

How many kilometers is the optical module 14D



Article Overview

The optical module 14D typically supports a maximum transmission distance of up to 10 kilometers over single-mode fiber.

The 14D module is generally classified as a long-range (LR) optical module, which is designed for wide-area and long-distance links using single-mode fiber (SMF), allowing transmission distances of up to 10 kilometers under standard conditions . For applications requiring even longer reach, extended-range (ER) modules can achieve distances up to 40 kilometers using single-mode fiber . Key factors affecting transmission distance include:

- Fiber type: Single-mode fiber supports longer distances, while multimode fiber (MMF) is limited to shorter ranges, typically under 500 meters for high-speed modules .
- Wavelength: Modules operating at 1310nm or 1550nm can achieve longer distances due to lower fiber attenuation, whereas 850nm modules are generally limited to short-range connections .
- Signal quality and dispersion: Real-world distances may be slightly shorter than the theoretical maximum due to optical signal dispersion and losses along the fiber . In practice, the 14D module is suitable for metro networks, campus interconnects, and data center links where distances are within the 10 km range. For distances beyond this, an ER or DWDM module would be recommended to maintain signal integrity. Thus, for planning purposes, you can consider the 14D optical module capable of reliably transmitting up to 10 kilometers over single-mode fiber, with performance depending on fiber quality and network conditions .

Article Content

Fiber-optic cable

Fiber-optic cable A TOSLINK optical fiber cable with a clear jacket. These cables are used mainly for digital audio connections

Optical module transmission distance and related classification

In the actual use of long-distance optical modules, in many cases, the maximum transmission distance of the module

Buy Volk 14D BIO Lens

View patients' posterior poles and central retinas in incredible detail with the high magnification 14D BIO

Fiber-optic communication

Optical fiber is used by many telecommunications companies to transmit telephone signals, internet

Buy Volk 14D BIO Lens

Shop for Volk 14D BIO Lens online at the Best Price in the U.S. from Volk Optical. Order now to get this

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

A practical, engineer-grade guide to 10GBASE-LR: what it is, 1310nm single-mode SFP+ specs, optical budget examples,

Optical Transport – Looking Forward to 2026

Jimmy Yu shares Dell'Oro Group's 2026 predictions for the Optical Transport market, with

Optical module

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

Volk® 14D BIO lens

The Volk® 14D BIO lens 36°/47° (SKU V14LC) is a precision optical instrument designed by Volk Optical. With a field of view of

QSFP-DD Optical Transceivers for High-Speed

QSFP-DD800 modules enable higher radix for next-generation network designs and provide

Cisco SFP Modules for Gigabit Ethernet Applications Data Sheet

This data sheet describes the benefits, specifications, and ordering information for the Cisco SFP Modules for Gigabit

General Atomics MQ-9 Reaper

The MQ-9 is a larger, heavier, more capable aircraft than the earlier General Atomics MQ-1 Predator and

VOLK 14D

VOLK 14D VOLK 14D A high magnification lens option in the BIO lens range, the 14D has a field of view that spans the posterior pole

Converting Mile to Kilometer and Kilometer to Mile | Animation

This video explains "Converting Mile to Kilometer and Kilometer to Mile" in a fun and easy

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

Volk 14D

The 14D provides high magnification along with an optimized working distance from the cornea. With its 4.30x magnification, it is also

RAD SFP-14D Compatible 622Mbps SFP OC-12 SR 850nm 500m

RAD SFP-14D compatible optical transceiver is a dual fiber 622Mbps Small Form-factor Pluggable SFP module for use in OC12/STM

Introduction to Optical Fibers, dB, Attenuation and Measurements

This document is a quick reference to some of the formulas and important information related to optical technologies.

14D from Volk Optical, Inc.

The 14D provides high magnification along with an optimized working distance from the cornea. With its 4.30x magnification, it is also

Cisco 10GBASE SFP+ Modules Data Sheet

The Cisco® 10GBASE SFP+ modules (Figure 1) give you a wide variety of 10 Gigabit Ethernet connectivity options for

How many kilometers is the optical module

The CC-PII448L-xD 10Gb/s SFP+ Optical Transceiver Module, designed for transmission distances up to 80 kilometers, addresses

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

RAD SFP-14D Compatible 622Mb/s 550m DDM SFP Transceiver

It is an ideal equivalent to RAD SFP-14D OC-12/STM-4 single mode Short Reach (SR-1) SFP optics module but with much lower

FICER Technology for a "Module-to-System" Optical Devices unveil at

TAIPEI, March 3, 2026 /PRNewswire/ -- FICER, a leading Taiwan provider of optical communication solutions to the world,

Cisco 400G QSFP-DD Ultra Long Haul Coherent Optics Module Data

The Cisco 400G QSFP-DD Ultra Long-Haul Coherent Optics Module enables 400G traffic anywhere over dense

Cisco QSFP-DD and OSFP 800G ZR/ZR+ Coherent

Cisco QSFP-DD and OSFP 800G ZR/ZR+ digital coherent optics modules enable 800G

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://jrsekwele.co.za>

Email: info@jrsekwele.co.za

Phone: +31-20-794-2536

Address: Herengracht 47, 1015 BB Amsterdam, Netherlands

This document is for informational purposes only. Specifications subject to change without notice.

