GPS Fiber Transport

Transparent RF-Over-Fiber Connection

Between GPS Antenna & Receiver

Features & Benefits

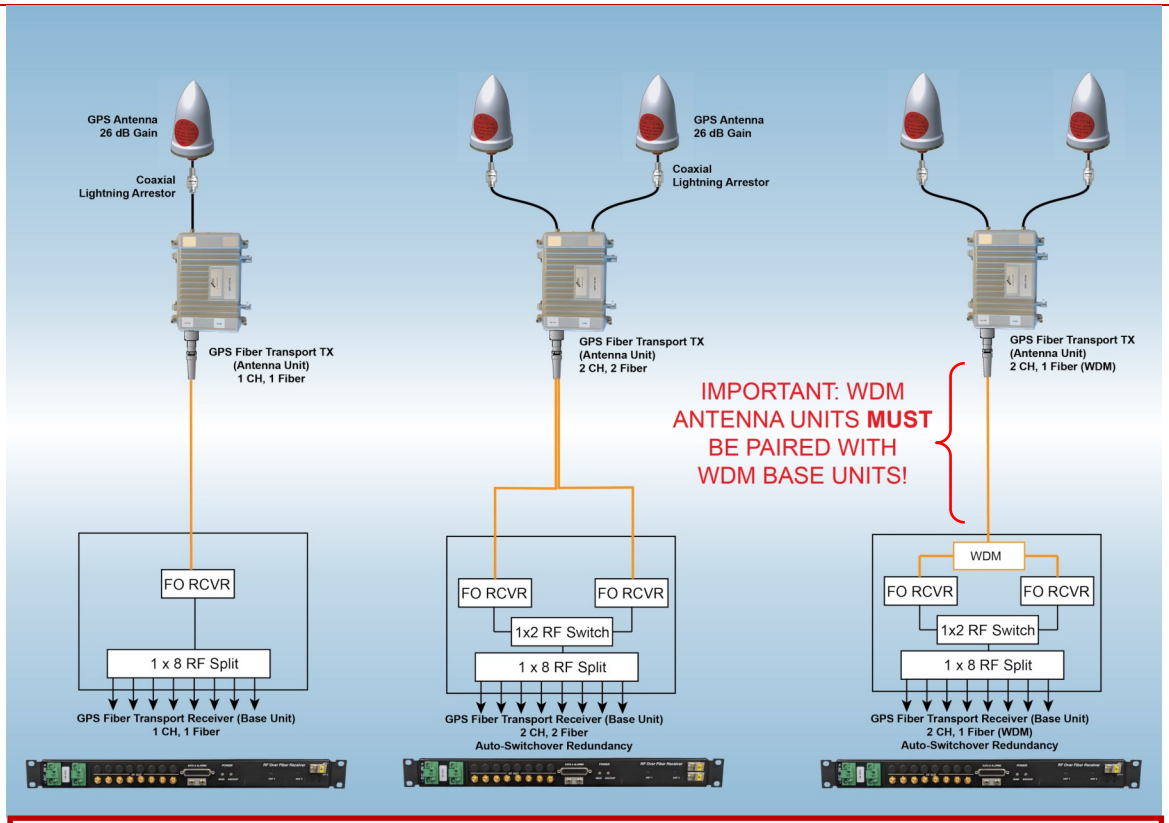
- Supports L1 – L5 Frequencies, GLONASS, GALILEO
- Compact, Rugged IP-67 Antenna Unit
- 1 or 2 GPS Channels – 8 or 16 RF Outputs
- Auto-Switchover Redundancy Option
- Point-to-Point or Distributed GPS for C-RAN Hubs & Base Station Hotels
- Simple, Clear Alarming Integrates Easily Into Any NMS
- Wireless Infrastructure Synchronization
- Data Network Timing
- Public Utilities

For specialized GPS tester to support installation click here.

