

Fiber optic module 1490 wavelength single-mode single-core

Article Overview

A 1490 nm single-mode single-core fiber optic module is typically an SFP transceiver designed for long-distance, high-speed optical communication over single-mode fiber.

Key Specifications

- o Wavelength: 1490 nm for the transmitter, often paired with 1310 nm or 1550 nm for the receiver depending on the module type .
- o Fiber Type: Single-mode fiber (SMF), single-core, typically 9/125 um core/cladding diameter .
- o Data Rate: Supports 1.063-1.25 Gbps for standard SFP modules, with some SFP+ modules supporting 10 Gbps .
- o Transmission Distance: Up to 10 km for standard SFP modules; extended distances (up to 100 km) are possible with SFP+ modules using EML lasers .
- o Connector Type: LC connector is standard for single-fiber bidirectional modules .
- o Laser Type: DFB (Distributed Feedback) or EML (Electro-absorption Modulated Laser) for high performance and stable wavelength .
- o Operating Temperature: Typically 0-70°C for commercial-grade modules .
- o Diagnostics: Many modules support Digital Diagnostic Monitoring (DDM/DOM) for real-time monitoring of temperature, optical power, voltage, and laser bias .

Applications

- o Telecommunications: ISP Gigabit Ethernet links and long-haul optical networks .
- o Enterprise Networks: LAN and SAN connections in data centers .
- o Fiber Channel: 1G Fiber Channel links for storage networks .
- o Plug-and-Play: Hot-pluggable SFP modules allow easy installation in switches, routers, NICs, and servers .

Advantages

- o Single-core single-mode design reduces fiber cabling complexity and allows bidirectional communication over a single fiber strand.
- o High reliability with CE/RoHS compliance and standardized SFP form factor ensures compatibility across multiple vendors .
- o Real-time monitoring via DDM helps prevent network downtime by providing operational diagnostics .

Purchasing Options



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Modules with 1490 nm wavelength are widely available from vendors like Zyxel, Gearlink, FS, and distributors such as Mouser Electronics . When selecting a module, ensure compatibility with your network equipment, required distance, and data rate. This type of module is ideal for long-distance, high-speed optical links where single-mode fiber is deployed, providing efficient, reliable, and manageable network connectivity.

For a clearer comparison, the following sections examine the main differences between single mode and multimode

The fiber core size of the single-mode fiber is 9/125 μm , and compared with multimode fiber, it is with the features of

1.25Gb/s SFP Transceiver single fiber singlemode 20km 1310nm/1490nm LC DDM NuFiber's GE-BX20

Select the desired wavelength 1490 nm OR 1625 nm Tap DONE. The figure above shows the output from a

Single-mode fibers are more sensitive to bending losses at longer wavelengths, therefore, 1550 nm wavelengths are more sensitive

In optical transceivers, wavelength refers to the nominal center wavelength of the transmitter laser. That value

Understanding Wavelengths In Fiber Optics Fiber optics is full of jargon but it's important to understand it. One of the more confusing

The module data link up to 80km in 9/125 μm Single-mode fiber. This compatible optical transceiver meets the Small Form Pluggable

How do you choose between single mode and multimode fiber? Compare their differences in core size, light source,

As a member of the of the Versiv family, the OFP2-200-S1490 offers a single user interface to cover a wide variety of fiber types and

The single-fiber optical transceiver realizes data transmission through one fiber core. Data transmission and reception are realized

SFP 1.25G 1490nm/1310nm Single mode Optical Transceiver Description Features The BlueOptics®; BO15C4931620D SFP



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Wirenet offers a comprehensive range of fiber optic and SFP (Small Form Factor Pluggable) transceivers for telecom and datacom

Description Modul Optical SFP 1490nm SMF 120km BIDI Media Type:Single-Mode Fiber (SMF)
Connectors:Single LC Wavelength:

Product description The newest SFP series of 1.25G single strand optical modules designed to run over Hybrid Fiber Coax (HFC)

When shorter distances of single-mode fiber are used (<40km), an inline optical attenuator must be used to avoid

Web: <https://www.millstraining.co.za>

