

Model: rdc485ir3

Isolated RS-485 Repeater (2-wire)

The rdc485ir3 safely connects 2-wire RS-485 devices and networks together without danger of ground loops and damaging surges. It also doubles permitted cable length. Data signals have 2.5Kv optical isolation. Isolated DC supplies provide full 3-port galvanic isolation. The signal (reference) ground for both RS-485 ports float with respect to power supply ground. The biased network principle is used for bi-directional communications without control signals. Jumpers enable 120Ω internal terminating and bias resistors. 500 watt voltage transient suppressor diodes protect the rdc485ir3 from normal mode surges, while the full galvanic isolation protects the rdc485ir3 from common mode surges.

Isolation, industrial design, small size, DIN rail mount, user indication, and DC supply make the rdc485ir3 a very engineer-friendly device for your industrial data communication system.

Specification

RS-485 ports

Signal Type: EIA/RS-485A
Voltage Level: -7 to +12 vDC
Permitted Surge: +/- 25 vDC

Isolation (ISO/IEC 9549)

RS-485 to RS-485: 2500 v (optical, 5kV test)
Supply to field: 2500 v (galvanic, 3kV test)
Supply to local: 2-port = none ; 3-port = 2500v
Conformal Coating: 14,000 v per mm

Power Supply:

5v DC +/- 5%,
9v to 36v DC,
LEDs (green) indicate isolated power status

Communication:

Max Speed: at least 115Kbps over 500m
Character Setting ...: transparent, no configuration required
User Indications: Each receive signal has LED (yellow)
Standard Distance ..: 1000m for EIA/RS-485
Practical Distance ...: less than 3000m for RS-485
(requires quality, low-cap cable < 50 pf/m)

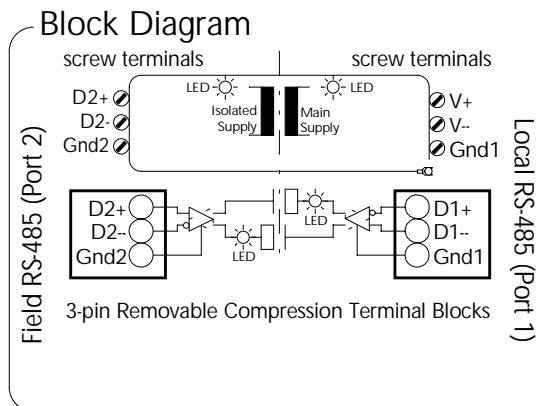
Mechanical / Environment

Operating Range ..: -40C to +65C
Storage Range: -40C to +100C
Relative Humidity ..: 10 to 90% RH, non-condensing
Terminals: wire up to 2.5mm (12 AWG)
Case Material: nylon polyimide, fungus and termite resistant
self-extinguishing, epoxy potting
Weight: approx 130g
Mounting Rail: DIN EN 50 022 or DIN EN 50 035

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Specifications subject to change without notice.

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Order Information

rdc485ir3 - - -

Term Resistor Value
 nnn nnn = custom value
 * 120Ω

Connector Configuration
 CC * Removable screw terminal for both ports
 dd D-sub 9-pin for both ports (1 x male, 1 x female)

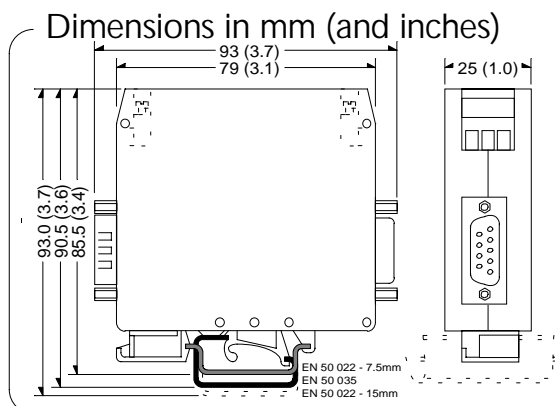
Galvanic Isolation Configuration
 2p 2-port, Gnd1 = Supply Ground
 3p * 3-port, isolation between both ports & supply

Power Supply Configuration
 5v 5v +/- 5% Regulated DC Supply
 dv * 9 to 36v Unregulated DC Supply

* shows factory default options

Option 2p is only valid with option 5v

Option 3p includes 500 watt transient surge suppressor diodes on both RS-485 ports. Option 2p has them only on the field RS-485 port



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