

PAVLight E1

PAV Free Space Optics

PAVLight E1

The PAVLight E1 FSO telecommunications products have been developed specifically for use within the expanding GSM cellular market and systems are mainly used as interconnections between Micro Cellular hardware.

Typical installations are between Base Station Controllers (BSC) and Base Station Transceivers, (BTS) and Base Station Controller to Base Station Controller.

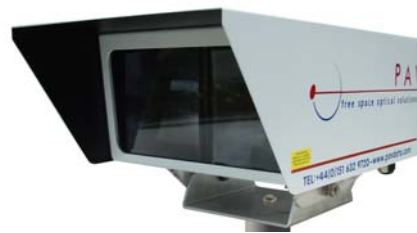
There are currently two formats of the PAVLight E1 2 Mb/s Series offering connection capabilities up to 2000 and 4000 metres.

Connectivity

The connection of the PAVLight E1 products and the Cellular hardware is via balanced 120Ω UTP cable. This cable is connected directly in to the RJ45 socket situated in the PAVLight E1 Series interface. All data transmission is fully compliant with the ITU G.703 standard. If an unbalanced 75Ω coax connection is required, a BNC to RJ45 Balun is supplied on request.

Configuration

Due to the unique nature of the PAVLight E1 product, a seamless interconnection of Cellular hardware is achievable. All equipment operates at its full rated bandwidth and introduces near zero latency. Additionally, due to the nature of the technology utilised, there is no interruption of any clocking mechanisms and the system is transparent to protocols such as G.704.



PAVLight Linkhead (Outdoor Unit)

Security

Using unique advanced error resistant coding within the full range of equipment manufactured, a highly secure connection is achievable which is transparent to RF scanners or spectrum analyzers.

Performance

The system offers an industry accepted performance availability figure, which, through field trials and independent laboratory testing, has achieved a continuous operational availability in excess of 99.1% to 99.9% within the UK and worldwide.

All PAV systems have been designed to work within their high specifications and offer a bit error rate greater than 10^{-10} during operational availability.

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Specification for PAVLight E1			
Product Code		E1-2000	E1-4000
Outdoor unit			
Performance	Effective Data Rate	2Mbps	2Mbps
	Range (metres)	2000	4000
	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	3B
	Wavelength (nm)	910	910
	Output Power (dBm)	20	25
	NOHD/ENOHD@ ^{d63} (IEC60825-1)(m)	0/30	6/65
	NHZ/NHZ-Aided@ ^{d63} (IEC60825-12)(m)	0/30	6/65
	Beam Divergence (mrad)	11	11 x 3
Receiver	Detector Type	Pin Diode	Pin Diode
	Field of View	15°	15°
	Sensitivity (dBm)	-35 to +20	-35 to +20
Interface to IDU	Presentation	UTP	UTP
	Connectors	RJ45	RJ45
	Cable	Shielded twisted pair	Shielded twisted pair
Power Supply	Input Voltage	19.5 - 72 V DC	19.5 - 72 V DC
	Power Consumption (Watts)	40	60
Environmental Information	Operating Temperature (°C)	-40 to +65	-40 to +65
	Operating Humidity	95% (non condensing)	95% (non condensing)
	Enclosure	IP66	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

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.