



RLH Industries, Inc.

DATA SHEET

The leader in rugged fiber optic technology.

DS-146 2024-0816

4 Channel 4-20mA/0-10V & 32 Channel Contact Closure MAX Industrial Media Converter

Description

This MAX System Fiber Optic Media converter transmits 4 channels of 4-20mA or 0~10VDC analog signals and 32 contact closure signals over fiber cable. Premium features include 60,000 samples a second, 16 bit signal resolution, and less than 0.1% source signal variance.

Compatible with most PLC's, Sensors (2, 3, or 4 wire), and other types of equipment where precise current or voltage measurements must be taken and transmitted over fiber. Each device is enclosed in a compact DIN and wall mountable housing. A complete MAX System uses a transmitter and receiver unit.

Engineered to operate over an extreme temperature range that provides reliability in harsh environments, this system provides convenient and easy to read LEDs, supports both single-mode and multimode fiber applications, and includes an alarm on either side for monitoring system power and fiber health. It is designed and is made in the U.S.A. and is covered by our Limited Lifetime Warranty.

4~20mA/0~10VDC System

Extends up to 4 separate analog 4-20mA current signals or 0~10VDC signals over fiber. 4-20mA signals are less susceptible to noise interference, can easily detect an open circuit, and current measurement remains the same in any point of the signal path.

Contact Closure System

Extends up to 32 contact closure alarms over fiber to the paired devices. A solid state relay output at the receiver device provides ultra fast response times.



4~20mA & 32 Channel Contact Closure MAX System

Standard Features

Convenient LED status indicators

Single and dual fiber models available

Available with ST or SC connectors, singlemode or multimode fiber

4~20mA or 0~10VDC Analog Signal models available

78,000 Samples a Second, 12.8µs Update Rate

16 Bit Signal Resolution

99.9% Accuracy or Better

Alarm contact for status monitoring

Pluggable terminal blocks

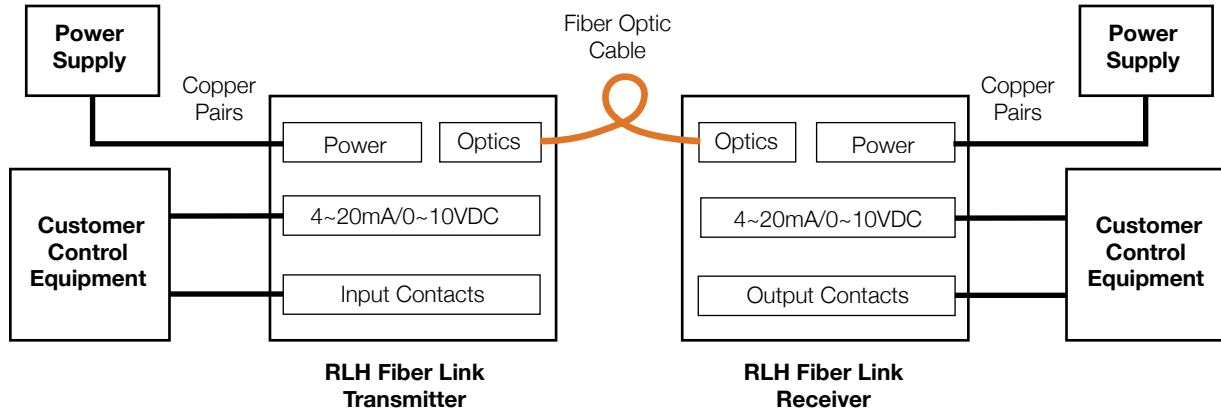
Environmentally rugged with wide operating temp. -40°F to +158°F (-40°C to +70°C)

