

Selection Guide for 400G Optical Modules for Base Stations



Overview

This article will introduce the technical features and differences of 400G OSFP/QSFP-DD/QSFP112 modules, presenting the FS 400G module product list and application scenarios to meet various deployment needs. First, let's clarify what VR, SR, DR, FR, LR, ER, and ZR stand for, so that we can understand and identify them: VR (Very Short Range): Transmission distance usually 0~100 meters, using multimode fiber for short data center connections. On the path to the 400G era, different form factors act as distinct engines, delivering. Several form factors and standards exist within the 400G ecosystem, such as 400G OSFP SR4, OSFP-400G-DR4, OSFP-400G-SR8, OSFP-400G-FR4, and 400G-ZR. Each option has been designed for specific reach, cost, and application scenarios. The 400G. In China, hyper-scale data centers started deploying 40G Ethernet in 2014, followed by the development of 100G Ethernet in 2017. It was anticipated that around by 2022, 400G. The transition from 400G to 1.6T represents a significant leap in data transmission, offering faster speeds, lower latency, and increased energy efficiency, which are essential for meeting the needs of the rapidly expanding digital world. What is an Optical Module?

An optical module is a device.



Article Content

Feb 21, 2026

400G Optical Modules Explained: SR4 Vs. DR4 Vs. FR4 Vs. LR4

Key differences between SR4, DR4, FR4, and LR4 400G optical modules. Expert advice from Asterfusion engineers to optimize your data center network.

Dec 03, 2025

The Evolution of Optical Modules: 400G → 800G → 1.6T – A Strategic ...

Discover the evolution from 400G to 800G and 1.6T optical modules. Learn key technologies, CPO vs pluggable, and upgrade strategies for future-ready data centers.

Dec 27, 2025

400G Optical Transceivers Guide: Key Models,

400G optical transceivers play a crucial role in optical communication. Utilizing PAM4 technology, 400G optical transceivers efficiently use spectral resources and

Jun 24, 2026

Introduction to 400G Optical Modules · KAD

A clear, engineer-friendly overview of 400G optical modules, including standards, packaging formats, functions, and market outlook for next-generation

Aug 05, 2025

400G Coherent Optics Guide: ZR, ZR+ & MZR Comparison

Master 400G coherent optics with our comprehensive guide covering ZR, ZR+, MZR variants, reach capabilities, power consumption & deployment

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A Comprehensive Guide to 400G ZR Technology

Discover how 400G ZR enables high-speed, cost-effective optical transmission for modern networks. Learn about its key technologies, benefits,

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400G QSFP-DD FR4 vs. LR4: Comprehensive

Compare 400G QSFP-DD FR4 and LR4 optical modules: 400G QSFP-DD FR4 for short-distance data centers, LR4 for long-distance, reliable 10 km links.

Jul 13, 2025

How to Choose the Right 400G Optical Transceiver?

Learn how to choose the right 400G module based on compatibility, form factors, and other factors, and why choose FS 400G modules to meet your network needs.

Aug 18, 2025

Understanding the Latest in 400g Transceiver

Explore our complete guide to 400G transceiver technology, including QSFP-DD modules and cables designed for data centers. Discover high-density,

Nov 03, 2025

Arista Transceiver Compatibility and interoperability Cable Guide

This document provides a technical reference guide on compatibility, interoperability, software support, and physical attributes of Arista transceivers and cables.

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Ultimate Guide to QSFP-DD 400G Optical Modules:

The QSFP-DD 400G optical module has become a key element in the fast-changing field of data transmission technology to improve network

Jan 30, 2026

Understanding the Full 400G Optical Module Suite

For customers, selecting the right module is about matching physical layout (rack, room, building), fiber infrastructure, latency & power budgets, and

Feb 10, 2026

400G Ethernet Transceiver: The Ultimate Guide to 400G Optical ...

This guide is dedicated to yours truly, where I will provide detailed views of 400G optical transceivers – structure, functionality, and application areas in various industries.

Mar 02, 2026

Comprehensive Guide to 400G/800G QSFP-DD Optical

Applications of 400G/800G QSFP-DD Optical Modules The 400G/800G QSFP-DD optical modules leverage a double-density design to

Oct 22, 2025

Selection Solution for 400G Optical Modules In Data

This article is mainly about several options for 400G optical modules in data centers and the application scenarios.

Dec 20, 2025

400G QSFP-DD FR4: Definitive Technical & Deployment Guide

Discover the standards, technical specifications, deployment tips, and vendor selection for 400G QSFP-DD FR4 modules, enabling high-density, low-power, scalable 400GbE interconnects

Aug 16, 2025

400G-100G Spine-Leaf Architecture: Optical Modules and DAC/AOC

Learn how to select 400G optical modules and 100G/400G DAC and AOC cables for Spine-Leaf architectures. This guide explains distance-based deployment strategies for server

Jan 12, 2026

400G Optical Transceiver Guide | 400G OSFP SR4,

The 400G optical transceiver family offers a wide range of solutions tailored for different distances, fiber types, and application needs. From 400G

Feb 10, 2026

400G Optical Transceivers | OEM Compatibility

Discover the power of 400G QSFP-DD Optical Transceivers—ultra-fast, energy-efficient, and future-proof solutions.

Oct 10, 2025

Comprehensive Analysis of 400G OSFP SR4 Optical Modules:

Explore the technical specifications, advantages, practical applications, and market trends of the 400G OSFP SR4 optical module. This guide delivers authoritative insights to network

Apr 05, 2026

Know Your 400G Transceiver | Juniper Networks

The Juniper 400 Gigabit Optical Transceivers and Cables Guide refers to 50G, 100G, 200G, and 400G bit rates for simplicity. It is intended to align with standard industry terminology without implying

Mar 08, 2026

400G Transceiver Guide: Architecture, Selection & TCO

The definitive guide to selecting, deploying, and maximizing 400G optical transceivers for network architects, procurement managers, and

Sep 06, 2025

400G Transceiver Guide: Architecture, Selection & TCO

The Definitive 400G Optical Transceiver Guide: Selection, Deployment, and TCO for 2025 The definitive guide to selecting, deploying, and

Mar 04, 2026

400G OSFP/QSFP-DD/QSFP112 Module Introduction

This article explores the technical characteristics, product lineup, and use cases of 400G OSFP/QSFP-DD/QSFP112 modules to choose the most

Sep 16, 2025

Optical Modules: 400G, 800G, 1.6T, and PCB Selection in Manufacturing

Explore the differences between SFP28 and QSFP28 modules, how PAM4 boosts speeds, and why aluminum PCBs are key to high-performance optical modules.

Apr 16, 2026

Common 400G QSFP-DD Transceiver Types in the Market

400G QSFP-DD optical module is a high-speed hot-pluggable transceiver. Here it will help you learn what 400G QSFP-DD optical modules exactly are, and the

Nov 22, 2025

Overview of 400G Optical Modules

In building 400G network systems, 400G optical modules play a critical role. So, what exactly is a 400G optical module, and how does it differ

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