RuggedNet® 10GPoEBT/Si

Unmanaged Industrial 60/100W IEEE 802.3bt 10Gigabit Ethernet Switch

The RuggedNet 10GPoEBT/Si is an unmanaged industrial Ethernet switch that features two 1/10G uplink ports and four 10/100/1000 RJ-45 IEEE 802.3bt 60W or 100W PoE user ports.

The RuggedNet PoE switches are Layer 2 Ethernet switches that forward frames to any port based on their MAC address.

All models support Directed Switch mode, which directs multicast traffic (such as video) only to the appropriate uplink port, preventing multicast traffic from flooding other network ports.

The switches support daisy-chain configurations and redundant uplinks for critical applications that require protection and sub 50ms restoration in the event of an uplink failure.

The switches support Dual Device mode that enables the 10GPoEBT/Si to operate as two independent and isolated Ethernet switches.

The modes of operation can be configured using easily accessible DIP-switches. Each DIP-switch function is labeled on the side of the RuggedNet for ease of identification and use.

The RuggedNet PoE switches are available with Small Form Pluggable (SFP) transceiver receptacle ports. The SFP ports support 10/100/1000BASE-T, 1000BASE-T and 10GBASE-T copper transceivers. They also support 1G and 10G multimode or single-mode fiber, dual or single-fiber and standard or CWDM/DWDM wavelengths.

The switches automatically negotiate and deliver the power level required by a Powered Device (PD) partner. Depending on the model of the RuggedNet PoE switch, the switch can deliver up to 60 or 100 Watts of power per copper port.

The switches features a PoE power reset function that enables the attached PD device, such as a camera or access point, to be re-initialized remotely, eliminating the need for costly truck rolls to remote PD sites. When a problem with a PD is detected, the fiber port on the module can be disconnected, triggering the PoE power reset function.

All models can be wall or rack mounted using a wall mount bracket and shelf or DIN-rail mounted using the included DIN-rail mounting clip. They are available with dual DC input power.

SFPs not included

KEY FEATURES

- Unmanaged IEEE 802.3bt 60W and 100W PoE 1/10G Ethernet Switches

- Dual Device mode for operating as two separate switches

- Directed Switch mode prevents flooding of multicast video traffic

- Configurable PoE Power Reset

- Uplink redundancy

- Provides full power to all RJ-45 user ports

- Two 1/10G SFP/SFP+ transceiver uplink ports

- Supports copper and fiber SFP transceivers

- Supports speeds of 10M, 100M, 1G and 10Gbps copper SFP/SFP+ transceivers

- Four 10/100/1000 copper PoE ports

- Dual DC power for redundancy

- Wall, Rack or DIN-rail mountable

- Fan-less design for long life

- Industrial (-40 to 75º C) operating temperature

- TAA, BAA and NDAA compliant, and Made in the USA

- Free 24/7/365 Technical Support

APPLICATIONS

Daisy Chain Application

This example demonstrates the daisy chain capabilities of the RuggedNet PoE switches. In this application each RuggedNet switch connects to its neighboring switch via its uplink ports. The daisy chain can continue to additional switches using this method of connectivity.

Each RuggedNet switch provides high speed connectivity to the fiber links, and power to IP cameras and Wi-Fi access points at each location along the daisy chain.
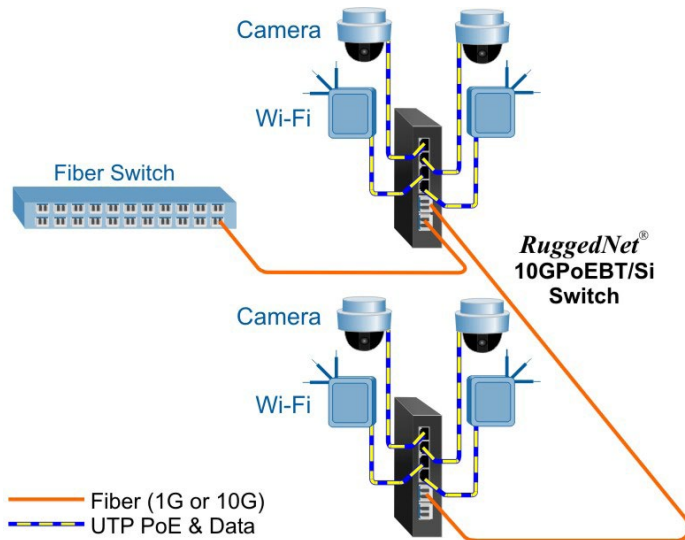
Dual Device Mode Application

This Dual Device feature is extremely useful when two isolated networks domains share a single network distribution location.

