Budowa Silesia Photonics

Upper limit of light reception for 80km 100Mbps optical modules

Overview

For links up to 80 km without amplification, the modules ZR/ER 1550 nm offers the best ranges. The Elfcam range includes 40G ZR4 (80 km) and 25G LR (80 km) modules compatible with major switch brands (Cisco, Arista, Mellanox, HPE, Juniper). An SFP (Small Form-factor Pluggable) module transmits data over fiber using specific wavelengths and power levels, which directly influence how far the signal can travel before degradation occurs. This is why two modules with the same form factor can have dramatically different ranges—some limited. For inter-site links between 15 and 80 km, 1550 nm modules are therefore preferable to standard 1310 nm modules. OM3/OM4 multimode fiber is optimized for short, high-density links, typically in data centers. These modules are extensively used in 100Mbps Ethernet, Gigabit Ethernet, 1G/2G fiber channel, and synchronous optical networks (SONET/SDH). This product is already in your quote request list.

Article Content

High-Speed Optical Module with 80 km Transmission ...

This optical communication module supports 4-lane transmission over 80 km, ideal for high-capacity, long-distance applications.

Maximum Fiber Optic Range: Optical Budget, Distances 10G/40G

If the calculated distance is less than your need, several solutions exist: use a module with higher transmission power, switch to a more favorable wavelength window (1550 nm instead of ...

1G SFP ZX 80km

• Uncooled 1550nm DFB laser transmitter • Duplex LC connector • Built-in digital diagnostic functions • Upto 80km on 9/125um SMF • Single power supply 3.3V • RoHS Compliant • Class 1 laser product ...

100M-2.5G SFP DWDM 80□120km Optical Transmitter

These modules are extensively used in 100Mbps Ethernet, Gigabit Ethernet, 1G/2G fiber channel, and synchronous optical networks (SONET/SDH). They can achieve transmission distances of up to ...

SFP Optical Transceiver Modules for Long Distance: A Complete ...

This guide provides a comprehensive breakdown to help network professionals, IT architects, and procurement teams make informed decisions when deploying long-range SFP modules.

What Are Acceptable Fiber Light Levels?

The opposite problem is light levels that are too high, leading to receiver saturation. If the optical power exceeds the receiver''s maximum input threshold, the detector becomes overwhelmed, ...

100GBASE-ZR4 QSFP28 1310nm 80km Transceiver Datasheet | FS

When the ModSelL is "High", the module shall not respond to or acknowledge any 2-wire interface communication from the host. ModSelL signal input node shall be biased to the "High" state in the ...

80 km Fiber Optic Transmitters, Receivers, Transceivers

Mouser offers inventory, pricing, & datasheets for 80 km Fiber Optic Transmitters, Receivers, Transceivers.

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

Understand SFP distance, fiber optic range, and real-world limits of SR/LR modules. Learn how wavelength, fiber type, and optics affect performance.

2025 Understanding TX/RX Power Range on SFP Modules for Network

In this article, we will break down the key factors influencing TX/RX power, explain how to calculate the optical power budget, and provide actionable insights for optimizing your network''s ...

Contact Us

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