RLH Industries, Inc.
fiberopticlink.com

PRODUCT DATA SHEET

DS-187 2025A-0617

4 Channel 0-10VDC + 16 Channel Contact Closure ADIO Fiber Converter

ADIO-010XX-DR-NO-XX-1

Transmit Four 0-10VDC Analog Signals and 16 Digital Inputs Bi-Directionally Over Fiber with High Speed and Accuracy

The Fiber Optic Media converter transmits 4 channels of 0~10VDC analog signals and 16 bi-directional contact closure signals over fiber cable. Premium high-speed features include 60,000 samples per 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 voltage signals must be taken and transmitted over fiber. The high density contact closure allows for 16 channels of bidirectional input and output. Each device is enclosed in a compact DIN and wall mountable housing.

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 built in the U.S.A. and is covered by our Lifetime Warranty.

0~10VDC Interface

Extends up to 4 independent analog 0~10VDC signals. Offers high end specifications: 60,000 samples per second, 16 bit signal resolution, and less than 0.2% source signal variance.

Contact Closure Interface

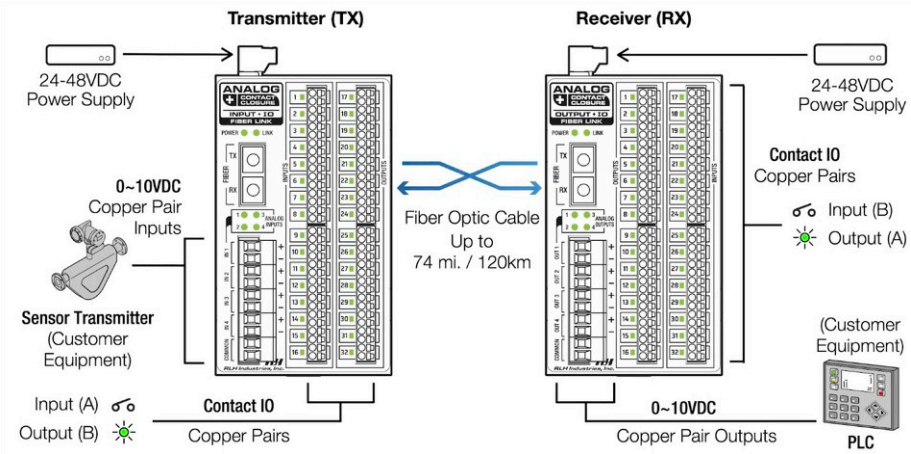
Extends up to 16 bi-directional contact closure signals over fiber to the paired device. A solid state relay output at the receiver device provides ultra fast response times.

0~10VDC & Contact Closure ADIO System

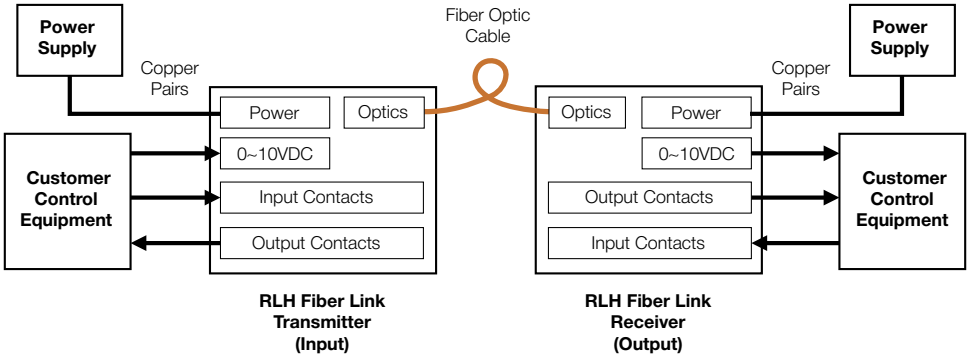
Features

- Convenient LED status indicators
- Single and dual fiber models available
- ST or SC connectors, singlemode or multi-mode fiber
- Transmit 0~10VDC signals over Fiber
- 60,000 Samples per second, 16.6µs Update Rate
- 16 Bit Signal Resolution
- 99.8% Accuracy or Better
- Bi-directional Contact Closure Transmission
- Pluggable terminal blocks
- Alarm contact for system status monitoring
- Environmentally rugged with wide operating temp. -40°C to +70°C (-40°F to +158°F)
- Standard T35 DIN rail or Wall Mount
- Lifetime Warranty
- Designed, Engineered and Assembled in the USA

