

iConverter[®] Gx AN Media Converter



**STANDALONE AND PLUG-IN MODULE
USER MANUAL**

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1.0 OVERVIEW

This document describes the installation and configuration of the iConverter Gx AN standalone and plug-in modules.

1.1 GENERAL DESCRIPTION

The Omnitron iConverter® Gx AN provides 1000BASE-T copper to 1000BASE-X fiber media conversion. The fiber optic port supports auto and forced negotiation configuration via DIP-switches. The RJ-45 port automatically detects and advertises the Duplex and Pause abilities of connected copper devices.

The iConverter Gx AN models with fixed-fiber connectors are available with multimode (MM) dual-fiber, single-mode (SM) dual-fiber and single-mode single-fiber (SF) options. They support ST, SC and LC connectors with distances up to 2km over MM fiber, 140km over SM fiber and 40km over SF. The Gx AN Small Form Pluggable (SFP) model supports a wide variety of 1000BASE-X SFP transceivers.

The Gx AN plug-in module is a managed media converter when installed in a chassis with a management module such as the Network Management Module (NMM2) or a module with integrated management. The standalone module is an unmanaged media converter supporting DIP-switches for configuration options.

2.0 PORT STRUCTURE

2.1 OVERVIEW

The front panel of the Gx AN provides access to the copper and fiber ports. The fiber port will vary depending on the connector type; ST, SC, LC or SFP supporting 1000BASE-X transceivers.



2.1.1 RJ-45 and Fiber Ports

The fiber interface supports the 1000BASE-X protocol. The fiber interface operates in manual mode or auto-negotiation and supports Full-Duplex operation.

The RJ-45 port supports 1000BASE-T protocols, auto-negotiation mode for Half and Full-Duplex. When the fiber port is operating in manual mode, the RJ-45 port can be configured to negotiate to a specific duplex mode.

3.0 INSTALLATION PROCEDURE

3.1 OVERVIEW

The following steps outline the installation and configuration procedures for the Gx AN. Refer to the specified sections for detailed instructions.

- Configuring DIP-switches (Section 3.2)
- Installing the Module and Connecting Cables (Section 3.3)
- Verifying Operation (Section 3.4)

When the setup and configuration procedures are completed, the Gx AN has been configured with the basic setup requirement for standard operation. To configure the module with additional features, see Section 4.0, “Detailed Module Configuration”.

3.2 CONFIGURING DIP-SWITCHES

The Gx AN module has one bank of DIP-switches. The locations of the DIP-switches are illustrated below.

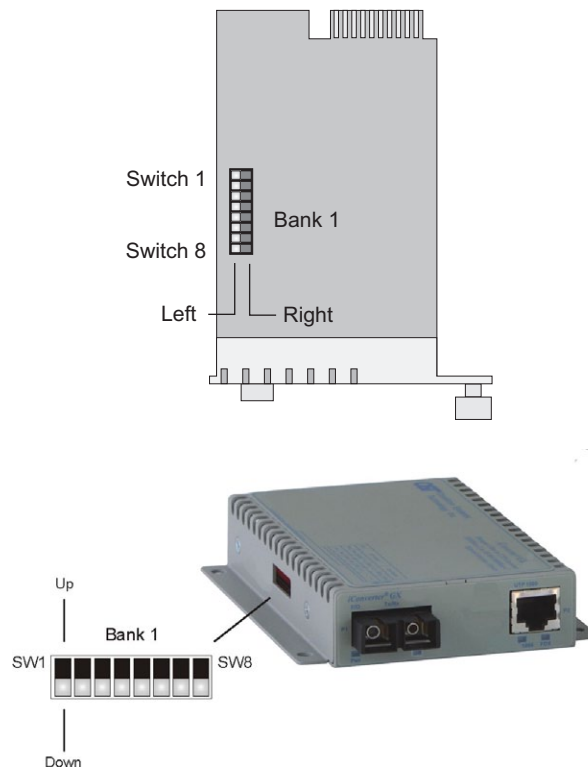


Figure A: DIP-switch Locations

3.2.1 DIP-switch Settings

SW1 - Port 1 Auto/Manual Negotiation “AN MAN”

When this DIP-switch is in the Auto-Negotiate “AN” position (factory default), 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 AN 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 Manual “MAN” position, the advertised auto-negotiation capabilities of Port 2 is controlled by DIP-switches SW2 through SW5.

