

What is an 850nm optical module



AI Overview

An 850nm optical module is used for short-range, high-speed data transmission over multimode fiber, commonly in data centers and enterprise networks.

Function and Technology

An 850nm optical module converts electrical signals into optical signals and vice versa, enabling high-speed communication over fiber cables. It operates at a wavelength of 850 nanometers, which falls in the near-infrared spectrum, making it ideal for short-distance, high-bandwidth applications. These modules typically use VCSELs (Vertical-Cavity Surface-Emitting Lasers) or LEDs as light sources, which are cost-effective and optimized for multimode fiber (MMF) performance .

Typical Applications

- Data Centers: Connecting servers to switches or switches to switches within racks or across short intra-data center links .
- Enterprise Networks: Short-distance campus or building backbone connections where high port density and cost efficiency are important .
- High-Performance Computing: Low-latency, high-bandwidth links for computing clusters .

Transmission Characteristics

- Distance: Typically supports up to 300 meters on OM3 or OM4 multimode fiber, with some enhanced modules reaching up to 2 km using specialized fiber

Article Content

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How to distinguish the wavelength from the ring color of

Some manufacturers use custom colors or do not follow the industry code. Therefore, it is

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Arista Optics Modules and Cables

Each module is optimized for different media and reach (ranging from 0.5 meters to 80 kilometers). All interface speeds, from 1G to

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Designing a Module for High-Speed Optical Communication

The ultimate goal for all-optical connectivity with an ultra-high F5G bandwidth is to increase transmission rates. Optical modules —

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What Do 850nm, 1310nm and 1550nm Actually Mean in Optical

Learn what 850nm, 1310nm, and 1550nm mean in optical transceivers. Discover the differences between SX, LX, and

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What Is an Optical Module and Its FAQs (V200)

What Is an Optical Module and Its FAQs (V200) Describes what an optical module is and FAQs, including the fundamentals,

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What is a 1000BASE-SX SFP Optical Transceiver

A 1000BASE-SX SFP is a gigabit transceiver for multimode fiber, enabling 1Gbps Ethernet connections up to 550

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Optical module

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

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10GBASE-SR SFP+ 850nm Fiber Optical Transceiver Module

GLSUNMALL's Cisco SFP-10G-SR compatible SFP+ transceiver module provides 10GBase-SR throughput up to 300m over

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SX SFP Module Guide: SX vs LX vs SR Differences Explained

An SX module uses an 850nm laser designed specifically for the wider core of Multimode fiber (50µm or 62.5µm). If you plug it into a

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Common Optical Wavelengths: 850nm, 1310nm,

First Window (850nm): The earliest window used for fiber optic communications, centered

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850nm IR LED: Wavelength, Specs & Night-Vision Applications

850nm infrared light is a near infrared wavelength commonly used in IR LEDs and IR LED strips for surveillance,

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850nm Fibre Optic Transceiver Modules

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Optical Transceivers Introduction

According to the wavelength, there are 850nm / 1310nm / 1550nm / 1490nm / 1530nm /

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Designing a Module for High-Speed Optical Communication

This article explores MPS optical module solutions to meet the design requirements of high-speed optical communication as well as

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Understanding Optical Modules: Types and Troubleshooting Guide

To support optical signal transmission across different optical bands, optical modules with various center wavelengths have been

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Multi-mode optical fiber

Multi-mode optical fiber is a type of optical fiber mostly used for communication over short distances, such as within a building or on a

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Wavelength and Transmission Distance of Optical Transceiver Modules

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

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800G Optical Modules Explained: Standards, Types & Use Cases

Discover everything about 800G optical modules—standards, packaging, types & applications. Learn how they power

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Dahua GSFP-850-MMF Gigabit Optical Module

Ensure fast, reliable data transfer with the Dahua GSFP-850-MMF, a gigabit optical module using LC ports and multi-mode fiber up

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Understanding Optical Modules: Working Principles, Structures, and ...

Explore the working principles, structures, and performance metrics of optical modules, essential components of

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What is the difference between 850nm and 1300nm fiber?

850nm Wavelength: This wavelength falls within the near-infrared range and is typically used with multimode fiber. The 850nm

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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

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What is the difference between SFP 1310nm and 850nm□

850nm: SFP modules operating at 850nm wavelength are typically used for shorter-distance transmissions over multimode fiber

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SFP Wavelength Guide: 850nm vs. 1310nm vs. 1550nm

The selected wavelength determines fiber compatibility. 850 nm SFP modules are designed for multimode fiber

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What is Optical Module – A Simple Guide for Beginners

Learn what an optical module is, how it works, its internal components, common types, key

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850nm SFP Transceiver Guide: Uses, Specs & Fiber Types

An 850nm SFP (Small Form-factor Pluggable) transceiver is a hot-swappable optical module designed to support Ethernet data

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What is Optical Link Module?

The optical link module, known as Optical Transceiver in English, is a general term for various module categories, including optical

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Why Do Multimode Fibers Mostly Use 850nm Working Wavelength

Why is the optical module suitable for medium and long-distance transmission? Next, we will describe why the 850nm optical module

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Fiber Optic Wavelengths Explained: 850 vs 1310 vs 1550 nm

In fiber optics, wavelengths (especially 850, 1310, 1550 nm) are chosen to exploit the low-loss windows of silica glass

Contact Us

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