# Martin 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 the maximum length specified by the DMX-512 standard. In addition, each branch of the link may be treated as an independent link with up to 32 fixtures each.

The RS-485 Splitter may be used equally well with DMX and Martin protocols. Several splitter amplifiers 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.
- 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 | Possible Markings | | |
| --- | --- | --- | --- | --- |
| | | Typical | US | UK |
| brown | live | "L" | yellow or brass | red |
| blue | neutral | "N" | silver | black |
| yellow/green | ground (earth) | ⏚ | green | green |

The diode on the front panel lights when power is applied. If the diode does not light, the fuse is probably blown. See below.

# Connecting the RS-485 Splitter

### Input

Connect the data link cable from the controller to the "IN" jack on the RS-485 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.

# Servicing the RS-485 Splitter

### Replace fuse

1.   Unplug the splitter.
2.   Remove 2 screws from each side and lift off the cover.

3. Locate the fuse on the circuit board and replace with one of the same rating.

4. 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 ...............................................................293 mm (11.5 in)
- Width.................................................................108 mm (4.25 in)
- Height................................................................49 mm (1.9 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 $\Omega$
- 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