

## 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 -7,-8, and -9 Models use laser diodes. These solid-state laser diodes are located in the optical ports of these units. These 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 Universal Sensor Transmission System Model INST-2001, INSR-2001



The INST/INSR-2001 system consists of the INST-2001 transmitter and INSR-2001 receiver and will transmit DC voltages or standard analog current loop signals in a wide variety of industrial and instrumental applications.

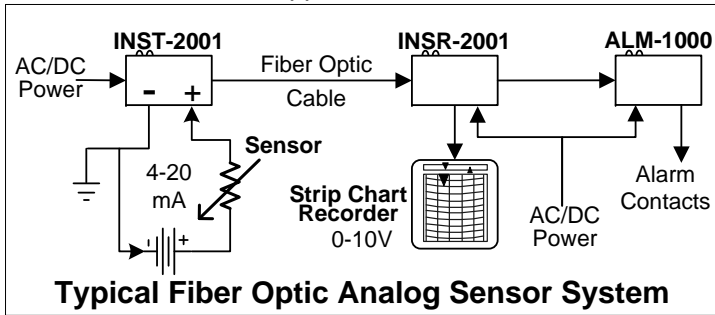
#### Technical Specifications

|                        |  |
|------------------------|--|
| Bandwidth              | DC-100 Hz (-3dB)                             |
| In/Output Impedance    | 10K ohms (voltage), 50 ohms (current)        |
| In/Output Signal Level | 0 to 1, 0 to 10V(voltage), 0-20 mA (current) |
| Signal/Noise Ratio     | 60 dB typical                                |
| Linearity/Accuracy     | +/- 2.5 %                                    |
| Operating Wavelength   | 850 (-1), 1300 (-3,-7), 1550 (-9)            |
| Optical Output         | -15 dBm typical                              |
| Optical Loss Budget    | 0 – 13 dB                                    |
| Signal Connectors      | Removable terminal Block & BNC               |
| Fibers Accommodated    | 1 Multimode (-1,-3), 1 Single-mode (-7,-9)   |
| Temperature Range      | -35° to +75°C                                |
| Power Requirements     | 11-24 VAC/DC @150 mA                         |
| Physical Size (mm)     | 5.0"(127)L x 1.0" (25.4)W x 3.0"(7)D         |

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

# Installation Instructions

The diagram below shows a typical application of the INST/INSR-2001 in remote sensor application.



## DIP Switch Settings

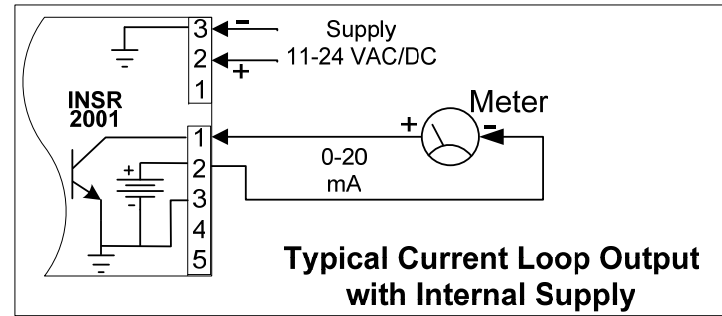
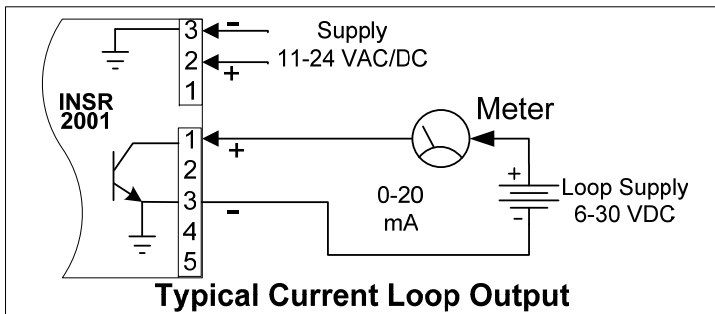
Before applying power set the 10 position DIP switch for the mode of operation desired as follows: Note that "On" is down or toward the mounting base.

| Signal    | 1   | 2   | 3   | 4   | 5   | 6 | 7 | 8   | 9   | 10  |
|-----------|-----|-----|-----|-----|-----|---|---|-----|-----|-----|
| 0 to 1 V  | Off | On  | Off | Off | On  | * | * | Off | Off | Off |
| 0 to 10 V | On  | Off | Off | Off | On  | * | * | Off | Off | Off |
| 0 - 20 mA | Off | Off | On  | Off | On  | * | * | Off | Off | Off |
| 4 - 20 mA | Off | Off | On  | On  | Off | * | * | Off | Off | Off |

\*Switch 6 Over-range alarm enable.

\*Switch 7 Under-range signal alarm enable.

Note Link alarm always enabled. Switches 8, 9, & 10 are not used



## Signal Terminal Block Connections

| Pin | Function  |
|-----|---|
| 1   | + Current Loop Input or Output                          |
| 2   | +12 VDC Output for powering current loop.(limited 20mA) |
| 3*  | Current Common, Enclosure Ground                        |
| 4*  | Voltage Common (This is also BNC shell)                 |
| 5   | + Voltage Input or Output (This is also BNC center pin) |

Note that positions 3 and 4 are connected together and to the case.

## Power Terminal Block Connections

| Pin | Function  |
|-----|---|
| 1   | Alarm output for use with optional Alarm Sensing Unit ALM-1000. No other connections should be made to this terminal. |
| 2   | +11 to 24 DC or AC Volts input  |
| 3   | AC or DC return (Common to Housing)   |

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

## Indicator Lights

| Indicator | Lights when  |
|-----------|--|
| Pwr       | Proper power is present.   |
| Alrm      | The loss of data alarm is activated and any failure mode is present.                 |
| Link      | The transmitter and receiver are linked.   |
| Hi Limit  | An input signal has exceeded the (+) limit. This applies to voltage or current mode. |
| Lo Limit  | An input signal has exceeded the (-) limit. This applies only to voltage mode.       |