Heavy Industrial RS-232 Isolated Repeater

2320PDRI-PH

PRODUCT FEATURES

- IEEE-61850-3, IEEE-1613
- NEMA TS2
- -40 to 85°C Operating Temperature
- Rugged IP30 Metal Panel Mount Case
- 50G Shock, 4G Vibration
- 2kV Triple Isolation
- 10 to 48 VDC Input Power

The 232OPDRI-PH is our premium Heavy Industrial RS-232 Isolated Repeater. Designed for rugged industrial environments, it has been put through some of the most exacting compliance tests in the industry. Meeting the requirements of IEC 61850-3 and IEEE 1613, it is suitable for installation in electrical substations. These specifications are more stringent than the NEMA TS1/TS2 requirements for transportation applications. Powerful 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 IP30 metal case, this repeater operates in wide temperature extremes. The panel mount form factor with DIN Rail mount option makes it easy to integrate into your control panel or other industrial equipment.

Installation and configuration is easy. Data is connected with a DB9 female connector (DCE) and a DB9 male connector (DTE). Power is connected through terminal block that accepts 10 to 48 VDC from any external source.

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
2320PDRI-PH	Heavy Industrial RS-232 Isolated Repeater

ACCESSORIES

MDR-40-24 - DIN Rail Mount Power Supply 24VDC, 1.7 A output power

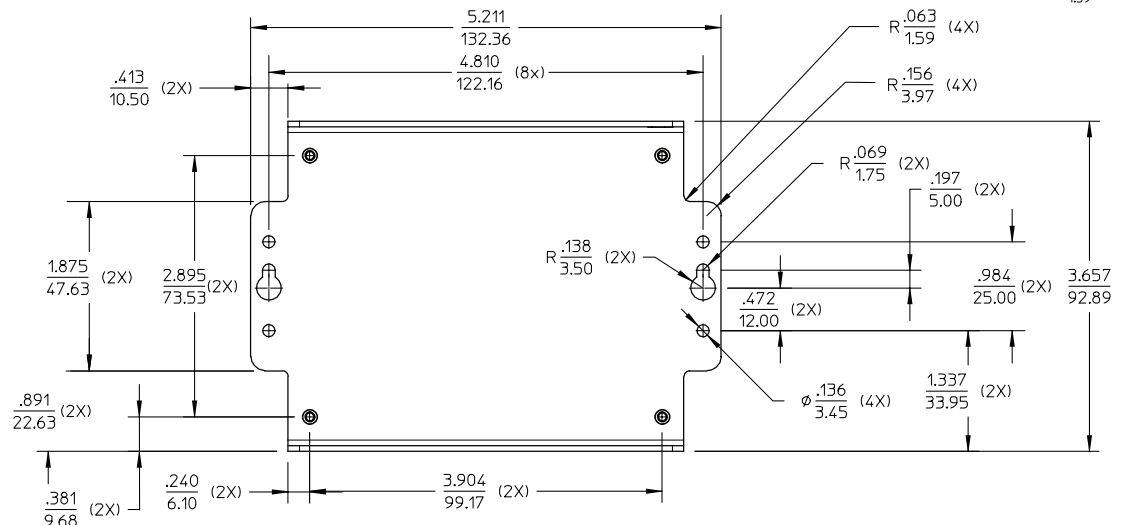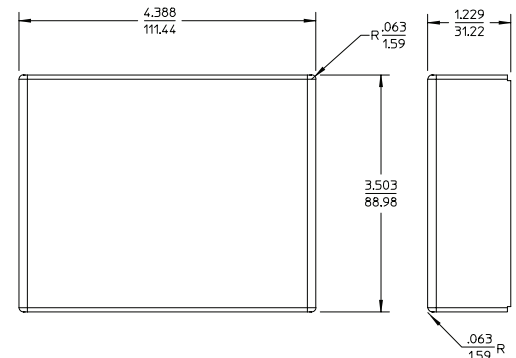**DRAD35** - DIN Rail Mounting Kit 35mm

TBKT1 - Replacement Term Block, 2

SPECIFICATIONS

SERIAL TECHNOLOGY

Serial Connector	DB9 F (DCE), DB9 M (DTE)
Data Rate	Up to 115.2 Kbps
Isolation	2 KV RMS, 1 minute

POWER

Source	External (Not Included)
Power Connector	2 Position Removable Terminal Block
Input Voltage	10 to 48 VDC (56 VDC Maximum)
Power Consumption	0.55 W (typical), 1.5 W (maximum)

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	Green LED TD, RD, CTS, RTS

MECHANICAL

Dimensions	13.24 x 9.29 x 3.30 cm 5.2 x 3.7 x 1.3 in
Enclosure	IP30 Metal, Panel Mount
Weight	0.46 lbs (208.65 grams)
MTBF	194712 Hours
MTBF Calc. Method	Parts Count Reliability Prediction

ENVIRONMENTAL

Operating Temperature	-40 to 85°C (-40 to 176°F)
Storage Temperature	-40 to 85°C (-40 to 176°F)
Operating Humidity	0 to 95% Non-condensing

REGULATORY

Approvals	FCC, CE, IEC 61850-3, IEEE 1613 UL C1 D2, File: E245458, NEMA TS2

IEC 61850-3 ELECTRO MAGNETIC INTERFERENCE SPECIFICATIONS

Test	Description		Test Level	Level
61000-4-2	ESD	Enclosure Contact Enclosure Air	8 kV 15 kV	4 4
61000-4-3	Radiated RFI	Enclosure Ports	10 V/m	3
61000-4-4	Burst (Fast Transient)	Signal Ports DC Power Ports	4 kV @ 2.5 Khz 4 kV	- 4
61000-4-5	Surge	Signal Ports DC Power Ports	2 kV line to earth, 1 kV line to line 2 kV line to earth, 1 kV line to line	4 3
61000-4-6	Induced (Conductive) RFI	Signal Ports DC Power Ports	10 V RMS 10 V RMS	3 3
61000-4-12	Damped Oscillatory	Signal Ports DC Power Ports	2.5 kV common, 1 kV diff mode @ 1MHz 2.5 kV common, 1 kV diff mode @ 1MHz	3 3
61000-4-16	Mains Frequency Voltage	Signal Ports DC Power Ports	30 V Continuous, 300 V for 1 s 30 V Continuous, 300 V for 1 s	4 4
61000-4-17	Ripple on DC Power Supply	DC Power Ports	10%	3

IEEE 1613 C37.90 ELECTROMAGNETIC INTERFERENCE SPECIFICATIONS

C37.90.3	ESD	Enclosure Contact Enclosure Air	8 kV 15 kV	-
C37.90.2	Radiated RFI	Enclosure Ports	10 v/m	-
C37.90.1	Fast Transient	Signal Ports DC Power Ports	4 kV @ 2.5 kHz 4 kV	-

ENVIRONMENTAL SPECIFICATIONS

60068-2-1	Cold Temperature	Test Ad	(-)40 C, 16 Hours	-
60068-2-2	Dry Heat	Test Bd	(+)85 C, 16 Hours	-
60068-2-30	Humidity (damp heat cycle)	Test Dd	90% (non-condensing) (+)55C, 6 Cycles	-
IEC 600068-2-6	Vibration	Test Fc	4g	Class 2
IEC 600068-2-27	Shock	Test Ea	50g	Class 2
IEC 60068-2-32	Drop	-	6 faces, 1 corner, 3 edges, total 10 drops at 1 m	-