SOLECTEK
www.solectek.com

Solectek FSO-100E

Optical Wireless PTP Links

Applications

- Video surveillance backhaul
- LAN-to-LAN Extension
- T3/E3 TDM traffic backhaul
- Temporary links at events
- Military/theater operations
- Emergency communications
- Business & education campuses
- Large buildings (arenas, factories)
- RF-sensitive sites such as airports and hospitals

Solectek Corporation

6370 Nancy Ridge Dr. STE 109
San Diego, CA 92121
main: 858.450.1220
fax: 858.457.2681
info@solectek.com

www.solectek.com

Product Summary

The Solectek FSO-100E is a high-speed point-to-point wireless solution that is **extremely** secure and **completely** immune to RF interference, due to the use of advanced second generation Free Space Optics (FSO) technology. When security and ease of installation are essential, the FSO-100E is the perfect solution and can extend your network coverage at 100 Mbps full-duplex (200 Mbps aggregate) and at a distance of 100m (330 feet).

Features & Advantages

High Throughput

Unlike many radio systems, the FSO-100E system is highly efficient with little overhead. The usable payload throughput will exceed 90 Mbps in each direction, giving a total aggregate throughput of over 180 Mbps across the link, ideal for bandwidth intensive applications such as video backhaul or TDM traffic.

Enhanced Security and Interference Immunity

The narrow optical beamwidth of the FSO-100E system virtually eliminates the possibility of signal intercept in the air. In contrast to using radio systems, the FSO link is also immune to interference from other transmitters in the area.

Ease of Installation

Unlike most other FSO systems which require complicated installation procedures, the Solectek FSO-100E can be easily installed by the end user. Its simplified and intuitive alignment guide allows a DIY setup within minutes. In addition to alignment LEDs, an on-board audio tone generator can be used with a headphone to further aid the alignment process.

Built-in, Power-over-Ethernet (POE)

POE greatly simplifies the cabling requirement down to a single outdoor CAT5 cable.

Compact Form Factor

The FSO-100E's small size and light weight provides for unobtrusive installations on rooftops or on walls. Rooftop pole mounting gear is available as an option. The unit, due to its small size, can also be easily mounted indoors just inside of a window. For large buildings such as factories or sports arenas, a pair of FSO-100E's can be used entirely indoors.

Advanced Broadbeam LED

The optical beam is relatively broad to enable alignment without expensive and cumbersome installation tools. This also provides for a stable and robust connection even in windy conditions or in situations where vibration can occur to a building or mounting system.

Radio Backup (optional)

The "Link Fault Pass Through" (LFPT) feature on the FSO system allows an automatic reroute of your network traffic in case of a network failure on one side of the link.

Diagnostics

The back-panel LEDs provide diagnostic information, including the condition of the remote unit and the end-to-end link availability. The FEF (Far End Fault) LED provides an easy way to detect a link fault.

Copyright © 2007 Solectek Corporation..