The example below depicts a scenario where a surveillance security (green) network and a Wi-Fi (purple) network are sharing a single hub distribution location. Using the two uplinks and the Dual Switch mode facilitates using a single PoE switch driving both the Cameras and the Wi-Fi Access Points while maintaining isolation between the networks.
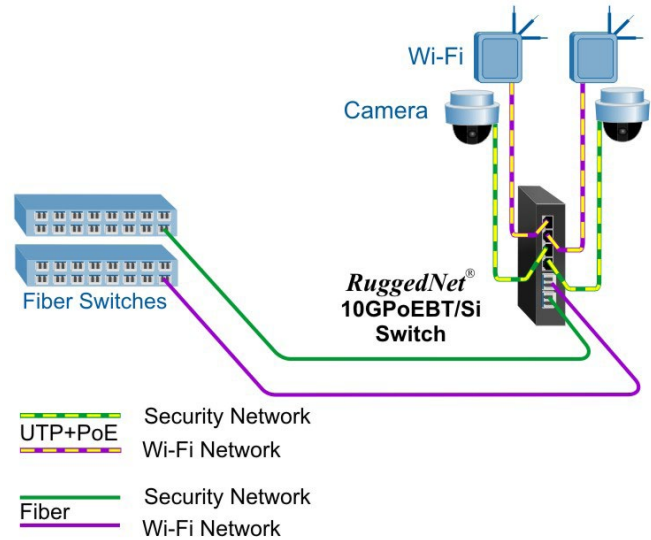
Power / Voltage Requirements and Specifications per IEEE				
Description	**IEEE 802.3af PoE**	**IEEE 802.3at PoE+**	**IEEE 802.3.bt PoE (60W Type 3)**	**IEEE 802.3bt PoE (100W Type 4)**
Power Supply Voltage Range	46.0 to 57.0 VDC	51.0 to 57.0 VDC	51.0 to 57.0 VDC	53.0 to 57.0 VDC
Voltage Range at PSE 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 (at 100 meters using Cat5 Cable)	37.0 VDC	42.5 VDC	42.5 VDC	41.1 VDC
Minimum Power at PoE/PD port (at 100 meters using Cat5 Cable)	12.95 watts	25.5 watts	51 watts	71 watts

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SPECIFICATIONS

Description	**RuggedNet® 10GPoEBT/Si** 10/100/1000BASE-T with 1/10G Fiber Uplink Ports Ruggedized Unmanaged IEEE 802.3bt PoE 10Gigabit Ethernet Switch
Standard Compliances	IEEE 802.3, IEEE 802.3af (15.40 watts max), IEEE 802.3at (30 watts max), IEEE 802.3bt (60 and 100 watts max)
Regulatory Compliance (*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
Environmental	REACH, RoHS and WEEE
PoE Modes	IEEE Alternate A (Alt A) and 4-Pair
Frame Size	Up to 10,240 bytes
Port Types	Copper: 10/100/1000BASE-T (RJ-45) SFP/SFP+: 10GBASE-X Fiber Transceivers 10GBASE-T Copper Transceivers 1000BASE-X Fiber Transceivers 1000BASE-T Copper Transceivers 10/100/1000BASE-T SGMII Copper Transceivers
Cable Types	Copper: EIA/TIA 568A/B, Cat 5 UTP and higher Fiber: Multimode: 50/125, 62.5/125µm Single-mode: 9/125µm
DC Power Requirements	60W Models: +46 to +57VDC; 4.47A @ 56VDC 2 Pin Terminal (isolated) 100W Models: +46 to +57VDC; 7.33A @ 56VDC 2 Pin Terminal (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	Industrial: -40 to 75°C Storage: -40 to 80°C
Humidity	5 to 95% (non-condensing)
Altitude	-100m to 4,000m (operational)
MTBF (hours)	277,000
Warranty	5 year product warranty with 24/7/365 free Technical Support

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ORDERING INFORMATION

RuggedNet 10GPoEBT/Si Models	
Model Number	**Description**
3260B-0-24-2Z	RuggedNet 10GPoEBT/Si 2 x SFP/SFP+ uplink port and 4 x RJ-45 IEEE 802.3bt 60W ports, Dual DC Terminal Connectors, Industrial Temperature
3262B-0-24-2Z	RuggedNet 10GPoEBT/Si 2 x SFP/SFP+ uplink port and 4 x RJ-45 IEEE 802.3bt 100W ports, Dual DC Terminal Connectors, Industrial Temperature
Contact Omnitron for other fiber options. Order the appropriate SFPs separately. Visit the Omnitron Optical Transceivers web page.	

ACCESSORIES

Model Number	Description
8260-3	Wall Mounting Plate
8260-0	19" rack mount shelf (up to 2 modules with wall mounting plate installed)

RuggedNet Switch → Mounting Holes
Wall Mount Plate 8260-3
Mounting Holes

Wall Mount Plate used to wall or rack mount the RuggedNet switch

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