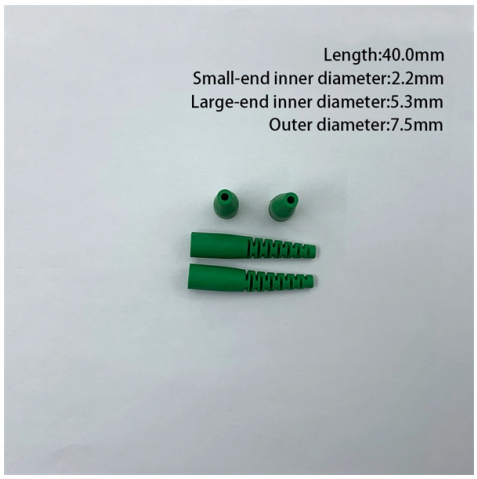
Single-core single-mode gigabit fiber optic transceiver



Overview

This data sheet describes the benefits, specifications, and ordering information for the Cisco SFP Modules for Gigabit Ethernet Applications.

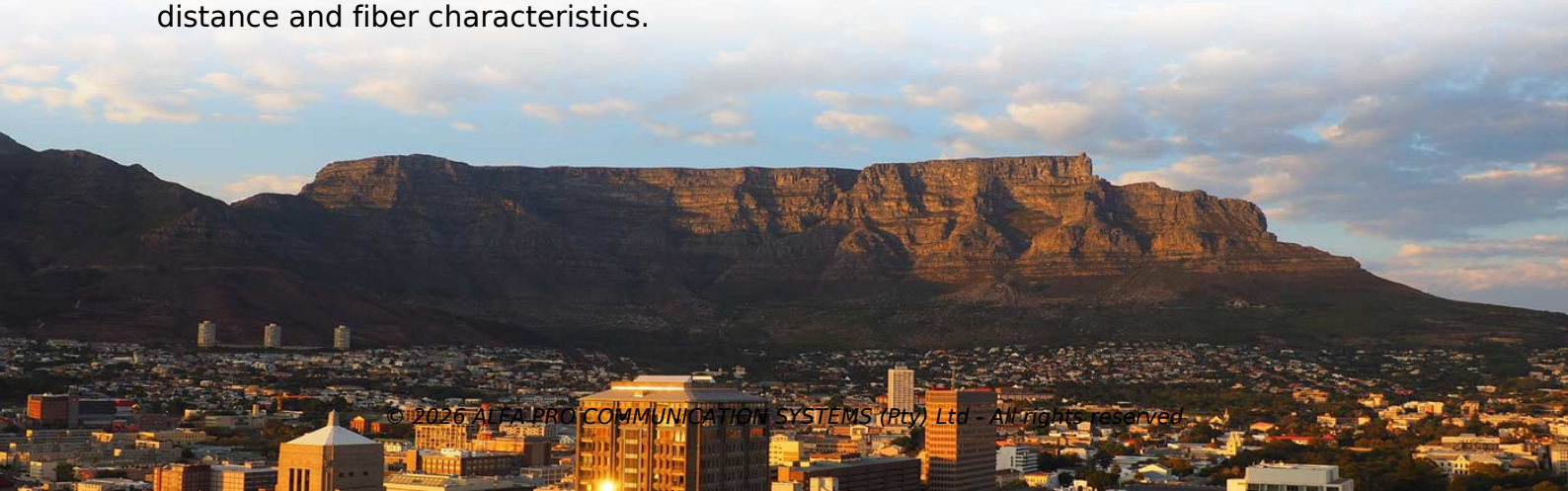
Key Takeaways

Single-mode gigabit SFP transceivers provide high-speed, long-distance fiber connectivity for single-core fiber networks, supporting distances from 10 km up to 180 km depending on the model and wavelength. OverviewSingle-mode gigabit SFP (Small Form-Factor Pluggable) transceivers are designed for long-distance fiber optic communication using a single-core fiber. They operate at 1 Gbps (Gigabit Ethernet) and are compatible with a wide range of networking devices, including switches, routers, and servers.

These transceivers are hot-pluggable, allowing installation or replacement without powering down network equipment.

Key Specifications

Fiber Type: Single-mode (SMF), optimized for long-distance transmission. Distance Range: Typically from 10 km to 180 km, depending on the specific model and wavelength. Wavelengths: Commonly 1310 nm or 1550 nm, chosen based on distance and fiber characteristics.



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Connector Types: LC Duplex or LC Simplex, providing reliable optical connections. Compatibility: Works with major brands like Cisco, FS, and other standard-compliant devices. Link Budget Considerations: For shorter distances, inline optical attenuators may be required to prevent receiver overload.