Standard T35 DIN rail or wall mount applications

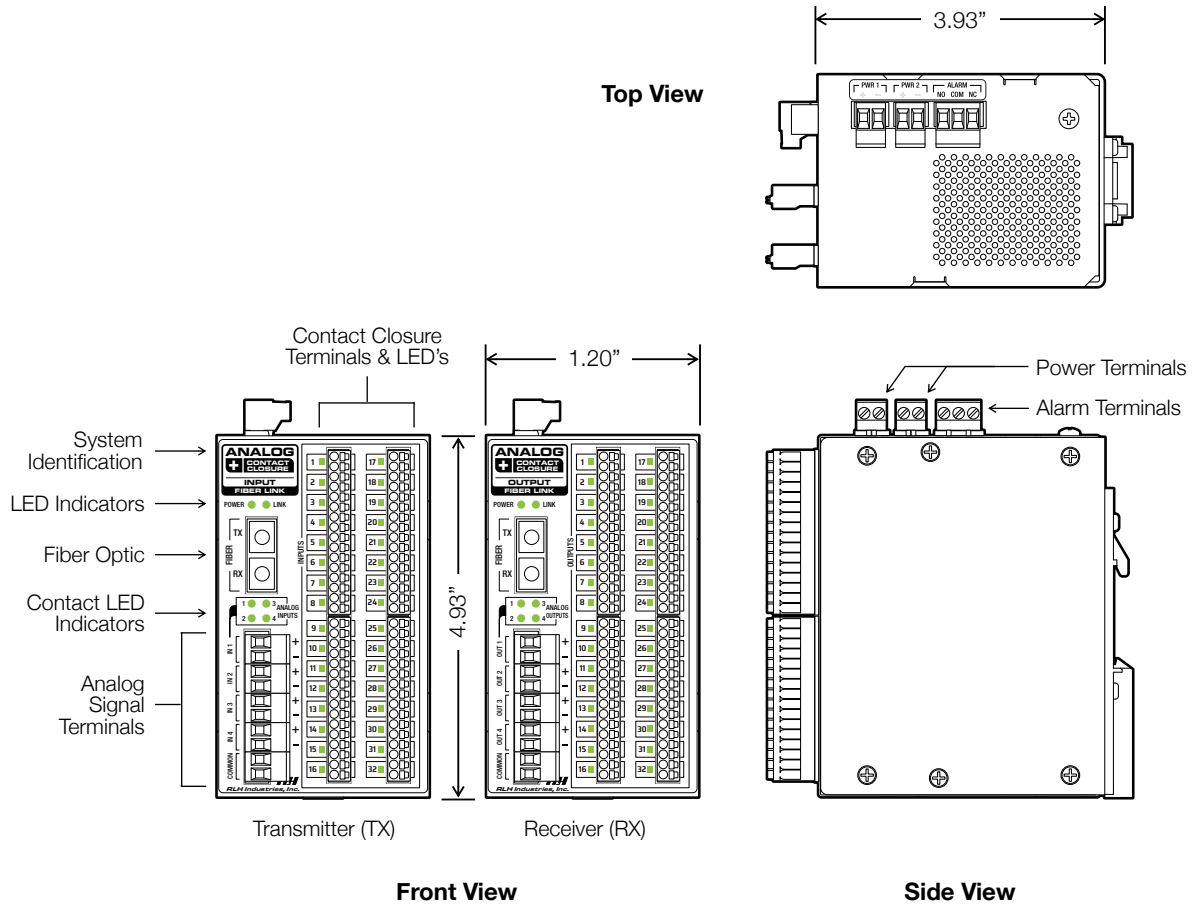
Limited Lifetime Warranty

Designed and Made in the U.S.A.

System Diagram



Physical layout



General Specifications

| | | | | |
|---|--|---|-----------------------|--|
| Connector Types | ST or SC | | | |
| Transmission method | Multimode: | 1310nm | | |
| | Single-mode: | 1310nm/1550nm | | |
| Maximum Fiber Attenuation / Distance | Dual Fiber | Multimode | | |
| | | (50µm & 62.5/125µm): | 1.25mi./2 km range | |
| | Single Fiber, Bi-directional | Single-mode (9/125µm): | 12.4 mi./20km range | |
| | | | 37 mi./60km range | |
| | | | 74 mi./120km range | |
| | | 12.4 mi./20km range | | |
| | | 37 mi./60km range | | |
| <i>Note: Distances equated using industry standard fiber and connector attenuation. Fiber condition, splices, and connectors may affect actual range.</i> | | | | |
| System Accuracy | 4~20mA Models | 99.9% | | |
| | 0~10VDC Models | 99.9% | | |
| | <i>Note: Accuracy for Complete Fiber Link System, Both Transmitter & Receiver at 25C° and powered by 24VDC</i> | | | |
| | Ambient Temp Effect: | Approximately 0.2% over operational range | | |
| | Update Rate: | 12.8µs (78,000 updates per second) | | |
| | Signal Resolution: | 16 Bits | | |
| | Sensitivity: | 2 ¹⁶ (65,536) Steps | | |
| Analog Signal | | 4~20mA System | 0~10VDC System | |
| Analog Input 1~4 | Differential Inputs | | | |
| | Operating Range: | 0mA - 22mA (DC) | 0 - 11VDC | |
| | Impedance: | 250 Ohms | 200K Ohms | |
| | Protection: | +/- 50mA | +/- 30V | |
| Analog Output 1~4 | Single-ended (unipolar) | | | |
| | Loop Voltage: | 23.7VDC | N/A | |
| | Maximum Loop Resistance: | 1000 Ohms | 1000 Ohms | |
| | Protection: | +/- 32mA | +/- 32mA | |
| Power Requirements | 24 - 48VDC | Transmitter - 8 Watts Max. | | |
| | Dual redundant power inputs | Receiver - 10 Watts Max. | | |
| Wire Connector | Screw clamp terminal blocks, 16 ~ 26 AWG | | | |
| DC Input Isolation | 1.5KV | | | |
| Surge Protection | PTC thermistors, zener diodes and varistors | | | |
| Over Current Protection | 0.5A (Automatic Recovery) | | | |
| Operating Temperature | -40° to +158° F (-40° to +70° C), 95% non-condensing | | | |
| Dimensions | H4.93" x W1.2" x D3.5" (100mm x 31mm x 89mm) - Not including connectors | | | |
| Warranty | Limited Lifetime | Visit www.fiberopticlink.com for warranty details | | |

