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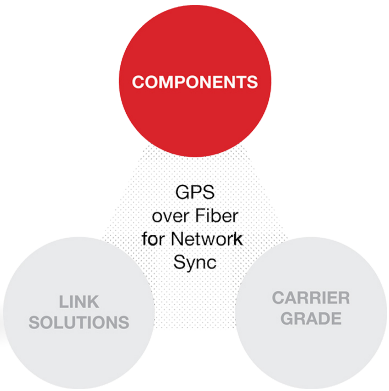
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GPS Over Fiber

Features

- Supports GNSS, Galileo, GLONASS
- Compact Packaging: 3 x 5 x 1.25 in. @ ¾ lb
- -20°C to +65°C TOP Range
- Provides +5 VDC DC Bias for the GPS Antenna
- No RF Sensitivity Impact
- Patented Optical Antenna Alarm Reporting
- 20 dB Gain Supports Optical Splitting for GPS Distribution
- Laser Conforms to Class 1 Emission Level and IEC-825 (EN 60825) standard

Options

- Extended Temperature from -40°C to +85°C
- Output 1 x 2 RF Splitter
- Multimode Fiber Compatibility
- +12 VDC Antenna Power
- Diagnostics and control function through digital Serial interface (I2C)

Applications

- Cellular Network Sync
- Data Network Timing
- Public Safety Networks
- Communications System Sub Components
- Shipboard RF distribution

Description

The GPS Over Fiber Link by Optical Zonu provides a simple, cost-effective and reliable RF connection between the GPS antenna and receivers in those instances where coaxial cable is impractical. Each link is wideband and supports any of the global GPS frequencies – current or future. The high dynamic range of the system ensures a transparent pass through with no distortion. A low noise pre-amplifier ensures a margin on signal-to-noise ratio while keeping the signal in the most linear operating range of the fiber optic link. The unit housing is a compact, IP-50 enclosure. The link supports one GPS antenna. A Built-in Bias-T provides the needed DC power for the active GPS antenna. While the Optical Zonu GPS Fiber Transport Link can be used for point-to-point applications, the link may also be optically split up to 8 ways to provide cost-effective GPS distribution to multiple locations, over lightweight fiber cable. In addition, the receiver is available with either one or two RF outputs.

These linear RFoF Transceivers provide an excellent alternative to coaxial cable for distances from 100m to over 10 km. The standard optical connector is the SC/APC (FC/APC is also available) for low back reflection. This, along with the integral optical isolator, helps guarantee transparent transport without additive Noise or spurious signals.

The laser diode is an uncooled device that provides stable operation over the entire ambient Operating Temperature Range of –20 °C to +65 °C. Average Automatic Power Control (AAPC) is utilized for optimal optical power stability over the full temperature range.

The RF interface is a 50 Ohm SMA connector and the Alarm and Monitoring Functions are available through a DB9 connector. The standard unit requires +12 VDC power between pins 4 and 5 of the DB9 connector.

The BiasT option +5V or +12V is for powering the Amplifier inside the GPS Antenna. Optical Transmitter monitors ensures the GPS is functioning correctly and if NOT, it optically reports the condition to the GPS optical receiver, by blinking the light ON/OFF. The OZ600 Receiver has a built in active DC Antenna load which goes high impedance if there is a fiber fault or remote Antenna failure condition.

Patent Number US 10,257,739 B1

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Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Units
Storage Temperature (Case)	T_S	-40	+85	°C
Operating Temperature (Case)	T_O	-20	+70	°C
DC Supply Voltage	V_{PD}	+11.5	+12.5	Volts
Maximum RF Input into TX			+5	dBm
Maximum Optical Input into the Receiver			4	mW

