

miConverter GX/T

10/100/1000BASE-T to 1000BASE-X Ethernet Media Converter

The *miConverter* GX/T is a miniature 10/100/1000BASE-T UTP copper to 1000BASE-X fiber media converter that supports jumbo frames up to 10,240 bytes. The *miConverter* GX/T provides cost-effective fiber connectivity from Ethernet switches to diagnostic equipment, desktop and laptop computers.

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

The GX/T also supports SC and ST fixed fiber connectors for multimode, single-mode fiber; and single mode single-fiber models are available.

The Plug-and-Play capability of the *miConverter* GX/T simplifies fiber-to-the-laptop and fiber-to-the-desktop deployments. Both the fiber port and the UTP port support auto-negotiation, an IEEE standard which defines how all the communicating devices automatically perform their configuration functions. Auto-negotiation achieves the best possible mode of operation (speed, duplex mode and Pause mode) between the devices.

The auto-negotiation feature can be disabled on both ports (for manual configuration) using DIP-switches on the module. This is useful in a situation where the GX/T is connected to a non-negotiating device and the configuration parameters must be set manually.

Network flow control is managed by the Pause function (configured via auto-negotiation or manually) that prevents network congestion on both the UTP and fiber ports. When Pause is enabled and the device is experiencing network congestion, it will send out a Pause signal to its link partner, instructing it to slow down data transmission.

The GX/T generates a remote fault indication when it detects link fault conditions, and reports detection of these signals by displaying status on the LED. Through user DIP-switch configuration, the detection of these indicators or link modes can also be propagated to the other port on the GX/T as a means of notifying connected end-devices of the link fault.

Diagnostic data is provided through LED indicators that assist in network installation and maintenance. The LEDs report the availability of power, port activity and link status and speed.

The *miConverter* GX/T combines Gigabit Ethernet connectivity with the lightweight design and low-power consumption required for both permanent deployment and mobile service networks.



SFPs not included. Shown with optional wall mount bracket

KEY FEATURES

- Miniature Gigabit Ethernet media converter
- Supports 1000BASE-T, 1000BASE-X and the IEEE 802.3 specification
- Plug-and-Play capability
- USB power via optional Power Adapter Cable
- Supports Full/Half-Duplex fiber optic auto-negotiation
- Multimode and single-mode fiber options
- LED indicators for UTP and fiber status
- Domestic, Universal and Country/Region specific power supply options
- Wall-mount with optional mounting brackets or an 18-Module Powered Chassis
- Small and lightweight (5 ounces)
- Cost-effective
- Commercial (0 to 50°C), wide (-40° to 60°C), extended (-40° to 75° C) and industrial (-40° to 85°C) temperature ranges
- Lifetime Warranty and free 24/7 Technical Support

SPECIFICATIONS

Model Type	<i>miConverter GX/T</i>	
Description	10/100/1000BASE-T UTP to 1000BASE-X Fiber Converter	
Protocols	IEEE802.3, 10BASE-T, 100BASE-TX, 100BASE-T, 1000BASE-X	
Frame Size	10,240 byte max frame size	
Compliance	UL, CE, FCC Class A	
Cable Types	UTP: EIA/TIA 568A/B, Cat 5 and higher Fiber: Multimode: 50/125, 62.5/125, 100/140µm Single-mode: 9/125µm	
Connector Types	UTP: RJ45 Fiber: Dual fiber: SC, ST Single-fiber: SC SFP: LC	
LED Display	Pwr, P1-AN, P1-LK, P2-LK, P2-10, P2-100, P2-100	
Dimensions	W:1.71" x L:4.10" x H:0.84"	
Weight	without power adapter 5 oz. with USB power adapter 6 oz. with AC power adapter [US] 12 oz.	
Power Requirements	DC Power (Typical) 5 to 12VDC 0.35A @5VDC DC Power Connector 2.5mm DC Jack or 2 Pin Terminal Connector AC Power Adapter [US] 100-120VAC/60Hz 0.02A @ 120VAC AC Power Adapter [Universal] 100-240VAC/50-60Hz 0.02A @ 120VAC	
Temperature	Standard 0 to +50°C Wide -40 to +65°C Extended -40 to +75°C Industrial -40 to +85°C Storage -50 to +80°C	
Humidity (non-condensing)	5 to 95%	
Altitude	-100m to 4000m	
MTBF (hrs)	without power adapter 878,000 with US and Country/Region Specific power adapter 250,000 with Universal power adapter 100,000	

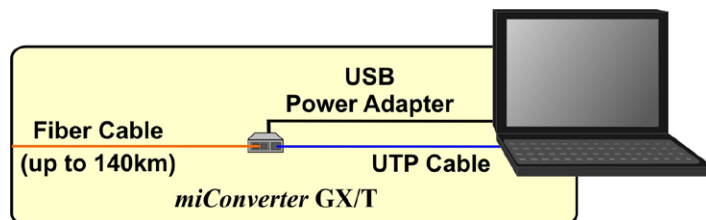
The external AC power supply is available in US, Universal and Country/Region specific models. Country/Region specific models feature optional interchangeable connectors, allowing for compatibility with electrical outlet types found around the world. The GX/T is also available with a terminal connector for DC power between 5 to 12 volts.