Specifications

Solectek FSO-100E

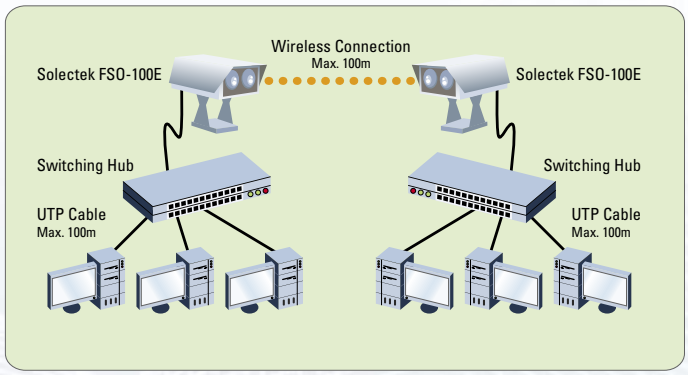
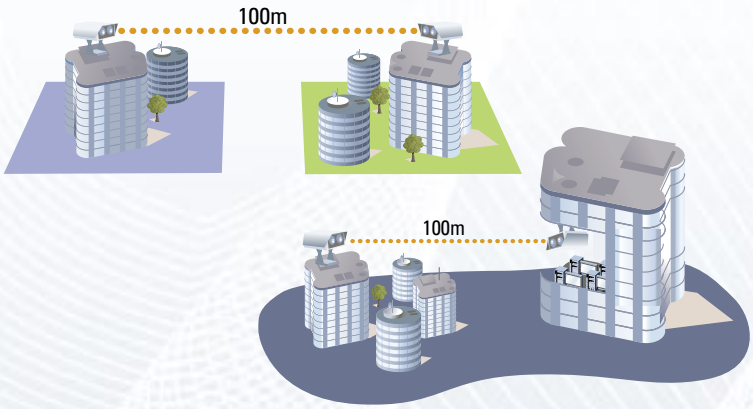
SOLECTEK
www.solectek.com

Transmitter/Receiver	
Transmitter	Ir-LED
Wave Length	870nm(850-880nm)
Beam Divergence	±0.9°(Half-Angle)
Receiver	Si APD
Receiver Angle	±0.6°(Half-Angle)
Optical Filter	Band-Pass Filter
Compliance	
EMI/EMC Standard	FCC Part 15, VCCI Class A
Optical Section	
Transmission	Infrared (LED) Direct Modulation
Method	Infrared, Full Duplex
Data Rate	100Mbps (200 Mbps aggregate)
Distance	20 - 100m (Line of Sight)
Ethernet Section	
Standard	IEEE802.3u, 100Base-Tx
Data Rate	100Mbps
Port	100Base-Tx (RJ45) x 1 MDI/MDI-X Auto 100M fixed, Full Duplex
Cable	100Base-Tx UTP CAT5 or higher

LED		
Front Panel		
RECEIVER CONDITION	Green	Lit when the optical link is good.
Back Panel		
POWER	Green	Lit when the power is connected
REMOTE TX	Green	Lit when the Ethernet link on the other unit is up at 100Mbps.
FEF	Green	Blinks when FEF signals is arriving from the remote unit.
LEVEL	Green	Lit when the optical link is good.
	Yellow	Data Transmission may be possible, but the optical link alignment is needed.
	Red	Data Transmission is impossible and/or the Optical link is down.
NETWORK PORT	Green	Lit when the Ethernet link is up at 100Mbps on the local unit and blinks when data is being transferred.

Input Power	
Input Voltage	DC 48V via POE
Power Supply	100-240V AC, 50/60 Hz
POE	IEEE 802.3af
Input Current	0.16A
Input Current MAX	0.1A (Actual)
Power Consumption	7W Ave. (10W MAX)
Environmental Specification	
Operating Temp.	-15 ~ 50° C
Operating Humidity	Less than 80% (Non-Condensing)
Non-Operating Temp.	-25 ~ 75° C
Non-Operating Humid.	Less than 95% (Non-Condensing)
Water/Dust Proof	JIS-C0920 Level 3 Rainproof
Wind Load Bear.	50m/s
Physical	
Dimensions	150(W) x 290(D) x 200(H) mm (incl. Mounting Stand)
Weight	3Kgs (6.6 lbs) including Mounting stand
Mount	F/B elevation angle : ± 30°(referred to the horizontal), L/R : 45° Tightening Torque of M8 bolts : 1.2kgf?m (11.7N?m)
Headphone Jack	Ø 3.5mm Mini Jack
Package contents	Unit, Mounting stand, Hexagon Wrench, Keys for back panel cover (2pcs), User's Guide, Warranty Card.

Note 1: Bolts for Mounting stand are not included in the package. Please select appropriate bolts that fit your installation sites.

Note 2: Optional mounting poles and bolts are available from Solectek. Please contact Sales for additional information.

Network Diagram