

# Optical module 40km connection



## Overview

SFP+ 40km is a type of 10 Gigabit optical transceiver designed for long-distance data transmission up to 40 kilometers over single-mode fiber (SMF). In most cases, this term specifically refers to the 10GBASE-ER (Extended-Reach) standard defined by the IEEE for 10G Ethernet networks. In modern optical transport networks, 100G optical modules with a transmission distance of 40km have emerged as a core technology to meet the needs of carriers' backbone networks, large enterprises, and cloud service providers. This transceiver is compliant with QSFP+ MSA and IEEE 802. Digital diagnostics functions are also available. The Cisco ® 40GBASE QSFP (Quad Small Form-Factor Pluggable) portfolio offers customers a wide variety of high-density and low-power 40 Gigabit Ethernet connectivity options for data center, high-performance computing (HPC) networks, enterprise core and distribution layers, and service provider. The 40GBASE-ER4 QSFP+ 1310nm Optical Transceiver Module is designed to transmit 40GBASE Ethernet throughput up to 40km over duplex LC connectors using single-mode fiber (SMF) at 1310nm wavelength. 3bm 40GBASE-ER4, and OTU3 standards.

## Article Content

GlobalFoundries' Unveils Optical Module Solution Targeting CPO

MALTA, N.Y., May 5, 2026 — GlobalFoundries (GF) has introduced an optical module solution for co-packaged optics (CPO). According to the company, the Silicon photonics Co-packaged Advanced

OFC 2025: Marvell demos SiPho light engine for AI networks

Marvell Technology, Inc. demonstrated its 1.6T silicon photonics light engine integrated into a linear-drive pluggable optics (LPO) module at OFC 2025. The new product is the second in the

Up to 40Gbps Data over 40km with 40GBASE-ER4 QSFP+ Module

The 40GBASE-ER4 QSFP+ 1310nm Optical Transceiver Module is designed to transmit 40GBASE Ethernet throughput up to 40km over duplex LC connectors using single-mode fiber

QSFP-40G-ER4 Demystified: Your Guide to 40Gbps

LINK-PP 's optical modules, including their QSFP-40G-ER4 transceiver, are rigorously tested to ensure 100% compatibility with major OEM

Optical Module Chip Market 2025

The optical module chip market exhibits a fragmented yet competitive structure with global technology providers, semiconductor manufacturers, and specialized optical communication companies vying for

Transceiver Optical Module Cisco 1.25G SFP 1270nm CWDM

Optimize your setup with Transceiver Optical Module Cisco 1.25G SFP 1270nm CWDM. superior component ensures stable connections. Request quote.

Cisco 40GBASE QSFP Modules Data Sheet

The Cisco 40GBASE-ER4 QSFP Module supports link lengths up to 40km over G.652 single-mode fiber with duplex LC connectors. The 40GE or OTU3 signal is carried over four

10 Gigabit Ethernet

Optical modules are connected to a host by either a XAUI, XFI or SerDes Framer Interface (SFI) interface. XENPAK, X2, and XPAK modules use XAUI to connect

40G QSFP+ Optical Transceivers Complete Guide

How 40G QSFP+ optical transceivers boost performance in data centers and telecom networks. Learn about types, use cases, and cost-saving benefits.

## Optical Communication Industry Trends 2026: AI, 800G/1.6T Optical ...

Explore optical communication industry trends in 2026, driven by AI infrastructure, 800G and 1.6T optical modules, silicon photonics, and next-generation data center connectivity solutions.

### 40Gbps QSFP+ Optical Modules

40Gbps QSFP+ Optical Modules QSFP-40G-LR4 QSFP-40G-SDLC-PAM QSFP-40G-SR-BD (02311FPA) QSFP-40G-eSR4 QSFP-40G-iSR4 QSFP-40G-LX4 QSFP-40G-ER4 QSFP-40G-LR4

### Optical Interconnect Technology Analysis: LPO, NPO,

Exploring optical interconnects for AI data centers: LPO for low-power, short-distance links, NPO for high-density, near-package connections,

### Cisco-Compatible 1.25G SFP CWDM Optical Transceiver (1610nm)

Transceiver Optical Module Cisco 1.25G SFP 1610nm CWDM ensures enterprise-grade performance. 40km transmission, 1610nm wavelength for networking..

