



Unit shown with optional wall-mounting bracket kit

DESCRIPTION

The *miConverter* GX/T is a 10/100/1000BASE-T UTP to 1000BASE-X fiber media converter that supports jumbo frames up to 10,240 bytes. The GX/T features fixed fiber and Small Form Pluggable (SFP) transceivers that support multimode, single-mode and single-mode single-fiber options.

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.

The auto-negotiation feature can be disabled on both ports (for manual configuration) using DIP-switches on the product. 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.

Fiber Type	Distance	Connector Type		
		ST	SC	SFP
SFP	-	-	-	1239-0-x
MM	220 / 550m	1220-0-x	1222-0-x	-
SM	12km	1221-1-x	1223-1-x	-
SM	34km	-	1223-2-x	-
SM	80km	-	1223-3-x	-
SM	110km	-	1223-4-x	-
SM	140km	-	1223-5-x	-
SM-SF	20km	-	1230-1-x*	-
SM-SF	20km	-	1231-1-x*	-
SM-SF	40km	-	1230-2-x*	-
SM-SF	40km	-	1231-2-x*	-

When choosing power options, replace (-x) in the model number with the suffix number that corresponds to the selected power supply.

- 1 US Power Supply - 120Volt / 60Hz
- 2 Universal Power Supply (requires AC power cord) - 100-240Volt / 50-60Hz
- 3 European Power Supply - 100-240Volt / 50-60Hz
- 4 UK Power Supply - 100-240Volt / 50-60Hz
- 5 Australian Power Supply - 100-240Volt / 50-60Hz
- 6 USB Power Adapter Cable
- 8 US/JPN Power Supply - 100-240Volt / 50-60Hz
- 9 2 Pin Terminal Connector

Example: 1223-3-6 = SM / DF / 80KM with a USB Power Adapter Cable.

For power supplies -3, -4 -5 and -8, country/region specific clips are used to provide the necessary power connection.

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

WARNING!
Before inserting the Power Adapter, verify that the power on the adapter is appropriate for your AC line voltage source.

POWER ADAPTER NOTICE

This product should only be used with Omnitron supplied Power Supply model numbers 9113-PS, 9115-PS, 9116-PS-3, 9116-PS-4, 9116-PS-5 or 9116-PS-8.

When powering the *miConverter* GX/T using the USB Power Adapter cable (P/N 9130-2), the cable must be connected to a Full-Powered USB Type-A port (5V, 500mA).

Note: Not all USB Type-A ports are Full-Powered USB ports.

INSTALLATION PROCEDURE

- 1.) Configure the appropriate *miConverter* GX/T DIP-Switch settings.
- 2.) Connect the UTP port via a Category 5 or better cable to a 10BASE-T, 100BASE-TX or 1000BASE-T Ethernet device.
- 3.) When using fixed fiber port models, connect the appropriate multimode or single-mode fiber cable to the fiber port of the installed module. It is important to ensure that the transmit (Tx) is attached to the receive side of the device at the other end and the receive (Rx) is attached to the transmit side. Single-fiber (SF) media converter models operate in pairs. The Tx wavelength must match the Rx wavelength at the other end and

the Rx wavelength must match the Tx wavelength at the other end.

4.) When using a GX/T SFP model, insert the SFP fiber transceiver into the Port 1 SFP receptacle on the GX/T.

NOTE: The release latch of the SFP Fiber transceiver must be in the closed (up) position before insertion.

5.) Mount the *miConverter* GX/T using the included Velcro® strips or optional wall-mounting bracket kit (P/N 1091-0).

6.) To power the unit using the AC/DC adapter, connect the AC/DC adapter to the AC outlet. Then connect the barrel plug at the end of the wire on the AC/DC adapter to the 2.5mm DC barrel connector (center-positive) on the unit. Confirm that the unit has powered up properly by checking the power status LED located on the front of the unit.

To power the unit using a DC power source, prepare a power cable using a two-conductor insulated wire (not supplied) with a 14 AWG gauge minimum. Cut the power cable to the length required. Strip approximately 3/8 of an inch of insulation from the power cable wires. Connect the power cables to the GX/T unit by fastening the stripped ends to the DC power connector.

Connect the power wires to the DC power source. The Power LED should indicate the presence of power.