AdvantagesLong-Distance Performance: Ideal for connecting equipment across large-scale infrastructures, such as data centers, enterprise networks, and telecom networks. Flexibility: Can be used in various network applications, including FTTH, corporate networks, and industrial environments. Reliability: Designed for robust operation with high-quality optical components, ensuring stable data transmission.

Ease of Use: Plug-and-play functionality simplifies network upgrades and expansions.

Applications

Enterprise Networks: Connecting switches and routers across campus or building networks. Telecommunications: Long-haul fiber links between central offices or data centers. Industrial Networks: Reliable communication in harsh environments with extended reach requirements.

Data Centers: High-speed interconnects between servers and storage systems. SummarySingle-core single-mode gigabit SFP transceivers are versatile, long-range, and compatible solutions for high-speed fiber optic networks. They provide reliable connectivity over distances from 10 km to 180 km, support standard LC connectors, and are hot-swappable for minimal downtime.

Their compatibility with major networking devices and robust design makes them suitable for enterprise, telecom, and industrial applications.

Article Content

F-SFP1G-SM

1GBASE-LX/LH SFP 1310NM 20KM DOM TRANSCEIVER — SINGLE MODE FIBER – 1EA The F-SFP1G-SM single-mode transceivers are small form factor pluggable modules for bi-directional serial

1G SFP Transceivers | Mini-GBIC SFP Modules

FS gigabit ethernet transceiver solutions provide fibre or copper options including 1000BASE-SX, 1000BASE-LX/LH, 1000BASE-T etc., from 100m to 160km, for

Cisco SFP Modules for Gigabit Ethernet Applications

This data sheet describes the benefits, specifications, and ordering information for the Cisco SFP Modules for Gigabit Ethernet Applications.

Gigabit single-mode fiber optic transceiver

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Single-fiber refers to a single-core optical fiber, which is transmitted on one core; dual-fiber refers to a dual-core optical fiber, which is transmitted on two cores, one receiving and one sending.

Gigabit single-mode single-core fiber optic module

Optical signals are transmitted directly without repeater amplification. Gigabit single-mode single-core optical fiber modules usually have the following specifications: multi-mode 550m, single

Intellinet Gigabit Fiber SFP Optical Transceiver Module

The Intellinet Network Solutions Gigabit Fiber SFP Optical Transceiver Module (model 545013) is fully hot-pluggable, and that allows you to install the module

Industrial Gigabit Fiber SFP Optical Transceiver

Compatibility in your network is everything, and this industrial SFP Transceiver Module delivers. Use it with any Intellinet SFP equipped network switch or any

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.

Single-Mode Gigabit Fiber Transceiver SFP/Mini-GBIC

THE IT PRO''S CHOICE: Designed and built for IT Professionals, this SFP module is backed for life (lifetime of module, not network switch), including free lifetime 24/5

price-of-nauru-fiber-optic-transceiver-connectors

18 Companies and suppliers for price-of-nauru-fiber-optic-transceiver-connectors Find wholesalers and contact them directly Leading B2B martketplace Find companies now!

SFP Optical Transceiver | SFP Optical Module | Perle

Perle SFP Optical Transceivers are hot-swappable, compact media connectors that provide instant fiber connectivity for your networking gear. They are a cost

SFP & SFP+ Modules for Fiber Optic Networks | WLAN-Shop24

Bring fiber optic speed to your network! With SFP (Small Form-factor Pluggable) and SFP+ modules, you can equip your switches and routers with the appropriate connections for fiber optic cables.

What is QSFP & QSFP+ Transceiver: An Ultimate

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40GBASE-PSM4: PSM4 stands for Parallel Single Mode 4 lanes; it utilizes the MPO connector instead of the LC connector, based on parallel optics

Singlemode 1310 nm Fiber Optic Transceivers – Mouser

Singlemode 1310 nm Fiber Optic Transceivers are available at Mouser Electronics. Mouser offers inventory, pricing, & datasheets for Singlemode 1310 nm Fiber Optic Transceivers.

Single-mode vs. Multimode Transceivers: How Do You Choose?

Whether you''re considering singlemode or multimode, it''s important to note that, although with similar form factors and optical connector interfaces (e.g. SFP+, QSFP+), different types of

Clear Goods 2026 1G1E case mini Gigabit Fiber Optical Media

Product Highlights1GE1GF case mini Gigabit Fiber Optical Media Converter 10 / 100 / 1000Mbps Single Mode Single Fiber SC Port External Power Supply Please Note 1 fault with 1pieces 1310nm A

How Fibre Optic Communication Works – Wray Castle

Single mode fiber handles inter-building connections, while multimode serves short rack-to-rack links where lower transceiver costs outweigh distance limitations.

100 Gigabit Ethernet

Provide physical layer specifications (PHY) for operation over single-mode optical fiber (SMF), laser optimized multi-mode optical fiber (MMF) OM3 and OM4, copper cable assembly, and backplane.

Contact Us

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

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