### 40G QSFP+ 10~40km transceiver

The QSFP+ module is designed for use in 40GBASE Ethernet throughput up to 10km, 30km or 40km over single mode fiber (SMF) using a wavelength of

### OFC 2026 Special: Arista Leads XPO Launch as Three

The landscape of global optical connectivity is witnessing a seismic shift. On the eve of the Optical Fiber Communication Conference (OFC 2026) in

### Optical Transceiver: SFP vs SFP+ vs QSFP28 vs QSFP-DD

This article provides a comprehensive comparison of mainstream optical transceivers, including SFP, SFP+, QSFP+, QSFP28, and QSFP-DD. It explains their technical differences,

### What is an SFP Optical Module? The Complete Guide

The complete technical guide to SFP optical modules (SFP, SFP+, SFP28). Understand the core function, compare data rates (1G to 25G), learn

### OSFP Transceivers: High-Density Optical Connectivity from 400G to

As hyperscale data centers shift toward AI-optimized fabrics and ultra-high-bandwidth switching platforms, the OSFP (Octal Small Form-Factor Pluggable) form factor has become central

### How Optical Modules Power the Evolution of 5G Networks

Optical modules enable high-speed, low-latency 5G networks by converting signals for fast, reliable data transfer, supporting seamless

## 40G QSFP+ Optical Transceivers Complete Guide

Affordability: Wholesale 40g qsf+ optical transceivers lower total costs As connectivity demands rise across enterprise and telecom, 40g optical

Comprehensive Guide to SFP BiDi 10G 40km Modules: Selection ...

In today's bandwidth-intensive environments, efficient use of fiber infrastructure is paramount. The SFP BiDi 10G 40km module offers a powerful solution by enabling 10 Gbps full

LightCounting :: Scale-up networks in AI Clusters is a

A surge in AI development created a new wave in demand for optical connectivity in 2023-2025 and it will sustain the market's growth through 2030. The Figure

SFP+ 40km (10GBASE-ER): Extended-Reach Optical Module Guide

SFP+ 40km (10GBASE-ER) modules are designed for scenarios where reliable 10G connectivity must extend far beyond typical data center distances. Their ability to transmit over up to

Types of Area Network and How Optical Modules Support Them

Understanding the major types of area network including LAN, WAN, MAN, CAN, and SAN, and discover how optical modules enable modern fiber connectivity.

25G SFP28 Transceiver

Generic SFP-25G-ER Compatible 25GBASE-ER 1310nm 40KM DDM LC SMF Optical Transceiver Module Brocade Cisco Generic +1 25G / Generic / 40km / LC / SMF / SFP28 242 in real-time stock,

100 Gb ER4 Lite 40 km QSFP28 Module

The ER4-Lite QSPF28 module provides a 100 Gb optical Ethernet connection over SMF (single-mode fiber), at distances up to 40 km. LAN-WDM optics transmit the 100 Gigabit Ethernet (100G) signal

40GBASE ER4 QSFP+ Transceiver | 40G DWDM, 40km LC Optical

Discover 40GBASE ER4 QSFP+ transceivers, 40G DWDM, and LC transceivers. Ideal for high-performance networking with 40km reach and advanced 40G connectivity.

libyan-10-gigabit-optical-module-manufacturer

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Extend Your 100G Reach to 40km Transmission with FS Optics

FS offers a wide range of 100G optical modules supporting transmission distances up to 40km. Purpose-built for DCI, metropolitan area networks, and telecom backbone networks, these

## Contact Us

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