WARNING: Note the wire colors used in making the positive and negative connections. Use the same color assignment for the connection at the DC power source.

DIP-SWITCH SETTINGS

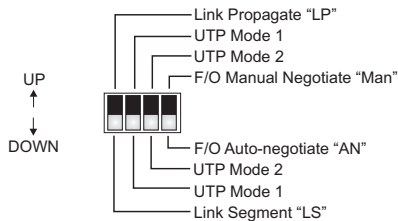


Fig. 1 DIP-switches

Link Segment/Link Propagate “LS/LP” DIP-switch
Setting the DIP-switch to LS (Link Segment), a port transmits a Link signal independently of any received Link at any other port. For example, the UTP transmits a Link regardless of the fiber receiving a Link [Fig. 2(a) & (b)].

Setting the DIP-switch to LP (Link Propagate), a port transmits a Link signal only when receiving a Link at its other port. For example, the UTP transmits a Link only when receiving a Link at the fiber port [Fig. 2(c)].

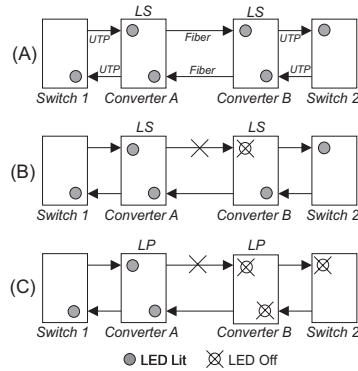


Fig. 2 Link Modes

UTP Mode Configuration DIP-Switches

See the table on page 7.

When configured for auto-negotiation, Pause is always advertised. Each port will resolve Pause capability independently during auto-negotiation. If NO Pause is resolved, the port will not send or respond to Pause frames.

UTP Mode 1	UTP Mode 2	UTP Mode of Operation
Down	Down	Configured for Auto Negotiation. (1000F, 1000H, 100F, 100H, 10F, 10H and Pause capable)
Down	Up	Manual 10M FDx
Up	Down	Manual 100M HDx
Up	Up	Manual 100M FDX

When the module is configured for auto-negotiation, the module will advertise in the order shown in the parenthesis.

F/O Manual/Auto “Man/AN” DIP-Switch

Setting this DIP-Switch to Auto-Negotiate “AN” (factory setting) enables the fiber port to determine duplex mode automatically. If a connection can not be established, the fiber port will automatically attempt to connect to the device by reconfiguring to manual mode.

If the connected device cannot provide the proper signal to indicate its own mode of operation or the fiber port can establish a link after attempting a manual connection, this DIP-Switch should be set to Manual “Man.” This feature allows connections with legacy devices that do not support auto-negotiation.

NOTE: When the fiber port is configured for Manual Mode, a link may not occur with the connected device. Configure both devices to Manual mode to establish a link.

LED INDICATORS

LED Function “Legend”	Color	Off State	On / Blinking State
Power “Power”	Green	No power	On: Module has power
Fiber Activity “F/O Link-Act”	Green	No activity	On: UTP port linked at 1000Mbps Blinking (10Hz): Link activity at 1000Mbps Blinking (1Hz): Energy detected
F/O AN “F/O-Auto-Neg”	Green	Port configured for manual negotiation	On: Fiber port configured for AN Blinking (1Hz): Configured as AN but linked in Manual mode
F/O Activity + F/O AN	Green	NA	Synchronized Blinking (1Hz): AN error or Remote Fault bit detected
UTP Activity “100 Link-Act”	Green	No activity	On: UTP port linked at 100Mbps Blinking (10Hz): Link activity at 100Mbps
UTP Activity “1000 Link-Act”	Green	No activity	On: UTP port linked at 1000Mbps Blinking (10Hz): Link activity at 1000Mbps
UTP Activity “10 Link-Act” (100 + 1000)	Green	No activity	On: UTP port linked at 10Mbps Blinking (10Hz): Link activity at 10Mbps

