



## Sat-Light Gold Series

## **GL7230 L-Band Optical Uplink**



#### **Features & Benefits**

- Optimized for Professional Satellite and Wireless Applications
- High Input Power (-10 to -30dBm)
- 10Km Transmission Distance
- Selectable AGC/MGC
- Front Panel Test Port
- Selectable LNB Powering
- Powerful Monitoring Features
- Compatible with all 1st Generation Sat-Light Products

#### **Product Description**

Global Foxcom's 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. The Gold Series L-Band link is designed for a wide range of satellite UL (Uplinking) facilities whereby high input power 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 from an L-band modem, and an optical receiver that connects to the antenna BUC. All satellite modulation schemes are accommodated – digital or analog. Inherently low phase is achieved by direct modulation of the laser diode.

# Sat-Light Gold Series

### **Specifications**

#### GL7230 L-Band Optical Uplink [950-2200MHz], 4dB Optical Budget

Frequency Range	RF Specifications	Units	Typical	Minimum	Maximum
Amplitude Response @ Unity Gain   950-2200MHz   950-2200MHz   40.25   40.3   40.25   40.3   40.3   40.25   40.3   40.3   40.25   40.3   40.3   40.3   40.5   40.3   40.3   40.5   40.3	Frequency Range	MHz	950-2200MHz		
SSO-2200MHz		dB	Adjustable	-10	+10
SFDR¹         dB/Hz²²³         103         100           CNR [any 36 MHz]¹         dB         54         52           Noise Figure (NF)²         dB         18         21           Output IP3 (OIP3)³         dB         18         21           Third Order Inter-Modulation [IMD]⁴         dBc         Adjustable         55         40           Group Delay Variation- linear: 950-2200MHz         ns         4         5         10         5         11         15         10         15         10         15         10         15         10	950-2200MHz				
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]⁴         dBC         Adjustable         55         40           Group Delay Variation- linear: 950-2200MHz         ns         4         5         1	Gain Stability @ Constant Temp		±0.25		±0.3
Noise Figure (NF)²	SFDR <sup>1</sup>	dB/Hz²′³	103	100	
Output IP3 (OIP3)³         dB         +15           Third Order Inter-Modulation [IMD]⁴         dBc         Adjustable         55         40           Group Delay Variation-linear: 950-2200MHz         ns         4         5           Input Signal Range – Total Power         dBm         -30         -5           RF Output Signal Range – Total Power         dBm         -25         0           Maximum Input without damage         dBm         +15         ————————————————————————————————————		dB	54	52	
Third Order Inter-Modulation [IMD] <sup>4</sup> dBc         Adjustable         55         40           Group Delay Variation- linear: 950-2200MHz         ns         4         5           Input Signal Range – Total Power         dBm         -30         -5           RF Output Signal Range – Total Power         dBm         -25         0           Maximum Input without damage         dBm         +15         ————————————————————————————————————	Noise Figure (NF) <sup>2</sup>	dB	18		21
Group Delay Variation- linear: 950-2200MHz Input Signal Range — Total Power RF Output Signal Range — Total Power Maximum Input without damage dBm	Output IP3 (OIP3) <sup>3</sup>	dB		+15	
Input Signal Range - Total Power   dBm   -30   -5     RF Output Signal Range - Total Power   dBm   -25   0     Maximum Input without damage   dBm   +15     Input/Output Impedance (75 or 50)   Ohm     -14     TX/RX Input/Output VSWR   50 Ohm   dB   -14   -14     75 Ohm   -12   -12   -12     RF Connector Type: Input/Output   F, SMA   BNC     Test Port   Front panel sample port   dB   -20   -22   -18     LNB Voltage	Third Order Inter-Modulation [IMD] <sup>4</sup>	dBc	Adjustable	55	40
RF Output Signal Range – Total Power         dBm         -25         0           Maximum Input without damage         dBm         +15           Input/Output Impedance (75 or 50)         Ohm	Group Delay Variation- linear: 950-2200MHz	ns	4		
Maximum Input without damage         dBm         +15           Input/Output Impedance (75 or 50)         Ohm		dBm			-5
Input/Output Impedance (75 or 50)	· · · · ·	dBm			0
TX/RX Input/Output VSWR 50 Ohm 75 Ohm 50 Ohm 75 O				+15	
50 Ohm 75 Ohm		Ohm			
Test Port  Test Port [front panel sample port]  LNB Voltage <sup>5</sup> Volts  On/Off  13  18  Optical Specifications  Units  Optical Power Output  Optical Budget / Distance  Optical Connector Types  Optical Wavelength  Inm  Supply Voltage  Volts  Volts  Typical  Minimum  Maximum  Maximum  Motical Connector Types  FC/APC or SC/APC  Optical Wavelength  Inm  Typical  Minimum  Maximum  Maximum  Supply Voltage  Vdc  13  12.7  18  Supply Current [TX] <sup>6</sup> Amps  O.4  Supply Current (RX)  Amps  O.3  Physical Specifications  Units  Typical  Minimum  Maximum  Maximum  Operating Temperature Range  RX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"	50 Ohm	dB			
