

Rail-Split RDM User Guide

(Version 3-1)

Rail-Split RDM is a fully bi-directional DMX512 splitter and distribution amplifier.

Key Features include:

- ❑ Input Optical Isolation
- ❑ Six independent outputs
- ❑ Bi-directional outputs
- ❑ RDM (Remote Device Management Draft & Standard V1.0)
- ❑ DMX512-A compatible
- ❑ Microprocessor controlled
- ❑ Surface mount or DIN rail mounted
- ❑ Support for High End System talkback protocol

Specification:

Input Voltage: 9-48V DC
Maximum Current: 1.5 A
Internal Fuse: Electronic Resettable Fuse
Duty Cycle: 80%
Dimensions: W:88 H:90 D:58mm
Mounting: DIN Rail or surface mount
IP: Indoor use only
Listings: CE, FCC
Max Wire Size: 2.5mm²

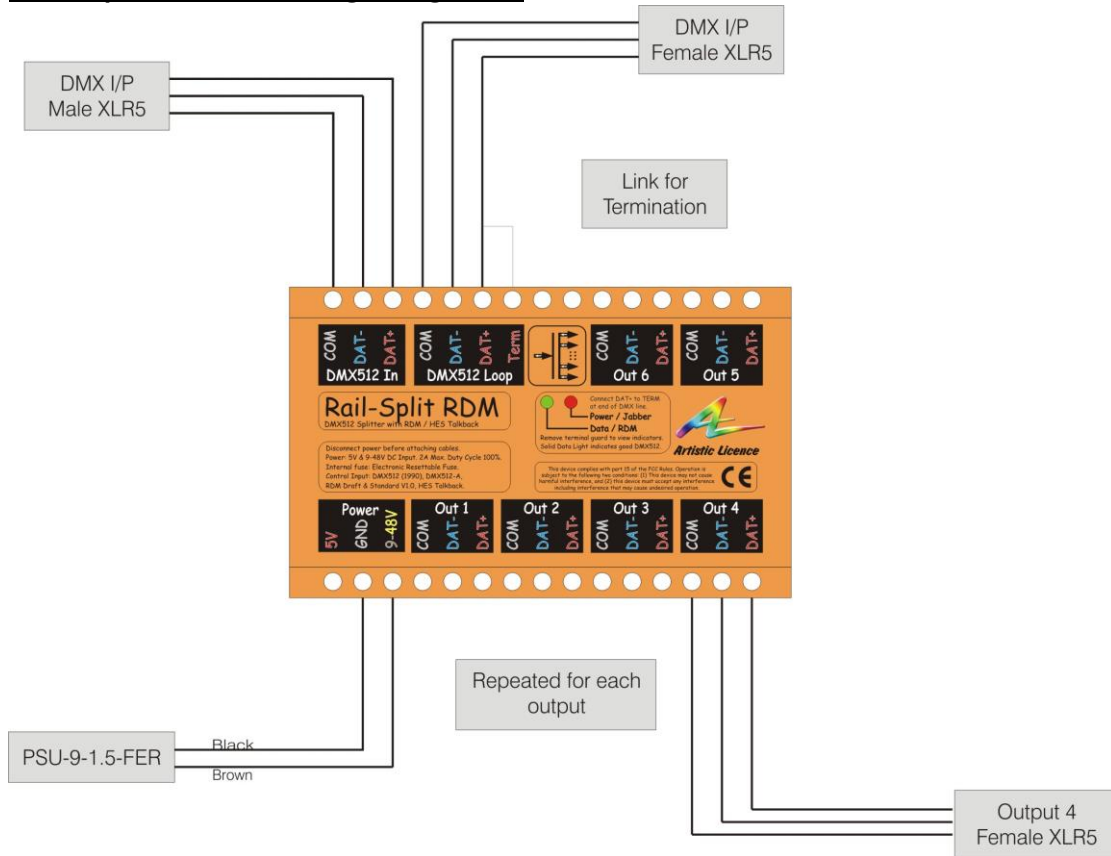
Power Supply Options: (order separately)

PSU-9-1.5-FER
Output: 9V 1.5A
Input: Auto-sensing
Max Rail-Splits: 1
Listing: CE / FCC / UL / PSE

PSU-24-2-FER
Output: 24V 2A
Input: Auto-sensing
Max Rail-Splits: 2
Listing: CE / FCC / UL / PSE



Rail-Split RDM Wiring Diagram:



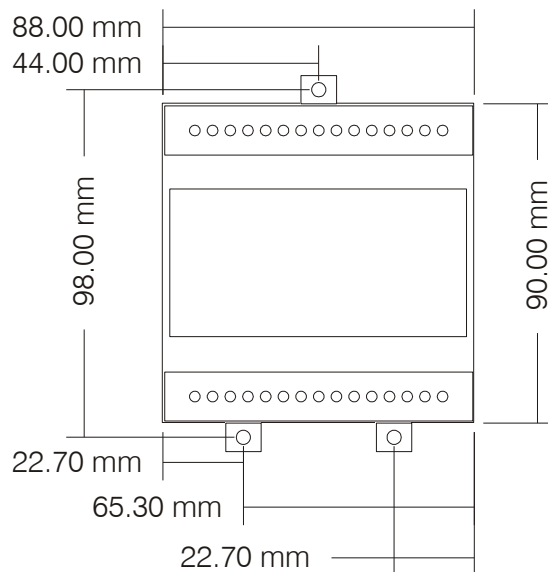
Note: It is recommended that wires from the PSU to the Rail-Split RDM have a ferrite core, or similar suppression device, fitted. This should be located close to the Rail-Split RDM.

DMX512 Wiring:

XLR Pin (Convention)	Rail-Split RDM Terminals	Function	Colour
1	GND	Ground	Black
2	DAT-	Data -	Blue
3	DAT+	Data +	Red
4		No Connection	
5		No Connection	

DIN Rail Surface Mounting:

To use the surface mount option push the three bottom tabs out until they click into place. We recommend using an M4 Pan head screw.



Input:

The DMX512 input is attached via three screw terminals. Please refer to the wiring diagram.

Loop Through:

A passive Loop Through connection allows onward connection to other DMX512 devices. If this feature is not required a wire link must be fitted to the correct screw terminals that will terminate the DMX line. Please refer to the wiring diagram.

Output:

Six DMX512 outputs are provided. Each output is capable of driving 32 additional DMX512 devices. It is not necessary to terminate any outputs that are not connected. However, a terminator must be connected to the final DMX512 device.

Indicators:

Two dual colour indicators are provided:

1. Data:

- Green: Indicates that DMX512 is being transmitted by the outputs.
- Red: Indicates that RDM data received by one of the outputs is being returned to the controller.

2. Power:

- Red: Indicates good power and normal operation.
- Flashing: Indicates that a connected RDM device is jabbering (returning unwanted data continuously).

System Connection:

The following table summarises the internal earth interconnection and isolation:

Please note that we use the term Earth-Ground to avoid international confusion. In Europe Earth-Ground is called Earth, in the USA Earth-Ground is called Ground.

Circuit	Description	
DMX512 Input (including Loop Through)	Type:	Isolated.
	Pin 1:	Connects to internal isolated circuit. No connection to Internal Logic Ground.
DMX512 Outputs	Type:	Grounded.
	Pin 1:	Connected to Internal Logic Ground.
Internal Logic Ground	Connects to Ground Power Input	

CE Compliance

Rail-Split RDM is CE compliant when installed in a shielded and earthed metal case



The DIN Rail Range:

- ❑ Rail-Split RDM - A fully bi-directional six-channel DMX512 splitter and distribution amplifier
- ❑ Rail-Pipe HC - A six-channel intelligent power supply / high-power, constant-voltage dimmer
- ❑ CP12 - A dimmer designed to control high-power, constant-current LED devices
- ❑ Rail-Switch - Provides six mains voltage relays with DMX512 and RDM Draft V1.0 support
- ❑ Rail-Demux - Provides 16 DMX512-to-analogue outputs and RDM Draft V1.0 support
- ❑ Rail-Tran - Provides six Darlington transistor outputs, operation to 50V DC at 450mA, product total 750mA
- ❑ Rail-DMX-DALI / Rail-DALI-DMX - Provide DMX-DALI and DALI-DMX conversion respectively
- ❑ Rail-DMX-DSI - Converts DMX to four DSI outputs
- ❑ Rail-PSU-D4 - Four-circuit DALI/DSI bus power supply
- ❑ Rail-Patch - A DIN Rail mounted patch panel for a 5pin XLR to screw terminal connection
- ❑ Rail-Flip - Fail-over switch that supports four DMX512 Universes
- ❑ Rail-Sequence - Time delay six-relay unit

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