global FOXCOM
completing the picture

Sat-Light Gold Series

GL7030 1-30MHz Optical Link

Features & Benefits

- Optimized for Professional RFOF Applications
- Wide Dynamic Range
- 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 1–30MHz IF Link offers a high performance, cost effective alternative to conventional coaxial-cabled systems. Sat-Light/Gold IF Link operates in the range of 1 to 30MHz. The Gold Series IF link is designed for a wide range of satellite up and downlinking facilities whereby high CNR levels are required. Global Foxcom's high dynamic range DFB laser delivers exceptional signal quality for the most demanding applications.

The new Sat-Light Gold series is compatible with first generation Sat-Light 7000 Series platform. The Gold Series support L-Band, 70/140MHz IF, Wideband (10-2200 MHz), 10MHz Reference, Redundancy, M & C, SNMP, Ethernet, and Serial Data Communication.

The link consists of a high input power optical transmitter, which receives the RF signal and converts it to light, and an optical receiver that converts the light back to RF. All radio modulation schemes are accommodated — digital or analog. Inherently low phase is achieved by direct modulation of the laser diode.

Specifications

GL7030 1–30MHz Optical Link, 4dB Optical Budget

RF Specifications	Units	Typical	Minimum	Maximum
Frequency Range	MHz	1-30MHz		
Link Gain	dB	Adjustable	-10	+10
Amplitude Response @ Unity Gain 950-2200MHz any 36 MHz	dB	 ±.4 ±0.3		±.5
Gain Stability @ Constant Temp	dB/24hr	±0.25		±0.3
SFDR[1]	dB/Hz[2,3]		100	
CNR [any 36 MHz][1]	dB	60	57	
Noise Figure (NF)[1]	dB	18		21
Output IP3 (OIP3)[2]	dB	+20	+15	
Third Order Inter-Modulation [IMD][3]	dBc	Adjustable	-55	-40
Group Delay Variation- linear 1-10MHz 10-20MHz	ns	 5 1		5
Input Signal Range – Total Power	dBm		-30	0
RF Output Signal Range – Total Power	dBm		-30	0
Maximum Input without damage	dBm		+15	
Input/Output Impedance (75 or 50)	Ohm			
TX/RX Input/Output VSWR 50 Ohm 75 Ohm	dB	 -15 -12		 -15 -12
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	1	4
Optical Budget / Distance	dB/Km	1310nm | 1550nm // 8dB |15Km		
Optical Connector Types		FC/APC or SC/APC		
Optical Wavelength	nm	1550		
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. 10dBm RF input, unity gain, IMD=-40dBc @ 1 meter fiber
2. -20dBm input, 20dB Gain, IMD= 40dBc@1 meter fiber
3. 0dBm RF output, IMD=-40dBc
4. User adjustable
5. Under 10ºC add 120 mA [laser heating]

Ordering Information

GL7030T – Gold IF Transmitter
GL7030R – Gold IF Receiver