Switch	Left / Down (Factory Default)	Right / Up
SW1	P1 AN: Port 1 Fiber Auto-negotiation	P1 MAN: Port 1 Fiber Manual negotiation
SW2 -SW3	Port 2 (P2) advertised auto-negotiation capability - See Figure C	
SW4 - SW5	Pause Advertisement Mode - See Figure D	
SW6 - SW8	Link Modes - See Figure E	

Figure B: DIP-Switches

SW2 and SW3 - Port 2 (RJ-45) Settings “AN MAN” “FDX HDX”

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. See Figure C: Port 2 (RJ-45) Modes.

SW2	SW3	Port 2 (RJ-45) Mode of Operation
Left / Down	Left / Down	Configured for Auto-Negotiation It advertises and negotiates in this order: 1000FDX, 1000HDX
Right / Up	Left / Down	Configured for Auto-Negotiation It advertises and negotiates in this order: 1000FDX
Left / Right Down / Up	Right / Up	Configured for Auto-Negotiation It advertises and negotiates in this order: 1000HDX

Figure C: Port 2 (RJ-45) Modes

SW4 and SW5 - Port 2 Pause Advertisement “OFF PAUSE” “OFF ASYM”

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	Port 2 (RJ-45) Pause Modes
Left / Down	Left / Down	No PAUSE advertised
Left / Down	Right / Up	Asymmetric PAUSE towards link partner
Right / Up	Left / Down	Symmetric PAUSE
Right / Up	Right / Up	Both Symmetric and Asymmetric PAUSE towards local device

Figure D: Pause Modes

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 “AN” or “MAN”. DIP-switches SW7 and SW8 are ignored when Port 1 is set to “AN”. The following table details possible Link Mode DIP-switch configurations.

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

Figure E: Link Modes Table

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

NOTE: It is recommended to keep the LS setting (default) until initial configuration is complete.

For detailed information on the operation of the different Link Modes, download the application note “iConverter Link Modes” available on Omnitron’s web page:

<https://www.omnitron-systems.com/documentation>

3.3 INSTALLING THE MODULE AND CONNECTING CABLES

3.3.1 Plug-In Modules

- Carefully slide the module into an open slot in the chassis. Align the module with the installation guides and ensure that the module is firmly seated against the backplane. Secure the module by fastening the front panel thumbscrew (push in and turn clockwise to tighten) to the chassis front. Verify the “Pwr” LED is ON (indicating the chassis is powered).
- When using a Gx AN SFP model, 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 (up) position before insertion.

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

3.3.2 Standalone Modules

- a. The Gx AN standalone media converter is available in tabletop and wall-mounting models. For wall-mounting, attach the Gx AN to a wall, backboard or other flat surfaces. For tabletop installation, place the unit on a flat and level surface. Attach the rubber feet to the bottom of the Gx AN to prevent the unit from sliding. Make sure the unit is placed in a safe, dry and secure location.

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 standalone 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, negative and ground 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.

- b. When using a Gx AN SFP model, 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 (up) position before insertion.

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

3.4 VERIFYING OPERATION

Once the module has been installed and configured, per Sections 3.2 - 3.3, verify the module is operational by viewing the status of the LED indicators. The table below provides a description for each LED indicator.

The Power LED indicates the module is receiving power from the chassis.

The Fiber Optic “FO” LED indicates the fiber optic connection between the modules has been established. A blinking LED indicates the presence of data, an auto-negotiation problem or a link mode error indication.

The RJ-45 LEDs indicate the module has established a connection across its RJ-45 port. A blinking LED indicates the presence of data or a link mode error indication.

Refer to Section 6.0, Troubleshooting Guide, for help in determining possible fault conditions.

