RD300-OF

Universal serial RS232/RS422/RS485 to multimode optic fiber media converter (2 ST type connectors)

- 3 in 1 built-in serial interface : RS232/RS422/RS485
- Serial link up to 2 Mbps for RS422 & RS485 mode, 1 Mbps for RS232 mode
- Reliable error free communication even in case of EMI/RFI pertubations
- Fiber length up to 5000 m (100/140 µm fiber type), ST type connectors
- Automatic RS485 line turn-around
- Half-duplex & Full-duplex bidirectionnal data transmission
- Activity LED for fiber and copper TxD & RxD signals, error LED in case of fiber breakdown
- Wide DC power range, from +9VDC to +36VDC
- Point to point mode
- 15 KV ESD protection and HF filtering on the copper side
- Robust & compact metal case, CE standards, 35 mm Din Rail mounting

Introduction

Using fiber optic enables to use a higher communication bandwidth while offering a total immunity against EMI/RFI interferences and an increased security as well.

The optical fibre still offers other advantages : use without risk in an explosive environment, no EMC emission, no ground loops, immunity against lightning and high voltage environments, they are finally lighter, less cumbersome, inert and corrosion resistant ...

Plug & Play: RD300 features a self configuration mechanism based on a CPLD component that frees you from the tiresome operation which consists in the serial parameters setup, product is «Plug & Play».

RD300 features in standard a built-in system to control the fiber integrity, it reports automatically any failure with an error LED and also setups a relay contact (MOSFET) to activate any external safety device.

Its small size, design features and its great adaptability make the RD300 a really universal product capable to satisfy to major needs of the industry.

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Technical characteristics overview

Conversion	Serial RS232/RS422/RS485 to multimode fiber optic, RS485 mode self line turnaround
Serial speed	2Mbps for RS422/RS485 mode, 1Mbps for RS232 mode
Distance	5000m with a 100/140 μm fiber type at 25°C
Serial protocols	The device supports any kind of communication protocols (Modbus, Unitelway, Profibus, DH+ and any ASCII or binary serial protocols...)
Configuration	Serial link parameters auto configuration, no switches. Line polarization, termination and selection between RS232/RS422/RS485 modes are configurable by mini-switches.
Serial connectors	Pluggable screw-in terminal, TxD & RxD signal for RS232 mode, TxA, RxA, TxB, RxB for RS422 mode, TRxA & TRxB for RS485 mode
Optic fiber	50/125 μm, 62.5/125 μm, 100/140 μm, 820 nm wave length, selectable ON/OFF state of the fiber light at the idle state.
Power budget	22.4 dB, 5 dB & 11 dB attenuator for short distance communication
Fiber connectors	2 ST connectors
Network topologies	Point to point, ring
Signaling	2 LEDs Tx/Rx for copper 2 LEDs Tx/Rx for fiber optic n°1 1 LED for fiber n°1 breakdown 1 LED for power
Fan-out	31 RS485 interfaces, 10 RS422 interfaces
Input load	Input load 1/8 UL in RS485 mode
EMI/RFI protection	Built-in continuous line surge protection, ESD protection (15 KVeff), HF filtering
Isolation	Infinite galvanic isolation through the optic fiber
CEM	NF EN 55022 emission, NF EN 61000-6-2 immunity
Security	Fiber breakdown self diagnostic, failure is reported on a LED and a relay contact (MOSFET) is activated.
Power supply	+9VDC to +36VDC (pluggable screw-in terminal), 2.1W
Environment	Temperature from -5°C to +65°C, storage -40°C to +80°C, relative humidity from 0 to 95% RH without condensation
Dimensions & weight	107 mm (L) x 88 mm (l) x 25 mm (H), 260 g

Ordering references

RD300-OF	Serial RS232/RS422/RS485 to multimode fiber optic media converter, +9VDC to +36VDC power supply, din rail mounting

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