



Sat-Light Gold Series

GL7840 HF/VHF/UHF Optical Link



Features & Benefits

- Wideband 3–1000MHz
- Optimized for HF/VHF/UHF Radio and TV Transmission
- 10Km Transmission Distance
- Selectable Variable AGC/MGC
- Front Panel Test Port

Product Description

Global Foxcom's Sat-Light/Gold VHF/UHF Link offers a high performance, cost effective alternative to conventional coaxial-cabled systems. The Gold VHF/UHF link covers the range of 3 to 1000MHz. The Gold Series VHF link is designed for a wide range of RF power levels making it ideal for both low power, off-air reception and remote transmit antenna placement. Global Foxcom's high dynamic range DFB laser delivers exceptional signal quality for the most demanding applications.

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

The link consists of an optical transmitter, which receives the RF signal from either an off-air antenna or a modulator and converts it into light. An optical receiver then converts the optical light back to RF. All Radio/TV modulation schemes are supported – digital or analog. Inherently low phase is achieved by direct modulation of the laser diode.

The GL7830T is available in standard 3RU slot module configuration that fits the Global Foxcom 7180 Chassis or a standalone version with a wall mounted PS unit.

Sat-Light Gold Series

Specifications

GL7840 HVU Link [3-1000MHz], 4dB Optical Budget

RF Specifications	Units	Typical	Minimum	Maximum
Frequency Range	MHz	3-1000MHz		
Link Gain ³	dB	Adjustable	-30	+30
Amplitude Response @ Unity Gain 3-1000MHz any 36 MHz	dB	±2 ±0.25		±2.2 ±0.3
Gain Stability	dB/24hr	±0.25		±0.3
SFDR1	dB/Hz ^{2/3}	103	100	
CNR [any 36 MHz] ¹	dB	60	55	
Noise Figure (NF) ¹	dB	21		22
Output IP3 (OIP3) ²	dBm	+20	0	
Third Order InterModulation [IMD]	dBc	Adjustable	55	30
Group Delay Variation-Linear 3-25MHz 25-1000MHz	ns			5 1
Input Signal Range-Total Power	dBm		-45	-5
Output Signal Range-Total Power	dBm		-45	-5
Maximum Input without Damage	dBm		+15	
Input/Output Impedance		75 or 50		
TX/RX Input/Output Return Loss 50 Ohm 75 Ohm	dB	-15 -15		-15 -15
RF Connector Type Input/Output		F, SMA,BNC50,BNC75		
Test Port		BNC		
Test Port [Front Panel Sample Port]	dB	-20dB	-21dB	-19dB
Optical Specifications	Unit	Typical	Minimum	Maximum
Optical Power Output	dBm	3	1	4
Optical Budget / Distance 4 dB optical budget	dB/Km	1310 nm 1550 nm 8 15		
Optical Connector Types		FC/APC, SC/APC, LC/UPC		
Optical Wavelength	nm	1310/1550/CWDM		
Electrical Specification				
Supply Voltage	Vdc	13	12.7	18
Supply Current [TX]	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. -25dBm RF input, unity gain, IMD=-40 dBc @ 1 meter fiber	3. Within operating RF power range
2. -5dBm RF Output, IMD=-40dBc	4. Under 10°C add 120 mA [laser heating]

Ordering Information

GL7840-T Gold L-Band Downlink Transmitter
GL7840-R Gold L-Band Downlink Receiver