Omnitron Systems

RuggedNet® 10GPoEBT/Mi

Managed 6 Port

60/100W IEEE 802.3bt 10Gigabit Switches

Quick Start Guide

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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 five (5) year 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.

WARNING: Hot surface.

RuggedNet® 10GPoEBT/Mi
Quick Start Guide

Product Overview

The RuggedNet 10GPoEBT/Mi is a industrial High-Power PoE Ethernet switch that feature SFP/SFP+ uplink ports and four 10/100/1000 RJ-45 copper Power Sourcing Power-over-Ethernet user ports.

The 10GPoEBT/Mi is an IEEE 802.3bt compliant PoE switch featuring 60W and 100W per user port.

The mode of operation can be configured using easily accessible DIP-switches or using Web, Telnet, SSH, SNMPv1/v2c/v3 or Serial Console management interfaces. These management interfaces provide access to filtering and security options, such as, broadcast storm prevention, IGMP, IEEE 802.1x, RADIUS, TACACS+ and Access Control Lists. Email event notification and alarm reporting is provided using Simple Mail Transfer Protocol.

To access the user manuals for the Web Interface, Command Line Interface and Hierarchical Command Line Interface, access the RuggedNet 10GPoEBT/Mi product page.

RuggedNet 6 Port Module

The modules are Power Sourcing Equipment (PSE) that provides up to 100W (depending on the model number) per RJ-45 user port and supports frame sizes up to 10,240 bytes.

Front Panel

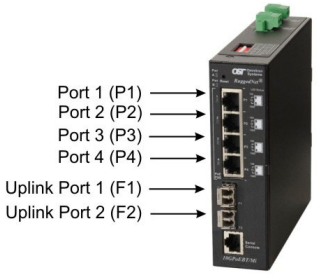
The front of the module provides access to the management (serial console), RJ-45 user ports and uplink ports.

RJ-45 PoE, Uplinks and Fixed-Fiber Ports

The RJ-45 PoE Ethernet user port supports 10BASE-T, 100BASE-TX and 1000BASE-T protocols, auto-negotiation, auto MDI/MDI-X crossover and can be manually forced to a specific speed and duplex mode.

The module supports two 1/10G SFP/SFP+ transceiver uplink ports.

The SFP/SFP+ ports support SERDES 10GBASE-X and 1000BASE-X copper and fiber transceivers, and SGMII 10/100/1000BASE-T copper transceivers.

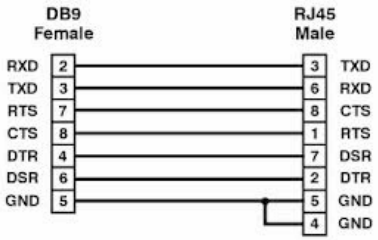


Front Panel Layout

Serial Console Port

To configure the module using the serial port, attach a DB-9 serial (RS-232) equipped computer with terminal emulation software such as Procomm or Putty to the serial port on the module using a RJ-45 to DB-9 serial cable (not included). Some computers do not come with DB-9 serial port connectors and may require a USB-to-serial port adapter.

The port is a standard RS-232 asynchronous serial interface. The serial ports is configured for 57,600bps, 1 stop, 8 data, parity none. The serial adapter cable pin-outs are illustrated below.



Standard RJ-45 to DB-9 serial cable pin-out

Reset Button

A reset button is available on the front of the switch to restore the switch to factory default values. Press and hold the reset button for more than 5 seconds to restore the switch to factory default values.

Installation Procedure

1) Configure DIP-switches

2) Installing the Module

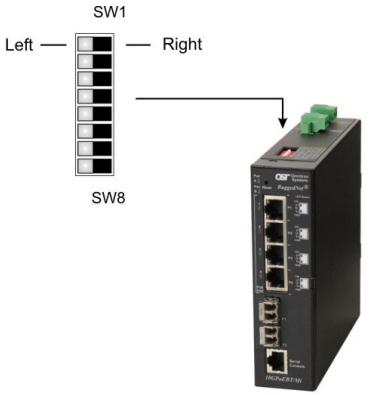
3) Apply DC Power

4) Connect Cables

5) Verify Operation

1) Configure DIP-switches

DIP-switches are located on the top of the module. The DIP-switches are used to configure modes of operation, networking features and PoE reset.



DIP-switch Bank Locations

The table below provides a description of each DIP-switch position and function.

