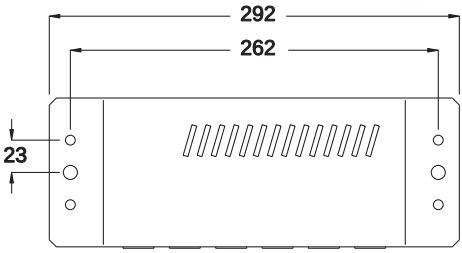
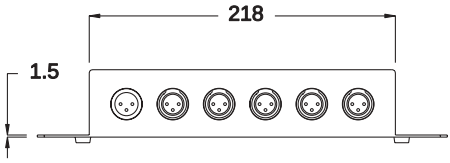
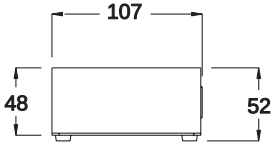
RS-485 Splitter

user manual







Thank you for selecting the Martin RS-485 Splitter. This optically isolated splitter/amplifier allows you to add 4 branches to the data link. Optical isolation of each branch increases link reliability by preventing a failure on one branch from interfering with operation on other branches. Amplification of the signal output allows the link to be extended over longer runs.

The RS-485 Splitter may be used equally well with DMX and Martin protocols. Several Splitters may be used on the same link if additional branches are required.

Installation and use is simple; please read the following notes to get the most out of the device.

Safety Precautions

- The device is not for domestic use.
- Use the device only as described.
- Do not expose the device to rain or moisture.
- Make sure the device is properly grounded.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Do not operate the device with the cover removed.
- Unplug the device before servicing.
- Never replace the fuse with one of a higher rating.
- Immediately repair or replace damaged power cords.

Powering the RS-485 Splitter

Warning! For safe operation, the device must be grounded (earthed).

Check voltage setting

The RS-458 Splitter may be switched between 115 and 230 V. ***Make sure the switch, located on the back, is correctly set before applying electricity.***

Install plug

The RS-485 Splitter is delivered without a plug on the power cord. Following the manufacturer's instructions, install an approved 3-prong grounding-type plug that fits your supply. Connect the wires to the pins as listed below. *Note: The table shows some possible pin identification schemes; if the pins are not clearly identified, or if you have any doubts about proper installation, consult a qualified electrician.*

Wire	Pin	Typical	US	UK
brown	live	“L”	yellow or brass	red
blue	neutral	“N”	silver	black
yellow/green	ground (earth)	⏚	green	green

A diode on the front panel lights when power is on.

Connecting the RS-485 Splitter

Input

Connect the link cable from the controller to the “IN” jack on the Splitter using a 3-pin female XLR connector. *Note: though the connections are labelled pin-2 hot and pin-3 cold, the Splitter works equally well with pin-2 cold and pin-3 hot. Signal polarity is maintained: pin 2 on the input is wired to pin 2 on the outputs*

Signal Thru

The data link may be continued normally by connecting it to the “THRU” jack - use a 3-pin XLR male connector. The signal from the “THRU” jack is not amplified or optically isolated. ***Insert a termination plug in the “THRU” jack if it is not used.***

Signal Output

Connect up to 4 branches of the data link to the “OUT 1” - “OUT 4” jacks using 3-pin XLR male connectors. Each branch can have up to 32 fixtures connected and must be terminated. Unused outputs, however, do not need to be terminated.

Replacing the fuse

1. Unplug the Splitter. Remove 2 screws from each side and lift off the cover.
2. Locate the fuse on the circuit board and replace with one of the same rating.
3. Replace the cover and screws.

Note: If the fuse blows repeatedly, there is a malfunction with the unit that must be referred to a service technician.

Specifications

Dimensions

- Length ..... 292 mm (11.5 in)
- Width ..... 107 mm (4.21 in)
- Height ..... 52 mm (2.05 in)
- Weight ..... 1.4 kg (3.1 lb)

Electrical

- Power supply settings ..... 115/230 V, switch selectable
- AC frequency ..... 50 - 60 Hz
- Fuse ..... time delay (T) 0.125 A / 250 V

Construction

- Housing ..... steel
- Finish ..... electrostatic powder coating

Front Panel Jacks

- Input ..... 3 pin XLR male
- Thru ..... 3 pin XLR female
- Outputs ..... 4 x 3 pin XLR female

Data Link

- Electrical standard EIA-485
- Cable type ..... shielded twisted pair
- Cable gauge ..... 22 or 24 AWG
- Cable impedance ..... 120 Ω
- Maximum length per branch, 22 AWG ..... 500 m (1640 ft)
- Maximum length per branch, 24 AWG ..... 300 m (1000 ft)
- Maximum load per branch ..... 32 fixtures