

BIDI-1.25G-SFP-80-BDI

Optical Transceiver



Key Features

- Media Type: **Single-Mode Fiber (SMF)**
- Fiber Count: **BiDi**
- Connector: **Single LC/UPC**
- Maximum Distance: **80 km**
- Guaranteed Link Budget: **22 dB**
- Tx Wavelength: **1550 nm**
- Supported Data Rate: **1.063 Gbps - 1.25 Gbps**
- DDM/DOM: **Supported**

Product Description

Our EDGEOPTIC BIDI-1.25G-SFP-80-BDI is a multi-vendor compatible bidirectional SFP single-fiber optical module designed for Gigabit Ethernet applications operating over single-mode fiber cabling. The BIDI-1.25G-SFP-80-BDI module operates at 1550nm wavelength for transmission and 1490nm for reception, with data rates from 1.063 to 1.25 Gbps and supports multiple protocol standards and applications. Our BiDi SFP transceiver utilizes DFB (Distributed Feedback) laser for transmission and PIN photodiode for receiving. Transceiver ensures a 22 dB guaranteed optical link budget, which determines the maximum transmission distance. Over single-mode fiber, the transceiver can reach distances up to 80 kilometers using a single fiber strand, providing cost-effective long-reach connectivity for network deployments. However, distance is just an indicative parameter calculated for comfort of identification – eventually we calculate distance taking into account minimal optical budget and average attenuation of optical cabling in industry.



BIDI-1.25G-SFP-80-BDI compatible BiDi module is hot-pluggable SFP with single LC/UPC connector as an optical interface, reducing fiber infrastructure requirements by 50% compared to traditional duplex solutions. The electrical interface conforms to INF-8074i MSA (Multi-Source Agreement) specifications, ensuring compatibility with standard SFP host systems supporting multiple vendor equipment platforms. Our BiDi SFP transceiver can be encoded to be compatible and successfully operate in different 80+ brands of equipment. The module incorporates DDM/DOM (Digital Diagnostic Monitoring) functionality providing real-time information including transmitted and received optical power levels, module temperature, bias current, and supply voltage. This diagnostic data is available via MSA-compatible EEPROM interface and enables monitoring of transceiver operational parameters. The module operates within an industrial temperature range of -45°C to +85°C, providing reliable performance in harsh environmental conditions.

Standards compliance includes IEEE 802.3z for Gigabit Ethernet and support for 1G Fiber Channel applications at 1.0625 Gbps. The transceiver achieves multi-vendor interoperability through adherence to industry MSA standards, though equipment with vendor-specific module validation may require custom EEPROM programming for compatibility. Our BiDi SFP transceiver is CE/RoHS certified, and it is compliant with Class 1 FDA and IEC60825-1 laser safety standards.

Typical applications are fiber-scarce network deployments, industrial automation systems, outdoor cabinets, utility networks, and point-to-point links requiring single-fiber operation. The bidirectional design requires matched pair deployment with corresponding A-side transceiver (Tx 1490nm/Rx 1550nm) for proper link establishment. The industrial temperature rating enables deployment in unconditioned environments including roadside cabinets, manufacturing facilities, and outdoor installations. With transmit power ranging from -2 to 3 dBm and receiver sensitivity of -24 dBm, the module delivers robust performance for extended-reach applications. The 1550nm transmission wavelength leverages optimal fiber characteristics for minimal attenuation over long distances. Because our focus is providing top quality service, we are performing serious quality checks before delivery of our products. As a result, we do optical parameter measurements, connector cleanness tests and SFP transceiver EEPROM memory data validation tests.

