

## LASER BASED FREE SPACE OPTICAL COMMUNICATION SYSTEM

### FEATURES

- **New Industry Standard for Free Space Optics**
- **Wire Speed Fast Ethernet (100 Mbps)**
- **Competitive pricing compared to 2,4 GHz radios**
- **Quick Installation and Re-deployment**
- **RJ-45 STP Connection**
- **IEEE 802.3u compliant**
- **Transmission monitoring**

### APPLICATIONS

- **Replaces lower speed leased lines or radio links**
- **High bandwidth connection for Internet Service Providers**
- **High speed of LAN connections**
- **Suitable for temporary installations**
- **Emergency backup to cable connections**



### OVERVIEW

The PICO series of products from **LaserBit** sets a new standard for Free Space Optical transmission systems. The series provides a simple and easy to install solution that is unique in laser based networking.

This new range of products incorporates a lightweight, compact mechanical design with a factory-set, optical system which allows end users to benefit from a simple and quick installation.

PICO is more competitively priced than 2.4 GHz radio and its performance is much higher. **LaserBit's** PICO range offers cost effective, reliable and secure laser based free space optical transmission for local area networks (LAN) at full 200 Mbps Fast Ethernet wire speed (FDX mode). The transmission carries data using a concentrated laser beam and a unique modulation technique is employed to ensure error free data transfer over distances of up to 150 meter. Transparent and wire speed data transfer together with virtually zero latency ensures that the PICO system can be easily integrated into any environment. The PICO series use laser light as a transmission medium. As with all **LaserBit** systems this means that frequency licenses are not required and transmission is not affected by electromagnetic interference. Data transmission via a laser beam is secure as it is extremely hard to intercept, and cannot be detected by spectrum analysers. In the case of a PICO system the laser link is considered a virtual fiber in the air which is then converted to electrical interfaces.

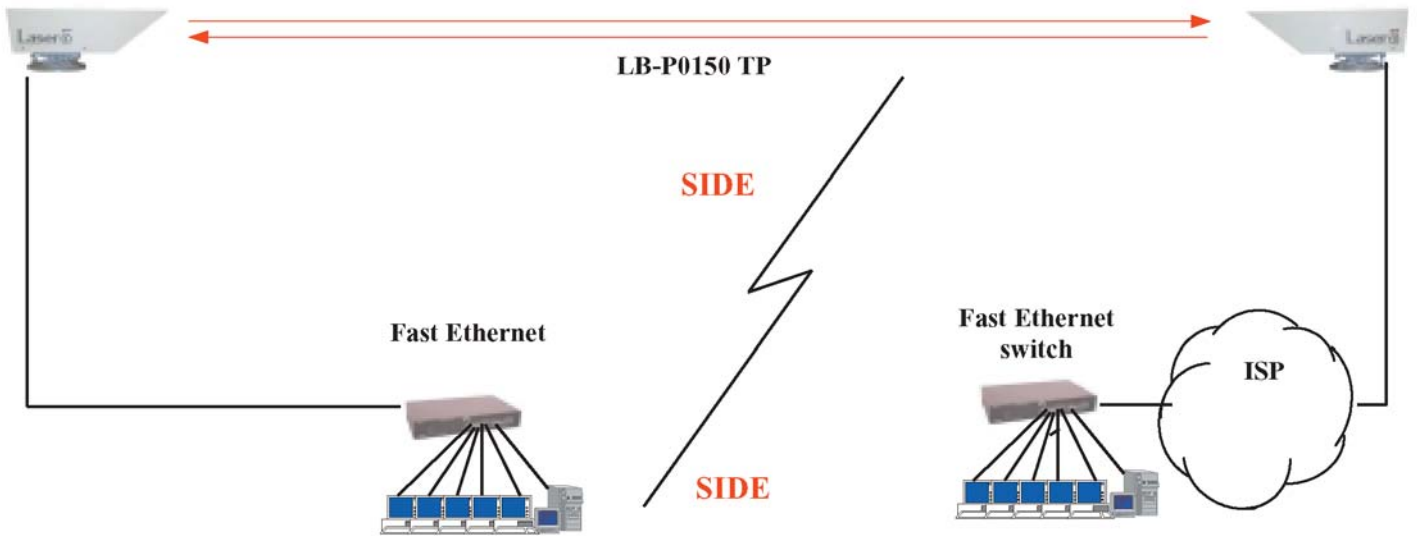
### PRODUCT DESCRIPTION

The **LaserBit** PICO system comprises of two Laser Heads – one at each end of the link – and the supporting hardware. The Laser Heads are installed in or outdoors, usually on rooftops or sidewalls of buildings, which have a clear line of sight between two locations. The PICO links are available with a factory set, operating range of either 10 -75m or 75-150m. The PICO system is a standalone all-in-one solution, which requires no additional hardware for operation. The power supply is connected directly to the laser head, which features 100BaseTX interface for network connection.

Each PICO head contains built-in transmission monitoring service. The Power On LED, Optical Link Status, Ethernet Link/Received Data and Optical Level indicators, provide useful information for troubleshooting. The Optical Level OK and Saturation indicators provide guidance for use during system installation.

### INVESTMENT PROTECTION

The most important feature of **LaserBit's** PICO system is the quick and easy installation process. The alignment of the equipment is very simple, and a 100 Mbps network can be connected in any environment within an hour without cabling.



## TECHNICAL SPECIFICATIONS

Model Number	LB-P075E100-TP	LB-P0150E100-TP
<b>Electrical Characteristics</b>		
Light source	GaAlAs Laser Diode	
Laser diode power (mW)	70	70
Detector	Si PIN Photodiode	
Dynamic range	>25 dB	
Bandwidth	100 Mbps	
Data In/Out	100 BaseT RJ45	
BER	better than 10 <sup>-9</sup>	
System latency	< 50 ns	
<b>Power</b>		
Power required	110/230 V AC	
<b>Optical Characteristics</b>		
Wavelength	785 nm	
Beam divergence	20-70 mrad	
Receiver acceptance angle	< 2 dgr	
<b>Physical Characteristics</b>		
Head Housing	Hardened aluminum	
Weight (w. Alignment Unit)	2,5 kg	
Dimensions (with cover and Alignment Unit, mm)	160 x 110 x 350 mm	
<b>Environment</b>		
Operating temperature	- 25 to + 60 C°	
Humidity	up to 95% non condensed	
Protection rating	IP65 for Head Assembly	

## ORDERING INFORMATION

Ordering Information	
LB-P075-TP	LaserBit PICO link with Fast Ethernet (100Base TX) interface. Maximum 10 - 75 m distance between heads.
LB-P0150-TP	LaserBit PICO link with Fast Ethernet (100Base TX) interface. Maximum 75 - 150 m distance between heads.