



Repeater Solutions

GPS/GNSS Optical Repeater Solutions



Applications

- Aircraft hangars
- Border surveillance
- Fire/Police stations
- Tunnels
- Data centers
- Fleet management
- Military bunkers

Product Description

Global Foxcom's Optical GPS/GNSS repeater kit is the ideal solution for retransmitting GNSS signals indoors or underground. The repeater system provides seamless coverage inside large buildings, hangars and underground facilities.

The Repeater solution consists of an active outdoor receive antenna, an outdoor rated transmit unit and a compact repeater unit with adjustable RF gain, and indoor ceiling mounted antennas. Typical coverage per indoor antenna is 10 X 10m (with 4m ceiling height). Optical fiber repeaters are typically deployed for longer cable runs (>40m) indoors.

Global Foxcom delivers exceptional RF-Noise performance with its unique indoor directional RHCP antenna. Leveraging more than 25 years of RF design and engineering the system provides better coverage, consumes less power and adds less distortion than compatible systems.

Repeater Unit System Specifications

GNSS Repeater System		
RF Spec		
System frequency range	1164-1610MHz	
GPS support	L1/L2/L5	
Glonass support	L1/L2/L5	
Galileo support	E1/E5/E6	
Gain	50dB	
Number of supported indoor antenna	1 or 2	
Noise figure (RSU to ASU)	<2dB	
Environmental Specifications (Outdoor Unit)		
Operating temperature	-32°C-49°C (operational)	
Storage	-32°C-71°C (storage)	
Humidity	95% @ 35°C Non-condensing	
Physical Specifications		
RF connectors	SMA TNC Female	
Operating voltage/Current consumption	12VDC/0.5A	
Dimensions	370x150x700 mm	

Parts List

Optical Repeater Units

Model Number	Description	Type	Housing	Number of Outputs/ Zones	RF Connector Type
TDS-GPS-00-FA-N-01-05-TX	Optical based GNSS Transmitter, support for L1/L2/L5, GLONASS G1/G2/G3, BeiDou B1/B2, Galileo E1/E5a+b. housed in a G2000 Ip65 outdoor unit equipped with 100-22VAC PS. FC-APC Optical connector	Transmitter	Outdoor	Single	N-Type
TDS-GPS-00-FA-N-01-06-TX	Optical based GNSS Transmitter with high power 4mW laser, support for L1/L2/L5, GLONASS G1/G2/G3, BeiDou B1/B2, Galileo E1/E5a+b. housed in a G2000 Ip65 outdoor unit equipped with 100-22VAC PS. FC-APC Optical connector	Transmitter	Outdoor	Single	N-Type
TDS-GPR-00-FA-SM-01-00-RX	Optical based GNSS receiver support for L1/L2/L5, GLONASS G1/G2/G3, BeiDou B1/B2, Galileo E1/E5a+b. housed in a compact indoor unit supplied with a 100-22VAC PS. FC-APC Optical connector, SMA RF connector. Adjustable Gain	Receiver	Indoor	Single	SMA
TDS-GPR-00-FA-SM-02-00-RX	Optical based GNSS receiver support for L1/L2/L5, GLONASS G1/G2/G3, BeiDou B1/B2, Galileo E1/E5a+b. housed in a compact indoor unit supplied with a 100-22VAC PS. FC-APC Optical connector. Adjustable Gain	Receiver	Indoor	Dual	SMA
TDS-GPR-00-FA-SM-04-00-RX	Optical based GNSS receiver support for L1/L2/L5, GLONASS G1/G2/G3, BeiDou B1/B2, Galileo E1/E5a+b. housed in a compact indoor unit supplied with a 100-22VAC PS. FC-APC Optical connector. Adjustable Gain	Receiver	Indoor	Quad	SMA

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Antennas

Model #	Type	Description (GPS)	Frequency Bands	Form Factor
FOXANT-R-R-155-161-TF-4-01	Active / Receive	1559-161MHz. Outdoor-rated with built-in, high gain 40dB LNA (Gain >4dBi). Supplied with mounting bracket. TNC Female RF connector.	GPS L1, BeiDou B1, Galileo E1, GLONASS L1 and SBAS	
FOXANT-R-R-121-161-TF-4-01	Active / Receive	1215-1610 RHCP Outdoor-rated with built-in high gain 40dB LNA (Gain >4dBi). Supplied with mounting bracket. TNC Female RF connector.	GPS L1/L2, GLONASS G1/G2, Galileo E1, BeiDou B1, and SBAS (WAAS, EGNOS & MSAS)	
FOXANT-R-R-116-161-TF-4-01	Active / Receive	1164-1610 RHCP Outdoor-rated antenna with built-in high gain 40dB LNA (Gain >4dBi). Support for supplied-with mounting bracket. TNC Female RF Connector.	GPS L1/L2/L5, GLONASS G1/G2/G3, BeiDou B1/B2, Galileo E1/E5a+b,	
FOXANT-R-D-155-161-TF-0-00	Passive Omni, Transmit and Receive	GNSS/Iridium antenna, Gain >4dBi 1559-1610 RHCP. Supplied with mounting bracket. TNC Female RF Connector.	Iridium, GPS L1, GLONASS G1, Galileo E1 and BeiDou B1,	
FOXANT-R-D-116-161-TF-0-00	Passive Omni, Transmit and Receive	GNSS/Iridium antenna, Gain >4dBi 1164-1610 RHCP for Transmit & Receive. Support for supplied-with mounting bracket. TNC Female RF Connector.	Iridium, GPS L1/L2/L5, GLONASS G1/G2/G3, BeiDou B1/B2, Galileo E1/E5a+b	
FOXANT-R-D-155-161-TF-0-04	Passive Directional, Transmit and Receive	Hangar-optimized GNSS/Iridium antenna, Gain >9.7dBi, 1559-1610 RHCP. Supplied with mounting bracket. TNC Female RF Connector.	Iridium, GPS L1, BeiDou B1, Galileo E1 and GLONASS L1.	

RF Cable Assemblies

Model Number	Description	RF Connector Type
FO-LM40-S-005-M-N5M-T5M-00	5M LMR400 coaxial cable	N-Type to TNC (M) (antenna-side)
FO-LM30-S-010-M-S5M-T5M-00	10M LMR300 coaxial cable	SMA to TNC (M) (antenna-side)
FO-LM30-S-005-M-N5M-T5M-00	20M LMR300 coaxial cable	N-Type to TNC (M) (antenna-side)