RLH Industries, Inc.

DATA SHEET

The leader in rugged fiber optic technology.

DS-146 2025-0116

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 0.2% 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.

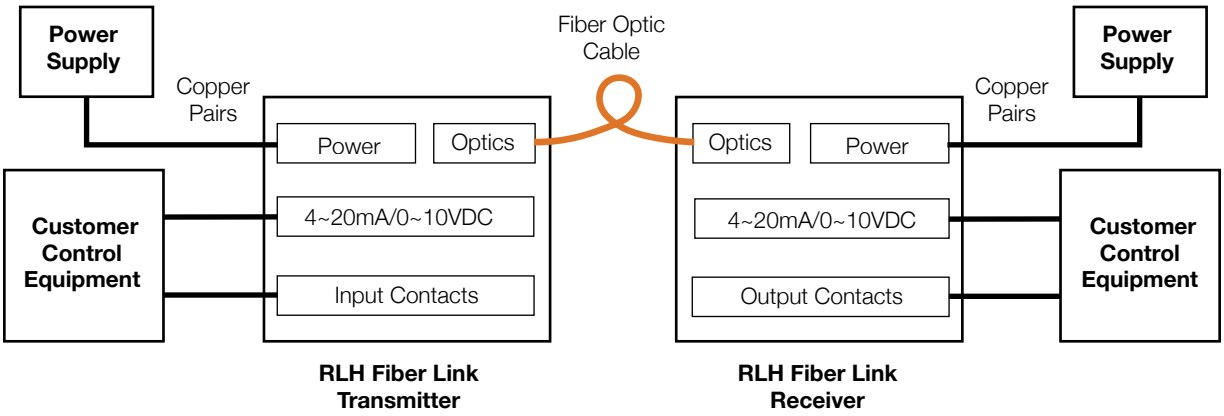
Contact Closure System

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.

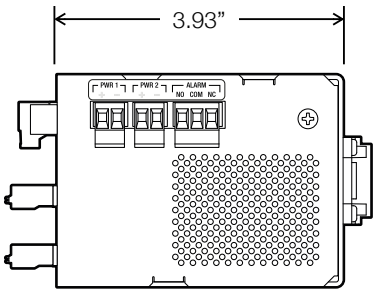
4~20mA & 32 Channel Contact Closure MAX System

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
99.8% 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.

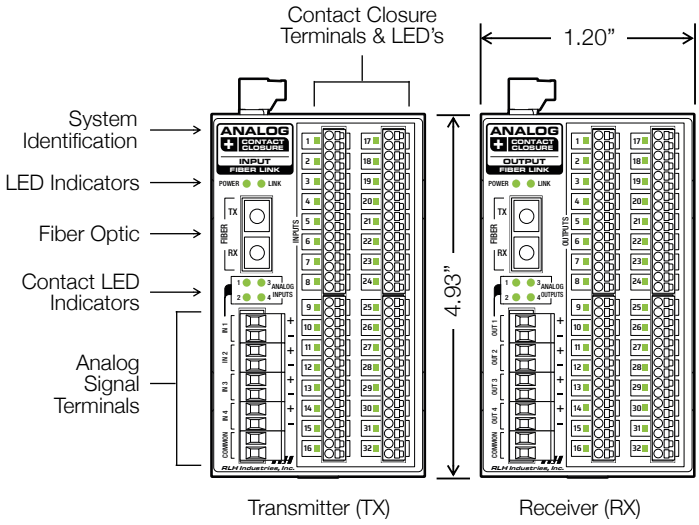
System Diagram



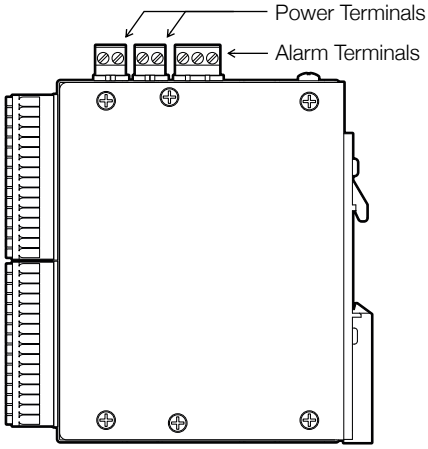
Physical layout



Top View



Front View



Side View

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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-mode (9/125µm):	12.4 mi./20km range
			37 mi./60km range
			74 mi./120km range
	Single Fiber, Bi-directional	Single-mode (9/125µm):	12.4 mi./20km range
			37 mi./60km range
	***Note**: Distances equated using industry standard fiber and connector attenuation. Fiber condition, splices, and connectors may affect actual range.*		
System Accuracy	**4~20mA Models**	99.8%	
	0~10VDC Models	99.8%	
	***Note**: Accuracy for Complete Fiber Link System, Both Transmitter & Receiver at 25C° and powered by 24VDC*		
	Ambient Temp Effect:	Approximately 0.4% 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

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