### **BB-4850PDRI**



#### Introduction

Model BB-4850PDRI isolated RS-422/485 repeater is designed for rugged industrial environments. It is UL listed and certified for use in Class 1/Division 2 locations. Powerful optical isolation on both data ports protects your equipment and data from damaging ground loops and surges. Additional isolation on the power supply circuits adds a third degree of protection.

Packaged in a rugged ABS plastic case, this repeater operates in wide temperature extremes. With a 35mm DIN rail mounting bracket, it easily integrates into control panels or other industrial equipment.

Installation and configuration is easy with DIP switches to set up baud rate and serial communications mode. Removable terminal blocks make wiring a snap. Power is connected through separate terminal block that accepts 10 to 48 Vdc from any external source (power supply required, not included, sold separately).

## Using Model BB-4850PDRi On A DH-485 Network In Place of Allen-Bradley® 1747-AIC Link Coupler

Model BB-4850PDRi RS-422/485 industrial optically isolated repeater, often used in Modbus applications, can also be configured for use in the DH-485 environment as a limited replacement for the 1747-AIC.

# Industrial Isolated RS-422/485 Repeater

#### **Features**

- Extends signals an additional 1200 m
- 2000 V, three-way optical isolation (input/output/power)
- Data rates: up to 115.2 kbps
- Wide temperature range: -40 to +80 °C
- · DIN rail mount IP30 case
- 10-48 Vdc input (power supply required, not included, sold separately)
- UL C1/D2 Listed, FCC, CE
- Allen-Bradley 1747-AIC (DH-485 network)

#### **Ordering Information**

| Model No.   | Description                             |
|-------------|---|
| BB-4850PDRI | Industrial Isolated RS-422/485 Repeater |

#### Accessories - Sold Separately

BB-MDR-20-24 — Power supply, 24 Vdc, 1.0 A, DIN rail mount

BB-TBKT1 - Replacement terminal block - 2-position, 5.08mm, 8A, 300V

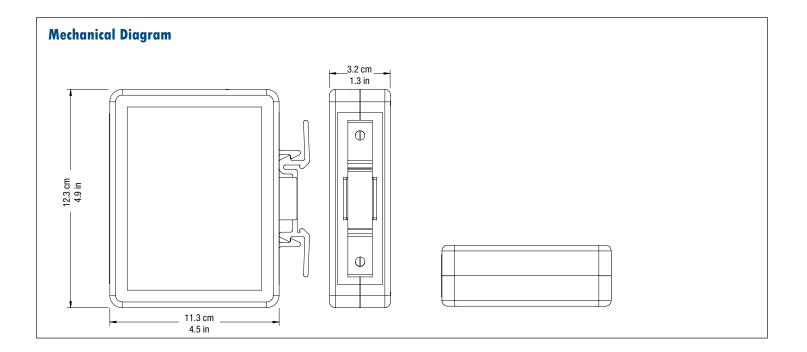
BB-TBKT2 - Replacement terminal block - 5-position, 5.08mm, 8A, 300V

BB-EK-CLIP-MPC - Replacement DIN rail clip

### **Specifications**

| <b>Specifications</b> |   |
|-----------------------|---|
| Serial Technology     |   |
| Serial Connector      | 5-position, removable terminal block                          |
| Data Rate             | 2.4 to 115.2 kbps   |
| RS-422 Signals        | TDA(-), TD(B+), RDA(-), RDB(+)                                |
| RS-485 4-Wire         | TDA(-), TD(B+), RDA(-), RDB(+)                                |
| RS-485 2-Wire         | Data A(-), Data B(+)  |
| Isolation             | 2 KV RMS, 1 minute  |
| Surge Protection      | 600 W peak power dissipation<br>Clamping time < 1 pico-second |
| Biasing               | Built-in, switchable, 1.2KΩ, XMT/RCV                          |
| Termination           | Built-in, switchable, 120Ω                                    |
| Industrial Bus        |   |
| Modbus                | ASCII / RTU   |
| DH-485                | Allen-Bradley® Data Highway 485 (DH-485)                      |
| LED Indicators        |   |
| Power                 | Red LED   |
| Data                  | Red LED for each data port                                    |
| Power                 |   |
| Power Connector       | 2-position, removable terminal block                          |
| Input Voltage         | 10 to 48 Vdc (56 Vdc, maximum)                                |
| Power Consumption     | 0.5 W (typical), 1.3 W (termination on both sides)            |
| Source                | External power required (not included, sold separately)       |
| Terminal Blocks       |   |
| Wire Size             | 28 to 14 AWG  |
| Pitch                 | 5.08 mm   |
| Insulation Resistance | ≥500 MΩ @ 500 Vdc   |
| Torque                | 5 kg / cm, maximum  |
|                       |   |

| Mechanical            |  |
|-----------------------|--|
| Enclosure Material    | Plastic  |
| IP Rating             | 20   |
| Dimensions            | 12.3 x 11.3 x 3.2 cm   |
| Mounting              | 35 mm DIN rail   |
| Weight                | 222 gm   |
| Environmental         |  |
| Operating Temperature | -40 to +80 °C (-40 to +176 °F)   |
| Storage Temperature   | -40 to +85 °C (-40 to +185 °F)   |
| Operating Humidity    | 0 to 95%, non-condensing   |
| Meantime Between Fa   | ailures (MTBF)   |
| MTBF                  | 114696 hours   |
| Calculation Method    | MIL 217F Parts Count Reliability Prediction  |
| Regulatory – Approva  | ls / Standards / Directives  |
| Approvals             | FCC, CE, UL, UL Class 1/Division 2, Groups A,B,C,D   |
| CE Standards          | 2014/30/EU - Electromagnetic Compatibility Directive<br>2011/65/EU amended by (EU) 2015/863 Reduction of Hazardous<br>Substances Directive (RoHS)<br>2012/19/EU - Waste Electrical and Electronic Equipment (WEEE)   |
| CE Directives         | EN55032 Class B - Electromagnetic compatibility of multimedia<br>equipment - emission requirements<br>EN55024 - Information technology equipment<br>EN61000-6-1 - Generic immunity standard for residential,<br>commercial and light industrial environments |



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