

EX-47800IS

RS485 to RS485 Isolator/Repeater

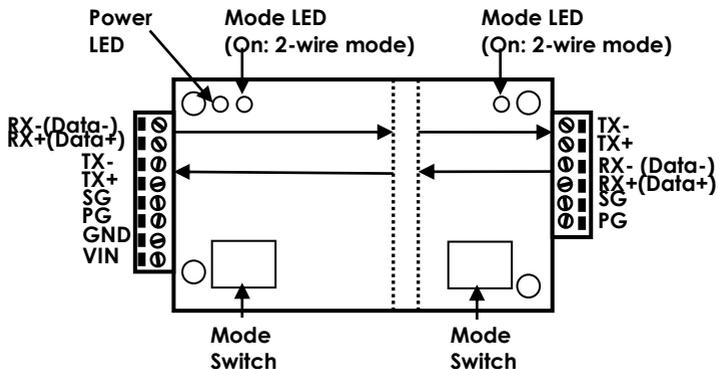
1. Introduction

Thank you for purchasing this RS485 to RS485 Isolator/Repeater. It can be used to isolate one RS485 node from another. It also can work as an RS485 repeater to add more nodes to an existing RS485 system which was limited to 32 nodes by RS485 standard.

Features:

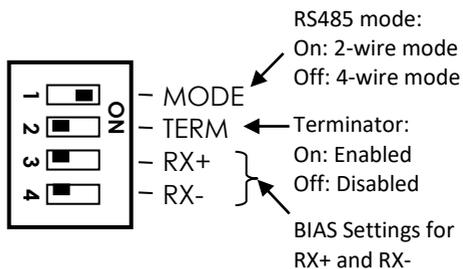
- ✓ Isolates one RS485 node from Another
- ✓ Supports 2-wire Half, 4-wire Half and Full Duplex Modes
- ✓ Built-in Pluggable Terminal Blocks
- ✓ Provides 2,500 Vrms for 1 min. Optical Isolation
- ✓ Built-in 15KV ESD and Surge Protection
- ✓ Up to 230.4 Kbps baud.
- ✓ Temperature Rating: -40 ~ +85 8 C
- ✓ Wide Range Power Input: +7~48V DC
- ✓ Wall-mountable, with included DIN Rail clip
- ✓ Rugged Metal Construction
- ✓ No Driver Required for All Systems

2. Layout: RS485 to RS485 Isolator/Repeater



3. Mode Switch Settings

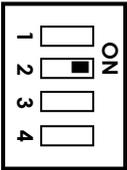
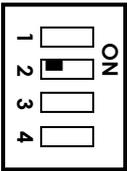
There are 4 switch pins on each side DIP switch of this product. Pin 1 (marked as "MODE") is used to set 2-wire mode (ON) or 4-wire mode (OFF). Pin 2 is to enable (ON) or disable (OFF) the RS485 terminator. Pin 3 and 4 are to enable (both ON) or disable (both OFF) the BIAS resistors for the RX+ and RX- data lines respectively.



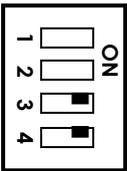
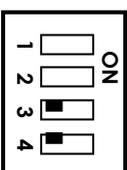
Mode Settings:

| Switch Settings | Description |
|--|---|
| <p>1 - MODE 2 - TERM 3 - RX+ 4 - RX-</p> | <p>RS485 2-wire Mode (Default)</p> |
| <p>1 - MODE 2 - TERM 3 - RX+ 4 - RX-</p> | <p>RS485 4-wire Mode</p> |

Termination Resistor Settings:

| Switch Settings | Description |
|---|--------------------------------------|
|  <p>1 <input type="checkbox"/> – MODE 2 <input checked="" type="checkbox"/> – TERM 3 <input type="checkbox"/> – RX+ 4 <input type="checkbox"/> – RX-</p> | Terminator Enabled |
|  <p>1 <input type="checkbox"/> – MODE 2 <input checked="" type="checkbox"/> – TERM 3 <input type="checkbox"/> – RX+ 4 <input type="checkbox"/> – RX-</p> | Terminator Disabled (Default) |

BIAS Resistor Settings:

| Switch Settings | Description |
|--|---|
|  <p>1 <input type="checkbox"/> – MODE 2 <input type="checkbox"/> – TERM 3 <input checked="" type="checkbox"/> – RX+ 4 <input checked="" type="checkbox"/> – RX-</p> | BIAS Resistors of RX+ and RX- are Enabled |
|  <p>1 <input type="checkbox"/> – MODE 2 <input type="checkbox"/> – TERM 3 <input checked="" type="checkbox"/> – RX+ 4 <input checked="" type="checkbox"/> – RX-</p> | BIAS Resistors of RX+ and RX- are Disabled (Default) |



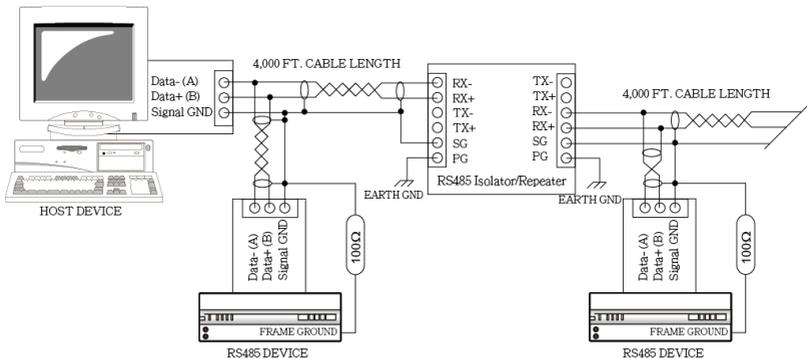
NOTE: The BIAS Resistors are recommended to be set to “Enabled” when they are working in the 4-wire RS485 Mode.

