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Industrial RS-422/485 **Isolated Repeater 4850PDRI**





PRODUCT FEATURES

- Supports data rates up to 115.2 Kbps
- Extends signal 1,200 m (4,000 feet)
- Wide -40 to +80°C temperature range
- 10 to 48 VDC input power range
- 2000 V, 3-way optical isolation
- UL Class 1/Division 2 Listed
- Built-in, switchable termination & bias

The 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 add 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.

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

The 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

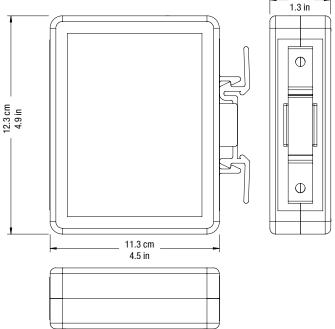
MODEL NUMBER DESCRIPTION Industrial RS-422/485 Isolated Repeater 485OPDRI

ACCESSORIES

MDR-20-24 - DIN rail mount power supply 24VDC, 1.0 A output power TBKT3 - Two replacement 5 position terminal blocks TBKT1 - Replacement 2 position terminal block EK-CLIP-MPC - Replacement DIN Rail Clip

3.2 cm

MECHANICAL



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Industrial RS-422/485 Isolated Repeater 485OPDRI



SPECIFICATIONS

SERIAL TECHNOLOGY RS-422 TDA(-), TD(B+), RDA(-), RDB(+) RS-485 4-Wire TDA(-), TD(B+), RDA(-), RDB(+) RS-485 2-Wire Data A(-), Data B(+) Serial Connector 5 Position, Removable Terminal Block Data Rate 2.4 to 115.2 Kbps Isolation 2KV RMS, 1 Minute Surge Protection 600 W Peak Power Dissipation Clamping time < 1 pico-second Bias Bias 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) POWER Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC <td< th=""><th>SPECIFICATIONS</th><th></th></td<>	SPECIFICATIONS	
RS-485 4-Wire RS-485 2-Wire Data A(-), TD(B+), RDA(-), RDB(+) Serial Connector 5 Position, Removable Terminal Block Data Rate 2.4 to 115.2 Kbps Isolation 2KV RMS, 1 Minute 600 W Peak Power Dissipation Clamping time < 1 pico-second Bias 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) POWER Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ACC LED Red LED	SERIAL TECHNOLOGY	
RS-485 2-Wire Data A(-), Data B(+) Serial Connector 5 Position, Removable Terminal Block Data Rate 2.4 to 115.2 Kbps Isolation 2KV RMS, 1 Minute Surge Protection 600 W Peak Power Dissipation Clamping time < 1 pico-second Bias Built-in, Switchable, 1.2 KΩ XMT/RCV Termination Built-in, Switchable, 1.2 NΩ XMT/RCV INDUSTRIAL BUS Modbus ASCII/RTU DH-485 Allen-Bradley® Data Highway 485 (DH-485) POWER Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance >500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	RS-422	TDA(-), TD(B+), RDA(-), RDB(+)
Serial Connector 5 Position, Removable Terminal Block Data Rate 2.4 to 115.2 Kbps Isolation 2KV RMS, 1 Minute 600 W Peak Power Dissipation Clamping time < 1 pico-second Bias 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) POWER Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	RS-485 4-Wire	TDA(-), TD(B+), RDA(-), RDB(+)
Data Rate 2.4 to 115.2 Kbps Isolation 2KV RMS, 1 Minute Surge Protection 600 W Peak Power Dissipation Clamping time < 1 pico-second	RS-485 2-Wire	Data A(-), Data B(+)
Isolation 2KV RMS, 1 Minute 600 W Peak Power Dissipation 600 W Peak Power Dissipation Clamping time < 1 pico-second	Serial Connector	5 Position, Removable Terminal Block
Surge Protection Clamping time < 1 pico-second Bias 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) POWER Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Data Rate	2.4 to 115.2 Kbps
Surge Protection Clamping time < 1 pico-second Bias Built-in, Switchable, 1.2KΩ XMT/RCV Termination Built-in, Switchable, 120Ω INDUSTRIAL BUS Modbus Modbus ASCII/RTU DH-485 Allen-Bradley® Data Highway 485 (DH-485) POWER Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Isolation	
Termination Built-in, Switchable, 120Ω INDUSTRIAL BUS Modbus ASCII/RTU DH-485 Allen-Bradley® Data Highway 485 (DH-485) POWER Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Surge Protection	·
INDUSTRIAL BUS Modbus ASCII/RTU DH-485 Allen-Bradley® Data Highway 485 (DH-485) POWER Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Bias	Built-in, Switchable, 1.2KΩ XMT/RCV
Modbus ASCII/RTU DH-485 Allen-Bradley® Data Highway 485 (DH-485) POWER External power required Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Termination	Built-in, Switchable, 120Ω
DH-485 Allen-Bradley® Data Highway 485 (DH-485) POWER Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	INDUSTRIAL BUS	
POWER Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Modbus	ASCII/RTU
Source External power required 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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	DH-485	Allen-Bradley® Data Highway 485 (DH-485)
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) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	POWER	
Input Voltage 10 to 48 VDC (56 VDC Maximum) Power Consumption 0.5 W (typical), 1.3 W (termination on both sides) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Source	External power required
Power Consumption 0.5 W (typical), 1.3 W (termination on both sides) TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Power Connector	2 Position, Removable Terminal Block
TERMINAL BLOCKS Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Input Voltage	10 to 48 VDC (56 VDC Maximum)
Wire Size Accepted 28 to 12 AWG Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Power Consumption	0.5 W (typical), 1.3 W (termination on both sides)
Pitch 5.08 mm Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	TERMINAL BLOCKS	
Insulation Resistance ≥500 MΩ @ 500 VDC Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Wire Size Accepted	28 to 12 AWG
Maximum Torque 5 Kg / cm INDICATORS Power Red LED	Pitch	5.08 mm
INDICATORS Power Red LED	Insulation Resistance	≥500 MΩ @ 500 VDC
Power Red LED	Maximum Torque	5 Kg / cm
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	INDICATORS	
Data Red LED for each Data Port	Power	Red LED
	Data	Red LED for each Data Port

SPECIFICATIONS

SPECIFICATIONS	
MECHANICAL	
Dimensions	12.3 x 11.3 x 3.2 cm (4.9 x 4.5 x 1.3 in)
Enclosure	IP 20 Plastic, 35 mm DIN Mount
Weight	222 g (0.49 lbs)
MTBF	114696 Hours
MTBF Calc. Method	Parts Count Reliability Prediction
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
REGULATORY	
Approvals	FCC, CE, UL, UL Class 1 DIV 2, Groups A, B, C, D
UL File	E222870 (HAZLOC E245458)
CERTIFICATIONS	
2004/108/EC	Electomagnetic Compatibility Directive
2011/65/EU	Reduction of Hazardous Substances Directive
EN55022: +AC (Class B)	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
EN61000-6-1	Generic Standards of Residential, Commercial and Light Industrial Environments
EN61000-4-2	ESD Immunity
EN61000-4-3: +A2	Radiated Immunity
EN61000-4-4	EFT/Burst Immunity
EN61000-4-6	Conducted Immunity