LED Function “Legend”	Color	OFF State	ON / Blinking State
Power “Pwr”	Green	No Power	ON: Module has power
Fiber Port “P1”	Green	No Fiber Link	ON: Fiber Link Blinking: Fiber Data Activity Slow Blinking: Signal detect but auto-negotiation has not completed or SFD error detected
RJ-45 Port Duplex Mode “FDX”	Green	Half-Duplex when P2 link is active	ON: When the RJ-45 link is active and negotiated to Full-duplex
RJ-45 Port “P2”	Green	Not Linked	ON: RJ-45 linked at 1000Mbps Blinking: RJ-45 Data Activity Slow Blinking: SFD error detected

4.0 CONFIGURING THE MODULE VIA COMMAND LINE INTERFACE

4.1 OVERVIEW

To configure the Gx AN plug-in module, a module with integrated management (NMM2 or M-Class module) must be installed in the same chassis. Configuration of the module will be done through the serial management connection on the management module.

Attach the ends of a serial cable to the serial port of the PC and the Serial Console Port on the management module. This is a standard asynchronous serial interface.

Use a terminal emulation software such as Procomm or Putty to access the module.

Set the PC’s serial port to the following:

Bits Per Second	57,600
Stop Bits	1
Data Bits	8
Parity	NONE
Hardware Flow Control	NONE

The management module may or may not have a password. If the management module does not have a password, the **Password Entry** screen will be skipped and will go straight to the **Management Options** screen. If a password has been set, the **Password Entry** screen will be displayed. Type the password and press <ENTER>, the Management Module will respond with the **Management Options** screen.

```
Omnitron Systems Technology, Inc.                                iConverter
Copyright 2001-2016 OST, Inc.                                  Password Entry

-----
Omnitron Systems Technology   Technical Support:   (949) 250-6510
38 Tesla                     Sales/Products:    (800) 675-8410
Irvine, CA 92618              On the web at:     www.omnitron-systems.com
-----

IP address    192.168.1.220
MAC           xx-xx-xx-xx-xx-xx

[xxxxxxxx]
Please enter the password >
```

The **Management Options** screen will be displayed.

```
Management Options                                           iConverter

Network Management
1: Chassis and Module Management
2: Set Module Identifier

Management Module Preferences
3: IP and Control Preferences
4: SNMP Preferences
5: Other Networking Features
6: Restore to Factory Defaults
7: Restart Management Module

Management Module Maintenance
8: Firmware Update
9: Set Date/Time

01/02/2000 00:04:08 AM (sysUpTime: 8664735)
IP Address = 192.168.1.120 [MAC xx-xx-xx-xx-xx-xx]
Chassis Number = 1 Slot Number = 1

Enter Choice, (H)elp, E(x)it >
```

The Gx AN can be configured from the **Module** configuration screen. The **Module** configuration screen is accessible by selecting the module slot number from the **Chassis View** screen. To access the **Module** configuration menu, select **1** at the **Management Options** screen, press <ENTER>. The **Chassis Selection** screen will be displayed. From the **Chassis Selection** screen, select the chassis number where the Gx AN module is installed.

NOTE: Module configuration is also available using *NetOutlook*.

```
Chassis Selection iConverter

Number      Chassis Name
1           NMM2
2           Not Available
3           Not Available
4           Not Available
5           Not Available
6           Not Available
7           Not Available
8           Not Available
9           Not Available
10          Not Available
11          Not Available
12          Not Available
13          Not Available
14          Not Available
15          Not Available
16          Not Available
17          Not Available
18          Not Available
19          Not Available
Connected to Chassis Number 1
Chassis Number(1-19), Management Options(0), (H)elp, E(x)it >
```

By selecting Chassis Number 1, from the *Chassis Selection* screen, the *Chassis View* screen will be displayed.

```
Chassis View 19 Slot iConverter

Chassis Number = 1

Slot  Model  Type                | SlotModel  Type
1     8000N-0  NMM2                | 16  N/A
2     8903N-1 10/100M2           | 17  N/A
3     8911N-1 10/100M2           | 18  N/A
4     N/A      | 19  N/A
5     8519N-1 Gx AN | 20  N/A
6     N/A      | 21  8200-9  Power Supply
7     N/A      | 22  N/A
8     N/A      |
9     N/A      |
10    N/A      |
11    N/A      |
12    N/A      |
13    N/A      |
14    N/A      |
15    N/A      |

Module to View(1-22), Chassis Selection(0), (R)eset, (H)elp, E(x)it > 5
```

