miConverter® Gx

1000BASE-T to 1000BASE-X Gigabit Ethernet Media Converter

Shown with optional wall mount bracket

The miConverter Gx is a miniature 1000BASE-T RJ-45 copper to 1000BASE-X fiber Gigabit Ethernet media converter that provides cost-effective copper-to-fiber connectivity solutions. Due to their size, portability, and low power consumption, they are ideal for fiber-to-the-desktop/ laptop under the desk deployments and mission-critical field diagnostic applications.

The Gx features Small Form Pluggable (SFP) transceivers that support 1000BASE-X for interoperability with Gigabit fiber equipment. SFP transceivers enable adaptability to different fiber types and distances, and support Coarse Wave Division Multiplexing (CWDM) technology to increase the bandwidth capacity of fiber infrastructure.

The Gx fixed fiber models support multimode and single-mode dual fiber with ST, SC and LC connectors; and single-mode single-fiber with SC connectors.

The Plug-and-Play capability of the miConverter Gx simplifies fiber-to-the-laptop and fiber-to-the-desktop deployments. The miConverter Gx features auto-negotiation, which allows connected network devices to auto-negotiate their Duplex and Pause modes. The miConverter Gx also provides manual configuration with built-in DIP-switches for compatibility with legacy Gigabit fiber products. These features ensure the miConverter Gx is compatible with the widest range of Gigabit fiber equipment.

The LED indicators provide visual diagnostic information such as availability of power, port activity, link status, and duplex modes to assist in network installation and maintenance.

The miConverter Gx combines Gigabit Ethernet connectivity with the lightweight design and low-power consumption required for both permanent deployment and temporary facilities.

The external AC power adapter is available in US, Universal and Country/Region specific models. Country/Region specific models feature optional interchangeable connectors, allowing for compatibility with electrical outlet types found around the world.

miConverter models, with barrel connectors, can be mounted in the miConverter 18-Module Power Chassis to consolidate individual modules into a rack-mount form factor that can be deployed where multiple fiber optic links are distributed from UTP switch equipment. This compact, high-density chassis is 1.5 rack units high, and can be mounted in a standard 19" or 23" equipment rack.

KEY FEATURES

- Miniature Gigabit Ethernet media converter
- Supports 1000BASE-T, 1000BASE-X and the IEEE 802.3 specification
- Supports 1000BASE-X SFP transceivers for standard or CWDM wavelengths
- ST, SC and LC connector options
- Supports Full/Half-Duplex fiber optic auto-negotiation
- Supports MDI/MDIX auto-crossover
- LED indicators for RJ-45 and fiber port status
- Automatic Link Recovery
- Small and lightweight (5 ounces)
- Plug-and-Play capability
- USB power via optional Power Adapter Cable
- Domestic, Universal and Country/Region specific power adapter options
- Wall-mount with optional mounting brackets or install in the miConverter 18-Module Powered Chassis
- Commercial (0 to 50°C) and Wide (-40 to 60°C) temperature ranges
- TAA, BAA and NDAA compliant, and Made in the USA
- Lifetime Warranty and free 24/7 Technical Support

SPECIFICATIONS

Description	***miConverter* Gx** 1000BASE-T Copper to 1000BASE-X Fiber Media Converter	
Standard Compliances	IEEE 802.3	
Regulatory Compliances	Safety: EMI: ACT:	UL, cUL, CE, UKCA FCC Class A TAA, BAA, NDAA
Environmental	RoHS, REACH, WEEE	
Frame Size	Unlimited frame sizes	
Port Types	Copper: Fiber:	1000BASE-T (RJ-45) 1000BASE-X (ST, SC, LC, SFP) 1000BASE-BX (SC Single-Fiber, SFP)
Cable Types	Copper: Fiber:	EIA/TIA 568A/B, Cat 5 UTP and higher Multimode: 50/125µm, 62.5/125µm Single-mode: 9/125µm
AC Power Requirements	AC/DC Adapter:	100 - 240VAC, 50-60Hz 0.03A @ 120VAC (max) 2.5mm Barrel Connector
DC Power Requirements	DC Input: (AC/DC Adapter)	5.0 to 12.0VDC 0.5A @ 5VDC 0.3A @ 9VDC 2.5mm Barrel Connector
	DC Input: (DC Terminal)	5.0 to 12.0VDC 0.5A @ 5VDC 0.3A @ 9VDC 2-Pin Terminal (non-isolated)
	DC Input: (Micro-B)	4.75 to 5.25VDC 0.5A @ 5VDC Micro-B Receptacle
Dimensions W x D x H	1.71" x 4.10" x 0.84" (43.4 mm x 104.1 mm x 21.3 mm)	
Weight	Module Only: With AC/DC Adapter:	4 oz. (113.4 grams) 12 oz. (340.2 grams)
Temperature	Commercial: Wide: Storage:	0 to 50°C -40 to 60°C -50 to 80°C
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m	
MTBF (hrs)	Module Only: AC/DC Adapter: Universal AC/DC Adapter:	810,000 250,000 100,000
Warranty	Lifetime warranty with 24/7/365 free Technical Support	

