

Quick Start Guide

ILinx 485OPDRI

Triple Isolated RS-422/485 Repeater



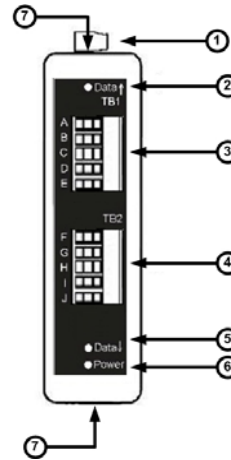
1. Check for Required Hardware

- ILinx 485OPDRI Isolated Repeater
- This Quick Start Guide
- Additional Items Required but not included
 - o A 10 to 48 VDC Power Supply.
 - o RS-422/485 Cables.

2. Information – UL Class 1 Div 2

1. Power, input /output (I/O) wiring must be in accordance with Class 1 Division 2 wiring methods [Article 501.10(B) of the National Electric code, NFPA70] and in accordance with the local authority having jurisdiction.
2. Maximum ambient air temperature 80°C
3. **WARNING – EXPLOSION HAZARD:** SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS 1, DIVISION 2.
4. **WARNING – EXPLOSION HAZARD:** WHEN IN HAZARDOUS LOCATIONS, TURNING OFF POWER BEFORE REPLACING OR WIRING MODULES
5. **WARNING – EXPLOSION HAZARD:** DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.
6. **WARNING – THIS APPARATUS IS SUITABLE FOR USE IN CLASS 1 DIVISION 2, GROUPS A, B, C, AND D, OR UNCLASSIFIED AREAS.**

3. Information – Front Panel



Front Panel

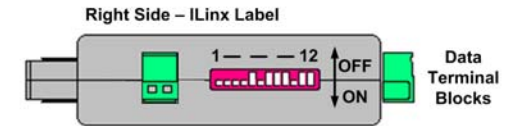
| | | |
|---|------------|--|
| 1 | Power TB | 2 Position, Removable |
| 2 | DATA LED | Red, Flashes when RS-422/485 Data Received on TB1 |
| 3 | TB 1 | 5 Position, Removable |
| 4 | TB 2 | 5 Position, Removable |
| 5 | DATA LED | Red Flashes when RS-422/485 Data Transmitted on TB2 |
| 6 | Power LED | Red, ON When Power Applied |
| 7 | Dip Switch | 12 Position, One on the top of the Unit, on the bottom of the unit |

RS-422/485 Terminal Blocks

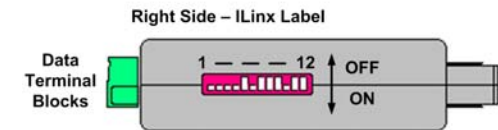
| | TB1 | RS-485 2-Wire | RS-422/485 4-Wire |
|-----|-----|---------------|-------------------|
| A | | GND | GND |
| B | | Data B(+) | RDB(+) |
| C | | Data A(-) | RDA(-) |
| D | | --- | TDB(+) |
| E | | --- | TDA(-) |
| | | | |
| TB2 | | RS-485 2-Wire | RS-422/485 4-Wire |
| F | | GND | GND |
| G | | Data B(+) | RDB(+) |
| H | | Data A(-) | RDA(-) |
| I | | --- | TDB(+) |
| J | | --- | TDA(-) |

4. Information - DIP Switch

Top View – Data Port 1



Bottom View – Data Port 2



Communications Mode

| | 1 | 2 | 3 | 4 |
|---------------------------|-----|-----|-----|-----|
| RS-485 2-Wire Half Duplex | ON | ON | ON | ON |
| RS-485 4-Wire Full Duplex | ON | OFF | OFF | OFF |
| RS-422 Full Duplex | OFF | OFF | OFF | OFF |

Termination Resistor

| | 5 |
|-----------------------------------|-----|
| Use the 120Ω Built in Termination | ON |
| Use External or no termination | OFF |

Transmit Bias

| | 6 |
|---|-----|
| Use the 1.2KΩ Transmit Bias Resistor | OFF |
| Use External or no Transmit Bias Resistor | ON |

Receive Bias

| | 7 |
|---|-----|
| Use the 1.2KΩ Receive Bias Resistor | OFF |
| Use External or no Transmit Bias Resistor | ON |

