FlexSwitch™ 2X4GT
Standalone Module User Manual

Product Overview

The FlexSwitch™ 2X4GT is a six-port Ethernet switch with four 10/100/1000 RJ-45 ports, one 10G (10GBASE-R) SFP+ or XFP fiber port, and one RJ-45 port that auto-negotiates to Gigabit or 10G (1000BASE-T/10GBASE-T). FlexSwitch 2X4GT models that support 10G SFP+ transceivers also support Gigabit transceivers for a seamless upgrade path from Gigabit to 10G. This compact unmanaged standalone unit offers rate-switching, and MAC learning for bridging Gigabit and 10 Gigabit Ethernet networks.

The 10G fiber port on the rear panel is compatible with all MSA compliant 10G SFP+ and XFP transceivers, including xWDM optics, 10GBASE-LRM, and direct attach cables. The 1G/10G RJ-45 port on the rear panel is capable of full data rate up to 100 meter of CAT-6A (or better) cabling, and conserves energy by operating in Short Reach mode when the cabling is less than 30 meters.

The front panel has four RJ-45 ports that support 10/100/1000Mbps bridging, with auto-negotiation for data-rate and duplex mode. The RJ-45 ports also support auto MDI/MDI-X, eliminating the need for crossover cables.

Installation Procedure

1) Port Operation

2) Install Standalone Module and Connect Cables

3) Verify Operation

1) PORT OPERATION

The front of the module supports four RJ-45 10/100/1000Mbps ports. The RJ-45 ports support auto-negotiation and auto MDI/MDI-X.

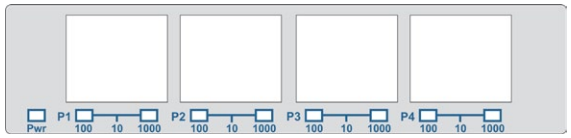

Figure 1: Front View

The rear of the module supports one 10GBASE-R transceiver and one 1G/10G RJ-45 port. The RJ-45 port supports auto-negotiation. The rear of the module also provides the power connections via a AC barrel connector or two-pin terminal connector.

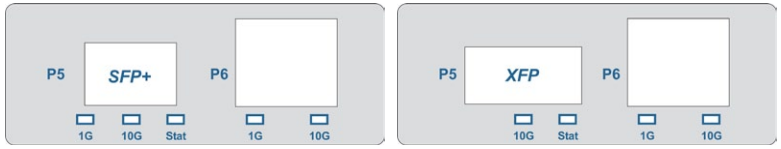

Figure 2: Rear View Transceiver and RJ-45 Ports

NOTE: The RJ-45 port not available on all models.

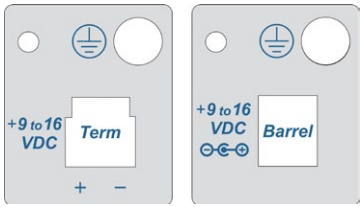

Figure 3: Rear View of Power Connectors

2) INSTALL STANDALONE MODULE AND CONNECT CABLES

a. The 2X4GT is available with integrated mounting brackets. For wall-mounting, use the integrated mounting brackets to attach the 2X4GT to a wall, backboard or other flat surface. For tabletop installations, place the unit on a flat level surface. Attach the rubber feet to the bottom of the 2X4GT 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 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.

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 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.

A 'P' clamp is included to provide strain relief for the power cable.

NOTE: A safety ground attachment is provided on the rear of the chassis. Use the provided ground screw to attach a safety ground.

AC Power Requirements	AC Adapter: (US)	100 - 120VAC/60Hz 0.228A @ 120VAC (max)
	AC Adapter: (Universal)	100 - 240VAC/50 - 60Hz 0.228A @ 120VAC (max)
DC Power Requirements	DC Input: (Terminal Block)	9 - 16VDC, 2.64A max (positive voltage only) 2-Pin Terminal (non-isolated)
	DC Input: (AC Adapter)	9 - 16VDC, 2.64A max (positive voltage only) 2.5mm Barrel Connector

b. On the rear of the module, insert the appropriate transceiver (depending on the model number) into Port 5 receptacle on the 2X4GT. The release latch of the transceiver must be in the closed position before insertion.

c. Connect an appropriate multimode or single-mode fiber cable to the fiber transceiver port on the 2X4GT. 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.

d. On the rear of the module, connect the RJ-45 port via a CAT 6A or better cable to a 1000BASE-T or 10GBASE-T Ethernet device.

e. On the front of the module, connect the RJ-45 ports via a CAT 5 or better cable to a 10BASE-T, 100BASE-TX or 1000BASE-T Ethernet device.

NOTE: Shielded Twisted Pair (STP) cables need to be connected to provide reasonable protection against harmful interference and to comply with the FCC Class B limits

3) VERIFY OPERATION

Once the module has been installed and configured per steps 1 and 2, verify the module is operational by viewing the LED indicators.

LED Function "Legend"	Color	OFF State	ON/Blinking State
Power "PWR"	Green	No power	**Solid Green:** Module has power
P1, P2, P3 and P4 Link Activity "100 + 1000"	Green	Port not linked at 10M	**Solid Green:** Port linked at 10M **Blinking Green:** Data activity
P1, P2, P3 and P4 Link Activity "100"	Green	Port not linked at 100M	**Solid Green:** Port linked at 100M **Blinking Green:** Data activity
P1, P2, P3 and P4 Link Activity "1000"	Green	Port not linked at 1000M	**Solid Green:** Port linked at 1000M **Blinking Green:** Data activity
P5 Link Activity (SFP+ Only) "1G"	Green	Port not linked at 1000M	**Solid Green:** Port linked at 1000M **Blinking Green (10Hz):** Data activity
P5 Link Activity "10G"	Green	Port not linked at 10G	**Solid Green:** Port linked at 10G **Blinking Green (10Hz):** Data activity
P5 DDMI "Stat"	Green/ Amber	Transceiver does not support digital diagnostic or no transceiver is installed	**Green Solid:** Transceiver supports digital diagnostic and no DDMI alarm detected **Amber Solid:** Transceiver supports digital diagnostic and DDMI alarm detected
P6 Link Activity "1G"	Green	Port not linked at 1000M	**Solid Green:** Port linked at 1000M **Blinking Green (10Hz):** Data activity
P6 Link Activity "10G"	Green	Port not linked at 10G	**Solid Green:** Port linked at 10G **Blinking Green (10Hz):** Data activity

Figure 4: LED Indicators

LED Legend/State P1 - P4		Link Speed
"100"	"1000"	
OFF	OFF	Port not linked
ON	OFF	Port linked at 100Mbps
OFF	ON	Port linked at 1000Mbps
ON	ON	Port linked at 10Mbps

Figure 5: Port 1- 4 Speed LED Indicators

FCC Class B Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

This equipment has been verified to comply with the limits for a class B computing device, pursuant to FCC Rules. In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

Warranty

This product is warranted to the original purchaser 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 within ninety (90) days from the date of shipment at www.omnitron-systems.com/support. 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 in accordance with Directive 2002/96/EC of the European Parliament and of the council of 27 January 2003 on waste electrical and electronic equipment (WEEE). 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 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 this 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.

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