

Model: rdc232ir3

Isolated EIA/RS-232 Repeater (3-wire: Txd, Rxd, Signal Gnd)

The rdc232ir3 safely connects two RS-232 devices without danger of ground loops and damaging surges. The RS-232 signals have 2.5kV optical isolation, plus two isolated supplies for full galvanic isolation. Unlike self-powered isolators that weaken the RS-232 signal and stress your hardware, the rdc232ir3 boosts the signal, effectively doubling the maximum RS-232 distance and allows guaranteed performance up to 115kbps.

The data lines Txd & Rxd are fully isolated, plus over 1 million ohms of impedance are added to the ground path. This effectively decouples the signal grounds and prevents surge currents. The RS-232 uses 9-pin d-shell with computer-style 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.

RS-232 port Description:

Signal Type	EIA/RS-232 (C to F)
Voltage Levels	+/- 9v DC
Permitted Surge	+/- 25v DC
Surge Diodes Installed	+/- 15v, 500 watt

Isolation (ISO/IEC 9549):

RS-232 to RS-232	2500v (optical, 5kV test)
Power to RS-232 Port F	2500v (galvanic, 3kV test)
Power to RS-232 Port L	model -2p = none, -3p = 2500v
Conformal Coating	(optional) 5000v rating

Power Supply Options:

9v to 36v DC (1watt max).....	12v or 24v including batteries
48v DC +/- 20% (38-58v).....	48v for telecom & transportation
9v to 24v AC (1watt max)	24v AC Building Automation
5v DC +/- 5% (4.75-5.25v).....	5v for OEM integration
User Indication	Green LED for power status

Communication:

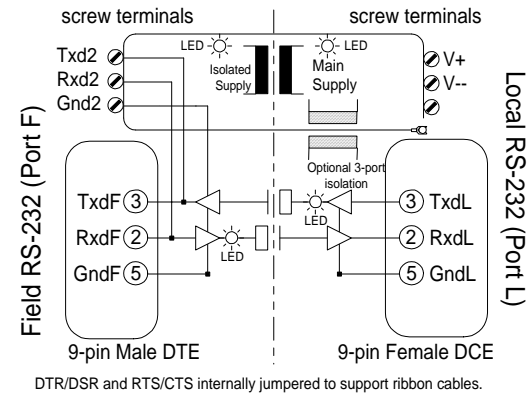
Max Speed	at least 115kbps at 15m
Character Setting	Transparent, no config required
User Indication	Yellow LED for each Receive Signal
Standard Distance	15m or 2500pf per wire
Practical maximum Distance ..	55m with low-cap (42pF) cable

Environmental:

Ambient operating temperature:	-40C to + 65C
Ambient storage temperature:	-40C to +100C
Relative Humidity.....	10 to 95% RH, non condensing
Casing; good fungus & termite	resistance; self-extinguishing.
Weight	130g.
DB9 Connectors	30µ gold pins, 500 insertion cycles
Screw Terminal Capacity	2.5mm strand (12 AWG)
	4.0mm solid (12 AWG).
Mounting Rail	DIN EN 50022 (35mm symmetrical)
	DIN EN 50025 (32mm asymmetrical)

(Note: Style DIN 50022 works best)

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/DSD signals are looped back and do not pass through the isolator. Common situations to use an RS-232 isolator:

- Between 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:

rdc232ir3

Input Power Supply (Select One)

dv	9 to 36vDC, 1 watt (50mA@24v)
hv	48vDC +/- 20% 1 watt
av	9 to 24vAC +/- 20% 1 watt
5v	5vDC +/- 5% (175mA max)

Ground Isolation (Select One)

3p	Full 3-of-3
2p	Partial 2-of-3 (Port L = Power Ground)

Connectors (Select One)

dd	9-pin D-Shell (one DCE, one DTE)
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Other Options (none required)

fc	Conformal Coating (+5000v)
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Example: model **rdc232ir3-dv-3p-dd** is an "Isolated RS-232 Repeater, 3-wire, DIN-Rail Mount, 9-36vDC Supply, Full 3-of-3 Ground Isolation, both RS-232 ports with 30µ gold-plated 9-pin D-shell connectors."

Mechanical Dimensions: mm (inches)

