

Cisco SFP-10G-ER=

10GBASE-ER SFP+ Extended-Reach Single-Mode Optical Transceiver

DATASHEET

Product Overview: The Cisco SFP-10G-ER= (Spare) is a high-performance 10GBASE-ER SFP+ optical transceiver designed for extended-reach 10 Gigabit Ethernet applications over single-mode fiber (SMF). Operating at a nominal wavelength of 1550nm utilizing a cooled DFB transmitter, it enables link distances of up to 40 kilometers (24.8 miles) on standard OS1/OS2 SMF without external optical amplification. It includes Digital Optical Monitoring (DOM/DDM), hot-swappable installation, and strict compliance with IEEE 802.3ae and SFF-8472 specifications.

10.3 Gbps

DATA LINE RATE

1550 nm

COOLED DFB
WAVELENGTH

40 km

EXTENDED REACH (SMF)

1.5 W

MAX POWER DRAW

OPTICAL & TRANSMISSION SPECIFICATIONS

Parameter	Specification Details
Standard Compliance	IEEE 802.3ae 10GBASE-ER, 10GBASE-EW, SFF-8431, SFF-8432, SFF-8472
Optics & Transmitter Type	1550nm Cooled DFB (Distributed Feedback) Laser Transmitter
Receiver Type	PIN Photodetector Receiver
Transmit Power (dBm)	Maximum: +4.0 dBm Minimum: -4.7 dBm
Receive Power (dBm)	Maximum (Receiver Overload): -1.0 dBm Minimum Sensitivity: -15.8 dBm
Optical Link Budget	11.1 dB (Supports up to 40 km link span on G.652 SMF)
Wavelength Range	1530 nm to 1565 nm (1550 nm nominal center wavelength)

CABLE & LINK PERFORMANCE MATRIX

Fiber Cable Type	Core / Cladding Diameter	Operating Wavelength	Max Transmission Distance
Standard SMF (G.652 / OS1)	9.0 µm / 125 µm	1550 nm	40 kilometers (24.8 miles)
Low Attenuation SMF (OS2)	9.0 µm / 125 µm	1550 nm	40 kilometers (24.8 miles)

PHYSICAL & POWER CHARACTERISTICS

Connector Interface	Duplex LC Female Connector
Form Factor & Latch	Hot-pluggable SFP+ Footprint with Red Bail Latch Color Code
Power Consumption	Power dissipation < 1.5 Watts (Supply Voltage: 3.3V)

KEY MODULE CAPABILITIES & ARCHITECTURE

40km Extended-Reach Link Capacity

Utilizes 1550nm low-attenuation optical transmission to bridge regional campus connections, metro aggregation rings, and long-haul links without optical amplifiers.

40km SMF Reach

Metro Aggregation

Digital Optical Monitoring (DOM)

Supports real-time digital diagnostic monitoring per SFF-8472, providing critical telemetry for TX/RX optical power levels, laser bias current, temperature, and supply voltage.

DOM / DDM

SFF-8472

Cisco Quality Identification (ID)

Equipped with Cisco Quality ID software feature, enabling Cisco switches and routers to seamlessly recognize certified, authentic hardware.

Cisco Qualified

Auto-Detect

Hot-Swappable SFP+ Footprint

Enables hot-pluggable insertion and removal into SFP+ interface ports on live Cisco switches and routers without causing network disruption or reboots.

Hot-Swappable

Zero Outage

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
SFP-10G-ER=	Cisco 10GBASE-ER SFP+ Transceiver Module for SMF, 40km (Spare Unit)
SFP-10G-ER	Cisco 10GBASE-ER SFP+ Transceiver Module for SMF (Standard Production PID)
SFP-10G-ER-S=	Cisco 10GBASE-ER SFP+ Transceiver Module, S-Class (Enterprise Class Spare)
SFP-10G-ER-I=	Cisco 10GBASE-ER SFP+ Transceiver Module, Industrial Temp (-40°C to 85°C)
Supported Switches & Routers	Cisco Catalyst 3850/9300/9400/9500/9600, Nexus 3000/5000/7000/9000, ASR 1000/9000, ISR 4000

Warranty & Service: The Cisco SFP-10G-ER= includes Cisco's standard 90-day limited hardware warranty. Extended technical support and expedited replacement options are supported through active Cisco SMARTnet service contracts on the host platform.