SFP-SM1G – FIBER-OPTIC INTERFACE

- SINGLE-MODE FIBER SFP
- EN 54 APPROVED
- ADDS FIBER-OPTIC NETWORKING TO ASL PRODUCTS
- LIKE-TO-LIKE OPTICAL BUDGET 11.5dB
- 10KM REACH
- SUPPORTS THIN, LIGHTWEIGHT SINGLE-MODE OPTICAL CABLE

OVERVIEW

The SFP-SM1G is a single-mode fiber-optic adapter for long-distance, isolated, network connection on OS1 or OS2 optical cable. Used in conjunction with the SFP slots in ASL products, it allows the rapid creation of single-mode fiber networks. A number of different SFPs are available from ASL to handle single-mode, multimode and gigabit electrical connection.

Networking can carry many independent channels of audio over a single low-cost, link. Electrical connections are however limited to around 100m link distance. Fiber connections can travel much further—up to 10km for single-mode—on a thinner, lighter cable. It is more robust, immune from electromagnetic interference, and carried on a cable which is more resistant to damage. Fiber links are also inherently electrically isolated.

APPLICATION & PERFORMANCE

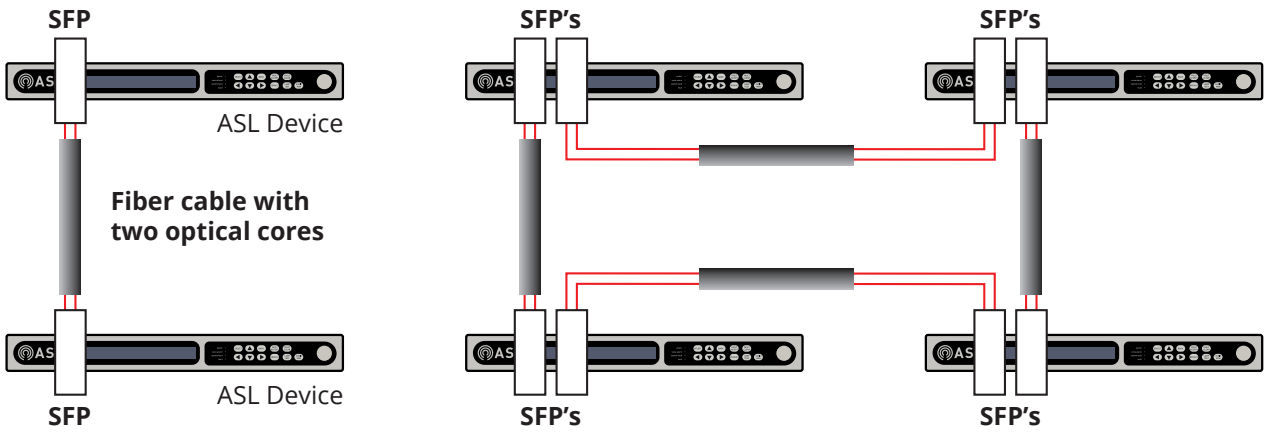
The SFP-SM1G is the choice for single-mode fiber networking. It provides long-distance, high-speed connection. The unit is bidirectional separate receiver and transmitter, requiring two fibers for a complete duplex link. The connectors are of the dual LC type which have a simple latch style locking arrangement for fast, secure reconnection.

The SFP-SM1G supports both the OS1 and OS2 cable types. OS2 cable is lower loss than OS1 and so is suitable for the longest cable runs. It is also more likely to be found sheathed for outdoor use. Fire resistant cable variants are also available.

A link between two SFP-SM1G units with one piece of straight single-mode S2 fiber, with an attenuation of 0.4dB per kilometre, could in theory be over 28km long. Practical circuits, which include intermediate connectors and fused joins, up to the unit's 10km rated total link length are therefore easily possible.

Optical networking is superior to electrical connections because it is not vulnerable to interference, allows larger systems with its much greater reach, provides inherent electrical isolation and is connected with cables that are thinner and lighter.

APPLICATIONS



SPECIFICATIONS

As part of any fiber-optic system design, an optical budget should be calculated. Each length of cable, plug/socket junction, splice (join) and cable bend attenuates the signal. The total loss of any series of optical connections should be less than the optical budget for the devices being used. The optical budget is derived from the worst case (minimum) transmitter power level and the worst case (maximum) required receive level. For the SFP-SM1G these are –9.5dBm and –21dBm. Therefore when two SFP-SM1G are used with one at each end of a fiber cable, then their combined optical budget is 11.5dB.

Overall Description
Pluggable Fiber Optic Transceiver Module for Single Mode Fiber

Physical
Form Factor.....SFP
Temperature Range.....-40°C to +85°C

Electrical
Power Consumption.....600mW
Network Type.....1.25Gb/s 1000Base-LX Ethernet

Inputs
Input Sensitivity (Minimum Power) .....-21dBm

Outputs
Wavelength 1310nm
Maximum Output Power .....-3.0dBm
Minimum Output Power .....-9.5dBm
Suitable Fiber 9/125µm

Connectors
Connector .....Duplex LC type

Comprising one optical transmitter and one optical receiver mounted side-by-side.

CE

This equipment is designed and manufactured to conform to the following EC standards:
EMC: EN55103-1/E1, EN55103-2/E5, EN50121-4, ENV50204
Safety: EN60065

Manufacturer

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