

# 10G optical module and 6G

## Article Overview

6G optical modules support up to 6.25 Gbps over medium-range single-mode fiber, while 10G optical modules deliver 10 Gbps over longer distances with single-mode or multi-mode fiber.

### 6G Optical Modules

#### Specifications and Features:

- Data rate: up to 6.144–6.25 Gbps
- Transmission distance: typically up to 10 km over single-mode fiber (SMF)
- Wavelength: 1310 nm DFB laser
- Interface: LC duplex connector, hot-pluggable SFP+ footprint
- Compliance: SFP+ MSA, SFF-8472, IEEE 802.3, Fibre Channel standards
- Operating temperature: Standard 0–70°C, Industrial -40–85°C
- Applications: 6G Ethernet, LTE/OBSAI/CPRI links, Fibre Channel SAN/NAS, data center interconnects
- Features: Digital diagnostics monitoring (DDM/DOM), low power consumption, minimal signal dispersion, robust data integrity 6G modules are ideal for medium-range enterprise and telecom networks, providing a cost-effective upgrade path for legacy systems while supporting modern optical networks.

### 10G Optical Modules

#### Specifications and Features:

- Data rate: 10 Gbps
- Transmission distance: 10 km to 80 km depending on module type and fiber
- Fiber type: Single-mode fiber (SMF) for long-range, multi-mode fiber (MMF) for short-range
- Wavelengths: 850 nm, 1310 nm, 1550 nm, with options for BIDI, CWDM, DWDM
- Interface: SFP+ transceiver, hot-pluggable
- Applications: 10G Ethernet, 10G Fibre Channel, SONET/SDH OC-192/STM-64, OTN OTU2e links
- Advantages: Extended reach, superior signal integrity, low-latency, EMI immunity
- Features: Digital diagnostics, compatibility with major OEMs (Cisco, Juniper, HP, Dell) 10G modules are designed for high-bandwidth, long-distance connections, suitable for Metropolitan Area Networks (MANs), data center interconnects, and geographically dispersed enterprise networks...

## Article Content

Sep 15, 2025

### 10G Optical Modules: Short-Range vs. Long-Range

Understand short-range and long-range 10G optical modules in terms of distance, budget,

Sep 26, 2025

### SFP Optical Transceiver Products | Syrotech Networks

Syrotech Networks is market leader in manufacturing and supplier of sfp module, optical transceiver, sfp port, sfp optical

May 26, 2026

### SFP+ Optical Transceiver Modules (10G-SR/LR)

Amphenol SFP Optical Modules • SFP+ Optical Modules from Cables on Demand are Now Available in both Short Range (SR)

Oct 05, 2025

### Introduction of 10G SFP+ Optical Modules

10G SFP+ optical module is a popular category widely used in data centers, enterprise networks, edge devices, and

Feb 09, 2026

### UniFi 10G Multi-Mode Optical Module

SFP+ transceiver that supports 10G connections up to 400 m using multi-mode fiber with a duplex LC UPC connector.

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### 10GE SFP+ Optical Modules

Single-fiber bidirectional (BIDI) optical modules must be used in pairs. For example, SFP-10G-BXU1 must be used with SFP-10G-BXD1.

Jan 18, 2026

### How to Classify SFP+ 10G Optical Transceiver Modules

Learn how to classify 10G SFP+ transceivers by interface, distance, fiber type, and technology. Expert guide for

Dec 17, 2025

## Optical module

An optical module is a typically hot-pluggable optical transceiver used in high-bandwidth data communications applications. Optical

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### SFP-10G-LR vs SFP-10G-SR: Choosing the Best 10G Module 2026

Compare SFP-10G-LR and SFP-10G-SR to find the best 10G module for speed, distance, and performance in 2026.

Aug 28, 2025

### Guide to 10G SFP+ Modules: LRM, SR, LR, ER, ZR

In the construction of high-speed networks, 10G optical modules are core components of data centers, enterprise

Mar 24, 2026

### Arista Optics Modules and Cables

Overview Arista's Optical Modules and Cable portfolio offer a wide variety of high-density and low-power 800G (dual 400G), 400G,

Jan 01, 2026

### Comprehensive Guide for Optimal 10G SFP+ Module Selection

Discover the pivotal role of 10G SFP+ modules in high-speed networks. Our detailed guide covers their features, types,

Jan 31, 2026

### How to Choose the Right 10G SFP+ Module: SR, LR, or LRM?

And what is the difference between SFP-10G-LRM optical module and SFP-10G-LR optical module? In this article, I

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### 10 Gbit/s SFP+ Optical Modules

10 Gbit/s SFP+ optical modules apply to 10 GE optical ports. The wavelength can be 850 nm, 1310 nm, or 1550 nm, and the

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### What are the differences between 10G SR, LR, ER, and ZR optical modules?

