



## Sat-Light Gold Series

### GL952CU C-Band Optical Uplink



#### Features & Benefits

- Optimized for Professional Satellite Applications
- Wide Dynamic Range
- 15Km Transmission Distance
- Transmitter and Receiver Gain Control
- Front Panel Test Port
- Powerful Monitoring Features
- Compatible with all 1st Generation Sat-Light Products

#### Product Description

Foxcom's Sat-Light C-Band fiberoptic interfacility links transmit and receive uplink signals in the 5.8–6.8 GHz range between antennas and control rooms or NOCs. Foxcom's IFLs offer a high performance alternative to conventional coaxial-cabled systems, reducing the need for waveguide and minimizing signal attenuation.

The Sat-Light IFLs function as a transparent link, transmitting all satellite modulation formats carrying an entire polarization on each link.

System limitations in using coaxial cable are overcome by the simplicity and performance of fiberoptic connections to provide the highest levels in signal quality. Foxcom achieves this by using state of the art lasers to provide high efficiency, low noise analog links.

A typical C-Band link consists of an optical transmitter that receives the RF signal, transmits it over a single mode fiber to an optical receiver and reconverts the optical signal to RF. Foxcom's advanced fiberoptic technology reduces the attenuation, slope, phase shift, and group delay maintaining extremely low levels over distances of up to 15 kilometers.

The C-Band's link cost effective high performance lasers produce negligible chirp and optical distortion, which is critical for long distance links. The EAM monolithic design, versus connectorized component electro-optics, assures high performance along with excellent reliability. The links are provided with test ports, status and fault LEDs, and gain controls.

## Specifications

### GL952CU C-Band Optical Uplink [5.8–6.8 GHz], 3dB Optical Budget

| RF Specifications  | Units   | Typical                                | Minimum | Maximum |
|--|---------|--|---------|---------|
| Frequency Range  | GHz     | 5.8–6.8 GHz                            |         |         |
| Link Gain  | dB      | Adjustable                             | 0       | 0       |
| Amplitude Response @ Unity Gain<br>5.8–6.8 GHz<br>and 48 MHz | dB      | ±.75<br>±.25                           |         |         |
| Gain Stability @ Constant Temp                               | dB/24hr |  |         | ±0.15   |
| SFDR   | dB/Hz   |  | 100     |         |
| CNR  | dB      |  | 45      |         |
| Noise Figure (NF)  | dB      |  | 28      |         |
| Output IP3 (OIP3)  | dB      |  | +20     |         |
| Third Order Inter-Modulation [IMD] <sup>1</sup>              | dBc     | Adjustable                             | -50     |         |
| Group Delay Variation- linear<br>5.8–6.8 GHz                 | ns      | 0.4                                    |         |         |
| Input Signal Range – Total Power                             | dBm     |  | -20     | -5      |
| RF Output Signal Range – Total Power                         | dBm     |  | -20     | -5      |
| Maximum Input without damage for<br>60 sec                   | dBm     |  | +5      |         |
| Input/Output Impedance                                       | Ohm     | 50                                     |         |         |
| TX/RX Input/Output VSWR @50 Ohm                              | dB      |  | 1.5:1   |         |
| RF Connector Type<br>Input/Output                            |         | SMA                                    |         |         |
| Test Port  |         | SMA                                    |         |         |
| Test Port [front panel sample port]                          | dB      | -20                                    | -19     | -21     |
| Optical Specifications                                       | Unit    | Typical                                | Minimum | Maximum |
| Optical Power Output   | dBm     |  | -3      | 0       |
| Optical Budget / Distance<br>4 dB optical budget             | dB/Km   | 15Km@1550nm                            |         |         |
| Optical Connector Types                                      |         | FC/APC                                 |         |         |
| Optical Wavelength   | nm      | 1550/CWDM                              |         |         |
| Electrical Specification                                     |         |  |         |         |
| Supply Voltage   | Vdc     | 13                                     | 12.7    | 18      |
| Supply Current [TX] <sup>4</sup>                             | Amps    | 0.8                                    |         |         |
| Supply Current (RX)  | Amps    | 0.5                                    |         |         |
| Physical Specifications                                      |         |  |         |         |
| Operating Temperature Range                                  |         |  | -10     | +55     |
| Dimensions [D×W×H]   |         | RX: 5" x 5" x 1.5"<br>TX: 5" x 5" x 3" |         |         |

1. Two carriers at maximum input and output power

#### Ordering Information

GL952CU-T – Gold C-Band Uplink Transmitter

GL952CU-R – Gold C-Band Uplink Receiver