

# Optical module with a wavelength of 40 kilometers



## Overview

This comprehensive guide dives deep into the SFP-10G-ER optical transceiver module. Learn its technical specifications, key applications, compatibility nuances, advantages over other 10G optics, and best practices for deployment. 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. Discover how the LINK-PP SFP-10G-ER delivers reliable, cost-effective. Ideal for high-performance networking with 40km reach and advanced 40G connectivity. Supporting multi-rate. The SFP BiDi 10G 40km module offers a powerful solution by enabling 10 Gbps full-duplex communication over a single strand of single-mode fiber (SMF) for distances up to 40 kilometers.



## Article Content

Aug 26, 2025

Optical Transceiver Market Size, Share, and Trends Analysis 2032

The global Optical Transceiver market size was estimated at USD 13.08 Billion in 2024 and is estimated to grow at a CAGR of 15.41% from 2025 to 2032.

Oct 16, 2025

SFP-10G-ER40 Single Mode 10G 40km SFP Transceiver Module 10G

Product Summary SFP-10G-ER40 Single Mode 10G 40km SFP Transceiver Module 10G SFP+ 1550nm 40km Product Description SFP+ ER 40KM fiber optic transceiver is designed for use in 10-Gigabit

Aug 29, 2025

10GE SFP+ Optical Modules

OMXD30000 OSX010000 OSX040N01 OSXD22N00 SFP-10G-BXD1 SFP-10G-BXU1 SFP-10G-ER-1310 SFP-10G-ER-SM1270-BIDI SFP-10G-ER-SM1330-BIDI SFP-10G-LR-I SFP-10G-USR SFP-10G

Jul 21, 2025

100G QSFP28 ER4 Transceiver: 40km Reach Optical

Innoptical's IN-QSFP28-ER4 module is designed for 40km optical communication applications. This module contains 4-lane optical transmitter, 4-lane optical

Nov 25, 2025

SFP-10G-ER40 10GBASE-ER SFP+ Transceiver

High-performance 10GBASE-ER SFP+ optical transceiver. Delivers reliable 10 Gigabit Ethernet connectivity up to 40 kilometers over single-mode fiber (SMF)

Mar 04, 2026

Accessories 2.5G-SFP-LX03-SM1310-BIDI-I 2.5G BiDi SFP 1310nm

The 2.5G-SFP-LX03-SM1310-BIDI-I is aligned to IEEE 2.5GBASE-LX optical specifications and supports a link length of up to 3 kilometers over a single mode fiber (SMF) with a BIDI LC connector. It adopts

Jun 19, 2026

100G Optical Transceiver

Through coarse wavelength division multiplexing (CWDM) technology, QSFP28 CWDM4 optical module can multiplex four wavelengths of 1270nm, 1290nm,

Jul 03, 2025

Single-Mode Vs Multimode Optical Modules: Detailed Differences

Wavelength and transceiver technology Multimode optical modules commonly operate at 850 nm (VCSEL-based) for short-range links; some multimode transceivers also use 1310 nm for medium

Dec 13, 2025

Small Form-factor Pluggable

Small Form-factor Pluggable Small Form-factor Pluggable connected to a pair of fiber-optic cables Small Form-factor Pluggable (SFP) is a compact, hot-pluggable

Dec 29, 2025

Optical Transceivers / SFP Modules – High-Performance Compatible

Comprehensive Optical Transceivers & SFP Module for High-Speed Networks LINK-PP offers a full range of optical transceivers and SFP module for modern data centers, telecom networks, and

Apr 16, 2026

Understanding Optical Transmission Windows: A Complete Guide for ...

Optical transmission windows are more than theoretical constructs—they're engineering blueprints for building high-performance, scalable, and cost-effective optical networks. By

Nov 02, 2025

In-Depth Analysis of the QSFP28 100G ER4 Optical Module

In the field of high-speed optical communication, when transmission requirements extend from within data centers to campus and metropolitan areas, the QSFP28 100G ER4 optical module becomes a

Aug 11, 2025

SFP-10G-ER Explained: Powering 40km 10Gbps Optical

This hot-pluggable SFP+ transceiver is engineered to transmit 10Gbps data streams over single-mode fiber (SMF) for link lengths up to 40 kilometers,

Mar 08, 2026

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

To achieve reliable data transmission over a distance of 40 kilometers, the 40GBASE-ER4 transceiver must utilize highly stable and high-quality components. The transceiver's transmitter and receiver

Jan 30, 2026

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

Mar 02, 2026

Popular fiber optic transceiver module QSFP28 100G

The 100G QSFP28 transceiver is an essential component in modern high-speed networks, providing fast and reliable data transmission over optical

Jun 25, 2026

LR4 40G QSFP+ Transceiver 1310nm 10km SMF Fiber Transceiver Module

40G QSFP+ LR4 1310nm 10km SMF Fiber Transceiver Module Description This product is a transceiver module designed for 2m-10km optical communication applications. The design is compliant to

Nov 14, 2025

Single-mode optical fiber

In fiber-optic communication, a single-mode optical fiber, also known as fundamental or mono-mode, is an optical fiber designed to carry only a single mode of light

Jun 03, 2026

SFP Modules SFP and SFP+ Modules Small Form-Factor ...

Introduction Advantech's small form-factor pluggable (SFP) transceiver family is available with a variety of types of copper SFP and fiber SFPs, SFP+. This transceiver module is compliant

Jan 05, 2026

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

Discover Link-PP's reliable and compatible SFP BiDi 10G 40km modules for high-speed, cost-effective single-fiber 10G networks. Learn about selection tips, wavelength pairing, installation

Jun 29, 2025

QSFP28 Module Types: SR4, LR4, CWDM4 & Single-Lambda

Single-Lambda Modules: Representing the newer generation, these modules use a single 100G PAM4 lane operating at a 1311nm center wavelength. The DR1 standard handles connections

Mar 27, 2026

Optical Modules Market Research Report 2034

Optical Modules Market Outlook 2025-2034 The global optical modules market was valued at \$14.8 billion in 2025 and is projected to reach \$39.6 billion by 2034,

Jul 08, 2025

QSFP-DD-400G-SR4 Optical Transceiver 1. Summary

Discover the details of QSFP-DD-400G-SR4 Optical Transceiver 1. Summary at LonRise Equipment Co. Ltd., a leading supplier in China for Optical Transceiver Module and SFP Optical

Jul 14, 2025

10G Base ER Compatible Transceiver

Our 10G Base ER SFP+ transceiver extends 10 Gigabit Ethernet

Mar 06, 2026

How far can single-mode 40G go?

Single-mode 40G fiber optic technology can transmit data up to 40 kilometers (24.8 miles) without the need for signal regeneration.

Sep 21, 2025

Optical Transceivers | Coherent

Get the pluggable module performance you need from the manufacturer of choice for all major networking equipment vendors worldwide.

## Contact Us

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