Huawei Fiber Optic Single-Mode Module



Overview

Types of Optical Modules Single-mode optical modules are used with single-mode fibers. Single-mode fibers support a wide band and large transmission capaci.

Key Takeaways

Huawei single-mode fiber optic modules provide reliable long-distance connectivity for enterprise and data center networks, supporting 1 Gbps to 10 Gbps transmission over single-mode fiber.

Overview

Huawei single-mode fiber optic modules are designed for long-distance, high-performance optical communication using single-mode fiber (SMF). They come in various form factors, including SFP (1 Gbps) and SFP+ (10 Gbps), and operate at wavelengths typically around 1310 nm or 1550 nm, depending on the module type. These modules are widely used in enterprise networks, data centers, campus backbones, and building-to-building links.

Key Types and Specifications

Huawei SFP-10G-LR: A 10G SFP+ module for single-mode fiber, operating at 1310 nm with a 10 km transmission range. It is suitable for high-speed data center and enterprise network connections and is compatible with multi-vendor environments. Huawei SFP-GE-LX-SM1310-A: A 1 Gbps SFP module with 1310 nm wavelength and 10 km range, compliant with MSA standards, ensuring compatibility across platforms.

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It features a Class 1 laser and supports LC connectors. Huawei eSFP GE Single-Mode Module: Provides 1 Gbps connectivity over single-mode fiber with 10 km reach, supports Digital Diagnostic Monitoring (DDM) for real-time performance monitoring, and is hot-swappable for easy installation.

BID

I (Bidirectional) Modules: Single-fiber BIDI modules, such as SFP-10G-BXD1/SFP-10G-BXU1, transmit and receive data over a single fiber using different wavelengths. These must be used in pairs to function correctly. FeaturesLong-distance transmission: Typically up to 10 km for standard single-mode modules, with some 10G ER modules capable of longer distances under specific conditions.

Hot-swappable: Modules can be installed or replaced without powering down the network device. Multi-vendor compatibility: MSA-compliant modules work with a wide range of switches and routers, including Huawei, Cisco, and Juniper devices. Digital Diagnostic Monitoring (DDM): Provides real-time monitoring of optical power, temperature, and transceiver health for improved network reliability.

Accessories: Compatible LC duplex fiber optic cables and SFP+ port converters are available for installation and connectivity.

Applications

Huawei single-mode fiber optic modules are ideal for: Data centers: High-speed 10G links between servers and switches. Enterprise networks: Long-distance connections between buildings or campus backbones. Carrier networks: Reliable fiber links for service providers.

Multi-vendor environments: Interoperable with other MSA-compliant devices.

Summary

Huawei single-mode fiber optic modules offer robust, long-range, and reliable optical connectivity for both 1 Gbps and 10 Gbps networks. They support BIDI configurations, DDM monitoring, and hot-swappable installation, making them suitable for enterprise, data center, and carrier applications. Proper selection of wavelength, distance, and module type ensures optimal network performance and compatibility.

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Article Content

Types of Optical Modules

Single-mode optical modules are used with single-mode fibers. Single-mode fibers support a wide band and large transmission capacity, and are used for long-distance transmission.

Huawei ekitEngine Optical Module Datasheet

modules gives you flexible and plug-and-play options for all types of interfaces. These compact optical transceivers offer a. access and ring network, storage

Single-mode transceiver modules buy online

Discover our diverse selection of single-mode transceiver modules, specially designed for durable, reliable and high-performance fibre optic communication.

Huawei Optical Transceiver eSFP GE Single-Mode

The Huawei eSFP GE Single-Mode Module 1310 nm 10 km LC delivers reliable 1 Gbps fiber connectivity for long-distance networks. Designed for enterprise

Huawei OSX010000 SFP+ 10G Single Mode Optical

Huawei OSX010000 SFP+ 10G transceiver for single-mode fiber, 1310nm wavelength, 10km range. Compliant with 10Gbase-LR standard.

H87MMA5671A2 Huawei GPON CLASS B+ SFP

H87MMA5671A2 Huawei GPON CLASS B+ SFP compatible module (PN:03031QHU) is fiber optic transceiver designed for operation over Single

GE eSFP Optical Modules

This document provides an overall description of the CE12800 series switches hardware, helping you obtain detailed information about each chassis, power module, fan module, card, cable, and

Huawei S-SFP-GE-LH80-SM1550 1000BASE-ZX Single-Mode

The Huawei S-SFP-GE-LH80-SM1550 is a high-performance, compact 1Gbps single-mode fiber optic transceiver module designed for long-haul applications. Key Features

How Do I Select Optical Modules and Fibers?

An optical module works in full-duplex mode with a pair of optical fibers, one for transmission and one for receiving, as shown in the following figure. Both optical modules and fibers support two modes:

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Installing Optical Transceivers and Connecting Optical Fibers

The USG supports both 1 Gbit/s, 10 Gbit/s, and 40 Gbit/s optical modules. The optical modules at both ends are the same, including the optical fiber type (single-mode or multi-mode), optical fiber

Optical Modules in General-Purpose Computing Scenarios

Huawei offers a comprehensive portfolio of pluggable StarryLink optical modules for data center networks, with various models providing flexible plug-and-play solutions tailored to diverse interface

Huawei 10G-1310nm-10km-SM-SFP+ SFP-10G-LRV

The Huawei 10G-1310nm-10km-SM-SFP+ (SFP-10G-LRV) Optical Transceiver is a single-mode module designed to enable high-performance optical data

1.25 Gbit/s SFP/eSFP Optical Module

1.25 Gbit/s SFP/eSFP Optical Module You can use different levels of 1.25 Gbit/s SFP/eSFP optical modules with GE interfaces and 10 GE interfaces. The wavelength of common

Understanding Optical Modules

For single-mode optical modules, single-mode optical splitters are not recommended due to considerations on the IEEE standard link budget and the impact of single-mode optical splitters on

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 - the transverse mode. Modes are the

Checking Whether the Optical Fiber and Optical Module Match

Check whether the optical module and optical fiber match. A single-mode optical module (typically with a center wavelength of 1310 nm or 1550 nm) must be used with single-mode optical fibers (typically

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