

Model: rdc232ir3

RS-232 to RS-232 isolated repeater

The rdc232ir3 safely connects two RS-232 devices without the danger of ground loops and damaging surges. Its optocouplers guarantee up to 2.5 KV of optical isolation between the RS-232 ports. The input supply can be galvanically isolated from both RS-232 ports ("3p" option) for maximum protection. Furthermore, the rdc232ir3 regenerates the RS-232 signal, thereby doubling the maximum distance and allowing guaranteed performance up to 115 Kbps.

Besides providing isolation, over 1 million ohms of impedance are added to the ground path between the RS-232 ports.. This effectively decouples the signal grounds and prevents surge currents from passing through.. The rdc232ir3 uses standard 9-pin D-shell connectors with an AT-style serial COM port pin configuration.

Isolation, industrial design, small size, DIN rail mount, user indication, and DC supply make the rdc232ir3 a very engineer-friendly device for your industrial data communication system.

Specification

RS-232 Ports (Ports A and B)

Signal Type : RS-232C, D, and E
Voltage Level : +/- 9 Vdc
Permitted Surge : +/- 25 Vdc
Diodes Installed : +/- 15 Vdc, 600 W

Isolation

Port A and Port B : 2500 Vrms (optical, 5 KV test)
Power and Port A : 2500 Vrms (galvanic, 3 KV test)
Power and Port B : option -2p = none, -3p = 2500 Vrms
Conformal Coating : 5000 Vrms (optional)

Power Supply

9 to 36 Vdc : 0.75 W Nominal (32 mA @ 24 Vdc)
48 Vdc +/- 20% : 0.75 W Nominal (16 mA @ 48 Vdc)
5 Vdc +/- 5% : 0.75 W Nominal (150 mA @ 5 Vdc)
9 to 24 Vac : 0.75 W Nominal (32 mA @ 24 Vac)
User Indications : Green LEDs for isolated power supplies

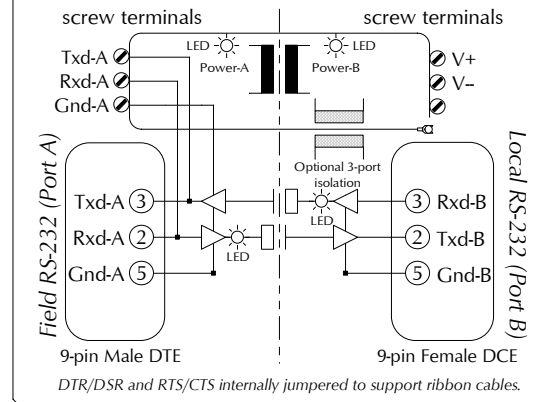
Communication

Max Speed : 115200 bps
Character Setting : Transparent, no config required
User Indications : Yellow LEDs for Rxd
Standard Distance : 15m or 2500 pf per wire
Practical Distance : 55m with low-cap (42 pF) cable

Mechanical / Environment

Operating Range : -20C to +65 C
Storage Range : -40C to +100 C
Relative Humidity : 10 to 90% RH, non-condensing
Case Material : nylon polyimide, fungus and termite resistant self-extinguishing
Weight : approx 130 g
DB9 Connectors : 30µ gold pins, 500 insertion cycles
Screw Terminal : 2.5mm strand (12 AWG) 4.0mm solid (12 AWG)
Mounting Rail : DIN EN 50 022 or DIN EN 50 035

Block Diagram

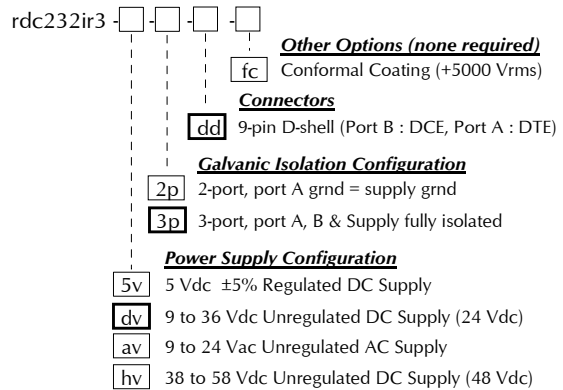


Application Details

The rdc232ir3 works well with most industrial protocols such as Modbus. The transmit and receive signals pass through the isolator. The RTS/CTS and DTR/DSR/DSB signals are looped back and do not pass through the isolator. Some common situations to use an RS-232 isolator include:

- Between a computer and field device (PLC, flow computer, etc.)
- Between vendors' scope of supply (between 'us' and 'them')
- Connecting to large power devices (motors, furnaces, etc.)

Order Information



Boxes in bold denote factory default options

Dimensions in mm (and inches)