From the *Chassis View* menu, select the desired module, press <ENTER>. The *Module* configuration screen will be displayed for the selected module.

```

Module - iConverter Gx AN                                iConverter
Identifier -

Chassis Number      = 1
Slot Number         = 5
Model Number        = 8519N-1

Serial Number       = 00005312
Manufacturing Date  = 20071024
Product Revision    = 1
Software Revision   = 1.6

LED                Switch  ON Condition  OFF Condition  H/W Actual
1: Power           = On     1: Port 1 Manual  Port 1 AN      Off Off
2: Not Available   =         2: Port 2 Manual  Port 2 AN      Off Off
3: Port 1 Link     = Off    3: Port 2 HDX    Port 2 FDX     Off Off
4: Not Available   =         4: Pause Enabled  Pause Disabled Off Off
5: Not Available   =         5: Asym Pause    Symm Pause     Off Off
6: Not Available   =         6: Link Propagate Link Segment    Off Off
7: Not Available   =         7: Remote Fault  Normal         Off Off
8: Port 2 Duplex   = Off    8: Symm Fault Det Normal         Off Off
9: Port 2 Link     = Off

Toggle Switch(1-8), (I)dentifier, (S)FP, (R)eset, (H)elp, E(x)it >

```

The **Module** configuration screen provides general information concerning the configuration and status of the module. The screen displays the model and serial numbers, product and software revisions, as well as the condition of the LEDs and DIP-switches. The DIP-switches can be re-configured (options 1 -8) without removing the module from the chassis. Select the appropriate option to change the DIP-switch setting. Selecting DIP-switch options 1 - 8, will cause the selection to change states under the 'Actual' heading.

4.2.1 SFP Status

The Gx AN module installed with an SFP will provide general and specific information on the SFP. This information is best viewed with SNMP management software. The following is the information available:

4.2.1.1 SFP A0 Information Display

This section displays fixed SFP Module information for the following areas.

- Identifier Values
- Connector Values
- Encoding Rules
- Link Length
- Vendor OUI
- Laser Wavelength
- Vendor Serial Number
- Diagnostic Monitoring Type
- SFF-8472 Compliance
- Extended Identifier
- Transceiver Codes
- Normal Bit Rate
- Vendor Name
- Vendor Revision Number
- Options
- Date Code
- Enhanced Options

4.2.1.2 SFP A2 Information Display

This section displays decoded SFP data collected for the following statistics.

- Measured Temperature
- Measured Bias
- Measured Rx Power
- Temperature Low Alarm Setting
- Temperature Low Warning Setting
- Vcc Low Alarm Setting
- Vcc Low Warning Setting
- Bias Low Alarm Setting
- Bias Low Warning Setting
- Tx Power Low Alarm Setting
- Tx Power Low Warning Setting
- Rx Power Low Alarm Setting
- Rx Power Low Warning Setting
- Measured Vcc
- Measured Tx Power
- Temperature High Alarm Setting
- Temperature High Warning Setting
- Vcc High Alarm Setting
- Vcc High Warning Setting
- Bias High Alarm Setting
- Bias High Warning Setting
- Tx Power High Alarm Setting
- Tx Power High Warning Setting
- Rx Power High Alarm Setting
- Rx Power High Warning Setting

SFP status information can be obtained by selecting *S* from the **Module** configuration screen.

