

# WARRANTY

All fiber optic transmission systems, products and accessories manufactured by Liteway, Inc. and its subsidiaries are fully tested prior to shipment and are warranted against defective materials and workmanship for a period of two full years from the date of the original shipment. Should a problem occur, a Return Material Authorization Number (RMA) must be obtained from Liteway Inc. at (516) 931-2800 and the item returned to Liteway, Inc. 166 Haverford Road, Hicksville, NY 11801, USA, prepaid. Liteway Inc. will then, at its option repair or replace the defective item.

Liteway, Inc. maximum liability under this warranty is limited to the cost of the defective item only. No contingent liabilities of any kind are either assumed or implied.

Any items returned to Liteway, Inc. that have been misused, abused, damaged, modified, connected or adjusted in any way contrary to the instructions furnished by Liteway, Inc. or repaired by unauthorized personnel will not be covered by this warranty. Any non-warranty repairs required will be quoted at the current rate for such services.



## Important Notices



### **CAUTION!** AVOID DIRECT EXPOSURE TO BEAM.

All -5, -7, -8, and -9 Models use laser diodes. These solid-state laser diodes are located in the optical ports of these units. Laser diodes produce invisible radiation that may be harmful to human eyes. Never look directly into the optical port of any fiber optic unit designed to operate with single-mode optical fiber.

### **NOT FOR LIFE SUPPORT SYSTEMS**

Liteway, Inc. does not authorize or warrant any of its products or accessories for use in critical life support systems or applications of any kind.

# OPERATING INSTRUCTIONS

## Fiber Optic Contact Closure Transmission System

### CT-7001, CR-7001



The CT/CR-7001 system consists of the CT-7001 transmitter and CR-7001 receiver and will transmit one contact closure over a single fiber optic conductor.

## Technical Specifications

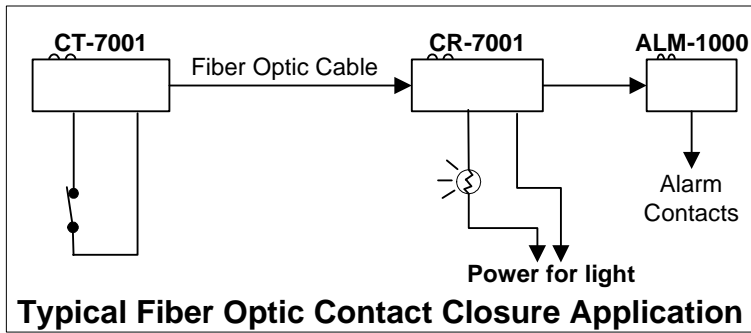
Number of channels	1
Speed/Response Time	10 milliseconds maximum
Transmitter Input	Contact closure or TTL level
Transmitter input impedance	3 K ohms maximum
Receiver Output	Isolated contacts
Output Contact Ratings	0.5 A @ 125 VAC (62.5VA) 1.0 A @ 24 VDC
Output Contact Carry Current	2.0 A maximum
Output Contact Resistance	100 milli-ohms maximum
Operating Wavelength:	850nm, 1310nm, or 1550nm
Optical Output Power:	-15 dBm typical
Optical Loss Budget	0 to 10 dB (0-12 if single mode)
Signal Connectors	Removable Terminal Block
Operating Temperature Range	-35° to +75°C
Operating Power Requirements	11 to 24V AC/DC @150 mA
Physical Size (mm)	5.0"(127)L x 1.0" (25.4)W x 3.0"(76)D

All specifications measured with 1Km of 62.5u multimode fiber.  
All specifications are subject to change without prior notice.

# Installation Instructions

The CT-7001 may be activated by dry contacts or TTL signals and the CR-7001 will reproduce these inputs as isolated output contact closures corresponding to the respective input signal. All inputs are transient protected against excessive surges present on the signal and power leads. The unit is completely fail-safe, that is, in the case loss of operating power or a broken fiber will force all contacts to the open condition. Integral indicators are provided on both units to continuously indicate the link and contact closures status as well as proper operating power thereby making system troubleshooting simple.

The diagram below shows the typical installation of the CT-7001 and CR-7001 fiber optic contact closure transmission units.



Note that when TTL inputs are used, a logic 1 signal signifies a contact closure and a logic 0 signal signifies an open contact. Also note that the CR-7001 receiver output contacts are fully isolated from each other and any other terminal.

The Alarm switch is used to turn the alarm function on and off.

## Indicator Lights

Indicator	Lights when
Pwr	Power - Proper power is present.
Alrm	Alarm - Loss of the optical carrier occurs. This usually signifying a broken fiber or excessive optical path loss.
Contact	A closed contact is present at the respective input or output.

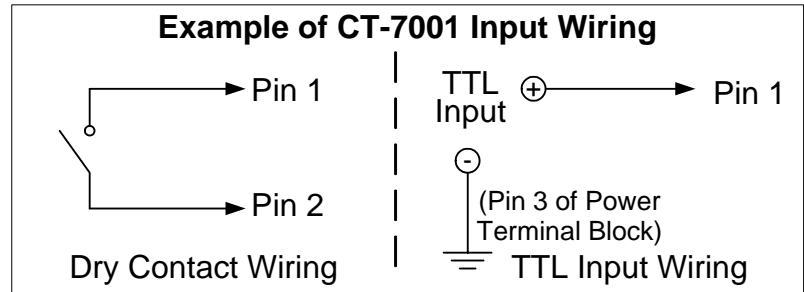
## Power Terminal Block Connections

Pin	Function
3	AC or DC return (Common to Housing), Ground
2	+11 to 24 DC or AC Volts input
1	Alarm output for use with optional Alarm Sensing Unit ALM-1000.

Be certain to check all connections, settings and voltages before applying power

## Signal Terminal Block Connections are as follows;

Only three pins of the 5 pin connector are used for the signal input of the CT-7001.



The signal output of the CR-7001 are pins 1 and 2 of the 5-pin connector. These pins are connected to a single pole single throw relay. The relay output contacts are only capable of switching a maximum of 0.5 Amperes (10 VA) resistive.

## Fail Safe operation

If the fiber is broken or the transmitter loses power, the receiver contacts will all go to the OFF state.

**Liteway**<sup>®</sup>  
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