Switch	Position	Legend	Function
SW1	LEFT	Single Switch	Mode of Operation
	RIGHT	Dual Switch	
SW2	LEFT	Switch	
	RIGHT	Directed Switch	
SW3	LEFT	Off	Uplink Redundancy
	RIGHT	Link Protection	
SW4	LEFT	No Return	
	RIGHT	F1 Return	
SW5	LEFT	MAC Learning	MAC Learning Enabled (factory default)
	RIGHT	Off	MAC Learning Disabled
SW6	LEFT	Off	PoE Forced Disabled (factory default)
	RIGHT	PoE Forced	PoE Forced Enabled
SW7	LEFT	L2CP Tunnel	L2CP Tunnel (factory default)
	RIGHT	Discard	L2CP Tunnel Discard
SW8	LEFT	Off	PoE Reset Disabled (factory default)
	RIGHT	PoE Reset	PoE Reset Enabled

DIP-switch Definitions

SW1 and SW2: Mode of Operation

The modules support Switch, Directed Switch and Dual Device modes.

The modes are described with MAC learning enabled. When MAC learning is disabled, unicast packets are forwarded to all ports.

SW1	SW2	Function
LEFT	LEFT	Switch Mode (factory default)
LEFT	RIGHT	Directed Switch Mode
RIGHT	LEFT	Dual Device Mode - Switch Mode
RIGHT	RIGHT	Dual Device Mode - Directed Switch Mode

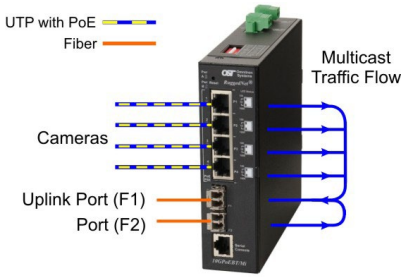
Modes of Operation

Switch Mode

When configured for Switch Mode (factory default), the module operates as a standard layer 2 switch. Data flow will follow MAC address mapping.

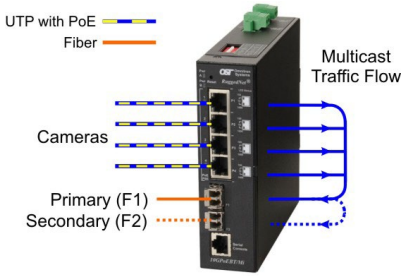
Directed Switch Mode

When configured for Directed Switch Mode, traffic from ports P1 - P4 is only forwarded to the uplink port F1, preventing the broadcast traffic from flooding other network ports. The data traffic on the additional uplink port (F2) is also forwarded to port F1. Incoming traffic from F1 follows MAC address mapping.



Directed Switch Mode Dual Uplink Port

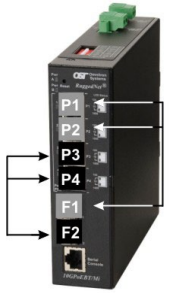
When configured for Directed Switch Mode and Uplink Redundancy (per DIP-switches 3 and 4), traffic is forwarded to both the primary and secondary uplink ports. The secondary port will block all traffic while the primary port is active. When the primary port goes down, the secondary port will be active and all traffic will be forwarded out the secondary port (F2).



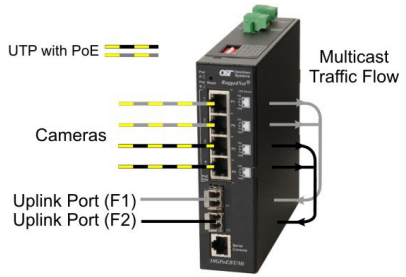
Directed Switch Mode with Uplink Redundancy

Dual Device Mode

When configured for Dual Device Mode, the module is configured as two logically independent Layer 2 switches. Port F1 is associated with ports P1 and P2 and Port F2 is associated with ports P3 and P4. Data flow will follow MAC address mapping.



Dual Device Mode



Dual Device with Directed Switch Mode

Configured for Dual Device Mode and Directed Switch Mode, the traffic from ports P1 and P2 is only forwarded to uplink port F1 and ports P3 and P4 are only forwarded to uplink port F2. This prevents broadcast traffic from flooding other network ports. Incoming traffic from F1 and F2 follows MAC address mapping.

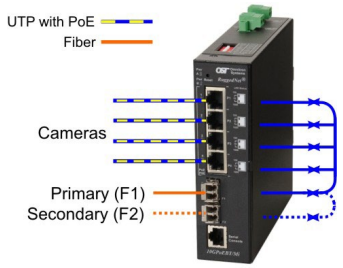
SW3 and SW4: Uplink Redundancy

The modes are described with MAC learning enabled. When MAC learning is disabled, the module will send data to all ports.

