CFP-GEN2-CGE-ER4

Part number: 740-049763

Optics Overview

Juniper Networks offers a complete portfolio of modular and fixed-chassis routers and switches for both WAN and data center networks. These solutions span Juniper's MX-Series Universal Routing Platform and PTX-Series Packet Transport Routers to EX-Series Ethernet Switches and QFX-Series Data Center Switches among others. Depending on deployment scenarios, Juniper's platforms support different pluggable optic modules that can be selected based on speed, distance, form-factor, and wavelength among other relevant attributes.

Additional Resources

Hardware Compatibility Tool

HCT contains a regularly updated database of Juniper's transceivers, DACs, and AOCs along with information regarding compatibility with Juniper's platforms and interface modules.

https://apps.juniper.net/hct/home/

Product Description

100GBASE-ER4 CFP (2nd Generation) pluggable module compliant with IEEE 802.3ba

Overview

Part Number	740-049763
Speed	100 Gigabit Ethernet
Breakout Capable	No
Transceiver Type	CFP
Product Type	Optical Transceiver
Connector	Duplex LC
Monitoring Available	Yes
Digital Optical Monitoring	—

Note:

- Monitoring Available - Can measure received optical power and display in CLI.
- Digital Optical Monitoring - Full support for SFF-8636.

Specifications

Standard: 100GBASE-ER4

Standards compliance (Ethernet/OTN Standard, for e.g. 100GBASE-LR4)	IEEE 802.3ba-2010
Transmitter wavelengths (range)	1294.53 nm through 1296.59 nm 1299.02 nm through 1301.09 nm 1303.54 nm through 1305.63 nm 1308.09 nm through 1310.19 nm
Transmitter output power, each lane (minimum)	–2.9 dBm
Transmitter output power, each lane (maximum)	2.9 dBm
Receiver input power, each lane (minimum)	–20.9 dBm
Receiver input power, each lane (maximum)	4.5 dBm
Cable type	SMF
Distance	40 km
Maximum Power consumption (W)	16 W
Operating Temperature (range)	0° C to 70° C
Storage temperature	–40° C to 85° C

Supported Platforms

Platform	Introduced Release	Additional Information
Routing		
MX240	Junos OS 12.1R1	
MX480	Junos OS 12.1R1	
MX960	Junos OS 12.1R1	
MX2008	Junos OS 15.1F7	
MX2010	Junos OS 12.3R2	
MX2020	Junos OS 12.3R1	
PTX3000		
PTX5000		

Supported Interface Modules

Modular Interface Cards (MICs)

Name	Description	Platforms and Introduced Releases	
100 Gigabit Ethernet			
MIC3-3D-1X100GE-CFP	100-Gigabit Ethernet MIC with CFP	MX240 Junos OS 12.1R1 MX960 Junos OS 12.1R1 MX2010 Junos OS 12.3R2	MX480 Junos OS 12.1R1 MX2008 Junos OS 15.1F7 MX2020 Junos OS 12.3R1

Modular Port Concentrators (MPCs)

Name	Description	Platforms and Introduced Releases	
100 Gigabit Ethernet			
MPC4E-3D-2CGE-8XGE	2x100GE + 8x10GE MPC4E	MX240 Junos OS 12.3R2 MX960 Junos OS 12.3R2 MX2010 Junos OS 12.3R2	MX480 Junos OS 12.3R2 MX2008 Junos OS 15.1F7 MX2020 Junos OS 12.3R2

Physical Interface Cards (PICs)

Name	Description	Platforms and Introduced Releases	
100 Gigabit Ethernet			
P1-PTX-2-100GE-CFP	100-Gigabit Ethernet PIC with CFP (PTX Series)	PTX3000 Junos OS 13.2R2	PTX5000 Junos OS 12.1X48R1

Why buy optics from Juniper?

There is value in choosing Juniper over 3rd party optics

✓ Full testing, validation, and JTAC support for Juniper optics

- Power, Electrical, and Management interfaces tested at the system level.
- Extended temperature and functional testing in DVT chamber using fully loaded systems.
- Full software integration into JUNOS/EVO for seamless part recognition, functionality, and telemetry.
- Latest qualification status and optics specifications published on Hardware Compatibility Tool.

✓ Single-source provider for 1G to 400G on a variety of optical technologies

- Juniper's optics portfolio is maintained and constantly refreshed based on vendor availability.
- Automatic supply chain diversity and supply continuity - multiple optics suppliers fulfilled through Juniper.

✓ Rigorous evaluation of optical vendors

- Juniper ensures uniformity across all vendors by standardizing P-Specs for management, specs, and logs.
- Vendors are scored based on engineering and supply-chain analysis.
- Factory audits and critical component evaluation (Ex. Who is supplying the laser?).

Aren't 3rd party optics the same?

Optics may be a commodity, but some things are too good to be true

× Juniper does not Provide JTAC support for 3rd party optics

- JTAC will only assist with host-related issues unrelated to the use of 3rd party optics.

× Not all optics are the same - standards compliance does not guarantee quality or performance

- Third-party providers lack system-level knowledge and testing.
- No guarantee of vendor reliability or accountability.

× Newer technologies (ex. Coherent 400G ZR/ZR+) are complex and not simply plug-and-play

- Significant software integration necessary to enable full functionality, management, and telemetry.
- Use of unqualified 3rd party high-power optics can damage the host equipment.

× Third-party providers simply can't scale

- Incomplete solution offerings and fast turnaround times only for limited quantities.
