

SC optical module transmission distance



Overview

At present, the maximum transmission distance supports only ~20km in low-speed data (0~2MHz) optical transmission for 485/232 data or CPU serial communication in industrial control. SC APC SFP modules are increasingly used in optical networks where signal precision, low reflection, and long-distance stability are critical. Short-distance transmission usually refers to distances below 2km, medium distances range from 10-20km, and distances greater than or equal to 30km are considered long-distance. 1) 850nm (MM, multi-mode, low cost but short transmission distance, generally only 500m); 2) 1310nm (SM, single mode, large loss but small dispersion during transmission, generally used for transmission within 40km); 3) 1550nm (SM, single mode, small loss but large dispersion during transmission).



Article Content

May 25, 2026

SFP Optical Module Selection Guide for 2025: Key

Distance: SFP modules are available for various transmission distances. Common distance ranges include short-reach (up to 100m), medium

Apr 26, 2026

What is an SC cable and how does it work? – Fiber

In summary, an SC cable is a fiber optic cable terminated with SC connectors that is used for high-speed data transmission in networking and

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0~2Mbps TTL 1x9 1310nm 40km SC/ST/FC Transceiver

More and more IT users are now asking for longer transmission distances to overcome better the link loss caused by fiber multi-connectors. In

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Explanation of Optical Module Parameters

Considering that some newcomers to optical modules may not understand the letters on the optical module or the specific meanings of the parameters on the optical module, the following is

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Comprehensive Guide to Optical Transceiver

Systematic classification of optical modules by data rate, form factor, transmission distance, and fiber type.

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Understanding the Transmission Distance of Optical

Extended Range (ZR) Application Field: ZR modules are at the forefront of ultra-long-distance transmission, ideal for connecting distant data

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1.25G SC SFP Module Optical Module 20Km

This 1.25G SC SFP Module is a high-performance 1.25G SFP fiber module designed for 20km bidirectional data transmission over single-mode fiber (SMF). This SFP

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The Best Optical Transceiver Modules for 5G Fronthaul

The fronthaul optical module mainly includes 25Gb/s and 100Gb/s two rate types, supporting hundreds of meters to 20 km of typical transmission distance.

Aug 30, 2025

Short Range SFP Module: What It Is and How Far It Works

This guide explains the definition, transmission distance, applications, and selection criteria of Short Range SFP Modules, helping network engineers, IT professionals, and procurement

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What are electrical port optical modules?

Electrical port module is also known as optical port to electrical port module, photoelectric conversion optical module, it is a kind of module that supports hot-swappable, the package form is SFP, and the

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Connection Schemes for Optical Module and Fiber Patch Cord

Optical modules come in various transmission rates and distances. Therefore, when selecting fiber patch cords for optical modules, it's essential to choose the type that matches the

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Syrotech GPON OLT C+++ Optical Module 2.5G/1.25G

Syrotech Optical Transceiver GPON SFP C+++ 2.5G Bidi 20 Kms is a high-performance optical transceiver module that is used to provide high-speed data

Dec 08, 2025

“Understanding Transmission Distance: Short-Range vs

Do you really need a 10km module for a 300m connection? Many customers unknowingly overspend by not matching transceiver distance with real

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SFP Distance Explained: Real-World Range, Limits, and Optics

□□ What Is SFP Distance in Fiber Optic Networks? SFP distance refers to the maximum effective range over which an SFP optical module can transmit data while maintaining signal

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100G QSFP28 Optical Module Selection Guide: Medium to Long Transmission ...

This article tells you how to choose 100G QSFP28 modules for medium and long transmission distances, as well as the advantages of QSFP28 modules and why you should choose

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DK-ST100-80E3 | Optical Data Transmission Module DK-ST100 Series

Dimensional Drawings/Wiring Diagrams Downloads ... Dimensions Input and Output Signal Connection Input signal connection Output signal connection KeyWords Optical Data Transmission module

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SFP Optical Transceiver Modules for Long Distance: A

Discover everything you need to know about SFP optical transceiver modules for long-distance fiber transmission. Compare LX, EX, ZX models and

Aug 20, 2025

Wavelength and Transmission Distance of Optical

The price of the optical sources and signal converters that are paired with 850nm optical transceiver modules is far lower than the prices of 1310nm and 1550nm

Aug 28, 2025

10G BiDi SFP+ Optical Module Interface Comparison: SC vs LC

1) 10G BiDi SFP+ Module: LC simplex interface, transmission distance up to 80km (1490/1550nm wavelength combination), supporting long-distance transmission scenarios such as

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SC APC SFP Module Guide for Optical Network Selection

Long-reach and industrial-grade SC APC SFP modules are designed for extended transmission distances and harsh operating environments. The key takeaway is that these modules are optimized

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What are the detailed parameters of the optical module

Transmission distance: Transmission distance refers to the distance that optical signals can be directly transmitted without relay amplification, and the unit is kilometers (also called

Jun 07, 2026

LC vs SC Connector for BiDi SFP+ Modules: Which One Should You

When planning or upgrading a fiber network, engineers usually focus on speed, wavelength, and distance. However, one key factor is often overlooked: the type of connector used

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How to Estimate an Optical Module's Transmission

Optical modules distinct from one another in their transmission distance, a feature that should be taken into account in addition to other

Dec 25, 2025

Introduction Of 100M Single-mode SFP BIDI SC

In this blog, ETU-LINK will focus on introducing the type and transmission distance of the 100M single-mode SFP BIDI SC connector optical

May 03, 2026

100GHz 1310nm 2CH DWDM OADM Module Optical Add Drop

100GHz FTTX 1310nm 2CH Optical Mux Demux OADM DWDM Add Drop Module
DWDM Optical Add/Drop Multiplexer (OADM) is a passive optical device used in WDM networks for adding and

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Exploring the Correlation Between Optical Module Wavelength and ...

This article delves into the correlation between optical module wavelength and transmission distance, shedding light on the complexities that impact the efficiency of data transmission.

Aug 19, 2025

Gigabit Optical Transceiver Media Converter 20km Long Range ...

Gigabit Optical Transceiver Media Converter 20km Long Range Transmission Single-Mode Single-Fiber SC/RJ45 Port No reviews yet Shenzhen J.D.N Technology Co., Ltd. 1 yr

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The Technological Evolution and Application Trends of

Long-distance transmission remains a critical focus, with the employment of 1550 nm wavelength modules paired with optical amplifiers

Feb 27, 2026

How to choose an optical fiber link and an SFP module?

What cables suit an SFP module? What distance can be there between SFP modules? And many other questions. The main advantages of optical fiber

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