SW3	SW4	Function
LEFT	LEFT	Switch Mode (factory default)
LEFT	RIGHT	Switch Mode (factory default)
RIGHT	LEFT	Redundant Mode - no return to primary (F1)
RIGHT	RIGHT	Redundant Mode - return to primary (F1)

Uplink Redundancy

When configured for Uplink Redundant Mode “no return to primary”, the uplink ports operate as redundant links. A fault on the primary Port F1, will cause a fail over to the secondary Port F2 within 50msec. Port F1 will become the secondary port once the failure condition has been restored because “no return to primary” has been selected.



Redundant Uplink

When configured for Uplink Redundant Mode “return to primary’, a fault on the primary Port F1, will cause a fail over to the secondary Port F2 within 50msec. The module will return to the primary Port F1 after the failure condition has been restored for 6 seconds.

SW5: MAC Learning - “MAC Learning/Off”

When this DIP-switch is in the LEFT “MAC Learning” position (factory default), all ports on the module will learn the source MAC address of each received packet and store the address so packets destined for the stored addresses can be forwarded to the appropriate port on the module. When the DIP-switch is in the RIGHT “Off” position, learning is turned off and all received unicast packets are forwarded to all ports.

SW6: Forced PoE - “Off/ PoE Forced”

This DIP-switch allows the PoE power to be forced ON when connected to a PD with non-standard detection characteristics. The DIP-switch controls the forced capability for the RJ-45 user ports on the module.

When this DIP-switch is in the LEFT “Off” position, all RJ-45 user port will automatically perform the detection, classification and powering functions for the attached PD. When this DIP-switch is in the RIGHT “PoE Forced” position, all RJ-45 user ports will provide a maximum of 60 watts of power to the PD.

SW7: L2CP - “L2CP Tunnel/Discard”

When this DIP-switch is in the LEFT “L2CP Tunnel” position (factory default), all L2CP frames will be tunneled through the module. When this DIP-switch is in the RIGHT “Discard” position, all L2CP frames will be discarded with the exception of the frames listed in the table on the next page.

Multicast Destination Address	Name	SW7 L2CP LEFT / RIGHT
01-80-C2-00-00-00	Bridge Group Address	Based on RSTP / MSTP
01-80-C2-00-00-01	IEEE Std 802.3 Full Duplex PAUSE	Based on PAUSE
01-80-C2-00-00-03	IEEE Std 802.1X PAE Address	Based on AAA 802.1X
01-80-C2-00-00-0B	Reserved for future standardization	Tunnel
01-80-C2-00-00-0C	Reserved for future standardization	Tunnel
01-80-C2-00-00-0D	Provider Bridge GVRP Address	Tunnel
01-80-C2-00-00-0E	IEEE Std 802.1AB LLDP	Based on LLDP
01-80-C2-00-00-0F	Reserved for future standardization	Tunnel
01-80-C2-00-00-10	All Bridges	Tunnel
01-80-C2-00-00-2X	GARP	Tunnel
01-80-C2-00-00-3X	802.1ag CFM	Tunnel

If RSTP/MSTP, PAUSE, AAA 802.1X and LLDP are disabled, the protocols will be TUNNELED. If the protocols are enabled, the module will participant in the protocol.

SW8: PSE Reset - “Off/PoE Reset”

The module can be configured to disable (reset) the PoE output power for 5 seconds after a loss of receive link on any uplink port. This feature is typically used to allow a PD to re-initialize after a failure on the incoming uplink.

When this DIP-switch is in the LEFT “Off” position (factory default), PoE output power does not reset on a loss of receive link on any uplink port. When this DIP-switch is in the RIGHT “PoE Reset” position, the module will disable PoE output power for 5 seconds following a loss of receive link on any uplink port.

When uplink redundancy is enabled, the loss of link on either F1 or F2 will not cause the PD to be re-initialized even though the PSE Reset is enabled. The PD will be re-initialized on a loss of receive link on both uplink ports.

When Dual Device Mode is enabled, the loss of receive link on a uplink port will re-initialize the PDs associated with the that uplink port. Ports P1 and P2 will drop PoE power when a loss of receive link on F1 is detected and ports P3 and P4 will drop PoE power when a loss of receive link on F2 is detected.

2) Installing the Module

The module can be wall or rack mounted using the optional Wall Mount Plate (8260-3) or DIN-Rail mounted.

