

LuxLink[®]



**IRIG & Instrumentation
Fiber Optic Transmission Systems**

SHORT FORM CATALOG

Why Use a Fiber Optic Transmission System?

No Interference: The only carrier of signal information in a fiber optic cable is light, at a frequency that is thousands of times higher than normal electrical signals. As a result, conventional forms of interference do not affect the fiber optic cable. RF, AC power lines, arcing high voltages and even nearby lightning strikes will not compromise the signal in any way.

Total Electrical Isolation: Since the only carrier of signal information in a fiber optic cable is light, the cable can be fabricated of totally non-electrically conducting materials such as glass and plastic. This completely eliminates any electrical connection between the two ends of the link thus eliminating ground loops, hum bars in a video system, short circuits or signal leakage from one conductor to another. In addition, since the fiber optic cable is non-conducting, high voltages and even total immersion in water have no effect on the signal.

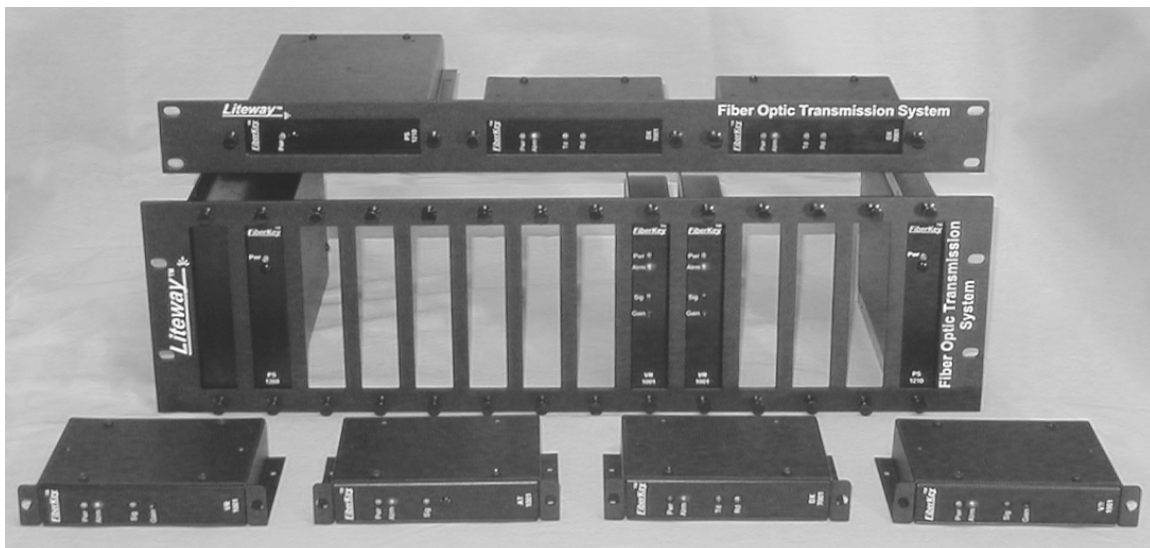
Safety: Glass is unaffected by most chemicals and solvents. As a result, the fiber optic cable can be used in all sorts of adverse environments such as are found in industrial complexes. Since the communication signal is optical not electrical it is intrinsically safe. A break in a fiber will not produce any shock hazard to human beings nor will it produce any spark in an explosive atmosphere.

Why Use LuxLink Products?

