RLH Industries, Inc.
fiberopticlink.com

PRODUCT DATA SHEET

DS-111 2025-0703

Bi-Directional Contact Closure

1CD-IO-XX-1

Industrial Fiber Link System

The Bi-Directional Contact Closure Fiber Link system provides two-way transmission of a contact closure signal over optical fiber. Applications include alarm event triggering, building automation, environmental control systems, fire & alarm systems, gate control, traffic signal control equipment, and more.

Fiber optic cable is immune to RF noise, high voltages, and extends the signal transmission range up to 48km. The system comprises of 2 units, one at each end of the fiber pair. They are designed for standard T35 DIN rail mounting, or wall mounting with the included hardware.

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

Bi-Directional Contact Closure

Contact Input Sensor

The Input terminals can sense a dry contact closure, and the unit uses an internal isolated power supply to provide a sensing current that is used to to determine whether the contact terminals being monitored are connected or open.

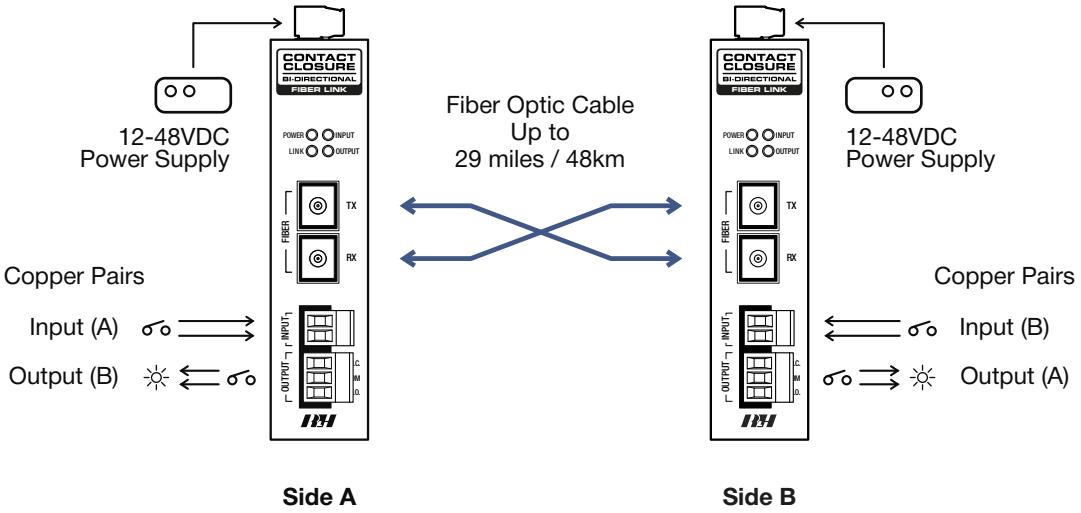
Contact Output Relays

The Output Relay has a 3 position relay output. The relay positions include normally open, common, and normally closed. The unit also provides an alarm relay to indicate the status of the overall system.