Wall Mounting

Refer to the Wall Mount Plate user manual (040-08260-301x) for the proper installation guidelines.

The wall mounting height of the module should be less than or equal to 2 meters (6.6 feet) from the floor. Use the four mounting holes on the module to secure the module to the wall. The module can accommodate #6 screws (not included).

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.

The accessory cables should have their own strain relief and do not pull down on the module.

Rack Mounting

The module can be rack mounted using the optional Rack Mount Shelf (8260-0). Refer to the Rack Mount Shelf user manual (040-08260-001x) for the proper installation guidelines.

Follow the same guidelines above when rack mounting the module.

DIN-Rail Mounting

The module can be DIN-Rail mounted using the attached DIN-Rail mounting bracket.

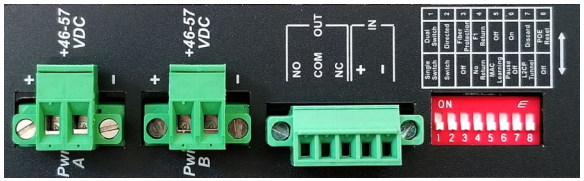
3) Apply DC Power

This module is intended for installation in restricted access areas. (“Les matériels sont destinés à être installés dans des EMPLACEMENTS À ACCÈS RESTREINT”). A restricted access area can be accessed only through the use of a special key, or other means of security.

The over current protection for connection with centralized DC shall be provided in the building installation, and shall be a UL listed circuit breaker rated 20 Amps, and installed per the National Electrical Code, ANSI/NFPA-70.

The 10GPoEBT/Mi (60W models) requires +50 to +57VDC inclusive of tolerances (4.47A @ 56VDC max rated power) and the 10GPoEBT/Mi (100W models) requires +52 to +57VDC inclusive of tolerances (7.33A @ 56VDC max rated power). See specification table for specific model requirements.

Appropriate overloading protection should be provided on the DC power source outlets utilized.



Top View - Location of DC Power, Alarm Contacts and DIP-switches

WARNING: Only a DC power source that complies with safety extra low voltage (SELV) requirements can be connected to the DC-input power supply.

WARNING REGARDING EARTHING GROUND:

- This equipment shall be connected to the DC supply system earthing electrode conductor or to a bonding jumper from an earthing terminal bar or bus to which the DC supply system earthing electrode is connected.
- This equipment shall be located in the same immediate area (such as adjacent cabinets) as any other equipment that has a connection between the earthed conductor of the same DC supply circuit and the earthing conductor, and also the point of earthing of the DC system. The DC system shall not be earthed elsewhere.
- The DC supply source is to be located within the same premises as this equipment.
- There shall be no switching or disconnecting devices in the earthed circuit conductor between the DC source and the earthing electrode conductor.

Locate the DC circuit breaker of the external power source, and switch the circuit breaker to the OFF position.

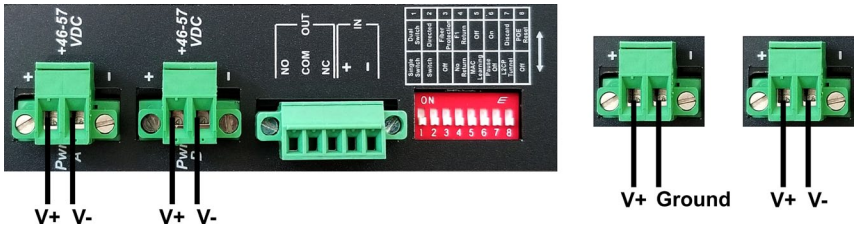
Prepare a power cable using a three conductor insulated wire (not supplied) with 12AWG to 14AWG thickness. Cut the power cable to the length required.

Strip approximately 3/8 of an inch of insulation from the power cable wires.

Connect the ground wire to the grounding screws on the back of the module.

Ground Screw Location

Connect the power cables to the module by fastening the stripped ends to the DC power connector.



Power Connections and Power Option

WARNING: The positive lead of the power source must be connected to the "+" terminal on the module and the negative lead of the power source to the "-" terminal on the module as shown above.

WARNING: Note the wire colors used in making the positive, negative and ground connections. Use the same color assignment for the connection at the circuit breaker.

Connect the power wires to the circuit breaker and switch the circuit breaker ON. If any modules are installed, the Power LED(s) will indicate the presence of power.

During the installation, ensure that the ground potentials are maintained throughout the system connections. This includes but not limited to the power source ground and any shielded cabling grounds.