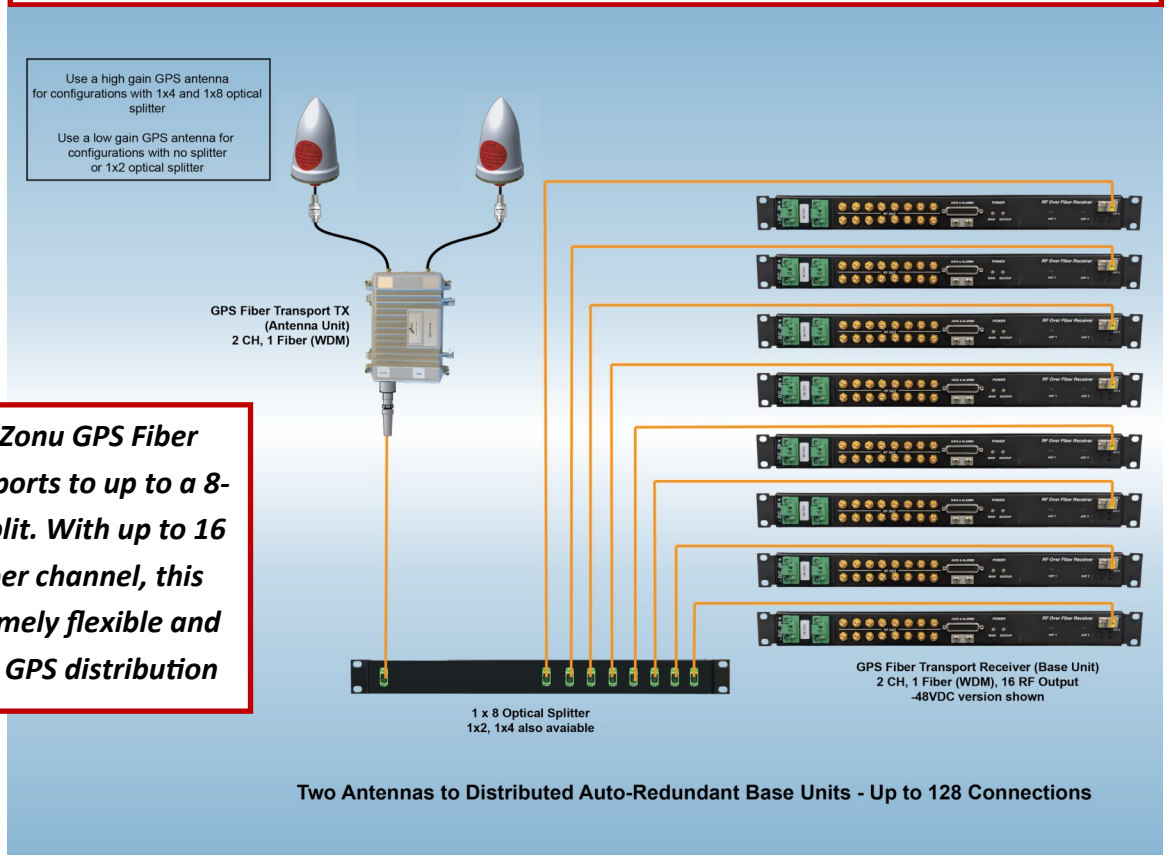
The GPS Fiber Transport Link by Optical Zonu provides a simple, cost-effective and reliable RF connection between the GPS antenna and receivers in those instances where coaxial cable is impractical. Each link is wideband and supports any of the global GPS frequencies – current or future. The high dynamic 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 fiber optic transmitter housing is a compact, IP-67 enclosure and supports one or two GPS antennas. Built-in Bias-Ts provide the needed DC power for each of the active GPS antennas. 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 four RF outputs per channel. The 2 channel version is available as independent connections or as a redundant link with auto switchover.

Antenna Status Propagation Monitoring and active load (DC load replicating antenna load, auto-termination 50Ω outputs). US PATENT 10257739 B1



The Optical Zonu Fiber Optic Link Modules contain laser diode sources operating at 1310nm and 1550nm nominal. These devices are rated at under EN60825-1 “Safety of Laser Products” as CLASS 1 radiation emitting devices.

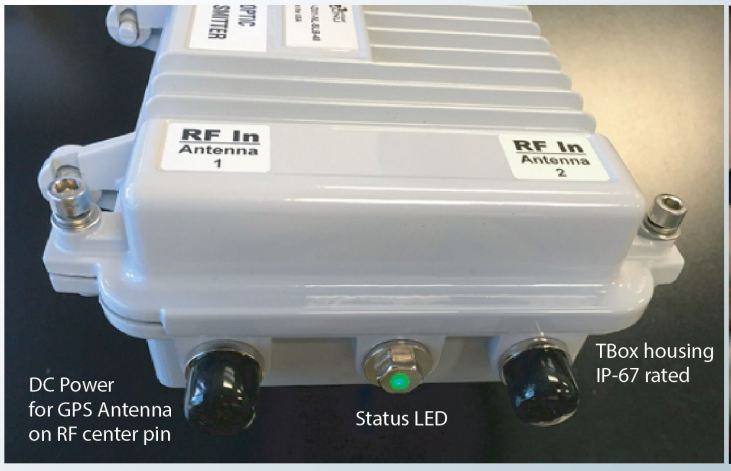


The Optical Zonu GPS Fiber Transport supports to up to a 8-way optical split. With up to 16 RF outputs per channel, this permits extremely flexible and cost-effective GPS distribution

