Robust DataComm

Making Industrial Data Flow Like Water ... Safely, Silently, & Sanely

Model: rdcFOu

Universal Fiber Optics Converter

The rdcFOu safely & effectively connects your equipment by fiber optics, providing the ultimate level of isolation, surge, and noise protection. Field configurable to RS-232, RS-422, or RS-485 (both 2 or 4-wire), the rdcFOu saves you engineering time and money by simplifying your testing, installation, and maintenance.

On the standard model, the serial port is optically/galvanically isolated from your DC supply ground to further enhance robustness and prevent ground loops or multi- vendor politics.

ST or SMA connectors can be supplied, plus the quality Hewlett Packard components used are guaranteed to work with 62.5/125, 100/140, and 50/125 µm fiber sizes.

Specification

Fiber Optic

Connector : ST (bayonet) or SMA (threaded)
Fiber Size : 62.5/125, 100/140, and 50/125 µm
Insertion Loss : for ST, is a repeatable 0.2dB typically
Technology : 820 nm wavelength, GaAIAs emitters
Power : typically -12dBm into 62.5/125 µm fiber

Serial (Field Selectable)

Signal Type : EIA/RS-232C/D/E, EIA/RS-422A, and EIA/RS-485A
Voltage Level : +/- 9 vDC or -7/+12vDC
Surge Protection : +/- 15 vDC 600watt (isolated models only)

Isolation

RS-232 to fiber : complete optical isolation
Supply to fiber : complete optical isolation
Supply to RS-232 : Isolated models have 2500v isolation

Power Supply

38v-58v DC : 1.5w normal 30mA @ 48v
9v-36v DC : 1.5w normal 60mA @ 24v
5v DC +/- 5% : 1w normal 200mA @ 5v
User Indications : Green LED for supply & isolated power

Communication

Max Speed : atleast 115Kbps at standard distances
Character Setting : transparent, no configuration required
User Indications : Transmit and Receive Data
Standard Distance : At least 2 Km with 62.5/125 µm fiber
Practical Distance : Up to 4000m for fiber optics

Mechanical / Environment

Operating Range : -40°C to +65°C (Ambient Temperature)
Storage Range : -40°C to +100°C
Relative Humidity : 10 to 90% RH, non-condensing
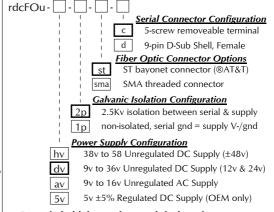Terminals : wire up to 2.5mm (12 AWG)
D-shell connecter : 9-pin, 30µ gold pins/sockets rated 500 cycles
Case Material : fungus and termite resistant self-extinguishing
Weight : approx 130g
Mounting Rail : DIN EN 50 022 or DIN EN 50 035

Block Diagram

Trm+
Trm-
Test FO

LED Isolated Supply

LED Main Supply

V+
V−
5vTst

ST or SMA

TX LED
RX LED

T+
Tx/T-
R+
Rx/R-
SGnd

D-Sub Pins

T+ : 4 & 9
Tx/T- : 3 & 8
R+ : 1 & 6
Rx/R- : 2 & 7
SGnd : 5

Removable 5-screw terminal block or 9-pin D-Sub Shell Female

Order Information

rdcFOu - ☐ - ☐ - ☐ - ☐

	Serial Connector Configuration
c	5-screw removeable terminal
d	9-pin D-Sub Shell, Female

	Fiber Optic Connector Options
st	ST bayonet connector (®AT&T)
sma	SMA threaded connector

	Galvanic Isolation Configuration
2p	2.5Kv isolation between serial & supply
1p	non-isolated, serial gnd = supply V-/gnd

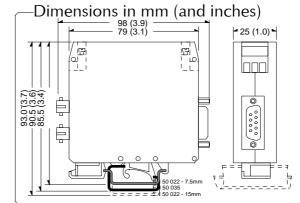|	Power Supply Configuration
hv	38v to 58 Unregulated DC Supply (±48v)
dv	9v to 36v Unregulated DC Supply (12v & 24v)
av	9v to 16v Unregulated AC Supply
5v	5v ±5% Regulated DC Supply (OEM only)

Boxes in bold denote factory default options
Non-isolated (-1p) is only available with power supply -dv or -5v

Testing your fiber optics - the top screw-terminal labeled "Test FO" can be used to easily test your fiber optics link. Connecting it to the serial SGnd terminal forces the fiber transmitter ON. You can easily see the light at the remote end (even with the naked eye) and identify the proper fiber.

Dimensions in mm (and inches)

98 (3.9)
79 (3.1)
25 (1.0)
93.0 (3.7)
90.5 (3.6)
85.5 (3.4)

50 022 - 7.5mm
50 035
50 022 - 15mm

www.robustdc.com