

Selection Guide for QSFP28 Industrial Switches Used in Supercomputing Centers



Overview

This guide provides a systematic selection process to help you choose the right QSFP28 module every time. You will learn how to verify form factor compatibility, match fiber and distance requirements, validate switch compatibility, consider thermal constraints, and. In March 2024, he installed a QSFP28 LR4 module in what he believed was a standard 100G port on his new switch. The module seated correctly and the latch engaged, but the link refused to come up. After three hours of troubleshooting, Marcus discovered the real issue. Refer to 400G Q-DD optical interoperability with slower speed optics in the QSFP-DD chapter for connecting 100G SR4 or SR2 optics to split 400G SR8 optics. 100G SR4 optics can be used by a QSFP28 port that can be "split". In this guide, we provide a comprehensive, practical overview of 100G QSFP28 modules, covering their working principles, module types, key specifications, typical applications, and a step-by-step selection framework to help you make confident, informed decisions for your network. What Is 100G. An engineer-focused, "just tell me what to choose" guide to transceiver selection with architecture, power budget, compatibility, and upgrade plan — designed for 25G/100G today and 400G/800G tomorrow. SFP-family modules are best for lower-speed edge and server links, QSFP-family modules serve higher-density aggregation and spine-leaf networks, and QSFP-DD is designed for 400G.



Article Content

Mar 24, 2026

Understanding the Difference Between SFP vs QSFP28:

Application in Data Centers: QSFP28 modules are preferred for applications requiring high throughput and low latency, such as in metro data

Dec 19, 2025

SFP vs SFP28 vs QSFP28 vs QSFP-DD/OSFP: 2026

A 2026-ready, engineer-focused guide comparing SFP, SFP28, QSFP28, QSFP-DD and OSFP transceivers. Learn decision rules, deployment

Sep 28, 2025

100G QSFP28 Applications, Use Cases and Deployment Scenarios

From a physical perspective, QSFP28 modules feature a hot-pluggable design, allowing them to be installed or replaced without interrupting network operations. This makes 100G QSFP28 particularly

Feb 07, 2026

QSFP28 Compatible Switches: Complete Guide by Vendor

QSFP28 compatible switches explained: Cisco, Arista, Juniper, and NVIDIA platforms. Learn breakout support, FEC settings, and compatibility verification.

Jul 19, 2025

A Complete Guide to Selecting 100G QSFP28 Optical

Choosing QSFP28 optical transceivers that fit your system helps your network work well and keeps your money safe. This definitive guide cuts through

Nov 30, 2025

100G QSFP28 Transceivers: Types, Specs and How to Choose

In this guide, we provide a comprehensive, practical overview of 100G QSFP28 modules, covering their working principles, module types, key specifications, typical applications, and a step-by-step

Jul 02, 2025

100G QSFP28 Transceivers: Types, Applications and

100G QSFP28 modules are widely deployed in modern data centers to upgrade legacy 40G networks to 100G infrastructure. They enable high-speed

Oct 02, 2025

Guide to QSFP28 Transceivers for 100G Data Center

The following image shows a QSFP28 AOC (left) and QSFP28 DAC cables (right).
QSFP28-AOC QSFP28-DAC QSFP28 Application Whether to use the QSFP28

Jan 06, 2026

The Ultimate Guide to SFP, SFP+, SFP28, QSFP+, and QSFP28:

This guide decodes critical distinctions between SFP, SFP+, SFP28, QSFP+, and QSFP28 modules—covering form factors, channel architectures (single vs. quad), and performance

Aug 24, 2025

SFP Compatibility Master Guide: SFP+ vs SFP28 vs

Market Trends & Application-Specific Selection Data Center Dominance (65% of SFP28 Revenue) 25G Server Uplinks: SFP28 DACs

Sep 04, 2025

100GBASE-SR4 QSFP28 850nm 100m Transceiver Datasheet | FS

The original switches could be found nowhere but at FS test center, eg: Juniper MX960 & EX 4300 series, Cisco Nexus 9396PX & Cisco ASR 9000 Series, HP 5900 Series & HP 5406R ZL2

Dec 10, 2025

FS 100G QSFP28 Selection Guide

FS offers a complete 100G QSFP28 transceiver solution including 100G LR4, 100G SR4, 100G ER4, and 100G CWDM4, etc. Quality and compatibility can be assured to guarantee high

Sep 25, 2025

QSFP28 vs QSFP+ Compatibility Guide | EDGE Optical

- Use Case Limitation: Therefore, if you need to upgrade a QSFP+ network to 100Gbps, replacing both the transceivers and the switch or router

Aug 29, 2025

100G QSFP28 SR4 Guide: Specs, Compatibility, Pricing

These factors become especially important in high-port-density switches and large-scale rollouts where consistency and interoperability matter. This guide provides a structured overview of 100G QSFP28

Jun 07, 2026

100G Optical Module Selection Guide: Advantages and Types of QSFP28

Explore the QSFP28 100G optical module, a vital component for high-speed network connections. Discover its unique features, advantages, and various types to meet diverse

Mar 09, 2026

SFP vs SFP+ vs QSFP28 vs QSFP-DD: 2026 Optical

SFP vs SFP+ vs QSFP28 vs QSFP-DD: Master optical transceiver selection for 1G to 800G AI networks with our lab-verified guide.

Mar 29, 2026

How to Choose QSFP28: Complete 100G Selection Guide

This guide provides a systematic selection process to help you choose the right QSFP28 module every time. You will learn how to verify form factor compatibility, match fiber and distance

Feb 12, 2026

Guide to QSFP28 Transceivers for 100G Data Center

QSFP28 transceivers offer the cost-optimized solutions for connecting 100G switches together in a rack or data center, which become very popular in

Oct 05, 2025

QSFP28 Transceiver: Complete 100G Connectivity Guide (2026)

QSFP28 transceiver guide covering module types, pricing, compatibility, and deployment. Learn how to choose, deploy, and troubleshoot 100G QSFP28 optics.

Jan 04, 2026

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 transceiver modules. Among others, the Cisco QSFP28 Transceiver is

Mar 23, 2026

QSFP28 Transceiver: Complete 100G Connectivity Guide

Complete guide to QSFP28 transceivers: SR4, LR4, CWDM4 module types, switch compatibility, breakout cables, and 100G deployment best practices.

Feb 07, 2026

SFP vs SFP+ vs QSFP vs QSFP28 vs QSFP-DD:

Compare SFP, SFP+, QSFP, QSFP28, and QSFP-DD by speed, lane count, compatibility, breakout options, power, and upgrade path.

Sep 07, 2025

Two-Port 40

This user's guide also shows test results for the specifications of 40-GbE nPPI and SFF8431. The experiments in this report demonstrate the ability of the DS280R810 to provide excellent signal

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