

What are the features of CXP optical modules

Article Overview

A CXP optical module is a hot-swappable 100G transceiver with 12 parallel 10Gbps channels, designed for high-density, short-reach optical networking in data centers and HPC environments.

Definition and Meaning

CXP stands for Compact 100G Pluggable. The "C" represents 12 in hexadecimal, "X" indicates a 10Gbps transfer rate per channel, and "P" refers to a hot-swappable pluggable module. It is slightly larger than a QSFP28 module but smaller than a CFP2 module, making it suitable for high-density cabling and rack-to-rack interconnections.

How It Works

CXP modules use parallel optics technology to achieve high-speed data transmission :

- o Electrical input: 12 x 10Gbps signals enter via an 84-pin connector.
- o Optical conversion: Signals are converted into 12 optical channels using 850nm VCSEL (Vertical-Cavity Surface-Emitting Laser) arrays.
- o Transmission: Optical signals travel through 24-core multimode MPO/MTP fiber cables.
- o Reception: A PIN photodiode array converts the optical signals back into electrical signals at the receiving end. This design allows low-latency, high-throughput interconnections, ideal for short-reach applications such as data center networking and high-performance computing.

Technical Specifications

- o Maximum data rate: 120Gbps (12 channels x 10Gbps each)
- o Fiber type: Multimode (OM3 up to 100m, OM4 up to 150m)
- o Interface: MPO/MTP connectors for optical cables
- o Power consumption: Up to 3.5W
- o Operating temperature: 0°C to 70°C
- o Hot-swappable: Yes, allowing easy replacement without shutting down equipment

Applications

CXP modules are primarily used in:

- o Data centers for short-distance, high-density interconnects



What are the features of CXP optical modules

- o High-performance computing (HPC) networks
- o Enterprise core aggregation and service provider transport
- o Breakout connectivity to 10G SFP+ or 40G QSFP+ modules using appropriate fiber patch cables

Compatibility Notes

CXP modules cannot directly connect to QSFP-SR4 modules due to lane differences (CXP uses 12 lanes, QSFP uses 4 lanes). Breakout connections require matching wavelength transceivers, typically 850nm SFP+ . In summary, the CXP optical module is a high-speed, compact, and versatile transceiver designed to meet the growing demands of short-reach, high-density optical networking in modern data centers and HPC environments.

Selecting the Perfect 100G Optical Module Packaging: QSFP28, CFP, CFP2, CFP4, or CXP--Which One Matches

CoaXPress-over-Fiber is a light but significant extension of the existing CoaXPress specification to support transport over fiber optics.

Then this post will have a comprehensive introduction to 100G optic fiber modules. CXP Optical Transceiver CXP is

Discover the key differences between CFP vs CXP 100G transceiver modules, including form factor, applications, and

In some sense, there is a competition between CFP optical transceivers and CXP optical

The CFP and CXP optical transceiver form factors are hot pluggable, both feature transmit and receive functions, and both support

The CXP module outboard end usually has a MPO or MXC receptacle port that provides

Cisco CXP 100GBASE-SR10 module The Cisco CXP 100GBASE-SR10 module (Figure 1) supports link lengths of 100m and 150m

CXP fiber optic transceiver module supports hot plug. C "represents 12 in hexadecimal, the Roman numeral" X "represents a

Discover CXP transceiver modules for high-density 100G optical connectivity. Learn their features,

What are the features of CXP optical modules

advantages, and

The CXP optical module is a hot-swappable optical module that can support a maximum transmission rate of 120Gbps

120 Gbit/s eXtended-Capability Form-Factor Pluggable (CXP) optical module: is a hot-pluggable high-density parallel optical module,

Understand CFP optical modules, including types, 100G applications, pros and cons, and CFP vs QSFP28

Both CFP and CXP optical transceivers are hot-pluggable, and feature transmit and receive functions, and both

CXP Transceiver Modules. The CXP is designed for short reach high speed applications. Supporting parallel interconnections for 12x

A 100 Gbit/s eXtended-capability form-factor pluggable (CXP) module is a 10-channel pluggable optical module with 10 built-in

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