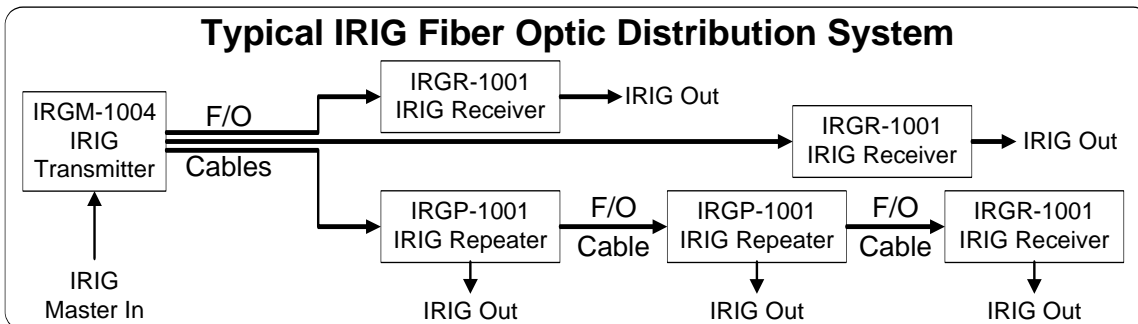
High Reliability: All products have a minimum of 100,000 MTBF, utilize metal connectors and metal enclosures work over extended temperature range of -35° to +75°C. A 5 year warrantee stands behind all LuxLink products.

Cost Effective: Our unique and patented housing and designs permit us to have a lower cost which we can pass on to you the customer. The same model can be utilized as stand alone as rack mount in 1U, 2U, or 3U, 19" EIA compatible rack configuration.

Experience: Since 1977 the people of *Liteway Inc.*, which designs and manufactures the LuxLink products, have been devoted entirely and exclusively to the technology of fiber optics. Based upon that experience, all of the products offered in this catalog use the latest components and designs that are reliable, cost effective while incorporating the most important features desired in a fiber optic transmission system.



IRIG Fiber Optic Transmission Systems



Analog IRIG Time Code Transmission Systems

IRGT-1001	IRIG Transmitter	These units transmit IRIG time code signals from point-to-point or in a drop-and-repeat mode. All analog IRIG time codes from 10 Hz to 500 KHz are accommodated. Signal level; 3 Vpp. Impedance; 600 ohms. Connectors; BNC.
IRGR-1001	IRIG Receiver	
IRGP-1001	IRIG Repeater	
IRGM-1004	IRIG 4 ch Xmtr	

DC Time Code Transmission Systems

IRGT-7001	IRIG Transmitter	These units transmit 50 ohm DC coupled TTL fast rise-time signals (IRIG DCLS) from point-to-point or in a drop-and-repeat mode. Signals from 1 ppm to 1000 pps. Rise-times; 12 nsec typically. Connectors; BNC, Terminal Block
IRGR-7001	IRIG Receiver	
IRGP-7001	IRIG Repeater	
IRGM-7004	IRIG 4 ch Xmtr	

IRIG Accessories

RSW-2002	Redundant Switch	Automatic electrical switch to implement a fail-safe system.
IRGC-3003	Format Converter	Convert Modulated IRIG to/from DCLS IRIG.
IRGM-2004	Analog IRIG DA	Distribution Amplifiers. 1 in, 4 out, with loss of signal alarm indicator. Connectors; BNC
IRGM-8004	Digital IRIG DA	

Optical Communication Switches

We have optical switches that come in a variety of configurations. In each configuration, both single-mode or multi-mode fiber versions are available. All switches are controllable via front panel or remotely.

OS-3111	SPST	A single pole single throw switch local or remote control.
OS-3211	Dual SPST	Two single pole switches with single local or remote control.
OS-3121	SPDT	Optical A/B switch, Single Pole Double Throw
OS-3221	Dual SPDT	Dual A/B switches, with single local or remote control.
OS-3122	1Ch Optical Bypass	Optical Bypass switch / relay for fail-safe networks.
OS-3222	2Ch Optical Bypass	Optical Bypass switch for dual ring networks
OS-4111	Tamper SPST	Detects loss of signal/tapping and trips.
OS-4121	Redundant Switch	Detects loss of signal, and switches to backup path.
OS-7121	Redundant Node	A fully redundant bidirectional node. 1U Rack

