

Cisco GLC-LH-SMD=

1000BASE-LX/LH SFP Dual-Mode Single-Mode & Multimode Optical Transceiver

DATASHEET

Product Overview: The Cisco GLC-LH-SMD= (Spare) is an industry-standard 1000BASE-LX/LH SFP optical transceiver module designed for 1 Gigabit Ethernet connectivity over both single-mode fiber (SMF) and multimode fiber (MMF). Operating at a 1310nm wavelength, it supports link spans of up to 10 kilometers on standard SMF and up to 550 meters on MMF (when used with a mode-conditioning patch cord). Featuring Digital Optical Monitoring (DOM/DDM) and extended operating temperature range support, it provides highly reliable Gigabit networking.

1.25 Gbps

DATA LINE RATE

1310 nm

FP LASER WAVELENGTH

10 km

MAX SMF REACH

< 1.0 W

MAX POWER DRAW

OPTICAL & TRANSMISSION SPECIFICATIONS

Parameter	Specification Details
Standard Compliance	IEEE 802.3z 1000BASE-LX, SFF-8472 Digital Diagnostic Interface
Optics & Transmitter Type	1310nm FP (Fabry-Perot) Laser Transmitter
Receiver Type	PIN Photodetector Receiver
Transmit Power (dBm)	Maximum: -3.0 dBm Minimum: -9.5 dBm
Receive Power (dBm)	Maximum (Receiver Overload): -3.0 dBm Minimum Sensitivity: -20.0 dBm
Optical Link Budget	10.5 dB (Supports up to 10 km on G.652 SMF)
Wavelength Range	1260 nm to 1355 nm (1310 nm center wavelength)

CABLE & DISTANCE MATRIX

Fiber Cable Type	Core Diameter (Microns)	Modal Bandwidth (MHz·km)	Max Transmission Distance
Single-Mode Fiber (SMF)	9.0 µm (G.652 / OS1 / OS2)	—	10,000 meters (10 km / 6.2 miles)
Multimode Fiber (FDDI-grade)*	62.5 µm	500 MHz·km	550 meters (1,804 ft)
Multimode Fiber (OM1)*	62.5 µm	500 MHz·km	550 meters (1,804 ft)
Multimode Fiber (OM2)*	50.0 µm	400 MHz·km	550 meters (1,804 ft)
Multimode Fiber (OM3)*	50.0 µm	500 MHz·km	550 meters (1,804 ft)

*Note: A Mode Conditioning Patch Cord (MCP) is required when operating 1000BASE-LX/LH optics over legacy multimode fiber.

PHYSICAL & POWER CHARACTERISTICS

KEY MODULE CAPABILITIES & ARCHITECTURE

Dual-Mode Fiber Compatibility

Flexibly deployed on both single-mode fiber runs (up to 10km) and existing multimode fiber backbones (up to 550m with MCP cord), simplifying spares inventory.

Dual SMF / MMF

Versatile Deploy

Digital Optical Monitoring (DOM)

Integrated DOM ("D" suffix) per SFF-8472 enables real-time monitoring of optical output power, optical input power, laser bias current, temperature, and supply voltage.

DOM / DDM

SFF-8472

Extended Temperature Operating Range

Designed with "EXT" temperature tolerance (-5°C to 85°C), ensuring robust operation in wiring closets, industrial facilities, and non-climate-controlled racks.

-5°C to 85°C EXT

Ruggedized

Hot-Swappable SFP Footprint

Allows insertion and removal from SFP ports on live Cisco switches and routers without shutting down system power or disrupting adjacent port traffic.

Hot-Swappable

Plug & Play

REGULATORY & SAFETY COMPLIANCE

Category	Standards & Certifications Supported
Laser Safety Class	Class 1 Laser Product compliant with FDA/CDRH and IEC 60825-1 / EN 60825-1
Environmental Standards	RoHS 6/6 compliant (lead-free), CE Mark, REACH compliant
EMC & Immunity	FCC Class B Part 15, EN 55022 Class B, EN 55024, CISPR 22 Class B, VCCI Class B
ESD & Electrical Safety	IEC/EN 61000-4-2 ESD protection, UL 60950-1, CSA C22.2 No. 60950-1

SUPPORTED PLATFORM FAMILIES & ORDERING INFORMATION

Part Number (PID)	Description & Platform Compatibility
GLC-LH-SMD=	Cisco 1000BASE-LX/LH SFP Transceiver for SMF & MMF with DOM (Spare Unit)
GLC-LH-SMD	Cisco 1000BASE-LX/LH SFP Transceiver for SMF & MMF with DOM (Standard PID)
GLC-LH-SM-RGD=	Cisco 1000BASE-LX/LH SFP Transceiver, Industrial Ruggedized (-40°C to 85°C)
Supported Switches	Cisco Catalyst 2960/3560/3750/3850/9200/9300/9400/9500, Industrial Ethernet IE2000/IE4000
Supported Routers	Cisco ASR 900/1000/9000, ISR 1000/4000, Firepower 1000/2100/4100 Series

Warranty & Service: The Cisco GLC-LH-SMD= includes Cisco's standard 90-day limited hardware warranty. Extended technical support and advance hardware replacement options are provided under active Cisco SMARTnet contracts on the host switch or router.