

Power

OVER FIBER

**provide
power
over fiber
optic cable**



RLH Fiber Optic Links
can now be powered
completely by fiber,
eliminating the need to run
conductive copper into
high voltage areas

Power transmission over fiber optic cable

Overview

The RLH Fiber Optic Link Power Over Fiber (PoF) system provides power transmission over three multimode optical fibers. It is designed to provide isolated power to a Fiber Optic Link interface card when sealing current or local AC power is not available. The use of fiber eliminates the need to run conductive copper wire into a high Ground Potential Rise (GPR) zone.

The PoF system comprises 2 units; a *Transmitter Unit* to produce the light energy, and a *Receiver Unit* to convert that energy into DC power that can run a full spectrum of RLH Fiber Optic Links.

Transmitter Unit

The PoF Transmitter Unit may be rack (EIA 19 or 23 inch) or wall mounted. It is powered by a local power source of 24-56 VDC, and contains two high power laser diodes, controller electronics, and alpha-numeric status displays. The lasers transmit high power light into two fiber strands, providing the light energy required for the receiver unit. A third feedback fiber is used to control and monitor the Receiver Unit.

PoF Receiver Unit

The PoF Receiver unit is a standard RLH single card form factor unit, and may be installed into any RLH Fiber Optic Link card housing. The receiver has two photovoltaic power receivers (PPC) that convert the laser light into electrical energy. It also sends a feedback signal over a feedback fiber to the transmitter, for instant monitoring and safety shutoffs in the event of a break in fiber continuity.

Fiber Power

The Receiver Unit provides 24VDC from 12-20mA, depending on length of fiber cable, up to 500 meters or 1,680 feet. Multiple units may be used for longer distances.

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Transmission method:	High Intensity laser light via two optical fibers . Multimode: 830nm
Maximum Fiber Loss / Distance*:	Multimode: 3dB / 1,640 feet (500m) *Distance is equated using industry standard fiber and connector attenuation. (Multimode: 3.5dB/km +0.5dB per connector)
Fiber Type:	Multimode: 62.5/125µm, 3 -1,640 feet
Connector Types:	Fiber: ST Power: screw clamps 18-24awg wire
LED Indicators:	Power, Laser On, Heater On, Cooler On, Feedback Received, Alarm, Case Interlock
Power Input:	24-56VDC @ 2A Maximum (45 Watts)
Power Output:	24VDC @ 20mA Maximum (0.6 Watts)
Temperature Limits:	Transmitter Unit: 32°F to 104°F (0°C to +35°C) Receiver Card: -40°F to +158°F (-40°C to +70°C)
Humidity:	95% non-condensing
Dimensions (LxWxH) & Weight:	TX Unit: 13"x11"x3.5" (2RU), 6 lbs. RX Unit: 7" x 4"x 1", 1 lbs.

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Power Over Fiber Connection Diagram

