



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

Model 4850PDRI-PH is our premium heavy industrial RS-422/485 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, it extends full or half-duplex RS-422/485 signals an additional 4000 feet and allows you to add another 32 nodes to your network. Our bit-wise enabled circuitry automatically detects the data rate without setting a DIP switch.

ORDERING INFORMATION

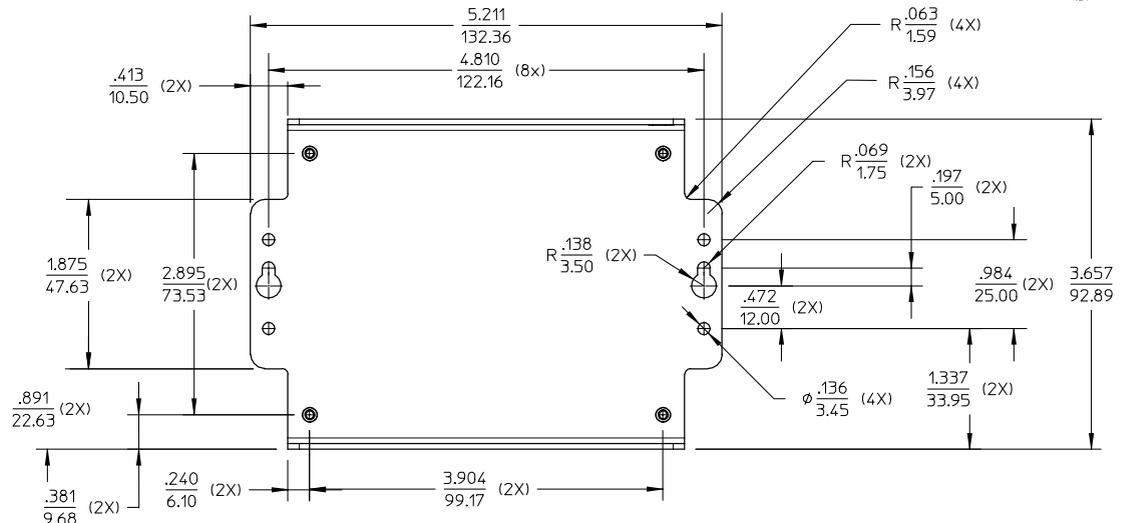
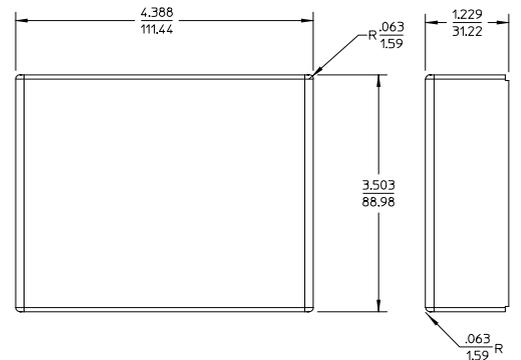
| MODEL NUMBER | DESCRIPTION |
|--------------|---|
| 4850PDRI-PH | Heavy Industrial RS-232 to RS-422/485 Isolated Repeater |

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



Heavy Industrial RS-422/485 Isolated Repeater

4850PDRI-PH



SPECIFICATIONS

| SERIAL TECHNOLOGY | |
|---|---|
| RS-422 | TDA(-), TDB(+), RDA(-), RDB(+) |
| RS-485 4-Wire | TDA(-), TDB(+), RDA(-), RDB(+) |
| RS-485 2-Wire | Data A(-), Data B(+) |
| RS-422/485 CON. | 5 Position, Removable Terminal Block |
| Data Rate | 1.2 to 115.2 Kbps |
| Isolation | 2 KV RMS, 1 minute |
| Surge Protection | 600 W Peak Power Dissipation Clamping time < 1 pico-second |
| Industrial Bus | MODBUS ASCII / RTU |
| Bias | Built-in, switchable 1.2K Ω XMT/RCV |
| Termination | Built-in, switchable 120 Ω |
| POWER | |
| Source | External |
| Power Connector | 2 Position Removable Terminal Block |
| Input Voltage | 10 to 48 VDC (56 VDC Maximum) |
| Power Consumption | 0.5 W typical (2.3 W with termination) |
| TERMINAL BLOCKS | |
| Wire Size Accepted | 28 to 12 AWG, Copper wire only. |
| Pitch | 5.08 mm |
| Insulation Resistance | \geq 500 M Ω @ 500 VDC |
| Maximum Torque | 5 Kg / cm |
| Temperature rating of field installed conductors 105°C minimum. | |

| INDICATORS | |
|-----------------------|---|
| Power | Red LED |
| TD / RD (Each Port) | Green LED |
| 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 | 122832 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 | 8 kV | 4 |
| | | Enclosure Air | 15 kV | 4 |
| 61000-4-3 | Radiated RFI | Enclosure Ports | 10 V/m | 3 |
| | | | | |
| 61000-4-4 | Burst (Fast Transient) | Signal Ports | 4 kV @ 2.5 KHz | - |
| | | DC Power Ports | 4 kV | 4 |
| 61000-4-5 | Surge | Signal Ports | 2 kV line to earth, 1 kV line to line | 4 |
| | | DC Power Ports | 2 kV line to earth, 1 kV line to line | 3 |
| 61000-4-6 | Induced (Conductive) RFI | Signal Ports | 10 V RMS | 3 |
| | | DC Power Ports | 10 V RMS | 3 |
| 61000-4-12 | Damped Oscillatory | Signal Ports | 2.5 kV common, 1 kV diff mode @ 1MHz | 3 |
| | | DC Power Ports | 2.5 kV common, 1 kV diff mode @ 1MHz | 3 |
| 61000-4-16 | Mains Frequency Voltage | Signal Ports | 30 V Continuous, 300 V for 1 s | 4 |
| | | DC Power Ports | 30 V Continuous, 300 V for 1 s | 4 |
| 61000-4-17 | Ripple on DC Power Supply | DC Power Ports | 10% | 3 |

| IEEE 1613 C37.90 ELECTROMAGNETIC INTERFERENCE SPECIFICATIONS | | | | |
|--|----------------|-------------------|----------------|-------|
| Test | Description | | Test Level | Level |
| C37.90.3 | ESD | Enclosure Contact | 8 kV | - |
| | | Enclosure Air | 15 kV | - |
| C37.90.2 | Radiated RFI | Enclosure Ports | 10 v/m | - |
| | | | | |
| C37.90.1 | Fast Transient | Signal Ports | 4 kV @ 2.5 kHz | - |
| | | DC Power Ports | 4 kV | - |

| ENVIRONMENTAL SPECIFICATIONS | | | | |
|------------------------------|----------------------------|---------|---|---------|
| Test | Description | | Test Level | Level |
| 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 | - |