the standard. Do not install RDM responder devices between the Installation Splitter and the console.

MOUNTING

DMX/RDM Installation Splitters are designed for indoor use in a dry location. Mount the Installation Splitter 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.

Model 4813

CONNECTIONS

DMX/RDM Installation Splitters are delivered with the power supply pre-wired to the first module, and with all required wiring daisy-chained to any additional cards. The following connections must be done on-site.

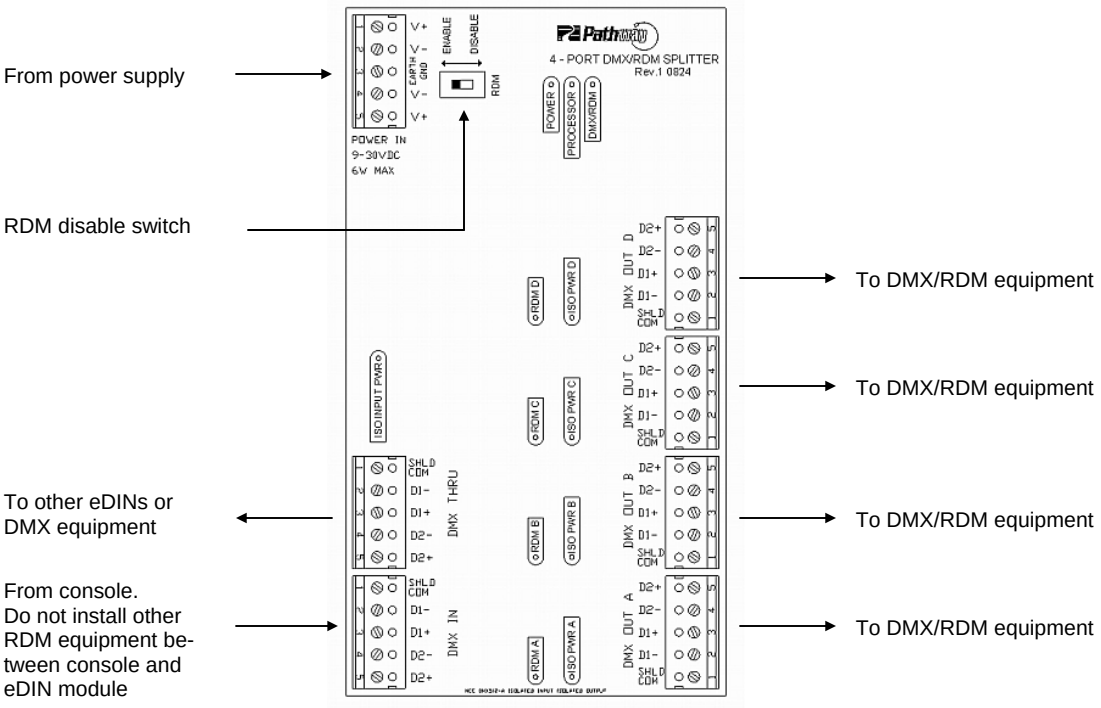
WARNING: DMX input/output ports must be connected to low-voltage data lines only. Do not connect DMX ports to high voltage sources.

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

DMX OUT connectors are wired to the remote DMX devices, RDM responders or to receptacles for end 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 screws of the power supply in the barriered section at the top of the cabinet.



eDIN — Models 4813, 4814, 4815 — DMX/RDM Installation Splitter

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

DMX/RDM Installation Splitters may hold one module (model 4813) or up to three modules (models 4814 and 4815). If the original enclosure holds less than its limit, it is possible to add cards. DMX THRU is wired to the DMX IN connector on the additional module. DMX THRU is fully isolated and fully supports RDM. Data and low voltage power may also be passed onto a second enclosure.

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

MODEL DESCRIPTIONS

4807	4-way eDIN DMX/RDM Installation Splitter
4808	8-way eDIN DMX/RDM Installation Splitter
4809	12-way eDIN DMX/RDM Installation Splitter

STATUS INDICATORS

POWER IN	*Blue*. Glowing steadily indicates power supply OK; off indicates no power.
PROCESSOR	*Green*. Glowing steadily indicates processor is OK; off when POWER IN is lit indicates processor failure.
DMX/RDM INPUT	*Amber*. Glowing steadily indicates data signal received; off indicates no data signal present.
ISO POWER IN	*Red*. Indicates the internally isolated power supply for input processing is working correctly. Off indicates no power.
ISO POWER A/B/C/D	*Red.* Indicates internally isolated power supply for output ports is working correctly. Off indicates no power to that port.
RDM A/B/C/D	*Amber*. Flickering indicates presence of RDM data packets. Off indicates no RDM activity on the network.

RDM ENABLE/DISABLE

This feature is not yet implemented. The switch should be left in the 'enable' position. If the RDM switch is moved to 'disable', the module must have the power cycled once the switch is returned to the 'enable' position. The module remains discoverable by an RDM controller device when the switch is in the 'disable' position.

PROTOCOL COMPLIANCE

This product complies both as a transparent in-line device and as a responding device with the ANSI E1.11 DMX512-A standard, and is backwards compliant with USITT DMX512 1990, under the non-compatible connector (NCC) provision.

WARNING: Do not install other RDM responders between the controller and the DMX-RDM Installation Splitter, or between Splitters.

SPECIFICATIONS

Power Supply:	Universal input (90-250V, 50/60 Hz)
PSU Connection	Screw-down terminals, 12 - 18 AWG
Data Signal:	USITT DMX512/1990 and E1.11 (DMX512-A)
Isolation:	2500V opto-isolation port to port
Protection:	Up to 250V on all port pins
Data Connections:	Two piece compression screw terminals, 14 - 24 AWG
Size:	
Models 4813	260mm x 336mm x 115mm (10.25" x 13.25" x 4.5")
Models 4814/4815	260mm x 590mm x 115mm (10.25" x 23.25" x 4.5")

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