

PAVLight Gigabit Free Space Optical System

PAVLight 1Gbps FSO Communications System

PAVLight Gigabit

PAVLight Gigabit is a free space optical system designed to enable high speed communication of voice, data and video over distances up to 1km between link heads which have a clear line of sight between them.

This system can transmit data rates of up to 1Gbps and is available in 500m or 1km configurations. The 500m system uses one laser transmitter and one receiver while the 1km system uses three transmitters to provide the extra power for the greater distance.

Benefits

- Simple rapid installation within hours
- No frequency license allocation required
- Modular design - modules easily changed
- High availability
- High bandwidth
- Re-deployable – moves with your network
- Interfaces with fibre optic cable
- High security system – inherent in FSO technology
- Full technical support provided
- Warranty extension available
- Compact all weather design for permanent outdoor use
- Optional Indoor Unit to monitor system status
- Rapid payback (ROI)
- No ongoing leasing costs or licensing cost
- No environmental disruption for infrastructure

Features

- Digital electronics
- Indicator LEDs on link head and on optional IDU
- Safety interlocks designed to ensure greater safety for installers
- Clear LED information and Alarm relay outputs
- Integrated retiming (CDR without IDU)



The PAVLight Linkhead (Outdoor Unit)

Applications

- Building to building connectivity
- Last mile connection to fibre optic network
- Substitution for fibre optic cable in Gigabit Ethernet systems
- LAN extension
- Broadband internet access
- Integration of voice, data and video on a single link
- Disaster Recovery / Business Continuity

Options

Indoor unit

The provision of an indoor unit, which consists of a 19" rack mounted unit, enables system status monitoring by non-technical staff who can read the link status and see any fault conditions immediately. It also enables upgrades to the link with no need to access the link head.



The PAVLight Indoor Unit (IDU)

SNMP Management system

An optional SNMP Management Interface board is available for those customers who require SNMP management of the link.

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Specification for PAVLight 1.5Mbps – Gigabit

| Outdoor unit | | 1 Tx System | 3 Tx System |
|-------------------------------|-----------------------------------|--|---------------------|
| Product Code | | PL-1G/1Tx/GigE | PL-1G/3Tx/GigE |
| Performance | Effective Data Rate | 1.5Mbps – 1Gbps | 1.5Mbps – 1Gbps |
| | Range (metres) | 750 | 1000 |
| | Bit Error Rate | >10E ⁻¹⁰ | >10E ⁻¹⁰ |
| | MTBF (hours) | 105,000 | 105,000 |
| Transmitter | Number of Transmitters | 1 | 3 |
| | Light Source | Laser Diode | Laser Diode |
| | Laser Class | 1M | 1M |
| | Wavelength | (nm) 810 | 810 |
| | Output Power | (dBm) 14 | 18.75 |
| | NOHD/ENOHD@d63 (IEC60825-1) | (m) 0/92 | 0/92 |
| | NHZ/NHZ-Aided@d63 (IEC60825-12) | (m) 0/92 | 0/92 |
| Beam Divergence | (mrad) 3 | 3 x 3 | |
| Receiver | Detector Type | APD | APD |
| | Field of View | 15° | 15° |
| | Sensitivity | (dBm) -45 to -20 | -45 to -20 |
| Client Interface | Presentation | Fibre Optic | |
| | Connectors Systems Cable | Dual SC Gigabit Ethernet 850nm MM or 1300nm SM Fibre | |
| Interface to IDU (Optional) | Presentation | UTP Balun | |
| | Connectors Cable | RJ45 UTP | |
| Power Supply | Input Voltage | 20 - 52 V DC | |
| | Power Consumption (Watts) | 10 | 15 |
| Environmental Information | Operating Temperature | (°C) -40 to +65 | |
| | Operating Humidity | 95% (non condensing) | |
| | Enclosure | IP66 | |
| Mechanical Design | Link Head Dimensions W x L x H | (mm) 350 x 550 x 198 | 350 x 550 x 390 |
| | Mounting bracket | 200 x 200 x 76 | 200 x 200 x 76 |
| | Height including mounting bracket | 274 | 469 |
| | Weight | (kg) 8.5 | 14.9 |
| Indoor Unit (Optional) | | | |
| ODU Interface | Presentation | UTP | |
| | Connectors Cable | RJ45 UTP | |
| Power Supply | Input Voltage | (V) 90-240VAC (Autoranging) | |
| | Power Consumption | (Watts) 10 | |
| Environmental Information | Operating Temperature | (°C) 0 to +40 | |
| | Operating Humidity | 90% (non condensing) | |
| | Enclosure | IP30 | |
| Mechanical Design | Dimensions W x L x H | (mm) 435 x 44 x 253 | |
| | Weight | (kg) 2 | |
| Indicator LEDs | ODU Rx Data | (Green) | |
| | Client Rx Dta | (Green) | |
| | Retiming Sync | (Orange) | |
| | ODU Rx Data | (Yellow) | |
| | Power Input | (Green) | |

Alarm LEDs (Red) ODU Power Fail, ODU Rx Fail, ODU Tx Fail
 Alarm Relay Output ODU Power Fail, ODU Rx Fail, ODU Tx Fail, Signal Loss, Optical Rx Fail, Optical Tx Fail

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.