Instrumentation Signal Fiber Optic Transmission Systems

Analog Signal Transmission Systems

INST-1001	Analog Transmitter	Transmit a 1V pp analog signal from point-to-point
INSR-1001	Analog Receiver	Impedance; 50Ω. Bandwidth; 20 Hz to 10 MHz. Rise/Fall time 35ns. Connectors; BNC.
INST-1301	Analog Transmitter	Transmit a 1V pp analog signal from point-to-point.
INSR-1301	Analog Receiver	Impedance; 50Ω. Bandwidth; 20 Hz to 30 MHz. Rise/Fall time; 15ns. Phase Shift <2°. Connectors; BNC.
INST-1701	Analog Transmitter	Transmit a 100mV pp analog signal. Bandwidth 200 KHz to
INSR-1701	Analog Receiver	1.7 GHz. Impedance; 50Ω, Connectors; BNC, R/F 0.25ns
INST-2001	Analog Transmitter	Transmit analog signals 0-10V, or 0-20 mA from
INSR-2001	Analog Receiver	point-to-point. Impedance; 10K, DC coupled, Bandwidth; DC to 100 Hz. Accuracy/Linearity 2.4%
INST-3001	Analog Transmitter	Universal analog: Signal types 0-20 Ma, 0 to ±1, 0 to ±3,
INSR-3001	Analog Receiver	or 0 to ±10 Volts, Impedance; 10K, AC or DC coupled, Bandwidth; DC to 50 KHz. Accuracy/Linearity 0.24%

Digital Data Transmission Systems

DX-7001	Universal Data Xcvr	This unit transmits bi-directional RS-232, RS-422, RS-485, or TTL signals point-to-point or in a drop and repeat/insert mode. Connector; removable terminal block. Data rate; DC-10 Mb/s.
DX-7101	RS-232 Data Xcvr	This unit transmits bi-directional RS-232 signals point-to-point or in a drop and repeat/insert mode. Data rate; DC to 200 Kb/s, Signal connector; DB-25F. DCE/DTE selectable.
DX-7201	Digital Transceiver	Medium-Speed Digital Data: Data rate; DC to 30 Mb/s,
DT-7201	Digital Transmitter	Interface; TTL, RS-422, Rise/fall 12ns, Connectors; BNCs &
DR-7201	Digital Receiver	removable terminal block.
DT-7301	Digital Transmitter	High-Speed Digital Data: Data rate 2 Mb/s to 200 Mb/s,
DR-7301	Digital Receiver	ECL / PECL / TTL, Connectors; BNC, Rise/fall; <2.5ns
DX-7501	Digital Current Loop	Digital Current Loop Transceiver: 0-20, or 30mA, 100Kb/s
DX-7601	CAN Transmission	CAN (ISO-ISO-11898-2) Bus Extender. 500Kb/s
DT-7701	MIL-STD1553B	MIL-STD1553B Bus Signal Monitor, Data Rate 2Mb/s
CT-7008	Contact Closure Tx	Transmit 8 separate contact closures or TTL signals on a
CR-7008	Contact Closure Rx	single fiber. Lower cost single contact available.
ETHX-7001	10/100MBit Ethernet	Ethernet media transceivers for high reliability and extended
ETHX-8001	1GBit Ethernet	temperature applications.
USBL-2001	USB Local	Extend any USB device this USB Extender pair. The remote
USBR-2001	USB Remote	provides a 4 port hub.
MIDI-2001	MIDI Transceiver	Extend the MIDI bus using fiber optics 10 to 10K feet.



