

SFP optical modules Gigabit and 10-Gigabit



AI Overview

10 Gigabit SFP+ modules support high-speed Ethernet with varying reach, fiber types, and connector options, optimized for data center and enterprise networks. Key Specifications

Data Rate: Most 10G SFP+ modules operate at 10.3125 Gbps, compatible with IEEE 802.3ae 10GBASE standards for Ethernet transmission .

Form Factor: SFP+ (Enhanced Small Form-factor Pluggable) ensures hot-swappable installation and high port density .

Connector Types:

- LC Duplex:** Standard for multimode and single-mode fiber modules (SR, LR, ER, ZR)
- RJ-45:** For 10GBASE-T copper connections up to 100 meters
- Simplex LC:** Used in bidirectional (BIDI) modules for single-fiber transmission

Fiber Compatibility and Reach:

- Short Reach (SR):** 300m over OM3 MMF, 400m over OM4 MMF, 850nm VCSEL laser
- Long Reach (LR):** 10km over OS2 single-mode fiber, 1310nm wavelength
- Extended Reach (ER):** 40km over OS2 single-mode fiber, 1550nm wavelength
- Ultra Long Reach (ZR/ZRC):** 80–120km over OS2 single-mode fiber
- LRM:** 220m over OM3 MMF, 300m over standard SMF, requires mode conditioning patch cord for legacy fibers

BIDI Modules: Single-fiber bidirectional modules must be paired with complementary wavelengths (e.g., 1270nm/1330nm) for proper operation

Laser Types:

- VCSEL (Vertical Cavity Surface Emitting Laser):** Common in SR modules for multimode fiber
- DFB (Distributed Feedback Laser):** Used in LR, ER, and ZR modules for single-mode fiber

Temperature Ranges:

- Standard:** 0°C to 70°C
- Industrial (I-Temp):** -40°C to 85°C for harsh environments

Digital Optical Monitoring (DOM): Many modules support DOM, allowing real-time monitoring of optical output power, input power, temperature, laser bias current, and supply voltage .

Standards Compliance: IEEE 802.3ae 10GBASE-SR, LR, ER, ZR SFF-8431 for mechanical and electrical interface Interoperable with XENPAK,...

Article Content

Buy low power consumption sfp modules, Good quality low power ...

H3C Gigabit Optical Modules Product Overview Adopting advanced technologies, H3C Gigabit Optical Modules feature low power consumption, hot-swap capability and wide compatibility.

SFP module specification and selection guide (EN)

CXR SFP Modules are industry standard Small Form Pluggable optical modules that serve networking services in the range of low speed to 10-Gigabit application requirements:

Hilink Optics QSFP QSPDD OSFP 10G SFP

If you have any questions about Hilink Optics CWDM DWDM QSFP QSPDD OSFP 10G SFP transceivers, we will give the professional solutions to you.

SFP+ Optical Transceiver Modules (10G-SR/LR)

Code: SF-10GSFPPLCL-000 Genuine Amphenol 10GBASE-SR SFP+ Optical Transceiver Modules provide a high-density, high-performance interface for 10

Top Optical Modules for POTN Deployment: SFP, QSFP, and OSFP

The SFP Family: Compact and Proven for Access Networks Definition and Evolution SFP stands for Small Form-Factor Pluggable. It represents the most widespread optical transceiver format

2X SFP Optical Module Gigabit Single-Mode Optical Module SFP-GE

2X SFP Optical Module Gigabit Single-Mode Optical Module SFP-GE-LX-SM1310 20KM Dual Fiber 1.25G for H3C

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.

10G SFP+ Optical Transceivers | Transceiver Module

FS 10GbE SFP+ module solutions provide a wide variety of 10 Gigabit Ethernet connectivity options for data centers, enterprise wiring closets, Internet Service

10 Gig SFP Modules | SFP+ 10GE LC SFP Module

High-performance 10 Gig SFP modules with duplex LC connectors, supporting up to 20km transmission over single-mode fiber. Features DFB transmitter, PIN

SFP+ AOC CBO SFP-AOC-10G-5M 10G 5m | AiO.lv

Short description This CBO SFP-AOC-10G-5M is an SFP+ active optical cable (AOC) providing 10 Gigabit connectivity over a 5-meter duplex fiber link. Designed for direct connection between SFP+

Differences Between Optical Modules SFP, SFP+, CFP, XFP, QSFP?

Until 2000, GBIC was the most popular optical module package and the most widely used form of Gigabit module. GBIC is an interface device that converts Gigabit electrical signals into optical

Cisco Transceiver Modules

Cisco Transceiver Modules - Learn product details such as features and benefits, as well as hardware and software specifications.

10G BiDi SFP+ 20km Tx1270/Rx1330

The BIDI-10G-SFP-20A (Tx1270/Rx1330) will pair with any SFP+ MSA-compliant Tx1330/Rx1270 BiDi module that meets the 9 dB budget and 20km reach class, which is common when one end of the

Installation and Maintenance Guide for Gigabit Optical Modules and 10 ...

Introduction to Optical Modules As an essential component of network communication, optical modules have been widely used in various scenarios such as data centers, enterprise LANs,

10GbE SFP+ Transceiver Modules

FS 10G SFP+ transceiver module solutions provide a wide variety of reliable 10 Gigabit Ethernet connectivity options for data centre, enterprise, and service

Optic Modules Datasheet

datasheet is intended to guide the user through the various options available when choosing an optic module for a given platform depending on the architecture. The following table lists the different

The Ultimate Guide to ZTE SFP Module Distance and Wavelength

The SFP-SDB-GE-S10K uses 1490nm Tx/1310nm Rx, and its counterpart SFP-SDA-GE-S10K uses 1310nm Tx/1490nm Rx, allowing a single fiber to carry both signals over 10 km. 10 Gigabit Ethernet

10G SFP vs 10G SFP+: Key Differences Explained

Choosing between “10G SFP ” and 10G SFP+ still trips up engineers and buyers in 2025 because the two form factors look identical at a glance but behave

What Is 10GBASE-SR? Complete Guide to 10G SFP+ SR Optics

As enterprise networks, cloud data centers, and high-performance computing environments continue to scale, 10 Gigabit Ethernet (10GbE) remains one of the most widely deployed link speeds. At the

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