5. RS-422/485 Time Out

Switch Selectable

| Baud (Kbps) | 8 | 9 | 10 | 11 | 12 | Timeout (ms) |
|-------------|-----|-----|-----|-----|-----|--------------|
| 2.4 | ON | OFF | OFF | OFF | OFF | 4.37 |
| 4.8 | OFF | ON | OFF | OFF | OFF | 2.03 |
| 9.6 | OFF | OFF | ON | OFF | OFF | 1.02 |
| 19.2 | OFF | OFF | OFF | ON | OFF | 0.57 |
| 38.4 | OFF | OFF | OFF | OFF | ON | 0.27 |

Resistor Selectable

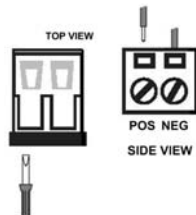
| Baud (Kbps) | 8 through 12 | R-7 / 28 Value | Timeout (ms) |
|-------------|--------------|----------------|--------------|
| 1.2 | OFF | 820 KΩ | 8.32 |
| 57.6 | OFF | 16 KΩ | 0.16 |
| 115.2 | OFF | 8.2 KΩ | 0.08 |
| 230.4 | OFF | 4.3 KΩ | 0.04 |
| 460.8 | OFF | 2.2 KΩ | 0.02 |

Pre-defined timeouts are set using switches 8 through 12. Resistor selectable baud rates are set by inserting a through hole resistors (R-7 and R-28) on the circuit board.

Timeout selections are equal to one character time at the indicated baud rate. Setting the converter to 9600 will generally work at 9600 and higher baud rates. **In RS-422 mode, timeouts are not required.**

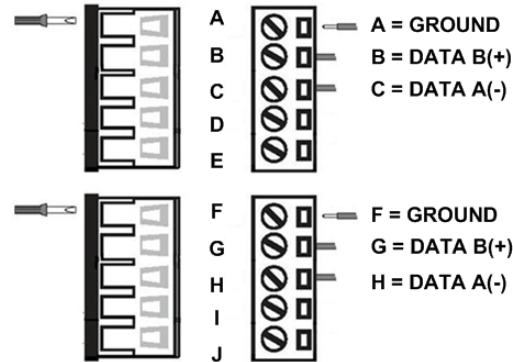
6. Power Connection

Power Requirements:
 10 – 48 VDC @ 0.2A



8. Wiring Examples

Two Wire RS-485



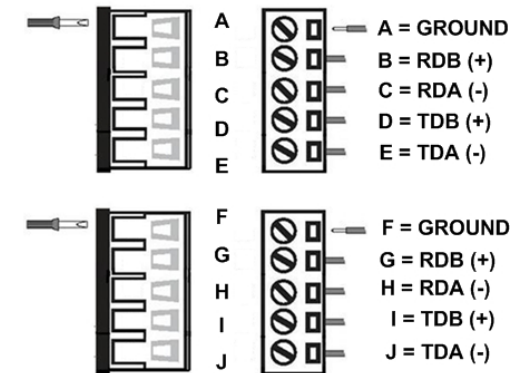
DIP Switch SW-1 / SW-2

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----|----|----|----|---|---|---|
| ON | ON | ON | ON | X | Y | Z |

POSITIONS 5 THROUGH 7 ARE USED FOR TERMINATION AND BIASING. SEE SECTION 4.

POSITIONS 8 THROUGH 12 ARE USED TO SET THE BAUD RATE. SEE SECTION 5.

RS-422 / Four Wire RS-485



DIP Switch SW-1 / SW-2

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|----|----|----|---|---|---|
| W | ON | ON | ON | X | Y | Z |

POSITION 1 SELECTS RS-422 OR RS-485. SEE SECTION 4.

POSITIONS 5 THROUGH 7 ARE USED FOR TERMINATION AND BIASING. SEE SECTION 4.

POSITIONS 8 THROUGH 12 ARE USED TO SET THE BAUD RATE. SEE SECTION 5.

9. Operation

1. During normal operation, the Power LED should be illuminated.
2. When data is sent or received on either port, the corresponding Data LED should flash.