

# 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 Supervised Contact Closure Transmission System

### CT-7108, CR-7008



The CT/CR-7108 system consists of the CT-7108 transmitter and CR-7008 receiver and will transmit eight independent supervised contact closures over a single fiber optic conductor.

### Technical Specifications

Number of channels	8 Independent contacts
Speed/Response Time	10 milliseconds maximum
Input voltage to close contact	2.91 and 3.70 volts DC
Supervised Requirement	1 K ohms +/-1% (to activate)
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
Power Requirements	11 to 24V AC/DC @210 mA
Physical Size (mm) CT-7108	5.0"(127)H x 1.0"(25.4)W x 7.0"(178)L
Physical Size (mm) CR-7008	5.0"(127)H x 1.0"(25.4)W x 3.0"(76)L

All specifications measured with 1Km of 62.5u multimode fiber.

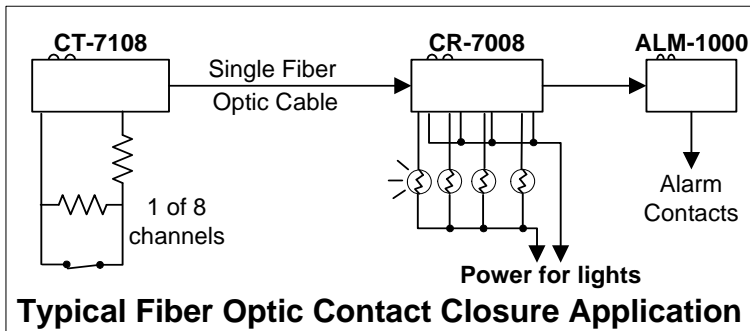
All specifications are subject to change without prior notice.

# Installation Instructions

To close a contact, the voltage at the CT-7108 input must be within predetermined range. Any voltage that differs from this value will result in an open contact condition at both the transmitter and companion CR-7008 receiver. The required voltage is usually produced by a resistive divider as shown in the diagram that follows. If the CT-7108 loses power or the fiber is cut all of the CR-7008 contacts will open and the alarm condition will be indicated.

All inputs are transient protected against excessive surges on the signal and power leads. Integral indicators are provided on both units to continuously indicate the link and contact closures status as well as proper operating power to simplify troubleshooting.

The diagram below shows the typical installation of the CT-7108 and CR-7008 fiber optic contact closure transmission units.



Note that the CR-1008 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	Proper power is present.
Alrm	Loss of the optical carrier occurs. This usually signifying a broken fiber or excessive optical path loss.
Contact (1-8)	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
1	Alarm output for use with optional Alarm Sensing Unit ALM-1000.

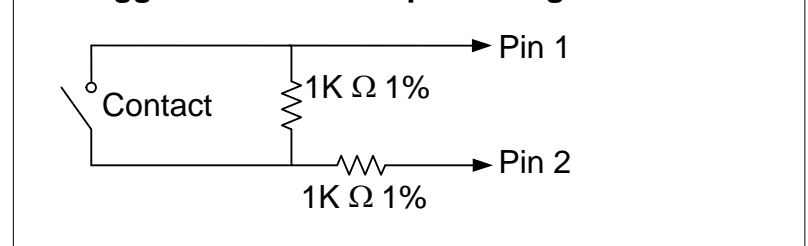
Be certain to check all connections, settings and voltages before applying power

## Signal Terminal Block Connections are as follows;

Pins 1, 2	= Channel 1	Pins 9, 10	= Channel 5
Pins 3, 4	= Channel 2	Pins 11, 12	= Channel 6
Pins 5, 6	= Channel 3	Pins 13, 14	= Channel 7
Pins 7, 8	= Channel 4	Pins 15, 16	= Channel 8

Internally the CT-7108 Pins 2, 4, 6, 8, 10, 12, 14 and 16 are common to each other and connected to +5 VDC.

## Suggested CT-7108 Input Wiring for Channel 1



A contact state will be considered open for any of the conditions;

- Inputs (e.g. 1 & 2) shorted together OR
- Any of the wires are cut open OR
- Contact switch is open.

To simulate a closed contact on a unused channel, on the CT-7108 connect a 1K ohm resistor between the channel input pins (e.g. pins 1 & pin 2)

All the CR-7008 output contacts are isolated from each other as well as the housing. The CR-7008 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.