

80km Optical Module Transmission Principle



Overview

The module leverages 1550nm cooled Electro-Absorption Modulated Laser (EML) transmitters and Avalanche Photodiode (APD) receivers, a pairing optimized for single-mode fiber (SMF) networks. In the era of 5G, AI, and high-speed data centers, optical modules serve as the core bridge for converting electrical signals to optical signals (and vice versa), enabling fast, reliable data transmission across networks. An SFP 80km optical transceiver is engineered to deliver reliable 1Gbps connectivity. This article explores the ETU-LINK 100G BIDI (Bidirectional) 80KM Optical Module, focusing on its product overview, key features, working principle, and application scenarios. ta rate of 10Gbps and 80km transmission distance with SMF. This module is designed for single mode fiber and operates at a nominal DWDM avelength from 1528nm to 1566nm as specified by the ITU-T. We'll explore its technical specifications, key features, working principle, and ideal use cases to help you. 1000BASE-ZX and Fiber Channel 1x SM-LC-L FC-PI. It is with the S P 20-pin connector to allow hot plug capability.



Article Content

Apr 12, 2026

SFP 80km Modules: Performance Analysis of Premium Optics

SFP 80km modules achieve long-distance optical transmission through a combination of advanced laser technology, highly sensitive receivers, and real-time monitoring capabilities.

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Understanding the working principle of optical modules—especially SFP transceivers—is critical for network engineers, data center operators, and telecom professionals tasked with building and ...

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100G BIDI 80KM Optical Module for Data Center and Telecom Networks

Unlike traditional dual-fiber modules, a single-fiber module uses only one fiber strand for both transmitting and receiving optical signals, reducing fiber infrastructure requirements.

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All About the SFP-10G-ZR: Understanding the 1550nm ...

10G-SFP-ZR is a kind of optical module that supports 10Gbps rate and transmission distance of 80KM, which can send data to you from 80KM away, and the delay of ...

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The CC-PII448L-xD 10Gb/s SFP+ Optical Transceiver Module, designed for transmission distances up to 80 kilometers, addresses this need by combining advanced optical technology with ...

Mar 04, 2026

Product Specification SFP 1G 80km LC Transceiver

100GBASE-ZX and Fiber Channel 1x SM-LC-L FC-PI. It is with the SFP 20-pin connector to allow hot plug capability. This module is designed for single mode fiber and operates at a nominal wave length ...

Oct 14, 2025

80km 100GBASE-ZR4 QSFP28 Optical Transceiver Module

This module contains a 4-lane optical transmitter, a 4-lane optical receiver and module management block including a 2 wire serial interface. Optical signals are multiplexed to a single-mode fiber and ...

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All About the SFP-10G-ZR: Understanding the 1550nm 80km Optical ...

10G-SFP-ZR is a kind of optical module that supports 10Gbps rate and transmission distance of 80KM, which can send data to you from 80KM away, and the delay of data transmission is almost negligible ...

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1.25G SFP 80km Single Mode Transceiver specification

The SFP transceivers are high performance, cost effective modules supporting data rate of 1.25Gbps and 80km transmission distance with SMF. The transceiver consists of three sections: a DFB laser ...

Oct 05, 2025

10G SFP+ 80 km DWDM Optical Transceiver Datasheet

10G SFP+ 80 km DWDM Optical Transceiver Datasheet Overview The T1-SFP-10G-DWDM80-Cxx is a high performance, cost effective module supporting data rate of 10Gbps and 80km transmission ...

Contact Us

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