ACCESSORIES

Model Number	Description
1020-1	18-Module AC Powered Chassis*
1025-1	18-Module 48VDC Powered Chassis*
1026-1	18-Module 24VDC Powered Chassis*
1091-0	Wall Mounting Hardware Kit
8252-0	DIN Rail Mounting Clip
9119-PSE	Spare JET/PSE certified Universal AC/DC Power Adapter for Wide and Extended temperature models (no power cord)
9129-PS	Spare Universal AC/DC Power Adapter for Wide and Extended temperature models (no power cord)
9130-2	Spare USB Power Adapter Cable (not for use with DC terminal connector models)

Contact Omnitron for replacement power adapters and other accessories.
* Not for use with Extended temperature or DC Terminal Connector models.

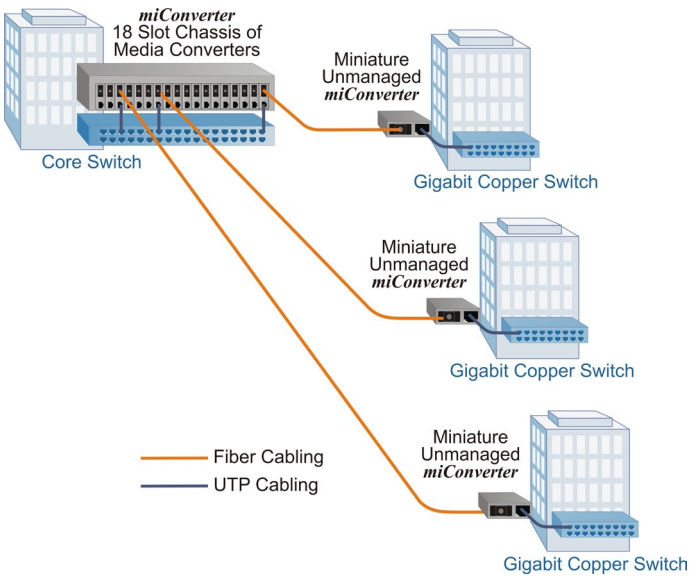
APPLICATION EXAMPLES

This application example illustrates an Ethernet Enterprise network with a star topology that provides multiple fiber links to remote buildings.

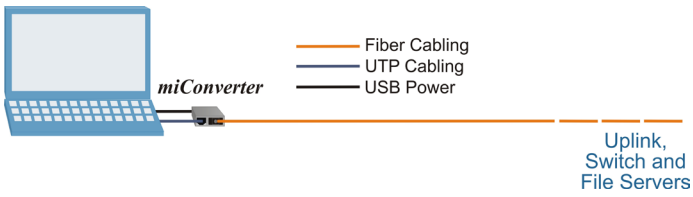
In the upper left, three copper UTP links from a core copper switch are converted to three fiber links with a miConverter 18-Module chassis of media converter modules. When fiber core switch is used, the chassis of media converters are not required.

The fiber links run to remote buildings, where the fiber at each location is converted back to copper with a standalone miConverter and distributed to end users at different buildings.

In all cases, multimode, single-mode, or single-mode single-fiber can be used.



The application diagram depicts a laptop computer used in a fiber network.



