

# 40km optical module operating distance



## 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. These modules typically operate at a 1550 nm wavelength, use LC duplex connectors, and support Digital Optical Monitoring (DOM/DDM) for. igned for 40km optical communication applications. The module converts 8 channels of 50Gb/s (PAM4) electrical input data to 4 channels of LAN WDM optical signals and multiplexes them into Char nd not the principal indicator of signal strength. All modules satisfy lass I laser safety requirements. The transceiver is compliant with QSFP+ MSA, IEEE 802. 3bm 40GBASE-ER4, and OTU3 standards.



## Article Content

### 10G-SFP+40KM 10G SFP+ Transceiver

10G SFP+ Transceiver Overview The 10G SFP+ transceivers are high performance, cost effective modules supporting data rate of 10Gbps and 40. m transmission distance with SMF. The transceiver ...

What are the 10 GBIT/s SFP+ Optical Modules with a Transmission ...

It has an optional channel wavelength range of C17-C61 (interval 50HZ/100HZ), a duplex LC interface, a maximum transmission rate of 11.3g, compliant with SFP+ MSA and 10G Ethernet standards, and a ...

### 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 ...

### 100GBASE EX SFP Transceiver | 1310nm 40km DOM Single-Mode ...

With an operating wavelength of 1310nm, this module extends network connectivity up to 40km, making it ideal for applications requiring long-haul communication between remote locations.

### Wavelength and Transmission Distance of Optical Transceiver Modules

Under 1550nm wavelength, 100Mbps and 1Gbps optical transceiver modules can transmit up to 160km, and 10Gbps optical transceiver modules can transmit up to 80km. (For distances greater than or ...

### 100G QSFP28 4WDM-40 DML CWDM4 30km/40km SMF LC Optical Transceiver

It has a built-in pair of 4-channel LWDM MUX and DEMUX with center wavelengths of 1295.56nm, 1300.05nm, 1304.58nm and 1309.14nm, respectively, and uses a pair of single-mode fibers for ...

### 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 ...

### 40GBASE-ER4 QSFP+ Guide: Specs, Wavelengths, 40km Optics

40GBASE-ER4 is a long-reach 40GbE optical interface standard that uses four CWDM wavelengths over single-mode fiber to support transmission distances up to 40km. It is defined under IEEE ...

### 400Gb/s QSFP56-DD ER4 SMF 40km Optical transceiver

On the receiver side, the module optically de-multiplexes a 400Gb/s optical input into 4 channels of LAN WDM optical signals and converts them to 8 channels of 50Gb/s (PAM4) electrical output data. Host ...

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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