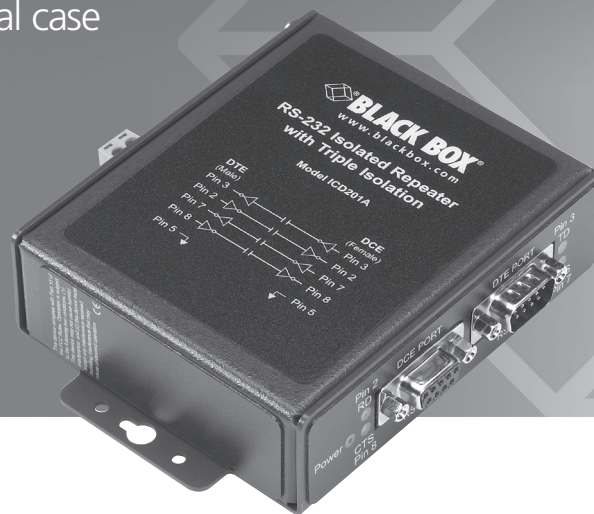




Industrial Opto-Isolated RS-232 Repeater

Double the range of RS-232 data communications in heavy industrial areas.

Rugged IP30-rated metal case for panel mounting



Overview

- A heavy-duty, industrial-strength repeater.
- Doubles the allowable range of RS-232 transmissions up to 100 feet (30.4 m).
- Rugged, IP30-rated metal case for panel mounting.
- Tolerates temperatures ranging from -40 to +176° F (-40 to +80° C).
- Designed to withstand both shock and vibration.
- Boasts 2-kV triple isolation for safeguarding data and equipment.
- Data rates up to 115.2 kbps.

This heavy-duty Industrial Opto-Isolated RS-232 Repeater doubles the maximum allowable distance permitted under the RS-232 specification for longer serial transmissions.

Encased in an IP30-rated enclosure, the repeater's been put through some of the most exacting tests in the industry. The high-grade repeater meets the requirements of two standards that make it suitable for electrical substation installations—IEC 61850-3 and IEEE 1613—specifications that are more stringent than NEMA TS1/TS2 requirements for transportation applications.

Customer Support Information

Order toll-free in the U.S.: Call 877-877-BBOX (outside U.S. call 724-746-5500)
 FREE technical support 24 hours a day, 7 days a week: Call 724-746-5500 or fax 724-746-0746
 Mailing address: Black Box Corporation, 1000 Park Drive, Lawrence, PA 15055-1018
 Web site: www.blackbox.com • E-mail: info@blackbox.com

Industrial Opto-Isolated RS-232 Repeater

Specifications

Approvals — IEC 61850-3, IEEE 1613, FCC, CE, RoHS

Data Rates (Maximum) —115.2 kbps

Distance — 100 ft. (30.4 m); longer distances may be possible depending on the cable's capacitance

Enclosure— IP30-rated metal, panelmount

Insulation Resistance — ≥ 500 M ohms @ 500 VDC

Isolation — 2 kV RMS, 1 minute

Maximum Torque — 5 kg/cm

MTBF — 194,712 hours;

Calculation method: parts count reliability prediction

Pitch — 5.08 mm

Wire Size Accepted — 28 to 12 AWG

CE Approval — Yes

RoHS — Yes

Connectors — DCE: (1) DB9 F; DTE: (1) DB9 M

Indicators — LEDs: (1) Power, (1) TD (transmit data) and (1) RD (receive data) on both the DCE and DTE ports

Operating Environment — Temperature: -40 to +176° F (-40 to +80° C);

Humidity: 0 to 95%, noncondensing

Power — From an external power supply (not included);

Input: 10–48 VDC (56 VDC maximum) on 2-position terminal block (removable);

Consumption: 0.6 W typical (1.5 W with termination)

Size — 1.3"H x 3.7"W x 5.2"D (3.3 x 9.4 x 13.2 cm)

Weight — 0.5 lb. (0.2 kg)

Product Information

IEC 61850-3 Electromagnetic 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	–
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 Ground, 1 kV Line to Line	4
		DC Power Ports	2 kV Line to Ground, 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 @ 1 MHz	3
		DC Power Ports	2.5 kV Common, 1 kV Diff Mode @ 1 MHz	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

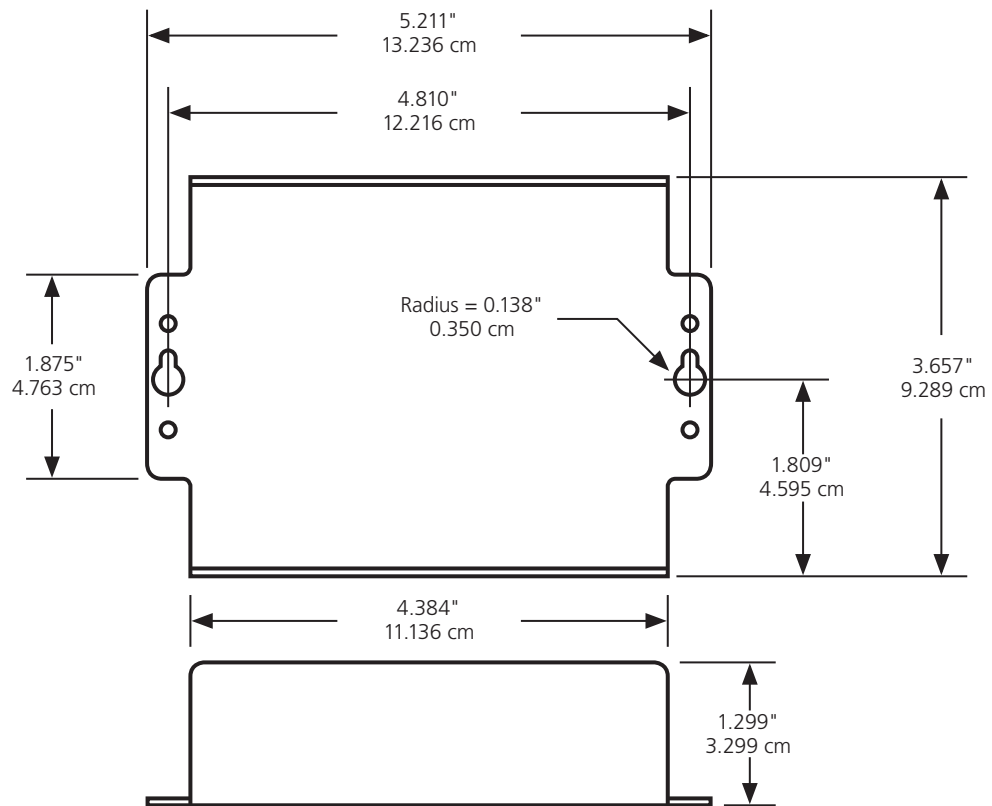
IEEE 11613 C37 Electromagnetic Interference Specifications

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	Burst (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° F (-40° C), 16 Hours	–
60068-2-2	Dry Heat	Test Bd	+176° F (+80° C), 16 Hours	–
60068-2-30	Humidity (Damp Heat Cycle)	Test Dd	90% (Noncondensing) +131° F (+55° C), 6 Cycles	–
60255-21-1	Vibration	Test Fc	0.1 oz. (2 g) @ 10 to 150 Hz	Class 2
60255-21-2	Shock	Test Ea	1.1 oz. (30 g) @ 11 mS	Class 2
60068-2-32	Drop	--	6 Faces, 3 Edges, Total 10 Drops at 1 m	–

Mounting Dimensions



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