WARNING!!!

NEVER ATTEMPT TO OPEN THE CHASSIS OR SERVICE THE POWER SUPPLY. OPENING THE CHASSIS MAY CAUSE SERIOUS INJURY OR DEATH. THERE ARE NO USER REPLACEABLE OR SERVICEABLE PARTS IN THIS UNIT.

Make sure to disconnect both power connectors and the ground cables before removing the equipment.

4) Connect Cables

a. Insert the SFP/SFP+ transceiver into the SFP receptacle on the front of the module (see the SFP Data Sheet 091-17000-001 for supported Gigabit transceivers or 091-17400-001 for supported 10G transceivers).

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

b. Connect an appropriate multimode or single-mode fiber cable to the fiber port on the front of the module. It is important to ensure that the transmit (TX) is attached to the receive side of the transceiver at the other end and the receive (RX) is attached to the transmit side. When using single-fiber (SF) models, 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.

c. Connect the Ethernet 10/100/1000 RJ-45 port using a Category 5 or better cable to an external 10BASE-T, 100BASE-TX or 1000BASE-T Ethernet device.

d. An alarm relay is available to detect a user configured event. The three contacts closure pins can be configured for normally open (pin 1 and 2) or normally closed (pin 3 and 2) operation. The relay contacts support 110VDC/125VAC Maximum Voltage at a maximum current or 2 amps.Use the supplied connector to attach the wire to the external alarm. Use 16 - 24 AWG wire.

Alarm Contact (Output)	2 form C Relay for Normally Open and Normally Closed Operation 110VDC/125VAC Maximum Voltage, 2A Maximum Current

Alarm Relay

e. An alarm input is available for detecting external events such as door open or closed (pin 4 and 5). The alarm input provides 3.3VDC to detect an external open or shorted condition. Use the supplied connector to attach the wire to the external alarm. Use 16 - 24 AWG wire.

Alarm Sensor (Input)	2.0ma @ 3.3VDC Closure Detection

Alarm Input

Description	15W IEEE 802.3af PoE	30W IEEE 802.3at PoE+	60W IEEE 802.3.bt PoE (Type 3)	100W IEEE 802.3bt PoE (Type 4)
Power Supply Voltage Range	46.0 to 57.0 VDC	51.0 to 57.0 VDC	51.0 to 57.0 VDC	53.0 to 57.0 VDC
Voltage Range at PSE port Output	44.0 to 56.0 VDC	50.0 to 56.0 VDC	50.0 to 56.0 VDC	52.0 to 56.0 VDC
Maximum Power from PoE/PSE port	15.4 watts	30 watts	60 watts	100 watts
Minimum Voltage at PoE/PD port input*	37.0 VDC	42.5 VDC	42.5 VDC	41.1 VDC
Minimum Power at PoE/PD port*	12.95 watts	25.5 watts	51 watts	71 watts
* at 100 meters using Cat5				

PoE, PoE+ and 802.3bt Requirements

5) Verify Operation

Verify the module is operational by viewing the LED indicators.

NOTE: The PSE LED may turn Amber (ON) when a non-PD device is connected to the port.

Power LED Indicators		
Legend	**Indicator**	**Description**
Pwr A and Pwr B	OFF	Unit not powered
	Green - ON	Unit powered
	Green - Blinking at 1Hz	Unit powered and Reset button has been depressed.

Power LED Indicators

Uplink LED Indicators		
Legend	**Indicator**	**Description**
1000 (Link)	OFF	Port not linked
	Green - ON	Port linked at the speed indicated by the Speed LED
	Green - Blinking at 10Hz	Port is transmitting or receiving data
	Green - Blinking at 1Hz	Port in redundant secondary mode
10G (Speed)	OFF	Port not linked
	Amber - Blinking at 1Hz	Port not linked and receiving remote fault or FEFI
	Green - single blink	Port linked at 10M, 100M or 1G
	Green - two blinks	Port linked at 2.5G
	Green - three blinks	Port linked at 5G
	Green - four blinks	Port linked at 10G