Extender Specifications

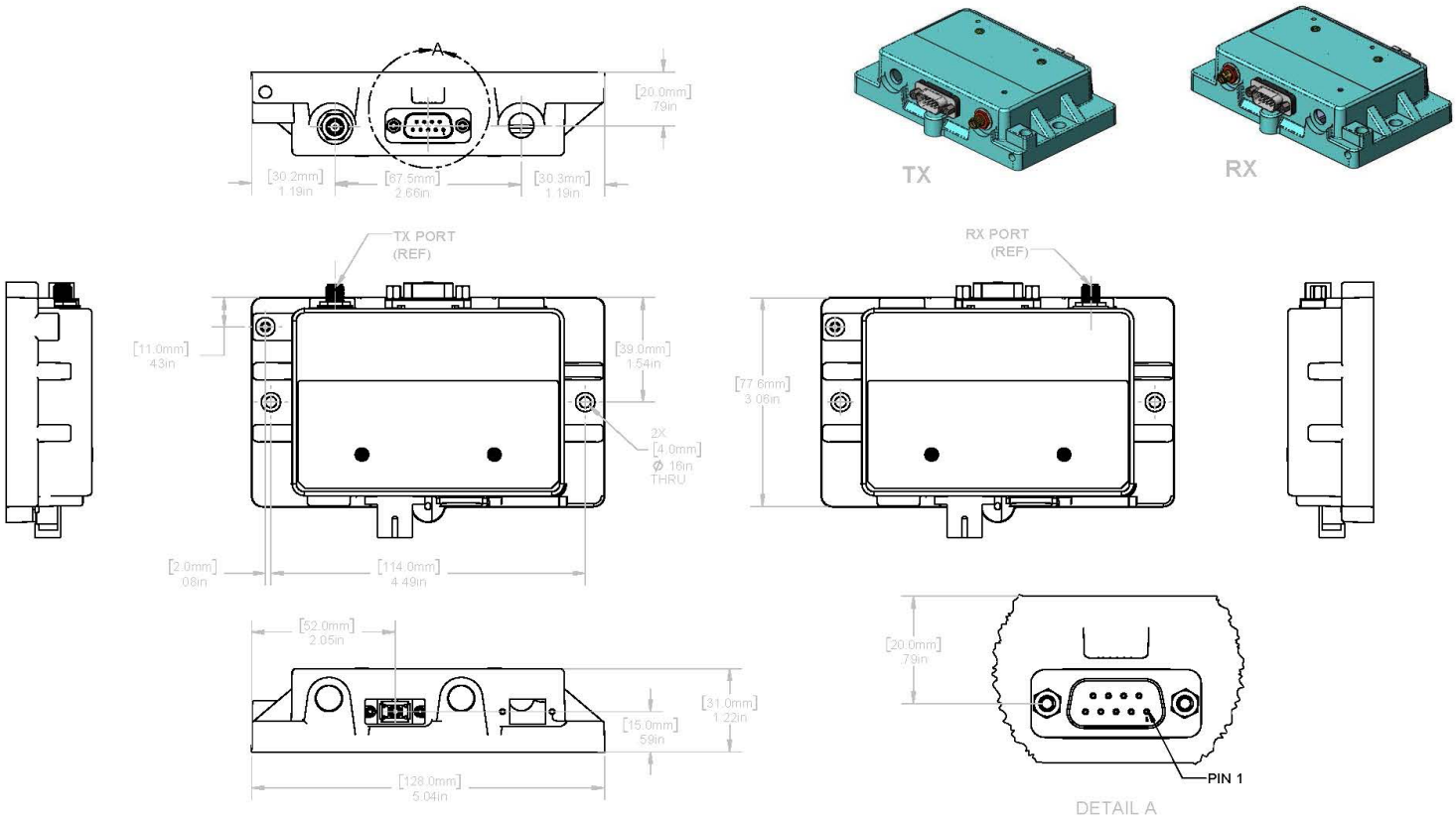
Parameter		Typical
Frequency Range		1.1 - 1.8 GHz
Noise Figure		18 dB
Gain		20 dB (16 dB with 1x2 RF output)
Group Delay		<1 ns Components + 4.9 nx/m fiber length
RF Input		-20 dBm Max
Input/Output Impedance		50 Ohm
Input/Output VSWR		1.5:1, 2.0:1 Max
Power Supply Voltage		+12 VDC
Power Supply Current TX		240 mA, 320 mA Max
Antenna Power		+5 VDC, 50 mA (+12 VDC Option)
Laser Optical Output Power		2 mW, 4 mW Max
Transmitter Operating Wavelength		1310 nm
Fiber		Single Mode (Multimode Option)
Connectors	RF	SMA(F)
	Optical	SC/APC, FC/APC, Optional SC for Multimode
	DC	9 Pin D-Sub
Dimensions		3" (76.2mm) x 5" (127mm) x 1.22" (31mm)
LEDs	Transmitter	Green - Power On, Laser OK; Red - Laser Failure Yellow - Antenna Failure
	Receiver	Green - Power On; Red - Received Optical Power Low

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Laser Safety

This product meets the appropriate standard in Title 21 of the Code of Federal Regulations (CFR). It is classified by FDA/CDRH as Class IIIb laser product. Invisible laser radiation is emitted from the end of fiber or connector. Avoid direct exposure to beam.

Mechanical Drawing



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Ordering Information

PART NO.

A13 – GPS – D31 – AS – SLB

GPS Fiber Optic Transmitter

A23 – GPS – 00 – AS – Sx2

GPS Fiber Optic Receiver Single Mode dual outputs

ZA1 – 1 – 12 – 15 – D

AC Power Adaptor (US) (Contact Factory for Other Countries)

OPTIONS

A23 – GPS – 00 – AS – M

GPS Fiber Optic Receiver Multimode

Z122 – MODE – XX

Mode Conditioning Optical Jumper

50 um Fiber (OM2), SC Connectors **50**

62.5 um Fiber (OM1), SC or LC Connectors **02**

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