The *miConverter GX/T* 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. The chassis powers converter modules with barrel-style DC connectors, and is available with a single universal AC, 24VDC or 48VDC internal power supply. This compact, high-density chassis is 1.5 rack units high, and can be mounted in a standard 19" or 23" equipment rack.

Weighing less than 5 oz. with the USB Power Adapter Cable, the *miConverter GX/T* can easily fit into any pocket or laptop carrying case. It can also be attached to portable equipment using the included Velcro® strips or wall-mounted using the optional wall-mounting bracket kit.

APPLICATION EXAMPLE

The application diagram depicts a laptop computer connected to a fiber network.



The *miConverter GX/T* connects to the laptop via two cables. The USB Power Adapter Cable powers the *miConverter GX/T* by drawing electrical current from the USB port (1.0 or 2.0) of the laptop. The UTP cable links the laptop network port and the *miConverter GX/T* copper port. The GX/T converts the 10/100/1000BASE-T UTP signal to a 1000BASE-X fiber signal, which can extend the fiber link 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 GX/T* when fiber conversion is no longer needed.

The cost-effective *miConverter GX/T* is ideal for connecting large numbers of workstations in unmanaged fiber-to-the-desktop Gigabit Enterprise network applications. These applications can include remote edge locations where power outlets are at a premium, such as portable, temporary facilities. The *miConverter GX/T* is also an excellent solution for construction and military fiber-to-the-laptop applications where Gigabit fiber connectivity is required and local power is not available.

ORDERING INFORMATION

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<Blank>	Standard Operating Temperature Range Model
W	Wide Operating Temperature Range Model
Z	Extended Operating Temperature Range Model
Y	Industrial Operating Temperature Range Model (DC Terminal Model Only)

1	US Power Supply
2	Universal Power Supply, 100-240VAC, 50-60Hz (requires AC power cord)
3	European Power Supply, 100-240VAC, 50-60Hz
4	UK Power Supply, 100-240VAC, 50-60Hz
5	Australian Power Supply, 100-240VAC, 50-60Hz
6	USB Power Adapter Cable
8	US/JPN Power Supply, 100-240VAC, 50-60Hz
9	2 Pin DC Terminal Connector

Fiber Type	Distances	ST Connector	SC Connector	SFP	Tx λ (nm)	Rx λ (nm)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Sense (dBm)	Max. Rx Sense (dBm)	Min. Attenuation (dB)	Link Budget (dB)
SFP	-	-	-	1239-0-x	-	-	-	-	-	-	-	-
MM/DF	220/550m	1220-0-x	1222-0-x	-	850	850	-10	-4	-17	-3	-	7
SM/DF	12km	1221-1-x	1223-1-x	-	1310	1310	-9.5	-3	-19.5	-3	-	10
SM/DF	34km	-	1223-2-x	-	1310	1310	-5	0	-23	-3	3	18
SM/DF	80km	-	1223-3-x	-	1550	1550	-5	0	-23	-3	3	18
SM/DF	110km	-	1223-4-x	-	1550	1550	0	5	-24	-3	8	24
SM/DF	140km	-	1223-5-x	-	1550	1550	2	5	-28	-3	13	30
SM/SF	20km	-	1230-1-x*	-	1310	1550	-9.5	-3	-20	-3	-	10.5
SM/SF	20km	-	1231-1-x*	-	1550	1310	-9.5	-3	-20	-3	-	10.5
SM/SF	40km	-	1230-2-x*	-	1310	1550	-3	0	-20	-3	3	17
SM/SF	40km	-	1231-2-x*	-	1550	1310	-3	0	-20	-3	3	17

*Single-Fiber converters must be used in pairs. The Tx wavelength on one end has to match the Rx wavelength on the other. Consult the factory for other configurations.

18-Module AC Powered Chassis	1020-1
18-Module 48VDC Powered Chassis	1025-1
18-Module 24VDC Powered Chassis	1026-1
Wall Mounting Hardware Kit	1091-0
USB Power Adapter	9130-2
US Domestic AC Power Adapter	9113-PS
Universal AC Power Adapter (requires AC power cord)	9115-PS
AC Country/Region Specific Power Adapter w/ European Connector Clip	9116-PS-3
AC Country/Region Specific Power Adapter w/ UK Connector Clip	9116-PS-4
AC Country/Region Specific Power Adapter w/ Australian Connector Clip	9116-PS-5
AC Country/Region Specific Power Adapter w/ Japanese Connector Clip	9116-PS-8
Country/Region Specific European Connector Clip**	9116-3
Country/Region Specific UK Connector Clip**	9116-4
Country/Region Specific Australian Connector Clip**	9116-5
Country/Region Specific Japanese Connector Clip**	9116-8

**All spare Connector Clips can be used with AC Power Adapters 9116-PS-3, 9116-PS-4, 9116-PS-5 and 9116-PS-8

Order the appropriate SFPs separately. [Visit the Omnitron Optical Transceivers web page.](#)