

Single-film duplex optical module



AI Overview

A single-film duplex optical module is a transceiver that uses single-mode fiber with duplex LC connectors for bidirectional data transmission, supporting various data rates and distances depending on the module type.

Overview

A single-film duplex optical module typically operates over single-mode fiber (SMF) and uses duplex LC connectors to transmit and receive signals simultaneously on two fibers. These modules are widely used in Ethernet, telecom, and data center networks to interconnect switches, routers, servers, and other network devices . They are available in different form factors such as SFP, SFP+, and QSFP28, supporting speeds from 1.25 Gbps to 100 Gbps .

Key Specifications

- **Wavelength:** Most modules operate at 1310 nm, suitable for long-distance single-mode transmission .
- **Data Rate:** Ranges from 1.25 Gbps (SFP) to 10 Gbps (SFP+) and up to 100 Gbps (QSFP28) .
- **Transmission Distance:** Depending on the module, distances can range from 500 meters to 40 km over single-mode fiber .
- **Standards Compliance:** Modules conform to IEEE 802.3, SFF-8431, SFP+/QSFP MSA, RoHS, and laser safety standards .
- **Hot-Plug Support:** Most modules support hot swapping, allowing installation or replacement without shutting down the network

Article Content

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Simplex vs Duplex Fiber Optic Cable – Key Differences & Uses

Fiber optic cables are divided into single-mode, multimode, simplex, and duplex. For information on single-mode and

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The Most Comprehensive Guide Of Optical Modules

Explore the ultimate guide to optical modules. Learn types, functions, performance metrics

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25G Single-Mode Optical Module

SFP28 transceiver that supports 25G connections up to 10 km using single-mode fiber with a duplex LC UPC connector.

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Understanding Fiber Optics – Your Quick Guide to SFP

Understanding Fiber Optics – Your Quick Guide to SFP Transceivers What is an SFP Transceiver? SFP

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A Complete Guide to Simplex vs Duplex Fiber Optic Cable

Types Duplex fiber optic cable comes in variants optimized for specific application needs, including single-mode for

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SFP Module Multimode & Singlemode | Serverschrank24

SFP Module für Multimode & Singlemode Duplex und Simplex Optionen
Hochperformante Netzwerke Präzise

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Multi-mode optical fiber

Multi-mode optical fiber is a type of optical fiber mostly used for communication over short distances, such as within a building or on a

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Can a single optical fiber support full-duplex communication?

A full duplex or Bidirection communication meaning that it can support both stations transmitting and receiving

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Custom Passive DWDM OADM Module, Single Fiber

FS 1-8 channels single fiber DWDM OADM modules easily add or drop optical signals for DWDM network with intermediate sites that

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Ubiquiti Ufiber Module Single-Mode Fiber Duplex 10Gbps

Single-mode, duplex, ber transceiver module. The 10 Gbps Single-mode Optical Module is a duplex transceiver that delivers up to 10

Sep 28, 2025

10Mb/s Single Mode 1310nm 10km SC/FC/ST 1x9 TTL Optical

This series of fiber optic transceivers are supplied in the industry-standard 1x9 SIP package style with a duplex SC, a duplex ST, a

Sep 24, 2025

40GBASE-SR Bi-Directional 150m Duplex LC MMF Optical Transceiver Module

40GBASE-SR-BiDi QSFP+ Optical Transceiver Module for Ethernet and Data Center (MMF, 832nm - 918nm, 150m, LC) The QSFP+

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What is the difference between single fiber and dual fiber optical ...

In this issue, ETU-LINK will introduce what is a single fiber optical module and a dual fiber optical module, and what are

Mar 09, 2026

1G SFP LX/LH, 1310nm, 10km, DDM, LC/UPC Duplex,

The Miljet MJ-SFPGE-LX-10, SFP 1000BASE-LX transceiver uses a longer wavelength laser over

Jun 22, 2026

Single Fiber vs Dual Fiber Transceivers Understanding

In fiber optic communication systems, optical transceivers play a critical role in ensuring

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Wavelength-division multiplexing

In fiber-optic communications, wavelength-division multiplexing (WDM) is a technology which multiplexes a

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Optic Modules Datasheet

Features and Benefits The following table lists the different pluggable optic modules and supported platforms, along with the

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L-com Single mode SFP Module Duplex LC (1310nm)

L-com's line of SFP modules comply with the MSA standard and can be used in any device that accepts an

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SFP Optical Module 1.25G 20km single-mode duplex-LC 1310nm

This is a industrial SFP optical module. It uses duplex single mode optical fiber and the speed rate can up to 1.25Gbps, transmission

Jan 27, 2026

100GBASE-DR QSFP28 Single Lambda 1310nm 500m DOM Duplex

The electrical interface is compliant with IEEE 802.3cd and QSFP28 MSA in the transmitting and receiving directions, and the optical

Apr 28, 2026

SFP Modul - 1,25 Gb/s, Singlemode, 80 km, LC Duplex

Dieses SFP Modul unterstützt den Standard 1000BASE-ZX und ist für Langstreckenverbindungen bis 80 km ausgelegt. Es eignet

Feb 17, 2026

Hanutech 2.5G Single Mode Duplex Transceiver Optical SFP Module,

Hanutech 2.5G Single Mode Duplex Transceiver Optical SFP Module, LC Type OFC Tx-Rx 1310nm 20KM- 1 Year Warranty

Jul 29, 2025

Difference between Duplex and Simplex in single mode fiber itself ...

Simplex single-mode fiber is typically used in scenarios where data only needs to be sent in one direction, such as in

Jul 09, 2026

Singlemode Duplex LC Connectors Fiber Optic Connectors

Mouser offers inventory, pricing, & datasheets for Singlemode Duplex LC Connectors Fiber Optic Connectors.

Jun 01, 2026

10G SFP+ Optical Transceivers | Transceiver Module

FS 10GbE SFP+ module solutions provide a wide variety of 10 Gigabit Ethernet connectivity options for

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Comprehensive Guide to FS 10G BiDi SFP Modules

10G BiDi SFP+ modules utilize a unique optical mechanism that enables full-duplex data transmission over a single

Contact Us

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