SFP/Uplink Ports LED Indicators LED Indicators

RJ-45 User Ports LED Indicators		
Legend	**Indicator**	**Description**
100 	OFF	No link
	Green - ON	Port linked at 100Mbps
	Green - Blinking at 10Hz	Port data activity at 100Mbps
	Amber -ON	Port linked at 100Mbps Half-duplex
	Amber - Blinking at 10Hz	Port data activity at 100Mbps Half-duplex
1000 	OFF	No link
	Green - ON	Port linked at 1000Mbps
	Green - Blinking at 10Hz	Port data activity at 1000Mbps
	Amber -ON	Port linked at 1000Mbps Half-duplex
	Amber - Blinking at 10Hz	Port data activity at 1000Mbps Half-duplex
10 	OFF	No link
	Green - ON	Port linked at 10Mbps
	Green - Blinking at 10Hz	Port data activity at 10Mbps
	Amber -ON	Port linked at 10Mbps Half-duplex
	Amber - Blinking at 10Hz	Port data activity at 10Mbps Half-duplex
PoE/PSE LED Indicators are located next to the RJ-45 User Ports		
PoE/PSE	OFF	Port PSE inactive
	Amber - ON	Port PSE inactive - exceeding the power source
	Green - single blink	Powered by 802.3af PoE 15W
	Green - two blinks	Powered by 802.3at PoE 30W
	Green - three blinks	Powered by High-Power PoE 60W
	Green - four blinks	Powered by High-Power PoE 100W

RJ-45 LED Indicators

Specifications

Description	**RuggedNet® GHPoEBT/Mi (60/100W BT)** 10/100/1000BASE-T with Gigabit Fiber or Copper Uplinks Ruggedized Managed IEEE 802.3bt PoE Ethernet Switch
Standard Compliances	IEEE 802.3, IEEE 802.1Q, IEEE 802.1ad, IEEE 802.1ab, IEEE 802.1ax, IEEE 802.1w RSTP/MSTP, RFC 5424, RFC 4541, RFC 2710, IEC 624339-2, SMTP, SMS, SNTP, RADIUS, TACACS+, IEEE 802.1x IEEE 802.3af (15.40 watts max), IEEE 802.3at (30 watts max) IEEE 802.3bt (60 and 100 watts max)
Environmental	REACH, RoHS and WEEE
Management	IPv4 and IPv6 address Web, Telnet, SSH, SNMPv1/v2c/v3 In-Band management via Ethernet port Out-of-band management via serial port
PoE Modes	IEEE Alternate A (Alt A) and 4-Pair
Frame Size	Up to 10,240 bytes
Port Types	Copper: RJ-45: 10/100/1000BASE-T SFP/SFP+: 10GBASE-X Fiber Transceivers 10GBASE-T Copper Transceivers 1000BASE-X Fiber and Copper Transceivers 10/100/1000BASE-T SGMII Copper Transceivers Serial: RJ-45 (RS-232)
Cable Types	Copper: EIA/TIA 568A/B, Cat 5 UTP and higher Fiber: Multimode: 50/125, 62.5/125µm Single-mode: 9/125µm Serial: Category 3 and higher
DC Power Requirements	60W Models: +46 to +57VDC; inclusive of tolerance 4.47A @ 56VDC 2 Pin Terminal (non-isolated) 100W Models: +46 to +57VDC; inclusive of tolerance 7.33A @ 56VDC 2 Pin Terminal (non-isolated)
Dimensions (W x D X H)	1.5” x 5.5” x 5.5” (38.1 mm x 139.7 mm x 139.7 mm)
Weight	1.70 lb. (772 grams)
Operating Temperature	Extended: -40 to 75°C Storage: -40 to 80°C
Humidity	5 to 95% (non-condensing)
Altitude	-100m to 4,000m (operational)
MTBF (hours)	265,000
Warranty	5 year product warranty with 24/7/365 free Technical Support

Regulatory Compliances (*Pending)	Safety*:	UL 62368-1, UL 60950-1, IEC 62368-1, IEC 60950-1, EN 62368-1, EN 60950-1, CAN/CSA C22.2 No. 62368-1-14, CAN/CSA C22.2 No. 60950-1, CE Mark, UKCA
	EMC:	EN 55032/24 CE Emissions/Immunity, IEC 61000-6-4 Industrial Emissions, IEC 61000-6-2 Industrial Immunity
	EMI:	CISPR 32, FCC 47 Part 15 Subpart B Class A
	EMS:	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m (on UTP cabling) and 20 V/m (on STP cabling) IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: Signal: 10 V, IEC 61000-4-8 (Magnetic Field), 30A/m, IEC 61000-4-11 (General Immunity in Industrial Environments)
	IP Rating:	IP40 Protection
	ACT:	TAA, BAA, NDAA

Customer Support Information

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

Phone: (949) 250-6510
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