Fiber Optic Transmission Systems

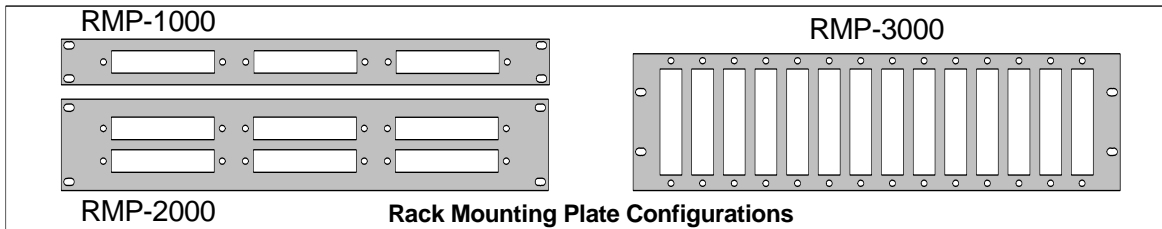
www.LuxLink.com
USA 516-931-2800

Accessories

ALM-1000	Alarm Module	This unit provides a visual and audible alarm upon an alarm condition from any <i>LuxLink</i> model. A set of external contacts is also activated for remote indications.
INSM-2304	Analog DA	Distribution Amplifiers. 1 in, 4 out, with loss of signal alarm indicator. Bandwidth 30 MHz
RSW-3002	Redundant Switch	RF automatic switch utilized to implement a redundant, fail-safe system by providing a common output from one of two separate electrical signal inputs. BW 1GHz
OE-1001	OE converter	Convert optical signals to electrical signals for signal measurement with your oscilloscope. 50 KHz to 1.5 GHz
OC-1002	Optical Coupler	Optical Coupler / Optical Splitter; Single or Multi-mode
OC-3002	Optical WDM	Wavelength division couplers; 850/1310nm & 1310/1550nm
OG-1000	Optical Gel	Coupling gel for fiber optics (n=1.457)
OG-1052	Optical Gel	Coupling gel for BK-7 glass (n=1.517)

Rack Mounting Panels

These panels are used to mount any *LuxLink*[®] fiber optic transmitter, receiver or transceiver in a standard EIA 19" rack frame. They will accept all transmission units as well as power supplies.



DIN-1000	DIN Rail mounting Adapter
MCR Adapter	Adapter for older Math Associates MCR-1000A rack mountable card cage.

Power Supplies

The supplies listed below (suffix "US") are for use in North America. Versions are available for other areas of the world (United Kingdom, European Union, Australia).

PS-1205 US	0.5 Amp, Wall plug for standalone units
PS-1210 US	1.0 Amp, For rack mounting, and redundant operation.
PS-1260 US	6.0 Amp, For rack mounting, and redundant operation.

Custom Fiber Communications Systems

We are always pleased to quote on custom, OEM or private labeled fiber optic systems. With more than 30 years of experience in the field, we have an extensive knowledge of virtually all of the signals typically sent over a fiber optic link and are easily capable of accommodating your specific requirements.

LuxLink[®]

Fiber Optic Transmission Systems

www.LuxLink.com
USA 516-931-2800

Designing your Fiber Optic Transmission System

Designing your fiber optic transmission system with **LuxLink®** components and accessories is simple and straightforward. Since all components and accessories are fully compatible, any of the company's products may be used "side-by-side" with other products thereby allowing the exact signal flow configuration desired to be easily achieved. The four step procedure to use to choose the correct system for your application is as follows:

- 1) Determine the electrical signal or signals you wish to transmit. Then select the fiber transmission system that matches your signal.
- 2) Each model is available in varies optical wavelength and fiber types. Determine the fiber optic cable and optical connectors you need or have. This will usually be multi-mode (62.5/125 micron, ST connectors) or single-mode (9/125 micron, FCPC connectors) depending on the transmission distance to be covered. Determine the dash number suffix of your system in accordance with the following:

-No.	Wavelength	Fiber Type	Connector	Transmission Distance Covered*
-1	850nm	multi-mode	ST/PC	up to 2 miles (3 Km)
-3	1310nm	multi-mode	ST/PC	up to 6 miles (10 Km)
-7	1310nm	single-mode	FC/PC	up to 20 miles (30 Km)
-9	1550nm	single-mode	FC/PC	up to 40 miles (60 Km)

* The transmission distances listed are only approximate and will depend on the loss of the actual fiber employed.

- 3) Decide how you want to mount your system. All units may be mounted individually by using the mounting holes provided on the housing. If rack mounting is desired, the same housing can be mounted to any of our EIA compatible 19-inch *LuxLink* RMP series mounting panels. We also have mounting adapter available for DIN Rail applications.

- 4) Determine if you will power the system locally or if you need to order power supplies. All *LuxLink* models are internally regulated and operate from 11 to 24 V AC (50/60Hz) or DC and require less than 500 mA. Our rack mount power supplies power multiple units and can be daisy chained for failsafe redundant operation.