4. Installing the Isolator/Repeater

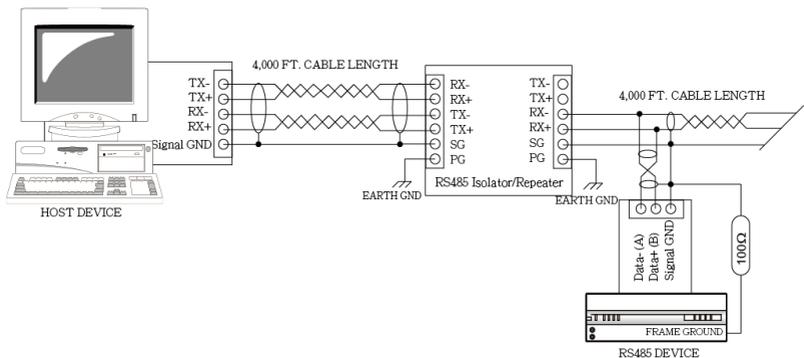
The RS485 to RS485 Isolator/Repeater can operate in either 2-wire and 4-wire half duplex systems or 4-wire full duplex systems. It also can be used as a 4-wire to 2-wire converter. In this case, by setting one side of this RS485 Isolator/Repeater to 4-wire mode and the other side to 2-wire mode, then a RS422 point-to-point equipment can be connected directly to an RS485 2-wire multi-drop system.

The product requires DC power range between +7 and +48V to operate. It needs to be connected on VIN and GND terminal block pins.

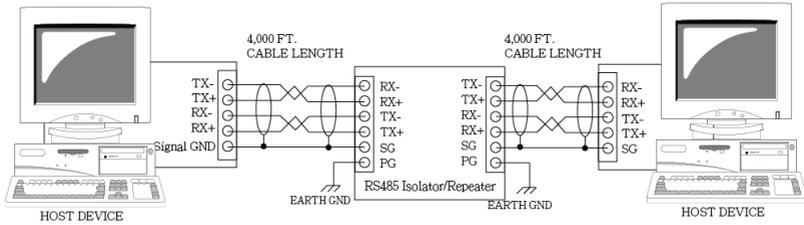
1. Works as a 2-wire Repeater:



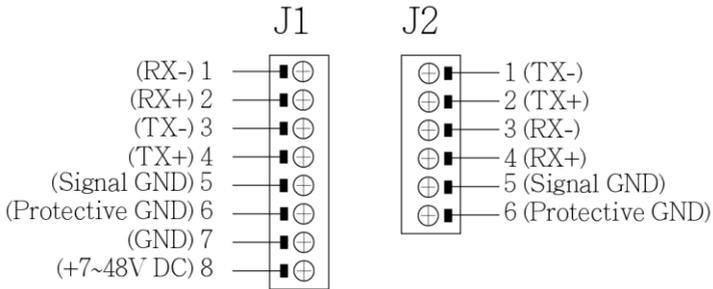
2. Works as a 4-wire to 2-wire Converter:



3. Works as a 4-wire to 4-wire Isolator/Repeater:



5. Terminal Blocks Pin Assignments



J1: 8-pin Terminal Blocks:

| Pin No. | Signal Name | Support Modes |
|---------|----------------|----------------------------|
| 1 | RX- (DATA-) | RS485 2-wire, RS485 4-wire |
| 2 | RX+ (DATA+) | RS485 2-wire, RS485 4-wire |
| 3 | TX- | RS485 4-wire |
| 4 | TX+ | RS485 4-wire |
| 5 | Signal GND | RS485 2-wire, RS485 4-wire |
| 6 | Protective GND | RS485 2-wire, RS485 4-wire |
| 7 | GND | RS485 2-wire, RS485 4-wire |
| 8 | +7~48V DC | RS485 2-wire, RS485 4-wire |

J2: 6-pin Terminal Blocks:

| Pin No. | Signal Name | Support Modes |
|---------|----------------|----------------------------|
| 1 | TX- | RS485 4-wire |
| 2 | TX+ | RS485 4-wire |
| 3 | RX- (DATA-) | RS485 2-wire, RS485 4-wire |
| 4 | RX+ (DATA+) | RS485 2-wire, RS485 4-wire |
| 5 | Signal GND | RS485 2-wire, RS485 4-wire |
| 6 | Protective GND | RS485 2-wire, RS485 4-wire |

8. Specifications

| Type | Specifications |
|---------------------------|---------------------------------------|
| Connectors | 6-pin and 8-pin 3.5mm Terminal Blocks |
| Signals: | |
| RS485 2-wire mode Signals | DATA+, DATA-, GND |
| RS485 4-wire mode Signals | TX+, TX-, RX+, RX-, GND |
| Baud Rate | 300bps to 230.4Kbps |
| Isolation | 2,500Vrms |
| Operating Temperature | -40 to +85°C (-40 to 1185°F) |
| Operating Humidity | 5 to 95% RH |
| Storage Temperature | -40 to +85°C (-40 to 185°F) |
| Power Consumption | 12V/0.5A |