10G SR, LR, ER, and ZR modules are respectively for short, medium, long, and ultra-long distance applications, and

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## 10G/1G Optics

Juniper's portfolio of qualified 10G and 1G optical transceivers are low-cost multipurpose modules available in footprint-optimized

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## Optic Modules Datasheet

Features and Benefits The following table lists the different pluggable optic modules and supported platforms, along with the

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## 6C-SFP+-LR 10GBASE-LR SFP+ 1310nm 10km DDM LC SMF

Contact us to access our comprehensive test bed, which includes compatibility checks with modules from all major

Nov 30, 2025

## 10G SFP+ Optical Transceivers | Transceiver Module

FS 10GbE SFP+ module solutions provide a wide variety of 10 Gigabit Ethernet connectivity options for

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## How to Choose the Right 10G Optical Module?

Understanding the 10G Optical Module Landscape The term 10G optical module generally refers to hot-pluggable

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## Can 1G SFP Optical Module Run at 10G SFP+ Port? And Vice Versa?

As we begin the transition from 1G to 10G networks, you may encounter SFP to SFP+

Feb 07, 2026

## Passive optical network

Passive optical network A fiber optic cable assembly with SC APC connectors, as commonly used to link

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## 6G SFP+ LR 1310nm 10km Optical Transceiver | AscentOptics

6G SFP+ LR module enables high-speed data transmission in 6G Ethernet link lengths of up to 10km of single-mode fiber via Duplex

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10G SFP+ Optical Transceivers | Transceiver Module

Click to get your 10G SFP+ transceiver modules from nearby warehouses. 30-Day Free Return. Trusted by

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SFP+ 10G Optical Transceiver Modules | Solid Optics

SFP+ 10G Optics & DAC Cables including copper RJ45, multimode and single mode, Bidirectional, and CWDM/DWDM up to 80km

Sep 08, 2025

Reach Further, Faster: Your Ultimate Guide to Long-Range 10G

Long-range 10G optical modules enable high-speed data over distances up to 80km. Learn about types, specs,

Jul 06, 2026

10GB SFP Module Guide: Types, Specs, and How to Choose

Learn everything about 10GB SFP modules, including types, specifications, compatibility, and how to choose the right 10G SFP+

Nov 20, 2025

Inventory Of 10G Optical Modules

SFP+ optical modules are widely used in 10G Ethernet due to their advantages of compact size, low cost and high

Mar 22, 2026

10G Optical Module Selection Guide: LRM,SR,LR,ER,ZR

The 10G SFP+ dual-fiber optical module is a small pluggable optical transceiver that adopts a dual-fiber bidirectional

Oct 26, 2025

The Complete Guide to the Best Choice of 10G SFP+ Optical Modules

WHGEARLINK modules are known for their reliability, energy efficiency, and excellent performance in demanding environments.

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## How to Choose a 10G SFP+ Optical Module

How to Choose the Right Walsun 10G SFP+ Optical Module When selecting the appropriate Walsun 10G SFP+

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## Cisco Optics-to-Device Compatibility Matrix

Cisco Optics-to-Device Compatibility Matrix Comprehensive compatibility information for Cisco optical transceivers and network

Nov 25, 2025

## The Most Comprehensive Guide Of Optical Modules

Explore the ultimate guide to optical modules. Learn types, functions, performance metrics

Feb 10, 2026

## What Is 10GBASE-LR? SMF 1310nm 10km SFP+ Explained

Choosing the correct 10GBASE standard requires balancing distance, fiber type, optical budget, and cost. 10G-LR is ideal for single

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## 10 Gigabit Ethernet

10 Gigabit Ethernet Router with two dozen 10 Gigabit Ethernet ports and three types of physical-layer module 10 Gigabit Ethernet

## Contact Us

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