

RS-485 FIBER-OPTIC LINK

RS-485 to Multi-Mode Fiber-Optic converter

ST Fiber Connectors

DIN Rail Mount

101-0079

Quick Start Guide

- RS-485 Auto-direction control
- Supports BAUD rates up to 115,200
- Fiber optic range of up to 4 km (2.5 mi)
- 820nm wavelength technology
- Point-to-Point transmission
- Plug-and-Play, no switches or jumpers
- 9 to 30 Vdc Supply voltage range
- Wide operating temperature range
-30 to 60°C (-22 to 140°F)



The 101-0079 Fiber-Optic Link is a simple to use, plug-and-play, RS-485 to multi-mode fiber optic converter. Using standard ST connectors the Fiber-Optic Link extends the maximum distance of an RS-485 signal up to 4 km (2.5 mi) in a point-to-point transmission using industry standard 50/125um or 62.5/125um multi-mode fiber optic cables.

Fiber optic communications offers immunity to EMI/RFI radio or electrical interference, transient surges, and ground loops. The Fiber-Optic Link is designed to easily interface to RS-485 half-duplex networks. Switching between transmit and receive is automatically controlled- no RTS line needed. The Fiber-Optic Link is equipped with an industry standard 35mm DIN rail mounting clip allowing the converter to be quickly installed in your equipment rack, along side other DIN mounted equipment.

The Fiber-Optic Link keeps the light in the fiber turned ON when no data is transmitted. The light in the fiber turns OFF/ON in step with the data.

For a USB Fiber-Optic Link order part number 101-0089.


RS-485 Network Bus

The Fiber-Optic Link can be connected to an RS-485 network bus. An RS-485 bus consists of multiple RS-485 devices connected in parallel to a bus cable. To eliminate line reflections, each cable end is terminated with a termination resistor whose value matches the characteristic impedance of the cable. This method, known as parallel termination, allows for higher data rates over a longer cable length.

Connect terminal A to the RS-485 bus A or (-) wire

Connect terminal B to the RS-485 bus B or (+) wire

Connect terminal G to the RS-485 bus shield or ground wire.

 Fiber-Optic Link does not provide isolation between the RS-485 port and power supply ground. The G terminal is internally connected to the power supply (-) terminal.

Fiber Optic Connection

The Fiber-Optic Link is equipped with ST style connectors capable of working with standard Multi-Mode fiber optic cables such as 50/125 and 62.5/125um.

The maximum length of the Fiber Optic cables should not exceed 4 km (2.5 mi).

DIN Rail Mounting

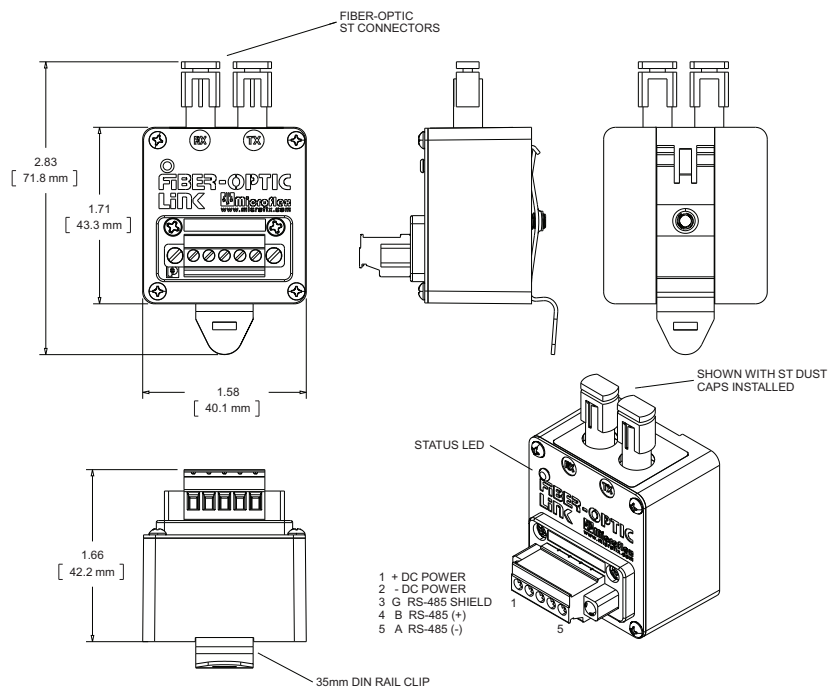
The converter is designed to mount on standard 35mm EN 50022 rails. It can be snap mounted and removed from the mounting rail without tools for quick installation and servicing.

Power Supply

The Fiber-Optic Link is powered through an external 9 to 30Vdc power supply. Connect the positive side to Pin 1 (+), and the negative side to Pin 2 (-).

Maximum supply current ranges from 32mA at 30 volts to 133mA at 9 volts.

Specifications



Enclosure

Polycarbonate plastic with Stainless Steel Cover

Weight 5 ounces

Mounting 35mm DIN Rail Clip

Terminal Block

Connector.....5-Pin 3.81 mm

Wire Gauge Range28 AWG - 16AWG

Pluggable Terminal Block

+ Power Supply (+)..... Pin 1

- Power Supply (-)..... Pin 2

G RS-485 Ground *Internally connected to Supply (-)*..... Pin 3

B RS-485 (+)..... Pin 4

A RS-485 (-)..... Pin 5

Environmental

Operating Temperature.....-30°C to 60°C (-22°F to 140°F)

Storage Temperature.....-40°C to 85°C (-40°F to 185°F)

Humidity.....0 to 95% (non-condensing)

Power Supply

9 to 30VDC External Power Supply	
Maximum supply current ranges	
32mA	30VDC
132mA	9VDC
Power Consumption	
1 Watts	24VDC

RS-485

BAUD	115200 Max
Parity.....	None, Odd, Even
Driver Output Voltage.....	2V Min Unloaded, 1.5V Min $R_L = 54\Omega$
Δ Input Threshold Receive Voltage.....	+/- 0.2V
Receiver Input Hysteresis.....	35 mV Typ
Receiver Input Current.....	+/- 1mA Max
Surge Protection.....	600W Silicone Avalanche Diodes

- Does not include RS-485 termination resistor
- Auto transmit control
- Power Up/Down glitch-free permits live insertion or removal
- Common mode range permits +/-7V ground difference

Fiber Optic

Type/Wavelength.....	Multi-Mode/820nm
Output Power.....	(-) 17 to (-) 13 Typical (-) 15dBm
Receive Sensitivity.....	(-) 25.4 to (-) 24dBm
Cable.....	MM Fiber Optic cable: 50/125 and 62.5/125um
Maximum Distance.....	4 km (2.5 mi)
Idle State	Transmitter light ON

Status LED

Green.....	Transmitting RS-485 data
Red.....	Receiving RS-485 data

At power on the Fiber-Optic Link will have the LED turn RED when the Fiber Optic RX (Receive/In) is not connected. Once connected to another Fiber-Optic Link or another fiber optic converter with the light ON at idle the RED status LED will turn OFF.

Additional Information

For additional information refer to the **101-0079 Installation, Operation, & Specifications Manual** available at www.microflx.com in a PDF format.

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