Technical Specifications

Specification	Value
Form Factor	SFP
Media Type	Single-Mode Fiber (SMF)
Fiber Count	BiDi
Connector	Single LC/UPC
Maximum Distance	80 km



Guaranteed Link Budget	22 dB
TX Wavelength	1550 nm
RX Wavelength	1490 nm
Supported Data Rate	1.063 Gbps - 1.25 Gbps
Supported Ethernet Applications	Gigabit Ethernet (1.25 Gbps)
Supported Fiber Channel Applications	1G Fiber Channel (1.0625 Gbps)
DDM/DOM	Supported
Tx Wavelength Bandwidth	40 nm (1530-1570 nm)
Rx Wavelength Bandwidth	40 nm (1470-1510 nm)
Minimum Transmitting Power	-2 dBm
Maximum Transmitting Power	3 dBm
Receiver Sensitivity	-24 dBm
Receiver Overload	-3 dBm
Dispersion	1600-1700 ps/nm ps/nm
Transmitter Type	DFB Laser
Receiver Type	PIN photodiode
Temperature Range	Industrial -45°C - +85°C
Power	+3.3V single power supply
Compliance	CE, Class 1 FDA and IEC60825-1 Laser Safety Compliant, INF-8074i, RoHS, SFP MSA

Ordering Info

SKU	Description
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BIDI-1.25G-SFP-80-BDI

Single Fiber 1.25G SFP Module (Tx/Rx 1550/1490nm, 100Mbps-1.25Gbps, Max. 80km over SMF, 22 dB, Temp. -40 to 85C, LC/UPC)

Warranty

EDGE Optic's provides a limited warranty for **sixty (60) months** from Purchaser's receipt of the Equipment represented in this data sheet against defective design or workmanship.

Compatibility

EDGE Optical transceivers can be provided with custom-encoded firmware, in order to provide compatibility with more than 100 vendor brands in data and telecom communications industry:

MS - General MSA	MS - EdgeWare	MS - KyLand	MS - Raisecom
AD - Adva (Adtran)	MS - Eltex	LN - Lenovo	MS - Ruckus
MS - Advantech	MS - Emulex	ML - Mellanox (NVIDIA)	MS - Ruijie Networks
MS - Allied Telesis	MS - Enterasys	ME - Meraki (Cisco)	MS - Sandvine
AR - Arista	ER - Ericsson	MS - MikroTik	MS - Silicom
MS - Arris	MS - EXFO	MO - Moxa	MS - SolarFlare
AG - Avago	EX - Extreme Networks	MS - MRV	SW - Sonicwall
AV - Avaya	F5 - F5 Networks	NC - NEC	MS - Sophos
BR - Broadcom	MS - Finisar	MS - NetApp	MS - Sumitomo
QL - Cavium (Qlogic)	FO - Fortinet	MS - Netgear	MS - Supermicro
MS - Ceragon	MS - Fujitsu	MS - Netinsight	MS - Synology
CH - Checkpoint	HI - Hirschmann	NK - Nokia (Alcatel)	MS - Telco Systems
CN - Ciena	HP - HP	MS - Nortel	MS - TP-LINK
CI - Cisco	AU - HP Aruba	NS - NSN	TM - Transmode
LI - Cisco (Linksys)	HU - Huawei	MS - OE Solutions	MS - Trendnet
MS - Comnet	IB - IBM	MS - Oracle	MS - Ubiquiti Networks
MS - D-link	IF - Infinera	MS - Palo Alto Network	MS - WatchGuard
MS - Dahua	MS - Innolight	MS - Planet	WS - Waystream
MS - DCN	IN - Intel	QL - Qlogic (Oracle)	WT - Westermo
DL - Dell	MS - JDSU	MS - QNAP	MS - ZTE
MS - DZS(Dasan-Zhone)	JU - Juniper	RD - RAD	MS - Zyxel
MS - EdgeCore	MS - KeyMile	MS - RadWare	XX - Other

Version Control

Version: 2.0

Updated: November 21, 2025

CERTIFIED
ISO 9001



EDGE Technologies Ltd.
Plienciema Street 33, Marupe,
Latvia, LV-2167

+371 27746349
www.edgeoptic.com
sales@edgeoptic.com





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