Specifications

RF Parameters				
Frequency Range	1.1 – 1.8 GHz			
Noise Figure (Typical)	18 dB			
Input IP3	+8 dBm			
Link Gain (Typical)	28 dB: 8 RF Outputs/Channel, 24 dB: 16 RF Outputs/Channel			
Group Delay	< 1 ns Components + 4.9 ns/m fiber length			
Optical Parameters				
Fiber	Single Mode (Multimode can also be supported – contact factory)			
Electrical Parameters				
Antenna Power	N connector Center Pin	+5 VDC, 50 mA		
Power	T Box	-36 to -48 VDC; +12 VDC (*Option: available with separate AC adaptor*) (One supply each channel)		
	Receiver	-36 to -70 VDC; *Option:* 100 – 240 VAC, 50 – 60 Hz, Redundant		
Current	T Box	-48 VDC	80 mA (1 GPS antenna)	
	Receiver	-48 VDC	240 mA (1 Channel) 333 mA (2 Channels)	
	T Box	+12 VDC	240 mA (1 GPS antenna) 480 mA (2 GPS antennas)	
	Receiver	115 VAC	75 mA (1 Channel) 105 mA (2 Channels)	
Environmental				
Operating Temperature	T Box	-20 to +50 ºC: Tx		
	Receiver	0 to +40 ºC: Rx		
Mechanical Parameters				
Dimensions	T Box	9.25” W x 6” H x 3” D		
	Receiver	19” W x 1.75” H x 15” D		
Connectors	RF	N (F): T Box SMA(F): Receiver		
	Optical	Senko IP-SC/APC (T Box, 1 fiber) Senko IP-LC/APC dual, (T Box, 2 fiber) SC/APC (Receiver)		
	DC	2.1 mm Sealed Power Lock (T Box); 2 Position 5.08mm Pluggable (Receiver)		
	AC	Receiver Only: IEC60939 Socket		
Alarms & Monitoring				
T Box – Fiber Optic Transmitter	LEDs	1 Channel	GREEN: OK; YELLOW: Antenna Fail; RED: Tx Fail; OFF: Power Supply Fail	
		2 Channels	LED cycles through 3 states: 1st: OFF 2nd: Channel 1 status (see 1 Channel color codes above) 3rd: Channel 2 status (see 1 Channel color codes above)	

TBox Fiber Transmitter Detail



Receiver Alarms & Monitoring	LEDs	Front	POWER – Main and Standby; GREEN – OK, OFF – Fail STATUS – Summary CH 1 + CH 2; GREEN – OK, OFF – ANT or Optical Fail
		Rear	POWER – Main and Standby; GREEN – OK, OFF – Fail ANT 1, ANT 2 – GREEN – Antenna OK, RED – Antenna Fail
	Electrical	DB-25 Connector	Alarms – Contact Closure, NC to Pin 12 Common Ant 1/Ant 2 – Pin 1/Pin 3; Rcvd Opt Pwr – Pin 2/Pin 4 Monitor – Rcvd Opt Power CH 1/CH 2 (1 V/mW) – Pin 14/Pin 15 Power Supplies (+12 VDC, 500 mA Fused) – Pin 24/Pin 25 RF – DC load on center pin to suppress GPS Rcvr alarm, Removed if ANT Failure

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Front

Rear

Ordering

Description		Model Number	
GPS Fiber Transmitter	-48 VDC	A13-TLnGPS-w-Ny-SLzB-48	n = 1, 2: Number of Channels w = D31 (no WDM), D31D55 (WDM) y = S (single fiber), L (2 fiber) z = W (WDM), Blank (no WDM)
	+12 VDC	A13-TLnGPS-w-Ny-SLzB	
AC Power Adaptor (+12 VDC only)		ZA1-1-12-15-I	
GPS Fiber Receiver	Non-Redundant	A23-Z950n-GPS-AS-SpxN-Z	n = 1, 2: Number of Channels N = 8, 16 (RF Outputs/Channel) p = W (WDM), Blank (no WDM) Z = Blank (AC Power), 48 (-48VDC)
	Redundant	A23-Z7R02-GPS-AS-SpxN-Z	

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