

# RD300-OFR

Universal serial RS232/RS422/RS485 to multimode optic fiber media converter (4 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 perturbations
- Fiber length up to 5000 m (100/140  $\mu$ m 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 and multipoint redundant mode (fault tolerant)
- 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.

## Technical characteristics overview

<b>Conversion</b>	Serial RS232/RS422/RS485 to multimode fiber optic, RS485 mode self line turnaround
<b>Serial speed</b>	2Mbps for RS422/RS485 mode, 1Mbps for RS232 mode
<b>Distance</b>	5000m with a 100/140 µm fiber type at 25°C
<b>Serial protocols</b>	The device supports any kind of communication protocols (Modbus, Unitelway, Profibus, DH+ and any ASCII or binary serial protocols ...)
<b>Configuration</b>	Serial link parameters auto configuration, no switches. Line polarization, termination and selection between RS232/RS422/RS485 modes are configurable by mini-switches.
<b>Serial connectors</b>	Pluggable screw-in terminal, TxD & RxD signal for RS232 mode, TxA, RxA, TxB, RxB for RS422 mode, TRxA & TRxB for RS485 mode
<b>Optic fiber</b>	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.
<b>Power budget</b>	22.4 dB, 5 dB & 11 dB attenuator for short distance communication
<b>Fiber connectors</b>	4 ST connectors
<b>Network topologies</b>	Point to point, ring, single-master & dual-master, redundant fiber ring, dual ring & dual master, dual point to point, star
<b>Signaling</b>	2 LEDs Tx/Rx for copper 2 LEDs Tx/Rx for fiber optic n°1 2 LEDs Tx/Rx for fiber optic n°2 1 LED for fiber n°1 breakdown 1 LED for fiber n°2 breakdown 1 LED for power
<b>Fan-out</b>	31 RS485 interfaces, 10 RS422 interfaces
<b>Input load</b>	Input load 1/8 UL in RS485 mode
<b>EMI/RFI protection</b>	Built-in continuous line surge protection, ESD protection (15 KVeFF), HF filtering
<b>Isolation</b>	Infinite galvanic isolation through the optic fiber
<b>CEM</b>	NF EN 55022 emission, NF EN 61000-6-2 immunity
<b>Security</b>	Fiber breakdown self diagnostic, failure is reported on a LED and a relay contact (MOSFET) is activated.
<b>Power supply</b>	+9VDC to +36VDC (pluggable screw-in terminal), 2.3W
<b>Environment</b>	Temperature from -5°C to +65°C, storage -40°C to +80°C, relative humidity from 0 to 95% RH without condensation
<b>Dimensions, weight</b>	MIL-STD-810F, 514.5 & 516.5 methods (shocks & vibrations) EN 301489-17 & EN 61000-6-2 (CEM)

## Ordering references

<b>RD300-0FR</b>	Serial RS232/RS422/RS485 to multimode fiber optic media converter, multipoint & fault tolerant, +9VDC to +36VDC power supply, din rail mounting
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