Units On/Off 13 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 1310/1550/CWDM  Electrical Specifications Units Typical Minimum Maximum Supply Voltage Vdc 13 12.7 18  Supply Current [TX] <sup>6</sup> Amps 0.4  Supply Current (RX) Amps 0.3  Physical Specifications Units Typical Minimum Maximum Operating Temperature Range -10 +55  Dimensions [D×W×H]					
Optical SpecificationsUnitsTypicalMinimumMaximumOptical Power OutputdBm314Optical Budget / DistancedB/Km1310nm   1550nm / 8dB   15KmOptical Connector TypesFC/APC or SC/APCOptical WavelengthInm1310/1550/CWDMElectrical SpecificationsUnitsTypicalMinimumMaximumSupply VoltageVdc1312.718Supply Current [TX]6Amps0.4Supply Current (RX)Amps0.3Physical SpecificationsUnitsTypicalMinimumMaximumOperating Temperature Range-10+55Dimensions [D×W×H]RX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"	Test Port [front panel sample port]	dB	-20	-22	-18
Optical Power Output  Optical Budget / Distance  Obtical Budget / Distance  Optical Connector Types  Optical Connector Types  Optical Wavelength  Inm  Issonm / 8dB   15Km  Optical Connector Types  FC/APC or SC/APC  Optical Wavelength  Inm  Issonm / 8dB   15Km  Optical Connector Types  FC/APC or SC/APC  Optical Wavelength  Inm  Issonm /	LNB Voltage⁵	Volts	On/Off	13	18
Optical Budget / Distance  Optical Connector Types  Optical Connector Types  Optical Wavelength  Inm  I310/1550/CWDM  Electrical Specifications  Units  Typical  Minimum  Maximum  Supply Voltage  Vdc  13  12.7  18  Supply Current [TX] <sup>6</sup> Amps  O.4  Supply Current (RX)  Amps  O.3  Physical Specifications  Units  Typical  Minimum  Maximum  Maximum  Maximum  Operating Temperature Range  Dimensions [D×W×H]  RX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"	Optical Specifications	Units	Typical	Minimum	Maximum
Optical Connector Types  Optical Wavelength  Inm  I310/1550/CWDM  Electrical Specifications  Units  Typical  Minimum  Maximum  Supply Voltage  Vdc  13  12.7  18  Supply Current [TX] <sup>6</sup> Amps  0.4  Supply Current (RX)  Amps  0.3  Physical Specifications  Units  Typical  Minimum  Maximum  Maximum  Operating Temperature Range  PRX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"	Optical Power Output	dBm	3	1	4
Optical Wavelength  Inm  Islo/1550/CWDM  Electrical Specifications  Units  Typical  Minimum  Maximum  Vdc  13  12.7  18  Supply Current [TX] <sup>6</sup> Amps  0.4  Supply Current (RX)  Amps  0.3  Physical Specifications  Units  Typical  Minimum  Maximum  Maximum  Operating Temperature Range  Dimensions [D×W×H]  NMAXIMUM  RX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"	Optical Budget / Distance	dB/Km	1310nm   1550nm / 8dB   15Km		
Electrical SpecificationsUnitsTypicalMinimumMaximumSupply VoltageVdc1312.718Supply Current [TX]6Amps0.4Supply Current (RX)Amps0.3Physical SpecificationsUnitsTypicalMinimumMaximumOperating Temperature Range-10+55Dimensions [D×W×H]RX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"	Optical Connector Types		FC/APC or SC/APC		
Supply VoltageVdc1312.718Supply Current [TX]6Amps0.4Supply Current (RX)Amps0.3Physical SpecificationsUnitsTypicalMinimumMaximumOperating Temperature Range-10+55Dimensions [D×W×H]RX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"	Optical Wavelength	nm	1310/1550/CWDM		
Supply Current [TX] <sup>6</sup> Supply Current (RX)  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"	<b>Electrical Specifications</b>	Units	Typical	Minimum	Maximum
Supply Current (RX)  Physical Specifications  Operating Temperature Range  Dimensions [D×W×H]  One Amps  One One One One One Of the One One One One One One One One One On	Supply Voltage	Vdc	13	12.7	18
Supply Current (RX)Amps0.3Physical SpecificationsUnitsTypicalMinimumMaximumOperating Temperature Range-10+55Dimensions [D×W×H]RX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"	Supply Current [TX] <sup>6</sup>	Amps	0.4		
Operating Temperature Range-10+55Dimensions [D×W×H]RX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"	Supply Current (RX)	-			
Operating Temperature Range-10+55Dimensions [D×W×H]RX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"	Physical Specifications	Units	Typical	Minimum	Maximum
Dimensions [D×W×H] RX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"	•				+55
			RX: 5" x 5" x 1.5"   TX: 5" x 5" x 3"		
TIONIS TIME SOST TOT	MTBF	Hours	RX: 359,057   TX: 309, 481		

1. OdBm RF input, unity gain, IMD=-40 dBc @ 1 meter fiber	5. LNB Maximum current: 300 mA
225dBm RF In, 20dB Gain, IMD=-40dBc	6. Under 10°C add 120 mA [laser heating]
3. OdBm RF Output, IMD=-40dBc	
4. User adjustable	

### **Ordering Information**

GL7230T – Gold L-Band Uplink Transmitter	
GL7230R – Gold L-Band Uplink Receiver	