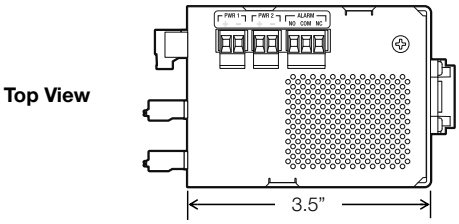
Typical System Diagram

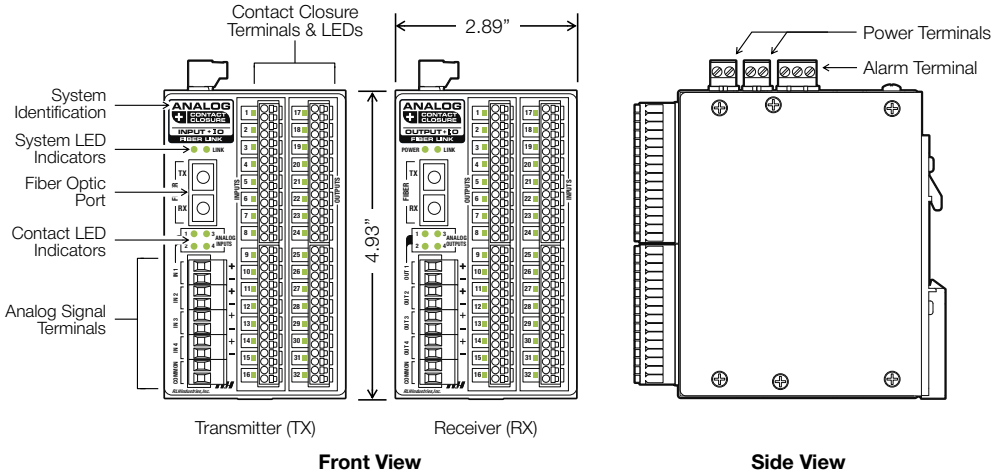


System Connection Diagram



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-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:	**0~10VDC Analog**	99.8% analog signal conversion accuracy	
	***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:	16.6µs (60,000 updates per second)	
	Signal Resolution:	16 Bits	
	Sensitivity:	2^16 (65,536) Steps	
Analog Input 1~4:	**Signaling:**	Differential Inputs	
	Operating Range:	0~10VDC	
	Impedance:	200K Ohms	
	Protection:	24VDC	
Analog Output 1~4:	**Signaling:**	Single-ended (unipolar)	
	Maximum Loop Resistance:	1000 Ohms	
	Maximum Output Signal:	10.6VDC	
Contact IO:	16 channels Bidirectional contact closure		
	Inputs:	DR: Dry Contact Sensing	
		12: Wetting voltage (5~12VDC) Sensing	
		48: Wetting voltage (24~48VDC) Sensing	
	Output:	NO: Normally Open Relay	
		NC: Normally Closed Relay	
		Rating: 2A @ 60VDC (Maximum)	
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 Insolation:	1.5KV		
Surge Protection:	PTC thermistors, zener diodes and varistors		
Over Current Protection:	0.5A (Automatic Recovery)		
Operating Temperature:	-40°C to +70°C (-40°F to +158°F), 95% non-condensing		
Dimensions:	4.93”(H) x 2.89”(W) x 3.5”(D) (125mm x 73mm x 89mm) - Not including connectors		
Warranty:	Lifetime - Visit www.fiberopticlink.com for warranty information and coverage details		

Ordering Information

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

- A complete system requires both a **Transmitter** unit and a **Receiver** unit
- Digital Inputs can be ordered as 5-12 VDC voltage sensing by replacing **DR** with **12**, contact Sales for availability and pricing
- Digital Inputs can be ordered as 24-48 VDC voltage sensing by replacing **DR** with **48**, contact Sales for availability and pricing
- Relay Outputs can be ordered normally closed by replacing **NO** with **NC**, contact Sales for availability and pricing
- For Single Fiber Systems, the Transmitter is **Side A** (T-1310/R-1550) and the Receiver is **Side B** (T-1550/R-1310)

Contact

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Support

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		855-RLH-24X7