

iConverter® GxAN Standalone



User Manual

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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.

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Description

The iConverter Gx AN Standalone media converter provides 1000BASE-T copper to 1000BASE-X fiber media conversion.

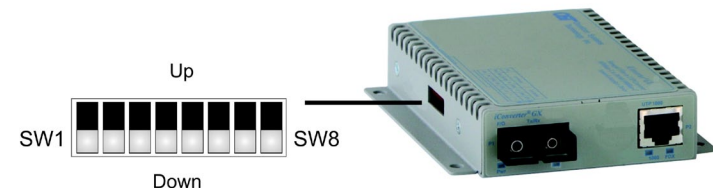
The Gx AN supports auto-negotiation with configurable Full/Half Duplex mode via hardware and software controls.

[See data sheet for available features.](#)

The Gx AN standalone module is an unmanaged device.

DIP-SWITCH SETTINGS

The location of the DIP-switches is shown below.



The function of DIP-switches are shown below.

Switch	Function	Down (Default)	Up
SW1	Port 1 Fiber Negotiation	Auto	Man
SW2, SW3	Port 2 RJ-45 Mode of Operation		
SW4, SW5	Pause Advertisement Modes		
SW6 - SW8	Link Modes		

SW1 - Port 1 Fiber Negotiation

When this DIP-switch is in the Down "Auto" default position, the fiber optic port is transparent to the network and allows the end devices connected to the module to advertise through the module and establish negotiated settings between the end devices. If Port 2 (RJ-45) is not connected, the fiber port will not be able to establish a fiber link. In the Auto mode, the DIP-switches for Pause, Port 2 (RJ-45) and link modes RFD and SFD are ignored.

If two Gx AN modules are linked together and Port 1 is configured for auto-negotiation, the mode of operation will be determined by the devices connected to Port 2 (RJ-45). Port 1 is transparent to the process.

When this DIP-switch is in the Up "Man" position, the advertised auto-negotiation capabilities of Port 2 is controlled by DIP-switches SW2 through SW5.

SW2 and SW3 - Port 2 (RJ-45) Settings

These DIP-switches are only valid when Port 1 is set to "MAN". Port 2 is always configured for auto-negotiation and DIP-switches SW2 and SW3 define what modes are advertised by auto-negotiation.

SW2	SW3	RJ-45 Mode of Operation
Down	Down	Configured for AN the following modes are advertised: 1000FDX, 1000HDX
Up	Down	Configured for AN the following modes are advertised: 1000FDX
Up or Down	Up	Configured for AN the following modes are advertised: 1000HDX

SW4 and SW5 - Port 2 Pause Advertisement

These DIP-switches are only valid when Port 1 is set to “Man”. The PAUSE modes advertised by auto-negotiation will be based on the configuration of DIP-switches SW4 and SW5.

SW4	SW5	RJ-45 Pause Modes
Down	Down	No PAUSE advertised
Down	Up	Asymmetric PAUSE towards link partner
Up	Down	Symmetric PAUSE
Up	Up	Both Symmetric and Asymmetric PAUSE towards local device

SW6, SW7, SW8 - Link Modes

These three DIP-switches configure the link mode settings. DIP-switch SW6 is valid when Port 1 is set to “Auto” or “Man”. DIP-switches SW7 and SW8 are ignored when Port 1 is set to “Auto”.

It is recommended to have link modes Down default position during the initial installation. After the circuit has been tested and operational, configure the module for the desired mode.

SW1	SW6	SW7	SW8	Results
Down (AN)	Down	Down	Down	Link Segment (LS AN)
Down (AN)	Up	Down	Down	Link Propagate (LP AN)
Up (MAN)	Down	Down	Down	Link Segment (LS MAN)
Up (MAN)	Up	Down	Down	Link Propagate (LP MAN)
Up (MAN)	Down	Up	Down	Remote Fault Detection + Link Segment (RFD+LS)
Up (MAN)	Up	Up	Down	Remote Fault Detection + Link Propagate (RFD+LP)
Up (MAN)	Down	Down	Up	Symmetrical Fault Detect (SFD)
Up (MAN)	Up	Down	Up	Undefined
Up (MAN)	Down	Up	Up	Undefined
Up (MAN)	Up	Up	Up	Undefined

NOTE: Connecting two converters set to any of the RFD modes is illegal and will cause a “deadly embrace” lockup.

For detailed information on the operation of the different Link Modes, download the [Application Note “iConverter Link Modes” available on Omnitron’s web page.](#)

Mounting and Cable Attachment

Caution: Use proper ESD protection to reduce the risk of damage to your equipment.

The GxAN is available as a standalone module with integrated wall-mount brackets. Attach the unit to a wall, backboard or other flat surfaces. Make sure the unit is placed in a safe, dry and secure location.

For AC models:

To power the unit using the AC/DC adapter, connect the AC/DC adapter to an 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.

For DC Models:

To power the unit using a DC power source, prepare a power cable using a two conductor insulated wire (not supplied) with 12AWG to 14AWG 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 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.

NOTE: If mounting with a safety ground attachment, use the safety ground screw at the rear of the unit.

Insert the SFP fiber transceiver into the Port 1 SFP receptacle on the Gx AN

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

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

Connect an 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.

LED INDICATORS

Once the module has been installed and configured, verify the module is operational by viewing the status of the LED indicators. The table below provides a description for each LED indicator.

LED	Color	Description
Power "PWR"	Green	OFF: No power applied ON: Module has power
P1 Activity "P1"	Green	OFF: No fiber link ON: Fiber link Blinking (10Hz): Fiber data activity Blinking (1Hz): Signal detect but AN has not completed or SFD error detected
P2 Duplex "FDX"	Green	OFF: Half-duplex when P2 link is active ON: Full-duplex when P2 link is active and negotiated to full-duplex
P2 Activity "P2"	Green	OFF: Not linked ON: Port linked at 1000M Blinking 10Hz): RJ-45 data activity Blinking (1Hz): SFD error detected

Specifications

Standard Compliances	IEEE 802.3	
Regulatory Compliances	Safety: EMI: ACT:	UL, CE, UKCA FCC Class A TAA, BAA, NDAA
Environmental	RoHS, WEEE, REACH	
Frame Size	Supports frame sizes up to 10K bytes	
Port Types	Copper: Fiber:	1000BASE-T (RJ-45) 1000BASE-X (ST, SC, LC, 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 0.04A @ 120VAC (max)
DC Power Requirements	DC Input: (Terminal)	8 - 15VDC, 0.3A @ 9VDC (max) 2-Pin Terminal (non-isolated)
	DC Input: (AC Adapter)	8 - 15VDC, 0.3A @ 9VDC (max) 2.5mm Barrel Connector
Dimensions W x D x H	Standalone: 3.1" x 4.8" x 1.0"(78.7 mm x 121.9 mm x 25.4 mm) Standalone with Mounting Brackets: 3.8" x 4.8" x 1.0"(96.5 mm x 121.9 mm x 25.4 mm)	
Weight	1.0 lb. (453.6 grams) - without AC Adapter 1.5 lbs. (680.4 grams) - with AC Adapter	
Temperature	Commercial: Wide: Storage:	0 to 50°C -40 to 60°C -40 to 80°C
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m	
MTBF (hrs)	1,100,000 - Module 250,000 - Module with US AC Adapter 100,000 - Module with Universal AC Adapter	
Warranty	Lifetime warranty and 24/7/365 free Technical Support	

Mechanical

