

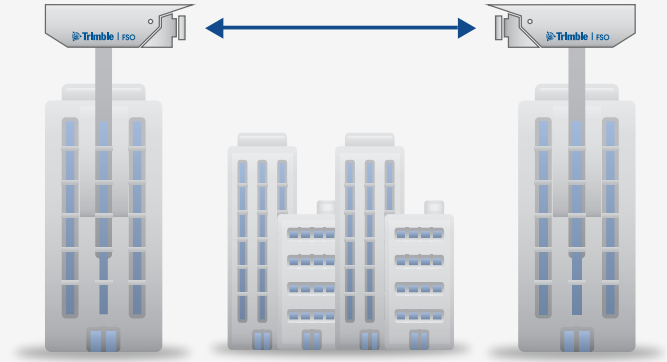
Free Space Optics Wireless Communication Solutions



FSO Wireless Communication Solutions

FSO Concept

FSO is the fastest wireless communication. It utilizes the speed and reliability of advanced laser technology. It is a line of sight system that connects two locations. Each site has a laser transceiver which points at the other location. Trimble FSO provides cost effective connections up to 5km at 2.5 Gigabit speed.



Key Features

High bandwidth:

Up To 2.5 Gigabit Connectivity.

Eye Safety:

Geodesy FSO Systems are designed and manufactured for eye-safe operation in compliance with the the relevant EN, IEC and US standards.

High speed:

Light travels through air faster than it does through glass making FSO a communication technology at the speed of light.

Power over Ethernet (POE):

The FSO systems can be powered using a standard Ethernet cable.

Management capabilities:

All units can be monitored using SNMP protocol, as well as web interface.

Auto tracking (AT models):

Auto tracking maintains precise beam alignment despite even the slightest movement in the installation base. These movements can be caused by wind, temperature changes, traffic or other environmental factors. With built-in Auto Tracking, optical beam axis will self correct on a continual basis thus keeping full transmission capability.

User Benefits

FSO is cost effective:

There is no cost for the leased line or line installation which could be very costly in busy environments. The FSO installation is a One-Time investment with no recurring costs.

FSO does not have any interference issues:

The use of infrared light for communication is not affected by electro magnetic interference.

FSO is quickly deployed:

The Trimble - FSO products are quick and easy to deploy. All solutions are plug and play.

FSO is secure:

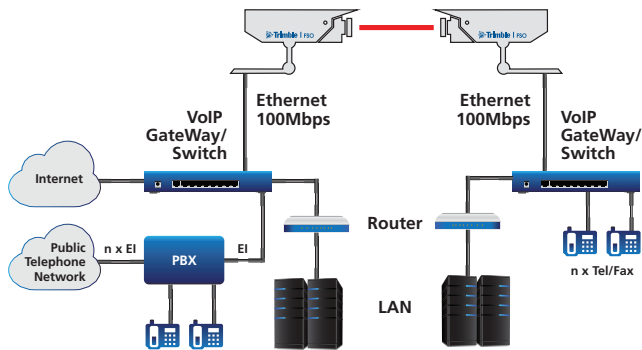
The concentrated beam and physical placement of the equipment make any direct interception virtually impossible. No instruments such as spectrum analysers can detect the communication as there is no RF signature.

FSO is licence free:

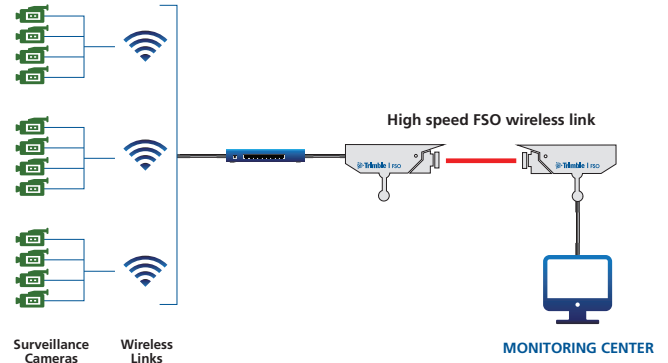
Laser based wireless solutions require no frequency license.

