



Sat-Light Gold Series

GL7130 10MHz Reference Signals Optical Link



Features & Benefits

- Optimized for transmission of 10MHz Reference Signals
- Wide Dynamic Range
- 10Km Transmission Distance
- Front Panel Test Port
- Powerful Monitoring Features
- Compatible with all 1st Generation Sat-Light Products

Product Description

Global Foxcom's Sat-Light/Gold 10MHz Reference Signal Optical Link offers a high performance, cost effective alternative to conventional coaxial-cabled systems. Sat-Light/Gold 10MHz Reference Signal optical link is designed for a wide range of satellite and wireless applications. Global Foxcom's high dynamic range DFB laser delivers exceptional signal quality for the most demanding of requirements.

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 dynamic range optical transmitter, which converts incoming 10 MHz reference signals into optics, and an optical receiver that re-converts the optical signal back into RF.

All satellite modulation schemes are accommodated – digital or analog. Inherently low phase is achieved by direct modulation of the laser diode..

Specifications

GL7130 10MHz Reference Signals Optical Link [10MHz], 4dB Optical Budget

RF Specifications	Units	Typical	Minimum	Maximum
Frequency Range	MHz	10		
Link Gain	dB	Adjustable	-10	+10
Amplitude Response @ Unity Gain 5-15MHz	dB	±2.25		±2.25
Gain Stability	dB/24hr	±0.25		±0.3
SFDR ¹	dB/Hz ^{2/3}		100	
CNR ¹	dB	65	60	
Noise Figure (NF) ²	dB	20		23
Output IP3 (OIP3) ³	dB	+30	+20	
Third Order Inter-Modulation [IMD]□	dBc	Adjustable	-55	-40
Group Delay Variation - linear 10 to 20 MHz	ns	5		6
Input Signal Range - Total Power	dBm		-25	+5
RF Output Signal Range - Total Power	dBm		-15	+10
Maximum Input without Damage	dBm		+15	
Input/Output Impedance	75 or 50			
TX/RX Input/Output return loss 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	Unit	Typical	Minimum	Maximum
Optical Power Output	dBm	3	2	4
Optical Budget / Distance 4 dB optical budget	dB/Km	1310 nm 1550 nm 8 15		
Optical Connector Types		FC/APC or SC/APC		
Optical Wavelength	nm	1310/1550/CWDM		
Electrical Specification				
Supply Voltage	Vdc	13	12.7	18
Supply Current [TX] ⁵	Amps	0.4		
Supply Current (RX)	Amps	0.3		
Physical Specifications				
Operating Temperature Range			-10	+55
Dimensions [D×W×H]				
MTBF	Hours	TX: 309,481 RX: 359,057		

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

Ordering Information

GL7130-T – Gold 10MHz Reference Signals Transmitter
GL7130-R – Gold 10MHz Reference Signals Receiver