

### miConverter® GX/T User Manual



### **GENERAL**

This user manual support the following models.

Fiber Type and Distance	Connector Types		Tx Lambda	Rx Lambda
	ST	sc	(nm)	(nm)
MM/DF/220m	1220-0-x	1222-0-x	850	850
SM/DF/12km	1221-1-x	1223-1-x	1310	1310
SM/DF/34km	-	1223-2-x	1310	1310
SM/DF/80km	-	1223-3-x	1550	1550
SM/DF/110km	-	1223-4-x	1550	1550
SM/DF/140km	-	1223-5-x	1550	1550
MM/SF/550m	-	1230-0-x	1310	1550
MM/SF/550m	-	1231-0-x	1550	1310
SM/SF/20km	-	1230-1-x	1310	1550
SM/SF/20km	-	1231-1-x	1550	1310
SM/SF/40km	-	1230-2-x	1310	1550
SM/SF/40km	-	1231-2-x	1550	1310
SFP	1239-0-x			

### DESCRIPTION

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

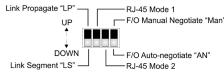
Both the fiber port and the RJ-45 port support autonegotiation. The auto-negotiation feature can be disabled on both ports (for manual configuration) using DIP-switches on the product.

See data sheet for available models and powering options.

### WARNING!

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

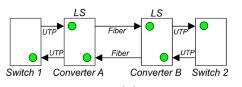
# **DIP-SWITCH SETTINGS**



In order to accommodate different user needs, the GX/T supports two different linking modes. In default configuration, the module operates in Link Segment.

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# Normal Operation

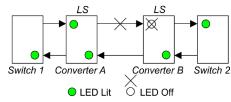


● LED Lit X LED Off

# Link Segment/Link Propagate "LS/LP" DIP-switch

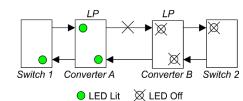
Setting the DIP-switch to LS (Link Segment), a port transmits a Link signal independently of any received Link at any other port. For example, the RJ-45 port transmits a Link regardless of the fiber receiving a Link.

### Fiber Fault with Link Segment



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 RJ-45 port transmits a Link only when receiving a Link at the fiber port.

### Fiber Fault with Link Propagate



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### MOUNTING AND CABLE ATTACHMENT

 The GX/T can be wall mounted using the optional mounting bracket kit (1091-0) or using the included Velcro® strips. Installation of the module should be such that the air flow in the front, back, side and top vents of the switch are not compromised or restricted.

### For AC models

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.

This product should only be used with Omnitron Supplied Power Unit.

To power the module using the USB cable, connect the USB Standard Type A connector to a USB port on the computer. Then connect the connector at the other end of the cable (barrel connector) to the connector on the back of the miConverter. Confirm that the module has powered up properly by checking the power status LED located on the top of the module.

To power the module using the AC/DC adapter, connect the AC/DC adapter to the AC outlet. Then connect the barrel connector at the end of the cable to the back of the miConverter. Confirm that the module has powered up properly by checking the power status LED located on the top of the module.

### For DC models:

To power the unit using a DC power source, prepare a power cable using a two-conductor insulated wire (not supplied). The DC connector can accept a wire thickness up to 12AVG thickness. 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.

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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.

Insert the SFP Fiber transceiver into the SFP receptacle
on the GX/T

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

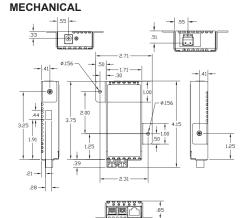
3. Connect the RJ-45 port via a Category 5 or better cable to a 10BASE-T, 100BASE-TX or 1000BASE-T Ethernet device

4. When connecting the dual-fiber models, the miConverter transmitter (Tx) must attach to the receiver side of its link partner; the receiver (Rx) must attach to the transmitter.

5. When using single-fiber (SF) media converter models, the Tx wavelength on one end has to match the Rx wavelength on the other. Based on this guideline, the SF media converter models must be used in pairs, such as the 1230-1 matched with the 1231-1.

