

**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 00V.**

**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 DIN GHXFHV, 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.



**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.

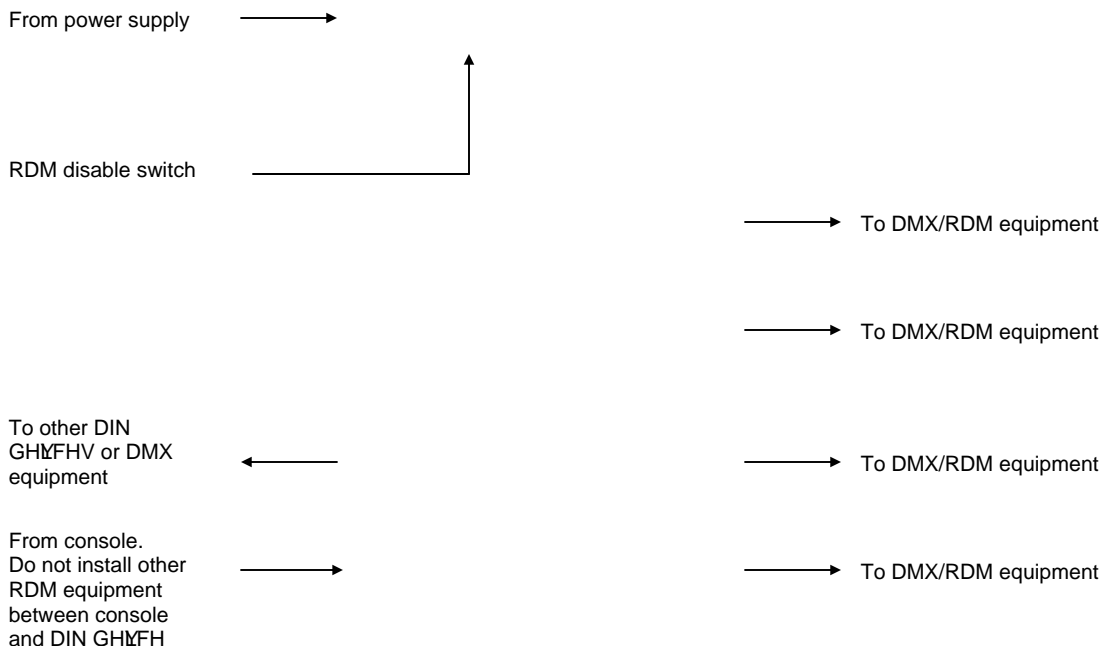
**WARNING: DMX input/output ports must be connected to low-voltage data lines only. Do not connect DMX ports to high voltage sources.**

**WARNING: Always disconnect main power before removing the enclosure's cover. The PWREP WM Installation Repeaters are designed to operate on a mains voltage of 2 -2 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.



## 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 (PWREP WM P4 [xxxx] RDM) or up to three modules (PWREP WM P12 [xxxx] RDM). 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.

## STATUS INDICATORS

<b>POWER IN</b>	<i>Blue.</i> Glowing steadily indicates power supply OK; off indicates no power.
<b>PROCESSOR</b>	<i>Green.</i> Glowing steadily indicates processor is OK; off when POWER IN is lit indicates processor failure.
<b>DMX/RDM INPUT</b>	<i>Amber.</i> Glowing steadily indicates data signal received; off indicates no data signal present.
<b>ISO POWER IN</b>	<i>Red.</i> Indicates the internally isolated power supply for input processing is working correctly. Off indicates no power.
<b>ISO POWER A/B/C/D</b>	<i>Red.</i> Indicates internally isolated power supply for output ports is working correctly. Off indicates no power to that port.
<b>RDM A/B/C/D</b>	<i>Amber.</i> 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 (120-277VAC, 50/60 Hz)
Data Signal:	ANSI E1.11 DMX512-A R2013
Isolation:	3000V opto-isolation between DMX ports
Protection:	Up to 250V on DMX ports
Data Connections:	Removable compression screw or IDC connectors
Size:	
PWREP WM [xxxx] SML	10"W x 13"H x 4.5"D (254mm x 330mm x114mm)
PWREP WM [xxxx] MED	10"W x 23"H x 4.5"D (254mm x 584mm x114mm)
Regulatory Compliance:	ETL