



RLH Industries, Inc.

fiber**opti**clink.com

PRODUCT DATA SHEET

DS-156 2025-04-25

4~20mA Fiber Optic Converter

Transmit four 4~20mA Analog Signals over Fiber with High Speed and Accuracy

The RLH 4-20mA Fiber Optic Converter transmits 4 Analog signals over fiber cable and offers high performance with 500k samples per second, 16 bit signal resolution, and less than 0.2% source signal variance.

It is compatible with most PLC's, Sensors (2, 3, or 4 wire), and other types of equipment where a precise current measurement must be taken and transmitted over fiber. The system comprises of a transmitter (Analog Input) and a receiver (Analog Output).

This compact and rugged system provides convenient and easy to read LEDs, supports both single-mode and multimode fiber applications, and includes an alarm contact for monitoring system power and fiber health.

This system is engineered to operate over an extreme temperature range, providing reliability in harsh environments. It is designed, engineered, and assembled in the USA, and covered by our Lifetime Warranty.



4 Channel 4~20mA DIN Input Unit Shown

Features

System

- Compatible with all MSA compliant Gigabit SFPs
- Update rate: 500K samples per second
- 16 Bit Signal Resolution
- 99.8% Accuracy or Better
- Alarm contact for system status monitoring

Environment

- Hardened to operate in -40°F to +158°F (-40°C to +70°C)
- DIN rail or Wall Mount (Wall mount ears included)

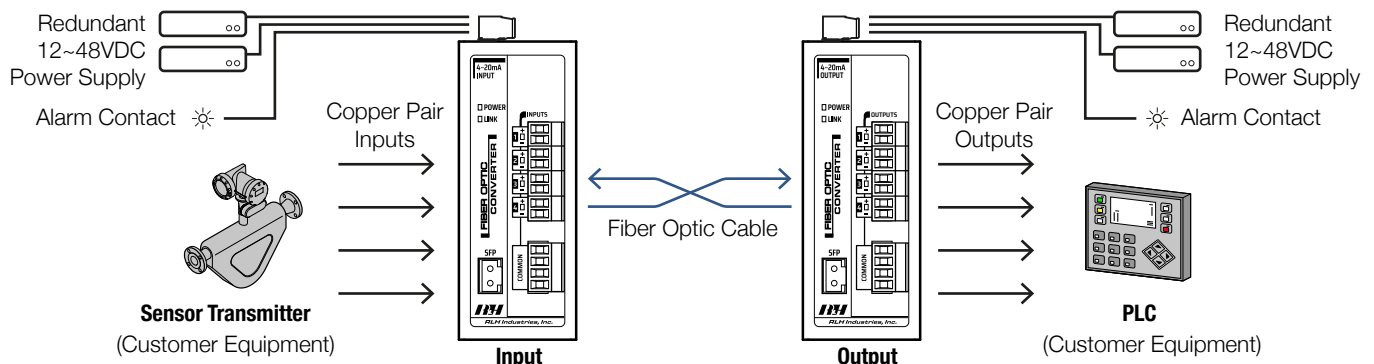
Power

- Redundant Power Inputs (12~48VDC)

Quality

- Designed, Engineered, and Assembled in the USA
- Covered by our Lifetime Warranty

Application





System Accuracy

| | |
|----------------------------|---|
| Accuracy | 99.8% Note: Accuracy for Fiber Link System, both Transmitter and Receiver at 25°C and powered by 24VDC |
| Ambient Temp Effect | Approximately 0.4% over range -40°F to +158° |
| Latency | 1μs |
| Update Rate | 2μs (500,000 updates per second) |
| Signal Resolution | 16 Bits |
| Sensitivity | 2 ¹⁶ (65,536) Steps |

Analog Inputs 1~4 (differential inputs)

| | |
|------------------------|-------------|
| Operating Range | 0~20mA (DC) |
| Impedance | 250 Ohms |
| Protection | 24mA |

Analog Outputs 1~4 (single-ended, unipolar)

| | |
|--------------------------------|-----------|
| Loop Voltage | 23.7VDC |
| Maximum Loop Resistance | 1000 Ohms |
| Maximum Output Signal | 20mA |

General Specifications

| | | | |
|------------------------------------|---|----------------------------------|--|
| Fiber Port | 1 Gigabit SFP Slot, Accepts MSA compliant 1.25Gbps SFPs (Available separately) | | |
| LED Indicators | Power, Fiber, Input/Outputs 1~4 | | |
| Power Input | 12~48VDC (11~53V) | | |
| | -A powering option 125VDC (42~160V) | | |
| | Dual redundant power options - Polarity insensitive | | |
| Power Consumption | Input Device | 5 Watts Maximum | |
| | Output Device | 8 Watts Maximum | |
| DC Input Isolation (In/Out) | 1.5KV | | |
| Overcurrent Protection | 1.0A | Automatic Recovery | |
| System Alarm | Normally Open / Closed Relay | | |
| Temperature | Storage | -40°C to +85°C (-40°F to +185°F) | |
| | Operating | -40°C to +70°C (-40°F to +158°F) | |
| Dimensions | 2.2" (W) x 4" (D) x 5.2" (H), (56mm x 102mm x 131mm) - not including DIN clip | | |
| Mounting | Includes standard T-35 DIN rail clip and wall mount ears | | |
| Humidity | 95% non-condensing | | |
| Safety | FCC Class A, CE, RoHS | | |
| MTBF (MIL-HDBK-217F2, GB, 25°C) | FBX-420-INPUT-1 | 153,402 hours | |
| | FBX-420-OUTPUT-1 | 150,772 hours | |
| Warranty | Lifetime - Visit www.fiberopticlink.com for warranty information and coverage details | | |

Ordering Information

| Description | Part Number |
|---|------------------|
| 4~20mA Fiber Optic Converter, Input, 4 Channels, 1 SFP Slot, powered by 12~48VDC | FBX-420-INPUT-1 |
| 4~20mA Fiber Optic Converter, Output, 4 Channels, 1 SFP Slot, powered by 12~48VDC | FBX-420-OUTPUT-1 |

- A complete system requires one (1) input device paired with one (1) output device
- Add **-A** to the end of the part number for 125VDC powering option