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power option. See the data sh



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### LED INDICATORS

LED	Description	
Power "Pwr" Green	OFF: No power ON: Power applied	
Fiber Link "F/O" Green	OFF: No fiber link ON: Fiber link at 100Mbps* or 1000Mbps Blinking (1Hz) with AN Solid Green: Energy detected Blinking (10Hz): Data activity	
Fiber Negotiation "AN" Green	OFF: Manual mode ON: Auto-negotiation mode Blinking (1Hz): Configured as AN but linked in manual mode	
Error Condition "F/O" + "AN" Green	OFF: N/A AN Solid Green with FO Blinking (1Hz): AN error or Remote Fault detected**	
RJ-45 Link "100" Green	OFF: No RJ-45 link ON: RJ-45 link at 100Mbps Blinking (10Hz): Data activity	
RJ-45 Link "1000" Green	OFF: No RJ-45 link ON: RJ-45 link at 1000Mbps Blinking (10Hz): Data activity	
RJ-45 Link "100" + "1000" Green	OFF: No RJ-45 link ON: RJ-45 link at 10Mbps Blinking (10Hz): Data activity	

- \* When 100M SFP transceiver installed
- \*\* Remote Fault Detect is only available when 1000M transceivers are installed.

## SPECIFICATIONS

Standard Compliances	IEEE 802.3		
Regulatory Compliances	Safety: EMI: ACT:	UL, cUL, CE, UKCA FCC Class A TAA, BAA, NDAA	
Environmental	RoHS, WEEE, REACH		
Frame Size	Fixed Fiber Models: Up to 9K bytes SFP Model: Up to 10,240 bytes		
Port Types	Copper: Fiber:	10/100/1000BASE-T (RJ-45) 100BASE-X (SFP) 1000BASE-X (ST, SC, 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 Adapter:	100 - 240VAC/50 - 60Hz 0.02A @ 120VAC (max)	
DC Power Requirements	DC Input: (AC Adapter)	5.0 to 12.0VDC 0.35A @ 5VDC 2.5mm Barrel Connector	
	DC Input: (Terminal)		
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: W/ AC Adapter:	4 oz. (113.4 grams) 12 oz. (340.2 grams)	
Temperature	Commercial: Wide: Extended: Industrial: Storage:	0 to 50°C -40 to 60°C -40 to 75°C -40 to 85°C -50 to 85°C	
Humidity	5 to 95% (non-condensing)		
Altitude	-100m to 4,000m		
MTBF (hrs)	Module: 878,000 US AC Adapter: 250,000 Universal AC Adapter: 100,000		
Warranty	Lifetime warranty with 24/7/365 free Technical Support		

## **General and Copyright Notice**

**RJ-45 Mode Configuration DIP-Switches** 

frames

Mode

2

Down

Up

1

Down

Down

Up

auto-negotiation.

establish a link.

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

**RJ-45 Mode of Operation** 

Port set to auto-negotiation. The following

modes are advertised. 1000F, 1000H,

100F 100H 10F 10H and pause

Manual Operation - 100 HDX

Manual Operation - 10 FDX

Up Manual Operation - 100 FDX

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

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

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

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F/O Manual/Auto "Man/AN" DIP-Switch

by reconfiguring to manual mode.

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### Warranty

This product is warranted to the original purchaser (Buyer) against defects in material and workmanship for a period of two (2) years from the date of shipment. A lifetime warranty may be obtained by the original purchaser by registering this product at www.omnitron-systems.com/ support within ninety (90) days from the date of shipment. During the warranty period, Omnitron will, at its option, repair or replace a product which is proven to be defective with the same product or with a product with at least the same functionality.

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.

### Limitation of Warranty

The foregoing warranty shall not apply to product malfunctions 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.

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.

### **Environmental Notices**

The equipment covered by this manual must be disposed of or recycled in accordance with the Waste Electrical and Electronic Equipment Directive (WEEE Directive) of the European Community directive 2012/19/EU on waste electrical and electronic equipment (WEEE) which, together with the RoHS Directive 2015/863/EU, for electrical and electronic equipment sold in the EU after July 2019. Such disposal must follow national legislation for IT and Telecommunication equipment in accordance with the WEEE directive: (a) Do not dispose waste equipment with unsorted municipal and household waste. (b) Collect equipment waste separately. (c) Return equipment using collection method agreed with Omnitron.

The equipment is marked with the WEEE symbol shown to indicate that it must be collected separately from other types of waste. In case of small items the symbol may be printed only on the packaging or in the user manual. If you have questions regarding the correct disposal of equipment go to www.omniton-systems.com/support or e-mail to Omnitron at intlinfo@omnitron-systems.com.

**Safety Warnings and Cautions** 

ATTENTION: Observe precautions for handling electrostatic discharge sensitive devices.

WARNING: Potential damage to equipment and personal injury.



WARNING: Risk of electrical shock.

### **Customer Support Information**

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