BB-485OPDRI

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)

Introduction

Model BB-485OPDRI 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-485OPDRi On A DH-485 Network In Place of Allen-Bradley® 1747-AIC Link Coupler

Model BB-485OPDRi 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.

Ordering Information

Model No.	Description
BB-485OPDRI	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

All product specifications are subject to change without notice.

Specifications

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 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 Failures (MTBF)	
MTBF	114696 hours
Calculation Method	MIL 217F Parts Count Reliability Prediction
Regulatory – Approvals / Standards / Directives	
Approvals	FCC, CE, UL, UL Class 1/Division 2, Groups A,B,C,D
CE Standards	2014/30/EU - Electromagnetic Compatibility Directive 2011/65/EU amended by (EU) 2015/863 Reduction of Hazardous Substances Directive (RoHS) 2012/19/EU - Waste Electrical and Electronic Equipment (WEEE)
CE Directives	EN55032 Class B - Electromagnetic compatibility of multimedia equipment - emission requirements EN55024 - Information technology equipment EN61000-6-1 - Generic immunity standard for residential, commercial and light industrial environments

Mechanical Diagram