SFP Information - iConverter Gx AN iConverter
Identifier -
Chassis Number = 1 Slot Number = 5 Model Number = 8519N-1 Port = 1

Address A0 Page Contents

=====
00: 03 04 07 00 00 00 02 12 00 01 01 01 0D 00 0C 78x
10: 00 00 00 00 4F 6D 6E 69 74 72 6F 6E 20 53 79 73Omnitron Sys
20: 74 65 6D 73 00 00 06 87 37 32 30 37 2D 31 20 20 tems...7207-1
30: 20 20 20 20 20 20 20 20 20 30 31 30 30 05 1E 00 03 0100....
40: 00 1A 00 00 42 39 30 39 30 35 30 31 31 38 20 20B909050118
50: 20 20 20 20 31 31 31 30 31 37 20 20 58 B0 01 61 111017 X..a
60: 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
70: 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
80: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
90: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
A0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
B0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
C0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
D0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
E0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
F0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF 5AZ

Bit rate: 1300 Mbps
Vendor Name: Omnitron Systems
Vendor Part Number: 7207-1
Vendor Serial Number: B909050118
Date Code: 10/17/2011

Enter Previous Screen(0), (n)ext page, (H)elp, E(x)it >n

SFP Information - iConverter Gx AN iConverter
Identifier -
Chassis Number = 1 Slot Number = 5 Model Number = 8519N-1 Port = 1

Address A2 Page Contents

=====
00: 5A 00 F6 00 55 00 FB 00 92 7C 6B 6C 8A AC 72 10 Z...U...|kl..r.
10: 2A 91 02 8E 25 8F 02 C1 42 95 05 EF 34 E5 07 78 *...%...B...4..x
20: C8 59 02 21 9F 2A 04 21 00 00 00 00 00 00 00 00 .Y.!.*!.....
30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
40: 00 00 00 00 3D FC 1F 35 C0 82 00 15 03 E6 F6 3C=.5.....<
50: 00 77 00 00 01 00 FB 00 01 00 01 F4 00 00 00 FC .w.....
60: 29 10 81 98 06 00 0F C8 00 30 00 00 00 00 02 F8).....0.....
70: 00 40 00 00 00 40 00 00 00 00 00 00 00 00 00 00 .@...@.....
80: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
90: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
A0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
B0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
C0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
D0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
E0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
F0: FF FF FF FF FF FE FE FE FE FE FE FE FE FE FEZ

Temperature: 36.1C
Vcc: 3.4v
Bias current: 7.0ma
Tx power: -7.3 dBm
Rx power: -40.0 dBm

Enter Previous Screen(0), (p)revious page, (H)elp, E(x)it >

5.0 GX AN SPECIFICATIONS

Description	<i>iConverter Gx AN</i> 1000BASE-T Copper to 1000BASE-X Fiber Media Converter	
Standard Compliances	IEEE 802.3	
Regulatory Compliances	UL, CE, FCC Class A, RoHS2 (6/6), WEEE, REACH	
Frame Size	Supports frame sizes up to 10K bytes	
Port Types	Copper: Fiber:	1000BASE-T (RJ-45) 1000BASE-SX (ST, SC, LC, SFP) 1000BASE-LX (ST, SC, LC, SFP) 1000BASE-ZX (SC, SFP) 1000BASE-BX (SC, 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: (US)	100 - 120VAC/60Hz 0.04A @ 120VAC (max)
	AC Adapter: (Universal)	100 - 240VAC/50 - 60Hz 0.04A @ 120VAC (max)
DC Power Requirements	DC Input: (Backplane)	3.3VDC, 0.7A @ 3.3VDC (typical)
	DC Input: (Terminal Block)	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	Plug-in:	W: 0.85" x D: 4.5" x H: 2.8" L: 21.6 mm x B: 114.3 mm x H: 71.1 mm
	Standalone:	W: 3.1" x D: 4.8" x H: 1.0" L: 78.7 mm x B: 121.9 mm x H: 25.4 mm
	Standalone: (Wall-Mount)	W: 3.8" x D: 4.8" x H: 1.0" L: 96.5 mm x B: 121.9 mm x H: 25.4 mm
Weight	Plug-in:	8 oz.; 226.8 grams
	Standalone w/o Adapter:	1.0 lb.; 453.6 grams
	Standalone w Adapter:	1.5 lbs.; 680.4 grams
Temperature	Commercial:	0 to 50°C
	Wide:	-40 to 60°C
	Storage:	-40 to 80°C
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m	
MTBF (hrs)	Plug-in:	870,000
	Standalone w/o Adapter:	1,100,000
	Standalone w/ US Adapter:	250,000
	Standalone w/ Uni Adapter:	100,000
Warranty	Lifetime warranty with 24/7/365 free Technical Support	

6.0 TROUBLESHOOTING GUIDE

6.1 OVERVIEW

The Gx AN module has several LED indicators available to assist in the determination of problems. Refer to Section 3.3, Verify Operation, for LED definitions.

