Omnitron Systems

miConverter® S/FXT and S/GXT Media Converter

User Manual

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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.

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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.omnitron-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.

Technical Support:

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Description

The miConverter S/GXT and S/GXT+ Gigabit fiber to 10/100/1000BASE-T and the S/FXT Fast Ethernet fiber to 10/100/1000BASE-T media converters are for applications where compact size, light weight and low power are critical requirements.

The S/GXT and S/GXT+ supports 1G SFP transceivers and the S/FXT supports 100M SFP transceivers.

The miConverter S-Series delivers plug-and-play set up with an RJ-45 port that auto-negotiates the speed, duplex mode and cross-over functions for laptops with 10BASE-T, 100BASE-TX or 1000BASE-T Ethernet.

The S-series features different fault detection and troubleshooting operations. The miConverter S/FXT and S/GXT support Link Segment (LS) and the miConverter S/GXT+ supports Link Segment and Propagate (LSP).

Power Modes

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 USB Micro-B connector at the other end of the cable 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 USB Standard Type A connector to the AC/DC adapter and connect the AC/DC adapter to the AC outlet. Then connect the USB Micro-B connector at the end of the cable 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.

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

Mounting and Cable Attachment

The media converters can be wall mounted using the optional wall mount bracket (1691-0) or placed on a flat level surface. The media converter requires proper air flow and all vents holes must not be compromised or restricted. It is normal for the media converter to run at a slightly elevated temperature

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

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.

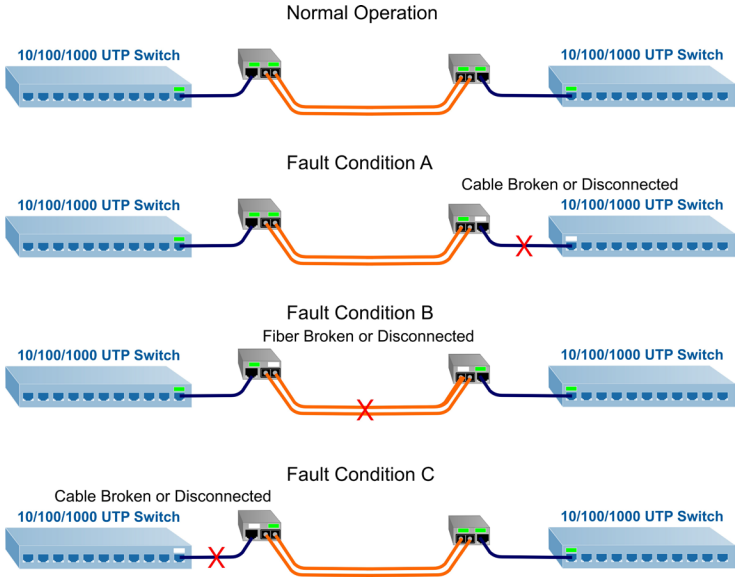
When using an SFP model, insert the SFP fiber transceiver into the Port 1 SFP receptacle on the module.

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

Link Modes

Link Segment

The miConverter S/FXT and S/GXT port linking operates in Link Segment (LS) mode which enables quick identification of any failed segment of a network's cabling or equipment. In this mode, each of the ports detect and display link status independently of the status of the other port. As a result, a loss of link due to cable failure is seen on the port, providing immediate identification of the fault's location.

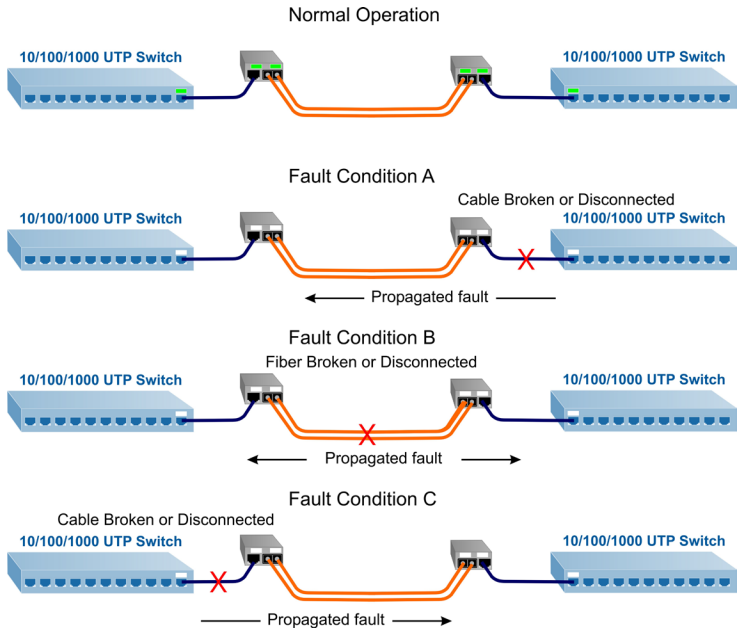


As shown above, the loss of link is detected by the port with the broken or disconnected cable. The other ports are unaffected by the broken or disconnected cable.

Link Segment and Propagate

The miConverter S/GXT+ port linking operates in a smart Link Segment and Propagate mode (LSP) which enables predictable behavior during power-up, while enabling immediate notification to the user upon any link faults. In LSP mode, the converter initially links up each port independently of the other port.

