Single-mode single-core lc interface optical module



Overview

Optical Transceiver SFP+ 10G Single-Mode Module 1310nm 10km LCExplore the features, applications, and selection guide for optical transceiver SFP+ 10G sing.

Key Takeaways

A single-mode, single-core LC optical module is a compact transceiver designed for long-distance fiber communication using a single fiber core and LC connector, ideal for high-speed Ethernet and telecom networks.

Overview

A single-mode, single-core optical module uses a single fiber core to transmit light signals in a straight path, minimizing signal loss and allowing long-distance communication.

The L

C connector is a small form-factor interface that supports high port density and hot-swappable operation, making it suitable for data centers, enterprise networks, and telecom environments.

Key Features

Fiber Type: Single-mode fiber (SMF) with a narrow core (~9µm) for minimal modal dispersion. Core: Single-core (1-core) for one data channel per fiber, ensuring efficient long-distance transmission. Connector: LC duplex connector, compatible with standard single-mode patch cords.

© 2026 EXF OPTICAL NETWORKS - All rights reserved

Data Rates: Commonly supports 1G (1000Base-LX), 10G (10GBASE-LR), and higher speeds up to 25G. Wavelength: Typically 1310nm for long-reach applications, balancing low attenuation and minimal chromatic dispersion. Distance: Supports links from 10 km up to 20 km depending on module type and network conditions.

Standards Compliance: Conforms to SFP/SFP+ MSA, IEEE 802. 3z (1G) or IEEE 802. 3ae (10G) for interoperability.

Monitoring: Many modules include Digital Optical Monitoring (DOM/DDM) for real-time measurement of optical power, temperature, and voltage. ApplicationsSingle-mode, single-core LC modules are widely used for: Long-distance Ethernet links between buildings or data centers. Telecom backbones requiring stable, low-latency connections.

Enterprise networks where high-speed uplinks are needed. Industrial networking where reliability and long reach are critical. AdvantagesLong-distance capability with minimal signal degradation.

High compatibility with existing SFP/SFP+ ports. Compact and hot-swappable, allowing easy upgrades without downtime. Efficient bandwidth usage with a single-core design for dedicated channels.

Considerations for Selection

When choosing a single-mode, single-core LC module, consider: Transmission distance and required wavelength. Data rate compatibility with network equipment. Environmental conditions such as temperature range.

Switch or router compatibility to avoid interoperability issues. Monitoring needs for proactive network management. By understanding these specifications, network engineers can select the right single-mode, single-core LC optical module to ensure reliable, high-speed fiber connectivity over long distances.

Article Content

Optical Transceiver SFP+ 10G Single-Mode Module 1310nm 10km LC

Explore the features, applications, and selection guide for optical transceiver SFP+ 10G single-mode 1310nm 10km LC modules for data centers and enterprise networks.

Single Mode Single Core SFP Transceiver

Discover single mode single core SFP transceivers with 1.25G speed, SC/LC connectors, up to 80km reach, CE certified, ideal for FTTX and data centers.

100G QSFP28 Single Fiber (BiDi) Modules: Technology, Benefits ...

© 2026 EXF OPTICAL NETWORKS - All rights reserved

Single fiber QSFP28 modules (commonly called BiDi transceivers) enable full-duplex 100G communication over a single optical strand. They do this by using Wavelength Division

SFP Single Mode LC Module (80km)

TRENDnet''s SFP Single Mode LC Modules are compatible with standard SFP slots found on network switches and fiber converters. Each single mode SFP transceiver is equipped with a duplex LC fiber

SFP-1FESLC-T

Moxa''s small form-factor pluggable transceiver (SFP) Ethernet fiber modules for Fast Ethernet provide coverage across a wide range of communication

Cisco 40GBASE QSFP Modules Data Sheet

The Cisco 40GBASE-LR4 QSFP module supports link lengths of up to 10 kilometer over a standard pair of G.652 single-mode fiber with duplex LC connectors. The QSFP-40G-LR4-S module

Selection Guide for Data Center 400G Optical Modules

OSFP DR4: Uses an MPO-12 single-mode interface and supports transmission distances of up to 500 meters. It also supports breakout configurations into four 100G OSFP or QSFP28

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

© 2026 EXF OPTICAL NETWORKS - All rights reserved

Contact Us

Continue your research online:

Website: https://explosivefunctions.co.za
Technical inquiry: https://explosivefunctions.co.za/contact.html
EU project coordination: Parque das Nações, Lisbon, Portugal

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 EXF OPTICAL NETWORKS - All rights reserved