Potential Configuration

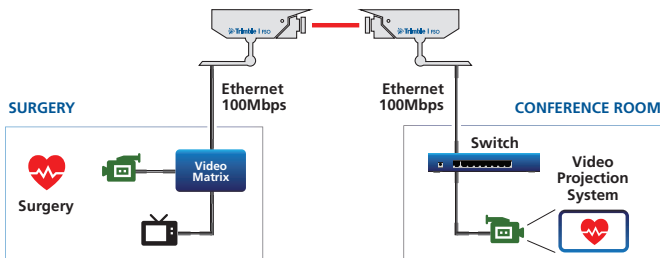
Voice and Data (IP)



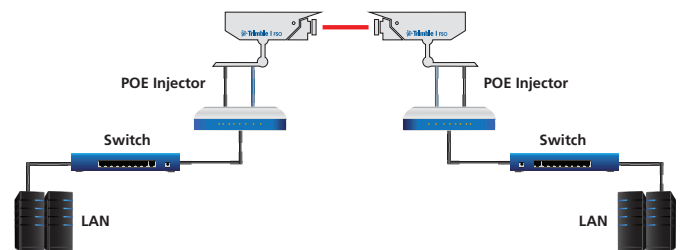
Video Surveillance



Video Monitoring



Data Networking



Applications

- FSO systems are perfectly suitable for over obstacles communication: rugged terrains, rivers, railways, highways...
- FSO systems are ideal for temporary installation: construction sites, emergency sites, civil defense, special media events...
- FSO systems can be used with no restriction in busy or hazardous environments: oil rigs, open mines, fuel storage depots, ammunition stores, cities...
- FSO systems are ideal to transmit secured information: headquarters, banks, military sites...
- FSO could also be considered as an option for critical link back-up: internet data centers, press offices, government offices...

Products

The GeoDesy FSO Wireless Solutions are divided into distance ranges: customers select the system that matches their needs. Below are the different models per bandwidth.

Part Number	Description	Recommended installation distance
Auto Tracking* 100Mb/GigaBit		
PXAT3000FT	100Mb 3000m Laser Link, Auto Tracking*, TP connection	200-3000m
PXATW3000GT	Gigabit 3000m Laser Link, Auto Tracking*, TP connection, Auto Back-up* function	200-3000m
GigaBit Systems		
PXMF400GT	Gigabit 400m Laser Link, Manual Focus, TP/SM/MM connection, Auto Back-up* function	20-400m
PXMF400GT	Gigabit 400m Laser Link, Manual Focus, TP/SM/MM connection	
PXAFW500GT	Gigabit 500m Laser Link, Auto Focus*, TP/SM/MM connection, Auto Back-up* function	100-500m
PXW650GT	Gigabit 650m Laser Link, TP/SM/MM connection, Auto Back-up* function	400-650m
PXATW3000GT	Gigabit 3000m Laser Link, Auto Tracking*, TP/SM/MM connection, Auto Back-up* function	200-3000m
PXW3500GT	Gigabit 3500m Laser Link, TP/SM/MM connection, Auto Back-up* function	650-3500m
100Mb Systems		
PX200FT	100Mb 200m Laser Link, TP connection	20-200m
PX350FT	100Mb 350m Laser Link, TP connection	200-350m
PXAF500FT	100Mb 500m Laser Link, Auto Focus*, TP connection	100-500m
PXMF650FT	100Mb 650m Laser Link, Manual Focus, TP connection	350-650m
PXAF1000FT	100Mb 1000m Laser Link, Auto Focus*, TP connection	500-1000m
PX1800FT	100Mb 1800m Laser Link, TP connection	650-1800m
PX3000FT	100Mb 3000m Laser Link, TP connection	1800-3000m
PXAT3000FT	100Mb 3000m Laser Link, Auto Tracking*, TP connection	200-3000m
PX5000FT	100Mb 5000m Laser Link, TP connection	3000-5000m
Wireless Radio		
PXGEO202.4	MIMO 2.4 GHz Radio Link	
PXGEO205	MIMO 5 GHz Radio Link	
PXGEO302.4	MIMO 2.4 GHz Radio Unit	
PXGEO305	MIMO 5 GHz Radio Unit	
PXGEO402.4	MIMO 2.4 GHz Radio Unit	
PXGEO405	MIMO 5 GHz Radio Unit	
PXGEO505	MIMO 5 GHz Radio Link	
PXGEO13	13dBi 2.4GHz Wireless Antena	

Auto Focus*: Automatic beam divergence setting.

Auto Tracking*: Automatic beam alignment and movement compensation for greater performance and enhanced installation simplicity. Auto tracking houses Auto focus features.

Auto Back-up*: Automatic backup for the maximum availability.