Once both ports are linked, a loss of any link is propagated to the other port, causing the link to be dropped. The dropped link can be sensed by the link partner, and when such equipment is managed it can alert the user to the connectivity fault.



As shown on the previous page, the loss of link is detected by the port with the broken or disconnected cable and the link fault is propagated to the other ports.

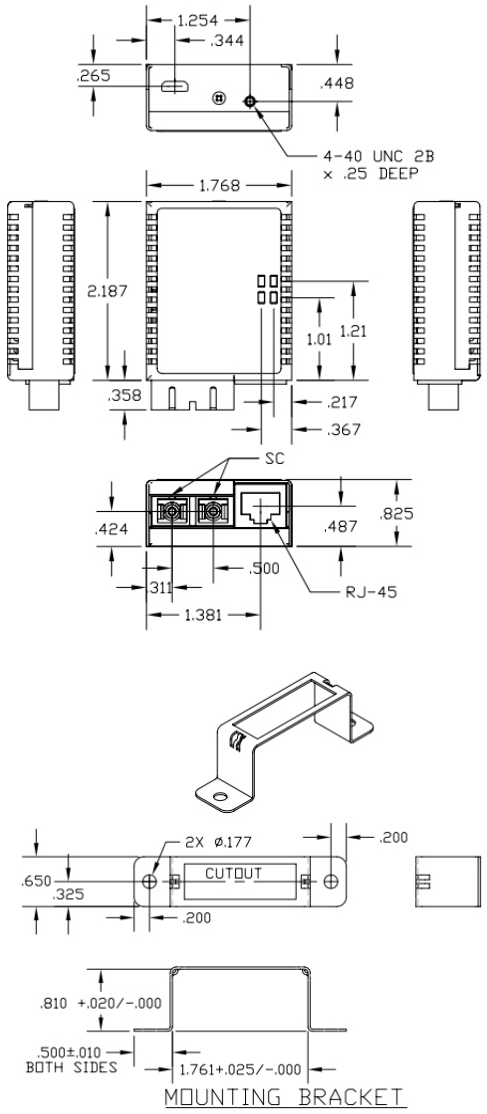
LED Indicators

LED	Color	Description
Power "PWR"	Green	OFF: No power ON: Module has power
Fiber Link Activity* "F/O"	Green	OFF: No fiber link ON: Fiber link Blinking: Data activity
RJ-45 Link Activity "10"	Green	OFF: No RJ-45 link ON: Port linked at 10M Blinking: Data activity
RJ-45 Link Activity "1000"	Green	OFF: No RJ-45 link ON: Port linked at 1000M Blinking: Data activity
RJ-45 Link Activity "10" and "1000"	Green	OFF: No RJ-45 link ON: Port linked at 100M Blinking: Data activity

*** Fiber Link Activity "F/O" LED:**

The operation of the LED has changed for the S/GXT Rev B hardware. When the LED is ON, it indicates Fiber Link and Data Activity.

Mechanical



Specifications

Standard Compliances	IEEE 802.3	
Regulatory Compliances	Safety: EMI: ACT:	UL, cUL, CE, UKCA FCC Class B TAA,BAA, NDAA
Environmental	RoHS, WEEE, REACH	
Frame Size	Up to 9K bytes	
Port Types	Copper: Fiber:	10/100/1000BASE-T (RJ-45) **S/FXT:** 100BASE-X) **S/GXT and S/GXT+:** 1000BASE-X
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	100–240VAC/50-60Hz; 0.039A @ 120VAC USB micro-B cable with power adapter	
DC Power Requirements	+3VDC to +5.5VDC; 0.742 @ 5VDC USB micro-B connector direct	
Dimensions W x D x H	1.75” x 2.25” x 0.84” (44.5 mm x 57.2 mm x 21.3 mm)	
Weight	Module: With USB: With Both :	2.5 oz. (70.9 grams) 3.8 oz. (107.7 grams) 12 oz. (340.2 gram)
Temperature	Commercial: 0 to 50°C Wide: -40 to 60°C Extended: -40 to 75°C (S/GXT+ and S/GXT w/Rev B) Industrial: -40 to 85°C Storage: -50 to 85°C	
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m	
MTBF (hrs)	S/GXT: S/GXT (Rev B): S/GXT+: S/FXT: AC Adapter:	1,300,000 1,460,000 1,430,000 1,300,000 100,000
Warranty	Lifetime warranty with 24/7/365 free Technical Support	

DC Power Requirements:

USB 1.x/2.x (5.0V at 0.5A max)		
Model	**Temperature Range**	**SFP Models Supported**
S/GXT	Commercial, Wide	7206-x, 7207-1, 7207-2
S/GXT+	Commercial, Wide	7206-x, 7207-1, 7207-2
USB 3.0 (5.0V at 0.9A max), or USB Power Adapter (5.0V at 1.0A max):		
S/GXT Rev B	Temperature ranges per Specification Table	Any MSA compliant SFP
S/GXT+	Temperature ranges per Specification Table	Any MSA compliant SFP