Ordering Information

Each 4 Channel 4~20mA or 0~10VDC Analog Data DIN Fiber Link unit is identified with a part number.

| Mode | Connector | Distance | Fibers | Description | System Part Numbers | |
|-------------|-----------------|-----------------|-------------|----------------------------|----------------------------|----------------------------|
| | | | | | 4~20mA | 0~10VDC |
| Multimode | SC | 2km / 1.2 mi | Dual Fiber | Transmitter | ADMAX-420TX-DR-03-1 | ADMAX-010TX-DR-03-1 |
| | | | | Receiver | ADMAX-420RX-NO-03-1 | ADMAX-010RX-NO-03-1 |
| | ST | 2km / 1.2 mi | Dual Fiber | Transmitter | ADMAX-420TX-DR-04-1 | ADMAX-010TX-DR-04-1 |
| | | | | Receiver | ADMAX-420RX-NO-04-1 | ADMAX-010RX-NO-04-1 |
| Single-mode | SC | 20km / 12.4 mi. | Dual Fiber | Transmitter | ADMAX-420TX-DR-40-1 | ADMAX-010TX-DR-40-1 |
| | | | | Receiver | ADMAX-420RX-NO-40-1 | ADMAX-010RX-NO-40-1 |
| | | 60km / 37 mi. | Dual Fiber | Transmitter | ADMAX-420TX-DR-41-1 | ADMAX-010TX-DR-41-1 |
| | | | | Receiver | ADMAX-420RX-NO-41-1 | ADMAX-010RX-NO-41-1 |
| | 120km / 74 mi. | Dual Fiber | Transmitter | ADMAX-420TX-DR-45-1 | ADMAX-010TX-DR-45-1 | |
| | | | Receiver | ADMAX-420RX-NO-45-1 | ADMAX-010RX-NO-45-1 | |
| | ST | 20km / 12.4 mi. | Dual Fiber | Transmitter | ADMAX-420TX-DR-50-1 | ADMAX-010TX-DR-50-1 |
| | | | | Receiver | ADMAX-420RX-NO-50-1 | ADMAX-010RX-NO-50-1 |
| | | 60km / 37 mi. | Dual Fiber | Transmitter | ADMAX-420TX-DR-51-1 | ADMAX-010TX-DR-51-1 |
| | | | | Receiver | ADMAX-420RX-NO-51-1 | ADMAX-010RX-NO-51-1 |
| | 120km / 74 mi. | Dual Fiber | Transmitter | ADMAX-420TX-DR-55-1 | ADMAX-010TX-DR-55-1 | |
| | | | Receiver | ADMAX-420RX-NO-55-1 | ADMAX-010RX-NO-55-1 | |
| SC | 20km / 12.4 mi. | Single Fiber | Transmitter | ADMAX-420TX-DR-10-1 | ADMAX-010TX-DR-10-1 | |
| | | | Receiver | ADMAX-420RX-NO-11-1 | ADMAX-010RX-NO-11-1 | |
| | 60km / 37 mi. | Single Fiber | Transmitter | ADMAX-420TX-DR-14-1 | ADMAX-010TX-DR-14-1 | |
| | | | Receiver | ADMAX-420RX-NO-15-1 | ADMAX-010RX-NO-15-1 | |

- ▶ A complete system requires a **Transmitter** and a **Receiver**
- ▶ Single Fiber Systems: The transmitter is always **Side A** (T-1310/R-1550), the receiver is always **Side B** (T-1550/R-1310)
- ▶ Digital Inputs can be ordered as **5-12 VDC** Voltage sensing with replacing **DR** with **12**
- ▶ Digital Inputs can be ordered as **24-48 VDC** Voltage sensing with replacing **DR** with **48**
- ▶ Relay Outputs can be ordered normally closed by replacing **NO** with **NC**
- ▶ Please contact your RLH sales representative for pricing and delivery information