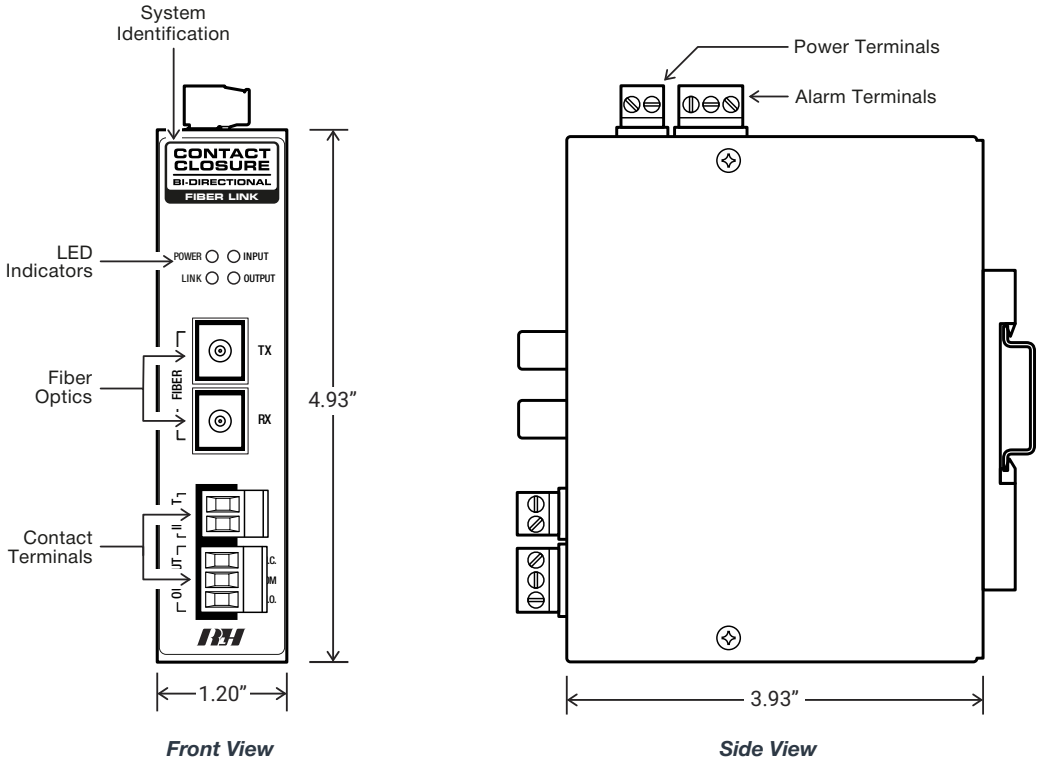
Key Features

- Convenient LED Status indicators
- Available with ST connectors
- Singlemode or multimode fiber options available
- Input will sense a dry contact closure
- Output relay is rated to support 60 Watts
- Can be powered by 12-48VDC
- Pluggable terminal blocks
- Alarm contact for status monitoring
- Wide operating temp -40°C to +70°C (-40°F to +158°F)
- Standard T35 DIN rail or wall mountable

Application Diagram



Dimensions



General Specifications

Optical Wavelength	Multimode	850nm	
	Singlemode	1310nm	
	Single-mode Long Haul	1310nm	
Maximum Fiber Attenuation/Distance*	Multimode	8dB / 1.2 miles (2km)	
	Singlemode	8dB / 9 miles (15km)	
	Single-mode Long Haul	24dB* / 29 mi. (48 km), min. required loss *-8dB	
	*Note: *Distances equated using industry standard fiber and connector attenuation. Fiber condition, splices and connectors may affect actual range.*		
Fiber Type	ST - Multimode	62.5/125µm, 50/125µm	
	ST - Singlemode	8-9/125µm	
Wire Connectors	Pluggable screw clamp terminal block, 16 ~ 26 AWG		
Input	Dry Contact Sensing		
	*Note: *Input terminals will provide the sensing current necessary to detect a dry contact closure.*		
Input Line Resistance	1000 Ohms maximum		
Output Relay	Common / Normally Open / Normally Closed Relay (SPDT)		
Output Relay Maximum Ratings	125 VAC 1.0A, 100VDC 0.6A, 30VDC 2A		
Output Relay Max. Switching Voltage	200VDC, 150VAC		
Alarm Relay Output	Common / Normally Open / Normally Closed Solid State Relay (SPDT)		
Alarm Relay Maximum Ratings		Normally Open	Normally Closed
	Internal Impedance	25 Ohms	35 Ohms
	Source Voltage	170V Peak	170V Peak
	Max. Load	95mA	80mA
Response Time	6.4ms		
Surge Protection	PTC thermistors, thyristors, zener diodes and varistors		
Power Requirements	12-48VDC		
Power Consumption	TX Unit: 30mA Maximum	RX Unit: 70mA Maximum	
Operating Temperature	-40° to +70°C (-40° to +158° F), 95% non-condensing		
Mounting	T35 DIN rail mount or wall mount with the included kit		
Weight	1 lb. / 454g		
Dimensions	4.93”(H) x 1.2”(W) x 3.5”(D) (100mm x 31mm x 89mm) - Not including connectors		
Safety	FCC Class B, CE, UL Listed, CB Scheme, RoHS		

Ordering Information

Mode	Connector	Distance	Fibers	Part Number
Multimode	ST	2km/1.2 miles	Dual Fiber	1CD-IO-03-1
Singlemode	ST	15km/9 miles	Dual Fiber	1CD-IO-20-1
Singlemode	ST	48km/29 miles	Dual Fiber	1CD-IO-21-1

- A complete system requires a Transmitter and a Receiver

Contact

By Mail:	ATTN: Sales RLH Industries, Inc. 936 N. Main Street Orange, CA 92867	
By Phone:	Local	714-532-1672
Sales/Service:	Toll Free	800-877-1672
By Email:	info@fiberopticlink.com	
By Fax:	714-532-1885	

Support

By Email:	support@fiberopticlink.com
By Phone:	Toll Free 855-754-2497