

Model: Rdc485ir

Isolated EIA/RS-485 Repeater, 2 and 4-wire

Isolation, industrial design, small size, DIN rail mount, user indication, and DC supply make the rdc485ir a very engineer-friendly device for your industrial data communication system.

The rdc485ir safely connects 2 and 4-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 120-ohm internal terminating and bias resistors. 500-watt voltage transient suppressor diodes protect the rdc485ir from normal mode surges, while the full galvanic isolation protects the rdc485ir from common mode surges.

RS-485 port Description:

Signal Type	EIA/RS-485A
Termination	120 ohm (by jumper)
Line Bias	Pull-up/down 470 ohm (by jumper)
Voltage Levels	-7 to +12v DC
Permitted Surge	+/- 25v DC
Surge Diodes Installed	+/- 15v, 500 watt

Isolation (ISO/IEC 9549):

RS-485 to RS-485	2500v (optical, 5kV test)
Power to RS-485 Port A	2500v (galvanic, 3kV test)
Power to RS-485 Port B	model -2p = none, -3p = 2500v
Conformal Coating	(optional) 5000v spec

Power Supply Options:

9v to 36v DC (1.2watt max)	12v or 24v including batteries
48v DC +/- 20% (38-58v).....	48v for telecom & transportation
5v DC +/- 5% (4.75-5.25v).....	5v for OEM integration
User Indication	Green LED for power status

Communication:

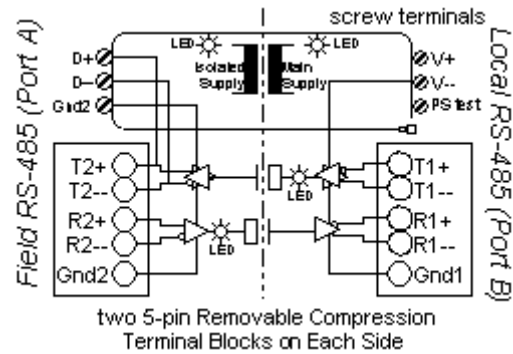
Max Speed	115kbps , no config required
Character Setting	Transparent, no config required
Duplex / Direction	Automatic, no RTS/CTS required
User Indication	Yellow LED for each Receive Signal
Maximum Bus Length	1000m per EIA-485 500m per ISO 8482
Practical maximum Length	3000m under ideal conditions

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.
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 rdc485ir isolated the following networks:

- RS-485 2-wire to 2-wire
- RS-485 4-wire to 4-wire
- RS-485 2-wire to 4-wire (includes echo cancellation)
- RS-422 to RS-485 4-wire
- RS-422 to RS-485 2-wire (includes echo cancellation)

Settings can be done in the field. The 2-wire to 4-wire mode is unique in the market. It prevents the echo problem of using 2-wire with devices that normally only work in 4-wire mode.

Order Information:

rdc485ir

Input Power Supply (Select One)

dv	9 to 36vDC, 1.2 watt (50mA@24v)
hv	48vDC +/- 20% 1.2 watt
5v	5vDC +/- 5% (175mA max)

Ground Isolation (Select One)

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

Connectors (Select One)

cc	5-screw removable terminal
dd	9-pin D-Shell (female)

Other Options (none required)

fc	Conformal Coating (+5000v)
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Example: model **rdc485ir-dv-3p-cc** is an "Isolated RS-485 Repeater, 2 & 4-wire, DIN-Rail Mount, 9-36vDC Supply, Full 3-of-3 Ground Isolation, both RS-485 ports with 5-screw removable terminal blocks."

Mechanical Dimensions: mm (inches)