SPECIFICATIONS

Model	<i>miConverter GX/T</i>
Description	10/100/1000BASE-T UTP to 1000BASE-X Fiber Converter
Protocols	10BASE-T, 100BASE-TX, 1000BASE-T, 1000BASE-X
Frame Size	10,240 byte max frame size
Cable Types	
UTP	EIA/TIA 568A/B, Category 5 and higher
Fiber	Multimode: 50/125, 62.5/125, 100/140 um, Single-mode: 9/125 um
Connector Types	
UTP	RJ45
Fiber Dual Fiber Single-Fiber SFP	SC, ST SC LC
LED Display	Pwr, AN, F/O Lk, UTP-10, UTP-100, UTP-1000
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 or Country/Region Specific]	100-240VAC/50-60Hz 0.02A @ 120VAC

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Warning

The operating description in this Instruction Manual is for use by qualified personnel only. To avoid electrical shock, do not perform any servicing of this unit other than that contained in the operating instructions, unless you are qualified and certified to do so by Omnitron Systems Technology, Inc.

Warranty

This product is warranted to the original purchaser against defects in material and workmanship for a period of TWO YEARS from the date of shipment. A LIFETIME warranty may be obtained by the original purchaser by REGISTERING this product with Omnitron within 90 days from the date of shipment. TO REGISTER, COMPLETE AND MAIL OR FAX THE ENCLOSED REGISTRATION FORM TO THE INDICATED ADDRESS. Or you may register your product on the Internet at <http://www.omnitron-systems.com>. During the warranty period, Omnitron will, at its option, repair or replace a product which is proven to be defective.

For warranty service, the product must be sent to an Omnitron designated facility, at Buyer's expense. Omnitron will pay the shipping charge to return the product to Buyer's designated US address using Omnitron's standard shipping method.

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SPECIFICATIONS (CONT.)

Dimension	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.
Compliance		
Operational Temperature		
Standard	0 to +50°C	
Storage Temperature	-50 to +80°C	
Humidity (non-condensing)	5 to 95%	
Altitude	-100m to 4000m	
MTBF [hrs]		
without power adapter		878,000
with US or Country/Region Specific power adapter		250,000
with Universal power adapter		100,000

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Limitation of Warranty

The foregoing warranty shall not apply to defects resulting from improper or inadequate use and/or maintenance of the equipment by Buyer, Buyer-supplied equipment, Buyer-supplied interfacing, unauthorized modifications or tampering with equipment (including removal of equipment cover by personnel not specifically authorized and certified by Omnitron), or misuse, or operating outside the environmental specification of the product (including but not limited to voltage, ambient temperature, radiation, unusual dust, etc.), or improper site preparation or maintenance.

No other warranty is expressed or implied. Omnitron specifically disclaims the implied warranties of merchantability and fitness for any particular purpose.

Exclusive Remedies

The remedies provided herein are the Buyer's sole and exclusive remedies. Omnitron shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any legal theory.

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TROUBLESHOOTING GUIDE

Problem:

The Power LED does not illuminate after installation is complete.

Possible Causes:

- Confirm that the power supply is connected.
- Confirm that the correct power supply is being used.

Problem:

The Fiber Optic link LED does not illuminate after installation is complete.

Possible Causes:

- Confirm that the fiber optic cable is properly connected to the *miConverter GX/T* and the remote fiber optic device.
- Confirm that the fiber cable type matches the fiber transceiver type (multimode, single-mode) on the *miConverter GX/T*.
- If using a dual-fiber model, confirm that the transmitter (Tx) is attached to the receiver side of its link partner, and that the receiver (Rx) is attached to the transmitter.
- If using a single-fiber model, confirm that the Tx wavelength on the *miConverter GX/T* matches the Rx of the connected fiber optic device.

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Problem:

The UTP link LED does not illuminate after installation is complete.

Possible Causes:

- Confirm that the UTP cable is connected properly to the *miConverter GX/T* and the attached UTP device.
- Confirm that the UTP cable pin-out is correct (EIA/TIA-568-A).

- Verify the *miConverter GX/T* UTP port is configured with the proper settings based on the attached device (AN or MAN, 1000,100 or 10, HD or FD).

Note: If corrective actions do not resolve your situation, please contact Omnitron Systems Technical Support.

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TECHNICAL SUPPORT:

For help with this product, contact Omnitron's Tech. Support:

Phone: (949) 250-6510

Fax: (949) 250-6514

Address: Omnitron Systems Technology, Inc.
140 Technology #500
Irvine, CA 92618 USA

E-mail: support@omnitron-systems.com

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