

GIGExpress 1000Mbps FSO System



GIGExpress link head

GIGExpress

GIGExpress is a short range 1000Mbps Gigabit Ethernet, point-to-point Free Space Optical (FSO) data transmission system which uses infrared laser technology to send and receive data, voice and video between line-of-sight link-heads up to 200 metres apart.

GIGExpress combines the proven technological features of the digital PAVLight FSO system with the latest electronics to produce a short range, low cost link, which is lightweight and easy to install in just minutes.

Applications

Designed to provide 1000Mbps connectivity up to 200 metres, GIGExpress is ideal for campus sites, business parks and city centre offices where it can overcome difficulties in planning permission and prohibitive installation costs.

Security

Using laser light as a transmission medium ensures that the link cannot be intercepted. In addition, interference commonly associated with radio systems does not impact GIGExpress.

Compact Electronics

With the transmitter, receiver and interface integrated onto a single PCB, the compact design ensures an unobtrusive and simple installation.

GIGExpress benefits

- Low Cost
- Class 1M Eye-Safe
- Express Installation – Point and Play
- 1000Mbps transmission speed
- Fibre Connectivity
- Very High Security
- Compact Design
- Short Range Application - up to 200 metres
- Compact Electronics
- No indoor unit required

Connectivity

The connection between the GIGExpress link head and the users' hardware is via a balanced 120 Ohm UTP cable. An RJ45 cable from the customer switch plugs directly into the back of the link head.

Installation

The simple alignment process means GIGExpress can be installed in minutes enabling a Point and Play system.

SNMP Management

The user can integrate GIGExpress dry contact alarm relays into an SNMP Management system enabling its' status to be monitored using SNMP trap alarms. The signal level can also be monitored.

PAV

PAV's range of FSO systems use low power, eye-safe lasers to transmit and receive voice, data and video by line-of-sight up to a maximum distance of 4km, and data rates of up to 1 Gigabit per second. Visit www.pavdata.com for more information.

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Specification for GIGExpress 1000Mbps

Model	GIGExpress 1000Mbps Outdoor unit	
Performance	Effective Data Rate	1000Mbps
Range	(metres)	200
Bit Error Rate		$>10E^{-10}$
MTBF	(hours)	105,000
Transmitter	Number of Transmitters	1
Light Source		Laser Diode
Laser Class		1M
Wavelength	(nm)	810
Output Power	(dBm)	14
Nominal Ocular Hazard Distance	(m)	0
NOHD/ENOHD@ ^{d63}	(m)	0/92
NHZ/NHZ-Aided@ ^{d63} (IEC60825-1)	(m)	0/92
NHZ/NHZ-Aided@ ^{d63} (IEC60825-12)	(m)	0/92
Beam Divergence	(mrad)	11
Receiver Detector Type		APD
Field of View		15°
Sensitivity	(dBm)	-45 to -20
Interface Presentation		Fibre
Connectors		SC
Cable		Multimode 50/125
Power Supply		
Input Voltage	18V DC	
Power Consumption	(Watts)	30
Environmental		
Operating Temperature	(°C)	-15 to +50
Information		
Operating Humidity		95% (non condensing)
Enclosure		IP65
Mechanical Design	Link Head Dimensions W x L x H (mm)	300 x 540 x 170
Weight	(kg)	4
Indicators Indicator LEDs	Data input Data output System Power Far End Receive Near End Receive I.R. Detected	(Green) (Orange) (Red) (Orange) (Green) (Yellow)
Equipment supplied per system		2 GIGExpress link heads 2 Sets of nuts and bolts 2 18V DC Power Supply Units 2 Beam Centralising Masks 1 Installation Guide 2 Standard Mounting Brackets
Optional equipment		2 PAV Power Meters

PAV Data Systems maintain a continuous process of research and development, and as such, all specifications within this document are subject to change without notice.