



Key features

- Provides PTP communication @1000Mbps
- Ethernet connectivity from 20m to 3500m
- Full duplex connectivity
- Industry standard interfaces
- Secure data transmission
- Quick installation and re-deployment
- Built-in automatic failover
- License free operation

The 1000MB RANGE products are the fifth generation of compact free space laser based systems from GEODESY-FSO designed to deliver a cost-effective solution for high speed wireless connectivity. The laser transmission carries the data using the concentrated laser beam and a unique modulation technique is employed to ensure error free data transfer over distances up to 3500 meters. The transparent and wire speed data transfer together with virtually zero latency assures the easy integration of the system in all environments. Because they use infrared light GEODESY-FSO systems do not require frequency licenses and the transmission is not affected by electro-magnetic interference. The concentrated laser beam is extremely hard to tap, even to discover. Basically,

the GEODESY-FSO link can be considered as a virtual fibre in the air.

The GEODESY-FSO 1000MB RANGE system comprises of two Laser Heads, and two High Power POE power supply. The Laser Heads are installed outdoors, where a clear optical path exists between the two sites. The system contains built-in signal monitoring unit, which features a visual signal strength indicator and LINK status information LCD display accessible on the rear of the laser head. By utilizing standard network interfaces, GEODESY-FSO systems protect the customers' investments in long-term projects. Moreover, 1000MB RANGE systems offer high level of network flexibility due to their extremely fast installation method, which makes them ideal to follow network topology changes.

Usage examples

PTP

Geodesy PX 100 Series is a perfect solution to interconnect points with a full duplex 100Mbps speed



Part Nr	Recommended maximum installation distance (Clear Weather)	Recommended maximum Installation distance (@17dB/km)
PX-P0400E1000TP *	400 m	400 m
PX-P0600E100TP *	600 m	600 m
PX-P1000E100TP *	1000 m	1000 m
PX-P1400E100TP **	1400 m	1200 m
PX-P3500E100TP ***	3500 m	2000 m



Wireless

Electrical characteristics

Light source	LaserDiode
Laser diode power	25 mW
Detector	SiAPD Photodiode
Dynamic range	~42 dB
Bandwidth	1000Mbps full duplex
Management	Web based SNMP compatible In-band management
System latency	<50ns

Physical characteristics

Weight	5-25 kgs
Optical characteristics	Optical characteristics
Wavelength	785 nm
Beam divergence	1 mRad adjustable
Receiver angle	8.5 mRad
Laser class	Class 1M

Environment

Operating temperature	-40 to +60 °C
Storage temperature	-60 to +80 °C
Humidity	95% non condensed
Laserhead protection rating	IP 65

Wired

Network

Fast Ethernet Interface	1000 Base-T, RJ45 / EO <small>Optional</small>
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Power

Internal PSU power	115/230 vAC ~50Wh
Power to the head	POE Compatible 48 vDC ^{*,**} 48vDC power supply ^{***,****}

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GeoDesy FSO has 120 years experience of manufacturing surveying equipment from our base at the Hungarian Optical Works MOM. Here we combine traditional manufacturing techniques with the latest manufacturing technologies. Using our knowledge of high efficiency optical systems and precision mechanical manufacturing

GeoDesy have developed a range of high speed, low cost FSO products, becoming a leading player in the free space optical communication market. Our product range offers broadband, point to point connectivity enabling wireless networking over and above your current infrastructure, suitable for a wide range of applications.