The miConverter connects to the laptop via two cables. The first cable is the USB Power Adapter which draws electrical current from the laptop's USB (1.0 or 2.0) port to power the miConverter. The other cable is the UTP cable that links the laptop network port and the miConverter copper port. The miConverter converts the UTP signal to fiber signal, which can extend up to 140km. Power from the USB port of the computer is automatically shut off when the computer is powered down, turning off the miConverter when fiber conversion is no longer needed.

ORDERING INFORMATION

Step 1: Choose a Base Part Number (xxxx-x-pt)

Fiber Type	Distance	Connector Type				Tx / Rx Lambda (nm)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Power (dBm)	Max. Rx Power (dBm)	Min. Attenuation (dB)	Link Budget (dB)
		ST	SC	LC	SFP							
-	-	-	-	-	1219-0-pt	-	-	-	-	-	-	-
MM/DF	220 / 550m[1]	1200-0-pt	1202-0-pt	1206-0-pt	-	850 / 850	-10	-4	-17	-3	-	7
SM/DF	12km	1201-1-pt	1203-1-pt	1207-1-pt	-	1310 / 1310	-9.5	-3	-19.5	-3	-	10
SM/DF	34km	1201-2-pt	1203-2-pt	-	-	1310 / 1310	-5	0	-23	-3	3	18
SM/DF	80km	-	1203-3-pt	-	-	1550 / 1550	-5	0	-23	-3	3	18
SM/DF	110km	-	1203-4-pt	-	-	1550 / 1550	0	5	-24	-3	8	24
SM/DF	140km	-	1203-5-pt	-	-	1550 / 1550	2	5	-28	-8	13	30
MM/SF[2]	550m	-	1210-0-pt	-	-	1310 / 1550	-9	-3	-18	-3	-	9
MM/SF[2]	550m	-	1211-0-pt	-	-	1550 / 1310	-9	-3	-18	-3	-	9
SM/SF[2]	20km	-	1210-1-pt	-	-	1310 / 1550	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	20km	-	1211-1-pt	-	-	1550 / 1310	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	40km	-	1210-2-pt	-	-	1310 / 1550	-3	0	-20	-3	3	17
SM/SF[2]	40km	-	1211-2-pt	-	-	1550 / 1310	-3	0	-20	-3	3	17

[1] 62.5/125µm (OM1) multimode fiber up to 220m. 50/125µm (OM2) multimode fiber up to 550m.
[2] When using single-fiber (SF) media converter models, the Tx wavelength on one end has to match the Rx wavelength on the other.
MM = Multimode, SM = Single-mode, DF = Dual Fiber, SF = Single-fiber

Contact Omnitron for other fiber options. Order the appropriate SFPs separately. Visit the Omnitron Optical Transceivers web page.

Step 2: Choose a Power Option (xxxx-x-pt)

0 = Barrel Connector, No AC/DC Power Adapter
1 = Barrel Connector and AC/DC Power Adapter with 100-240VAC, 50-60Hz, with US power clip
2 = Barrel Connector and Universal AC/DC Power Adapter with 100-240VAC, 50-60Hz (requires AC power cord)
3 = Barrel Connector and AC/DC Power Adapter with 100-240VAC, 50-60Hz, with European power clip
4 = Barrel Connector and AC/DC Power Adapter with 100-240VAC, 50-60Hz, with UK power clip
5 = Barrel Connector and AC/DC Power Adapter with 100-240VAC, 50-60Hz, with Australian power clip
6 = Barrel Connector and USB Power Adapter Cable, No Power Adapter
6U = micro-B USB Receptacle and Type A to micro USB Adapter Cable, No Power Adapter - **not compatible with the miConverter 18-Module Chassis**
8 = Barrel Connector and AC/DC Power Adapter with 100-240VAC, 50-60Hz, with US/Japan power clip
9 = 2 Pin DC Terminal Connector, 5 - 12VDC, No Power Adapter - **not compatible with the miConverter 18-Module Chassis**

Step 3: Choose an Operating Temperature Option (xxxx-x-pt)

<leave blank> = Commercial temperature (0 to 50°C)
W = Wide temperature (-40 to 60°C)