



Sat-Light Gold Series

GL7930 L-Band–10MHz Satellite Transmit Link



Features & Benefits

- **One Solution for Both L-Band and 10MHz Transfer Over a Single Fiber**
- Optimized for Professional Satellite and Wireless Applications
- High Input/output Power (0 to -30dBm)
- 10Km Transmission Distance
- Selectable AGC/MGC
- Front Panel Test Port
- Powerful Monitoring Features
- Compatible with all 1st Generation Sat-Light Products

Product Description

Global Sat-Light/Gold L-Band Interfacility Link offers a high performance, cost effective alternative to conventional coaxial-cabled systems. Sat-Light/Gold L-Band IFL covers the range of 950 to 2200MHz and has the ability to transfer additional 10MHz reference signals.

The GL7930 link is designed for a wide range of satellite UL (Uplinking) facilities whereby high input power levels of L-Band and 10MHz are required. Global Foxcom's high dynamic range DFB laser delivers exceptional signal quality for the most demanding applications.

The link consists of a high input power optical transmitter, which receives the L-Band and 10MHz from an L-band modem, and optical receiver that connects to the antenna BUC and supplies it with the two signals. All satellite modulation schemes are accommodated – digital or analog. Inherently low phase is achieved by direct modulation of the laser diode.

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Specifications

GL7930 L-Band 10 MHz Transmit Optical Link, 4dB Optical Budget

L-Band RF Specifications	Units	Typical	Minimum	Maximum
Frequency Range	MHz	950-2200MHz		
Link Gain	dB	Adjustable	-10	+10
Amplitude Response @ Unity Gain 950-2200MHz any 36 MHz	dB	±.2 ±0.25		±2.2 ±0.3
Gain Stability @ Constant Temp	dB/24hr	±0.25		±0.3
SFDR ¹	dB/Hz ^{2/3}	103	100	
CNR [any 36 MHz] ¹	dB	54	52	
Noise Figure (NF) ²	dB	18		21
Output IP3 (OIP3) ³	dB		+15	
Third Order Inter-Modulation [IMD] ³	dBc	Adjustable	55	40
Group Delay Variation- linear: 950-2200MHz	ns	4		5
Input Signal Range – Total Power	dBm		-25	0
Output Signal Range – Total Power	dBm		-25	0
Maximum Input without damage	dBm		+15	
10MHz RF Specifications	Units	Typical	Minimum	Maximum
Frequency Range	MHz	10	5	15
10MHz Gain	dB	Adjustable	-5	+5
Amplitude Response @ Unity Gain 5-15MHz	dB	±1		±1
Gain Stability	dB/24hr	±0.25		±0.3
SFDR ¹	dB/Hz ^{2/3}		100	
CNR [any 36 MHz] ¹	dB		60	
Noise Figure (NF) ²	dB	30		35
Output IP3 (OIP3) ³	dB	+30	+20	
Third Order Inter-Modulation [IMD]	dBc	Adjustable	-55	-40
Group Delay Variation- linear: 10-20MHz	ns	5		6
Input Signal Range – Total Power	dBm		-5	+5
Output Signal Range – Total Power	dBm		-5	+5
10MHz Maximum Input without damage	dBm		+20	
General Specification	Units	Typical	Minimum	Maximum
L-Band/10MHz Isolation	dB	40	35	
Input/Output Impedance (75 or 50)	Ohm			
TX/RX Input/Output VSWR 50 Ohm 75 Ohm	dB	-15 -13		-15 -13
RF Connector Type: Input/Output Test Port		F, SMA BNC		
Test Port [front panel sample port]	dB	-20	-22	-18
Optical Specifications	Units	Typical	Minimum	Maximum
Optical Power Output	dBm	3	2	4
2	dB/Km		1550nm / 8 15	
Optical Connector Types			FC/APC	
Optical Wavelength	nm		1550	

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Electrical Specifications	Units	Typical	Minimum	Maximum
Supply Voltage	Vdc	13	12.7	18
Supply Current [TX] ⁴	Amps	0.4		
Supply Current (RX)	Amps	0.3		
Physical Specifications	Units	Typical	Minimum	Maximum
Operating Temperature Range			-10	+55
Dimensions [D×W×H]		RX: 5" x 5" x 1.5" TX: 5" x 5" x 3"		
MTBF	Hours	RX: 359,057 TX: 309,481		

1. 0dBm RF input, unity gain, IMD=-40 dBc @ 1 meter fiber	4. User adjustable
2. -25dBm RF In, 20dB Gain, IMD=-40dBc	5. Under 10°C add 120 mA [laser heating]
3. 0dBm RF Output, IMD=-40dBc	

Ordering Information

Part number	Description
GL7930-T-1550-SMA-FC	Gold Uplink L-Band+10MHz Optical Transmitter,50Ohm SMA, FC-APC optical connector
GL7930-T-1550-F-FC	Gold Uplink L-Band+10MHz Optical Transmitter,75Ohm F, FC-APC optical connector
GL7930-R4-SMA-FC	Gold Uplink L-Band + 10MHz Optical Receiver,50Ohm SMA, FC-APC optical connector
GL7930-R4-F-FC	Gold Uplink L-Band + 10MHz Optical Receiver,75Ohm F, FC-APC optical connector