

## WARRANTY & LIABILITY

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 Five 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 [www.liteway.com](http://www.liteway.com) and the item returned to a USA Liteway, Inc. Location 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 standard products or accessories for use in critical life support systems or applications of any kind. Please contact us for this critical specialty equipment.

## OPERATING INSTRUCTIONS

### **LuxLink®** **IRIG Signal Decoder**

#### **Model IRGC-1004**



The **LuxLink®** IRGC-1004 signal converts a modulated IRIG B modulated analog input signal or an un-modulated IRIB B DCLS signal into a 1 pulse per second DCLS output. The output signal is synchronized with the rise time of the input signal and is ideal when a 1 pps signal is required. Note that the 1 pps signal is synchronized with the leading edge of every data and position bit, not necessarily with the reference bit.

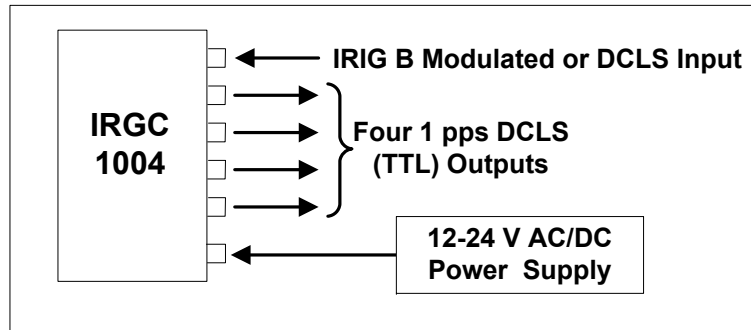
#### **Technical Specifications**

Input Formats	Modulated or DCLS
Modulated Signal Input	1 KHz per IRIG B
Modulated Input Impedance	600 ohms
Analog Input Signal Level	1 volt to 3 volts pp
Input / Output Delay*	Less than 0.5 microseconds
DCLS Signal Input	100 pps (TTL)
Output Signal Level	Standard TTL
Output Rise Time	10 Nanosecond maximum
MTBF (MIL-HDBK-217)	>100,000 Hours
Offset between outputs	< 5 ns
Signal Connector	BNC
Temperature Range	-35° to +75°C
Power Requirements	11-24 VAC/DC @150 mA
Physical Size (mm)	5.0"(127)L x 3.0"(76)D x 1.0"(25.4)W

\*Measured from rise time of input signal to rise time of output 1 pps.  
All specifications are subject to change without prior notice.

# Installation Instructions

The diagram below shows the typical IRIG system that uses the IRGC-1004 IRIG Decoder.



## 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.
Alm	The loss of data alarm is activated any failure mode is present.
Sig	A data signal is being transmitted or received.

Note that the Sig LED will blink in step with the output signal. At the output data rate of 1 pulse per second, the Sig LED will blink at 1 blink once per second.

## Signal Input Compatibility

The IRGC-1004 will work with Modulated or DCLS (DC Level Shift) IRIG signals. For modulated signals you must set the front panel switch to "Modulated". For DCLS signals set the front panel switch to "DCLS".

### Allowable Modulated IRIG Input;

IRIG B120 through IRIB B127, 1 KHz carrier, 100 pps modulation.

### Allowable DCLS IRIG Input;

IRIB B000 or IRIG B003 100 pps DCLS

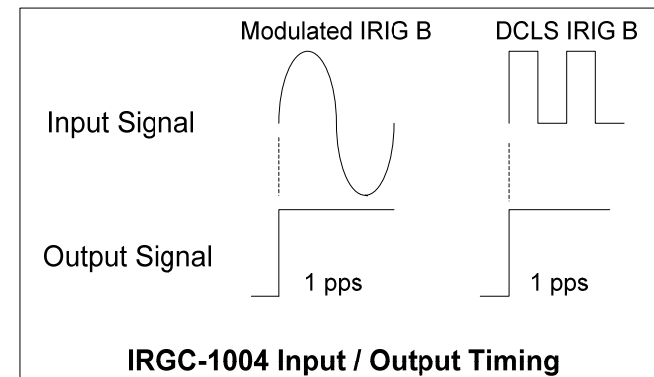
## Signal Output

All four output BNC connectors have the same signal.

When a modulated IRIG B input is decoded and divided the result is a 1 pulse/second TTL output signal that is synchronized with the rising sine wave edge of the input signal.

When a DCLS IRIG B input signal is decoded and divided the result is a 1 pulse/second TTL output signal that is synchronized with the leading edge of the input signal.

See below for input to output timing.



Note that the 1 pps pulse is synchronized with the leading edge of every data and position bit, not necessarily with the reference bit.