6.1.1 Power Issues

Problem:

The Power LED does not illuminate after installation is complete or no LED indicators are ON

Possible Causes:

A. For standalone modules, confirm that the power supply is connected to both the module and the AC or DC power source. If Power LED is still not illuminated, use a voltmeter and check the voltage of the power source (AC/DC converter used with the standalone unit should measure between 8 -15 VDC no load at the barrel connector).

B. For plug-in module, confirm that the chassis is connected to an AC or DC power source. If the Power LED is still not illuminated, remove the module and verify the operation of other modules in the chassis. If power is present and the module will not turn ON, replace the module.

6.1.2 Fiber Issues

Problem:

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

Possible Causes:

A. Confirm that the UTP cable is connected properly to the iConverter Gx AN and the attached copper device.

B. Verify the Link Mode selection is set to Link Segment (LS). Until a stable link is established, leave the Link Mode configured for LS. After a Link presence is established, the Link Mode selection can be modified.

C. Confirm that the fiber optic cable is properly connected to the iConverter Gx AN and the remote fiber optic device. Connecting the fiber between the Tx of the far end to the Rx on the near end will cause the FO LED on the near end to illuminate (only when the link mode is configured for Link Segment). Completing the connection will cause the far end FO LED to illuminate.

D. Confirm that the fiber cable type matches the fiber transceiver type (multimode, single-mode) on the iConverter Gx AN.

E. 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. A optical power meter will assist in determining which cable should be connected to the Tx and Rx of the module.

F. If using a single-fiber model, confirm that the Tx wavelength on the iConverter Gx AN matches the Rx of the connected fiber optic device. Single-fiber units transmit and receive at different wavelengths (1510nm/1310nm). Verify the model numbers to insure proper compatibility.

Problem:

The Fiber Optic link LED blinks slowly.

Possible Causes:

A. Auto-negotiation process has not completed. Check the end devices attached to Port 2 (RJ-45) for consistent settings.

B. Make sure Port 2 (RJ-45) is connected to a 1000M only switch port.

6.1.3 RJ-45 Issues

Problem:

The RJ-45 link LED does not illuminate after installation is complete.

Possible Causes:

- A. Confirm that the UTP cable is connected properly to the iConverter Gx AN and the attached copper device. Once a connection has been established between the iConverter and its link partner (switch or workstation), the corresponding Port 2 (P2) LED should illuminate. If the LED does not illuminate, check the Link Mode configuration. A link mode other than Link Segment may cause the P2 LED not to turn ON.
- B. Verify the iConverter Gx AN Port 2 (RJ-45) is connected to 1000Mbps switch or workstation port. The module does not support 10/100Mbps.
- C. Verify the distance between the iConverter and the link partner is within 100 meters.
- D. Confirm that the UTP cable pin-out is correct (EIA/TIA-568-A). The module has auto-crossover capability, so it will accept either a straight-through or crossover cable.

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

7.0 WARRANTY

General and Copyright Notice

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Any dispute between a Buyer and Omnitron shall be governed by the laws of the State of California, U.S.A. without regard to its choice of law principles. Any action brought between a Buyer and Omnitron may only be brought in the state or federal courts located in the county of Orange in California and each party consents to the jurisdiction of those courts.

The information contained in this publication is subject to change without notice. Omnitron Systems Technology, Inc. is not responsible for any inadvertent errors.

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 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.

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 2011/65/EU, for electrical and electronic equipment sold in the EU after July 1, 2006. 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.



8.0 CUSTOMER SERVICE INFORMATION

If you encounter problems while installing this product, contact Omnitron Technical Support:

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