

120km optical module function



AI Overview

A 120km optical module enables high-speed, long-distance data transmission over single-mode fiber without the need for intermediate amplifiers or repeaters.

Overview A 120km optical module is a high-performance optical transceiver designed to transmit and receive data over distances up to 120 kilometers using single-mode fiber (SMF) (). It is commonly used in metro networks, backbone networks, data center interconnects, and remote industrial sites where maintaining signal integrity over long spans is critical ().

Key Functions

- Long-Distance Data Transmission:** The module bridges distant network nodes, allowing direct connections over 120km without requiring costly optical amplifiers or repeaters ().
- High-Speed Communication:** Most 120km modules, such as 10G SFP+ ZR modules, support 10Gbps data rates, ensuring efficient transmission for Ethernet, Fiber Channel, and SDH/SONET networks ().
- Signal Integrity Maintenance:** Equipped with EML (Electro-absorption Modulated) lasers and APD (Avalanche Photodiode) receivers, these modules overcome signal attenuation and maintain high-quality optical signals over long distances ().
- Wavelength Optimization:** Operating typically at 1550nm, within the C-band, the module takes advantage of minimal fiber attenuation to maximize reach ().
- Plug-and-Play Flexibility:** The modules are hot-pluggable and compatible with standard network equipment, simplifying deployment and maintenance ().

Technical Highlights

- Optical Power Budget:** Often exceeds 30–32dB, ensuring the signal remains readable after 120km ().
- Dual-Fiber Design:** Uses one fiber for transmission and one for reception, enhancing reliability and deployment flexibility ().
- Low Power Consumption:** Typically under 1.5W, reducing operational and cooling costs ().
- Wide Temperature Range:** Supports commercial, extended, and industrial environments, making it suitable for harsh conditions ().

Applications

- Metro and Backbone Networks:** Extends coverage between cities or across metropolitan areas.
- Data Center Intercon...**

Article Content

10G SFP+ DWDM ZR+ 120km 100GHz Grid C-Band

The SFP+ transceivers are high performance, cost effective modules supporting data rate of 10Gbps and 120km transmission distance with SMF. The transceiver

SFP-GE-LH120-SM 1550 1.25G 120km Optical Transceiver

What is SFP-GE-LH120-SM 1550 1.25G 1550nm 120km Optical Transceiver Module?

SFP-GE-LH120-SM 1550 1.25G 1550nm 120km Transceiver CISCO, HUAWEI, H3C, Juniper, D-link, HP, IBM, dell,

How to Achieve Long Distance Transmission Beyond 120km: SFP

Learn how SFP+ 10G ZR modules enable stable 120km+ long distance transmission with high link budget, low power design, wide compatibility, and DOM monitoring.

SFP-S1215L-120 1.25G SFP Module 120KM

SFP-S1215L-120 1.25G SFP Module 120KM Optical SFP Module 1.25Gbps SFP Transceiver SM 1550nm 120km LC Datasheet PDF Get a quote now Share on

2.5G CWDM SFP 120km Optical Transceiver

2.5G SFP CWDM 120km module supports a data rate of 2.5 gigabits per second and capable of transmitting data up to 120km over single-mode fiber - AscentOptics.

The Most Comprehensive Guide Of Optical Modules

Explore the ultimate guide to optical modules. Learn types, functions, performance metrics & how to choose the right module for your fiber network.

1.25Gbps CWDM SFP Optical Transceiver 120km

1.25Gbps CWDM SFP optical transceiver is a small form-factor pluggable (SFP) module that provides a high-speed data link over single-mode fiber (SMF) cable.

What is ZR+?

What is 400ZR? Global optical networks continue to evolve, necessitating new and innovative solutions to meet the requirements of network

120km SFP Sourcing: Critical Factors for Long-Haul Fiber

A 120km SFP is far more than a standard optical module — it's a purpose-built component designed to push signals across distances where attenuation and dispersion would otherwise render

10G 1550nm 120km SFP Factory

10G 1550nm 120km SFP+: This SFP+ transceiver operates over single-mode fiber optic cables with a 120km maximum range, using a 1550nm wavelength to

10G Base ZR+ SFP+ 120km | 1550nm | 28dB Link Budget

Operating at 1550nm wavelength over 120km single-mode fiber, this 10G Base ZR+ module provides industry-leading distance performance. Supporting multi-rate

2.5G SFP CWDM 120km Optical Module

Achieve reliable 2.5G connectivity over 120km with our CWDM SFP optical module—engineered for long-reach fiber networks.

1.25G SFP 120km Single Mode Transceiver specification

The SFP transceivers are high performance, cost effective modules supporting data rate of 1.25Gbps and 120km transmission distance with SMF. The transceiver consists of three sections: a DFB laser

Solved: SFP support up to 120 KM

Dear all; appreciate your support to provide me with type of SFP single mode that support up to 120 km and compatible with cat 6509 or cat 4506

400G QSFP-DD ZR Coherent Optical Module

The GIGALIGHT 400G QSFP-DD ZR coherent optical module supports 400GE and OTN links reach up to 120km. It operates on full C-band DWDM wavelengths

120km SFP Sourcing: Critical Factors for Long-Haul Fiber

In the realm of long-haul telecommunications, achieving reliable data transmission over vast distances is a primary challenge for network architects. The 120km SFP optical module has emerged as a

The Strength Of Long Distance Transmission: 10G SFP+ ZR 120KM

Compared with single-fiber optical module, it uses two optical fibers (one for transmission and one for reception), has strong compatibility and flexible deployment, and is suitable for short,

1.25G BIDI SFP TX1490nm/RX1550nm 120km Module | AscentOptics

1.25G BIDI SFP 120km module operates at a wavelength of 1490nm for transmission and 1550nm for reception and 120km transmission distance with SMF - AscentOptics.

10G SFP+ EZR 1550nm 120km Transceiver | AscentOptics

10G SFP+ EZR module is suitable for 10G Ethernet links up to 120km over single-mode fiber using a wavelength for 1550nm via a Duplex LC connector -

10GBASE-ZRC SFP+ 1550nm 120km DOM Transceiver | FS

Digital diagnostics functions are available via a 2-wire serial interface. The optical transceiver is compliant per the RoHS Directive

NEW Extreme 10GBASE 100GHz DWDM XFP 120km Single-Mode

NEW Extreme 10GBASE 100GHz DWDM XFP 120km Single-Mode Compatible Transceiver Module manufacturer, fiber optic products !

100G DWDM QSFP28 80 vs 120: Complete

Compare 100G DWDM QSFP28 80km vs 120km modules. Learn differences in optical budget, power, DCM requirements, and best applications.

SFP-1G-EZX 1000BASE-EZX SFP 1550nm 120km

1G Single-mode 1550nm 120km SFP EZX Optical Transceiver from Manufacturer at Affordable Factory Price, 5-Year Warranty & Money-back Guarantee.

SFP-10G-ZR120 10GBASE-ZR 120km 1550nm SFP

SFP-10G-ZR120 Compatible 10GBASE-ZR SFP+ 1550nm 120km DOM LC SMF Transceiver The SFP-10G ZR+ compatible SFP+ optical transceiver is equipped

2.5G CWDM SFP 120km Optical Transceiver | AscentOptics

2.5G SFP CWDM 120km module supports a data rate of 2.5 gigabits per second and capable of transmitting data up to 120km over single-mode fiber - AscentOptics.

Contact Us

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