

New Zealand Solution Optical Switch QSFP28



Overview

HPE Switch QSFP28 Modules | HPE Store New Zealand HPE Networking 5950 8-port QSFP28 MACsec Module SKU #JH957A Compare Show specification INDICATIVE PRICE: &.

Key Takeaways

QSFP28 is a 100G-capable transceiver standard widely supported by modern optical switches, enabling high-density, high-speed network connectivity. What is QSFP28?

QSFP28 (Quad Small Form-Factor Pluggable 28) is a hot-swappable transceiver designed for 100 Gigabit Ethernet (100GbE). It aggregates four parallel 25G electrical lanes, each capable of up to 28 Gbaud signaling, providing sufficient overhead for error correction and clocking protocols while delivering 100 Gbps payload capacity. The module can convert these electrical lanes into optical signals using various technologies, including SR4, LR4, CWDM4, or PSM4, depending on the fiber type and distance requirements. QSFP28 modules are backward-compatible with QSFP+ cages, allowing higher bandwidth density without redesigning switch front panels.

QSFP28-Compatible Switches

A QSFP28 switch is a networking platform that supports 100G Ethernet through QSFP28 ports. Some switches have native QSFP28 ports, while others, such as QSFP-DD or OSFP platforms, offer backward compatibility, allowing QSFP28 modules to operate without adapters. Examples include:

- Cisco Nexus 9500 series – native QSFP28 support on certain line cards
- Arista 7060X4 series – supports both QSFP28 and QSFP-DD configurations
- NVIDIA SN4700 – QSFP-DD ports that accept QSFP28 modules natively While MSA-compliant modules are theoretically interchangeable, vendor whitelists, firmware checks, and FEC requirements can affect interoperability .

Electrical and Optical Interfaces

QSFP28 uses the CAUI-4 electrical interface, with four transmit (Tx) and four receive (Rx) differential pairs connecting the host ASIC to the module . Each lane typically runs at ~25.78125 Gbps with 64b/66b encoding. The module maps these lanes to optical channels, usually over 8-fiber MPO/MTP connectors (4 Tx + 4 Rx) for multimode or single-mode fiber . Pinout considerations include GND, VccRX, VccTX, and Vcc1, which must be applied concurrently to ensure proper operation .

Deployment Considerations

When deploying QSFP28 in optical switches:

- Ensure module and switch compatibility, checking vendor whitelists and firmware versions .
- Select the appropriate optical variant (SR4, LR4, CWDM4) based on distance and fiber type .
- Consider breakout configurations, as a single QSFP28 port can be split into four 25G connections for flexible network design .
- Verify power budgets and thermal management, as QSFP28 modules consume more power than QSFP+ modules . QSFP28 remains the dominant choice for spine-leaf data centers, cloud infrastructure, and high-performance computing networks, offering a balance of throughput, power efficiency, and deployment flexibility . For New Zealand-based deployments, ensure that local vendors or distributors provide MSA-compliant QSFP28 modules compatible with your switch platform, and confirm support for any site-specific configurations or FEC requirements.

Article Content

HPE Switch QSFP+ and QSFP28 Modules | HPE Store New Zealand

HPE Networking 5940 2-port QSFP+ and 2-port QSFP28 Module SKU #JH409A
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MikroTik CRS504-4XQ-OUT 4 Port 100 Gbps QSFP28 Outdoor Fibre

MikroTik CRS504-4XQ-OUT 4 Port 100 Gbps QSFP28 Outdoor Fibre Switch. At the core of this masterpiece, we have an incredible

Two-Port 40

SFF-8431 requirements. The design is applicable to optical and passive or active copper cables. The design also allows for reach

Everything You Need to Know About QSFP28 Breakout Cable Solutions

Learn all about QSFP28 breakout cable solutions including compatibility with MSA compliant devices like Cisco,

Understanding Backward Compatibility with QSFP-DD, QSFP28,

For optical modules, backward compatibility is essential. The upkeep and operation of the network infrastructure are

New Zealand Liquid-Cooled Switch QSFP28

The 10Gtek EDR QSFP28 active optical cable (AOC-Q4Q4-xxx-B) is designed for use in 100-Gigabit Ethernet links up to 100m over

A Comprehensive Guide to 100G QSFP28 Optical Transceiver 2025

Modern data centers rely on high-speed optical links, and 100G optical transceiver modules (especially the QSFP28 form factor) are

SFP+, SFP28, QSFP+, QSFP28, QSFP56, QSFP-DD, QSFP112 vs

Initial Published: February 19, 2022 The optical transceiver plays a crucial role in modern fiber networking. Various

The Ultimate Guide to Cisco QSFP28 Transceiver Modules for 100G ...

The fast-changing area of networking technology has led to the need for higher bandwidth solutions, creating high-tech

HPE 100GbE QSFP28 to QSFP28 5m Active Optical Cable

The HPE Active Optical Cables (AOCs) provide the bandwidth to meet the exponential data growth in Telco, e-Commerce and high

Types of 25G SFP28 transceivers vs QSFP28 vs QSFP+ | FiberMall

The 25G optical module is an optical module with a transmission rate of 25Gbps, mainly used in 25G Ethernet and

QSFP28 Transceiver: The Ultimate 100G Optical Module Guide

The rapid development of data center technology and network infrastructure has created an urgent demand for faster,

Cisco QSFP28 100G ZR Digital Coherent Optics Module

The module is compatible with widely deployed ports of QSFP28 100G and 100GBASE ER CAUI-4 client interfaces. Its maximum

MikroTik CRS504-4XQ-IN 4 Port 100G QSFP28 Fibre Switch

MikroTik CRS504-4XQ-IN 4 Port 100G QSFP28 Switch. The CRS504-4XQ-IN. The small size combined with the low power

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