ZITHA TECH SPECIALTY CABLES (Pty) Ltd

100Mbps Fiber Optic Single-Mode One Optical and Four Electrical Channels



Overview

ComNet CNFE1002S1A Media Converter, A, ST This series of media converters use multimode and single-mode optical fiber and one and two fiber SC and 100Mbps.

Key Takeaways

A 100Mbps single-mode fiber optic transceiver with one optical port and four electrical ports converts optical signals to Ethernet signals, supporting long-distance network connections up to 20–100 km.Overview

This type of device, often called a media converter or fiber optic transceiver, allows the integration of fiber optic cabling into Ethernet networks. It features:

• One single-mode optical port for fiber connection (SC or ST connector)

• Four electrical RJ45 ports for connecting standard Ethernet devices

• Data rate: 100 Mbps (Fast Ethernet)

• Duplex support: Full-duplex and half-duplex with auto-negotiation and flow control

• Transmission distance: Up to 20 km for typical single-mode fiber setups, with some models supporting up to 100 km depending on optical power and fiber quality
Key Features
• Signal Conversion: Converts 100Base-TX electrical signals to 100Base-LX/LH optical signals, enabling long-distance transmission beyond copper cable limits .

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• Multiple Ports: The “one optical, four electrical” configuration allows multiple devices to connect to a single fiber link, improving network efficiency for small offices or home networks .

• Reliability: Metal casing provides good heat dissipation and interference protection. Many models include MAC address auto-learning, broadcast filtering, and store-and-forward mechanisms .

• Plug-and-Play: Most devices are auto-negotiating and require no manual configuration, making them suitable for quick deployment .

• Power Supply: Typically DC 5–12V external power, with low power consumption.
Applications
• Home and Small Business Networks: Connect multiple devices over a single fiber link.

• Long-Distance Cabling: Ideal for connecting buildings, campuses, or remote monitoring systems.

• Network Distribution: Useful for chain stores or small offices needing multiple Ethernet connections from a single fiber line .
Considerations
• Bandwidth Limitation: 100 Mbps is sufficient for standard office or monitoring applications but not suitable for high-bandwidth needs like video streaming or large data transfers.

• Fiber Type: Single-mode fiber is required for long-distance links; multi-mode fiber is more cost-effective for distances under 2 km .

• Compatibility: Ensure the transceiver matches the fiber type, connector type, and network devices. This configuration provides a cost-effective and reliable solution for extending Ethernet networks over long distances while supporting multiple devices from a single fiber connection.

Article Content

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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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Multimode Optical Fiber Selection & Specification

The vast majority of commercial buildings and data centers fall within these ranges, and because of LOMMF''s lower installation and

Fiber Optic Cable vs Twisted Pair Cable vs Coaxial Cable

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Figure 1: Fiber optic cable Fiber optic cable can be divided into single mode fiber (SMF) and multimode fiber (MMF).

Fiber-optic cable

A fiber-optic cable, also known as an optical-fiber cable, is an assembly similar to an electrical cable but containing one or more

100 Gigabit Ethernet

This project is to specify additions to and appropriate modifications of IEEE Std 802.3 to add 100 Gbit/s Physical Layer (PHY)

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Learn everything about 100BASE FX SFP, including specifications, transmission distance, fiber requirements, applications, and

Cisco Fast Ethernet SFP Modules

100BASE-BX: SFP operates on ordinary single-mode SINGLE STRAND fiber optic link spans of up to

MFB-F60 Single Mode, 100Mbps SFP Fiber Transceiver

PLANET''s Small Form Factor Pluggable (SFP) transceiver modules are specifically designed for high

StarTech MSA Uncoded Compatible SFP Module

The SFP transceiver module supports a maximum distance of up to 10 km (6.2 mi) and delivers

10/100 Mbps Ethernet Electrical to Optical Media Converter

The CNFE2MC[/M] transmits and receives a single channel of Ethernet data and the CNFE22MC transmits and receives two

10/100 Mbps Ethernet Media Converter Electrical to ST/SC/SFP

CONVERTER 1 Ethernet data (10/100 BASE-TX) through multimode or single mode optical fiber. They provide full compliance with

100 Mbps | Single Mode Fiber | LC | 10 km (6.2 mi) | Lifetime Warranty

TESTED FOR COMPATIBILITY: Hot-swappable in MSA Compliant routers and switches; DDM support reports the transceiver''s

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