

### RuggedNet® 10GPoE+/Si

#### Unmanaged Industrial 6 and 10 Port PoE/PoE+ 10Gigabit Ethernet Switch

The RuggedNet 10GPoE+/Si is an unmanaged Industrial PoE and PoE+ Ethernet switch that features two 1/10G uplink ports and four or eight 10/100/1000 PoE/PoE+ RJ-45 user ports.

The RuggedNet 10GPoE+/Si is a Layer 2 Ethernet switch that forwards 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 10GPoE+/Si to operate as two independent and isolated Ethernet switches. In Dual Device mode, the 10GPoE+/Si provides separate and independent data traffic paths between each uplink port and a group of copper ports.

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 10GPoE+/Si automatically negotiate and deliver the power level required by a Powered Device (PD) partner. The 10GPoE+/Si can deliver up to 30 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.

The switches can be wall or rack mounted using an optional wall mount bracket 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

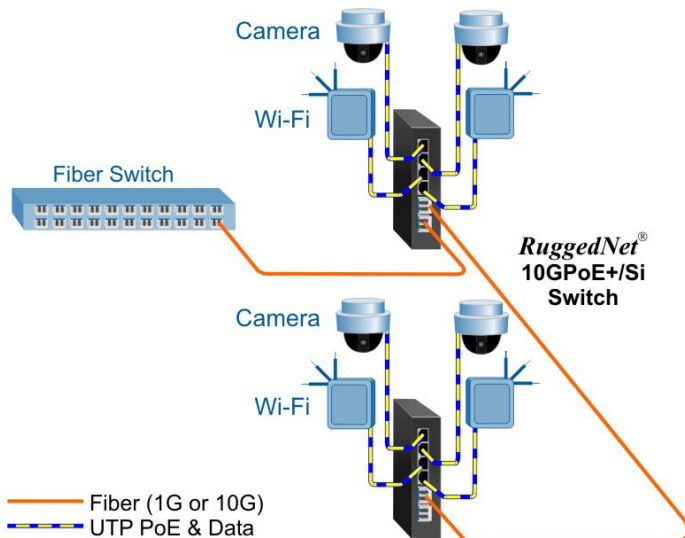
- Unmanaged Industrial 1/10G PoE/PoE+ Ethernet Switch
- Dual Device mode for operating as two separate switches
- Directed Switch mode prevents flooding of multicast video traffic
- Configurable PoE Power Reset
- Uplink redundancy
- Provides full PoE/PoE+ power to all RJ-45 user ports
- Two 1/10G SFP/SFP+ transceiver uplink ports
- Supports copper and fiber SFP transceivers
- Supports speeds of 10M, 100M, 1G and 10Gbps copper SFP/SFP+ transceivers
- Four or eight 10/100/1000 copper PoE/PoE+ ports
- Dual DC power for redundancy
- Wall, Rack and DIN-rail mountable
- Fan-less design for long life
- Industrial (-40 to 75° 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.

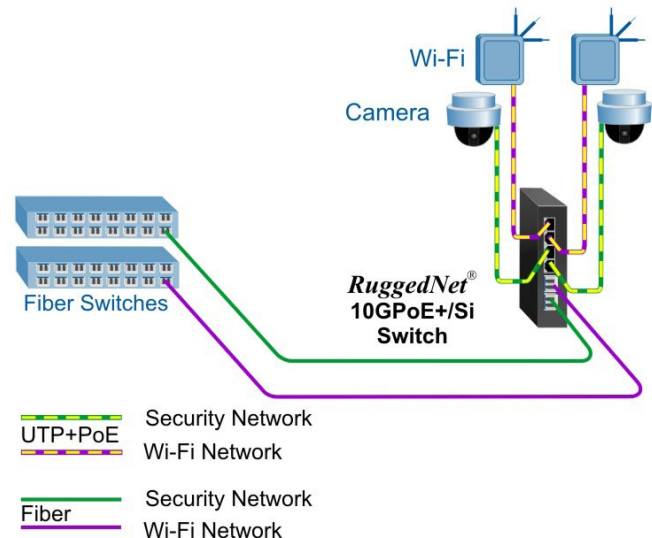
Each RuggedNet switch provides high speed connectivity to the fiber links, and power to IP cameras and Wi-Fi access points at each location along the daisy chain.



## 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+ |
| Power Supply Voltage Range  | 46.0 to 57.0 VDC | 51.0 to 57.0 VDC  |
| Voltage Range at PSE port Output                                      | 44.0 to 56.0 VDC | 50.0 to 56.0 VDC  |
| Maximum Power from PoE/PSE port                                       | 15.4 watts       | 30 watts          |
| Minimum Voltage at PoE/PD port input (at 100 meters using Cat5 Cable) | 37.0 VDC         | 42.5 VDC          |
| Minimum Power at PoE/PD port (at 100 meters using Cat5 Cable)         | 12.95 watts      | 25.5 watts        |

# SPECIFICATIONS

|  |   |   |
|--|---|---|
| <b>Description</b>                       | <b>RuggedNet 10GPoE+/Si</b><br>10/100/1000BASE-T with 1/10G Uplink Ports<br>Ruggedized Unmanaged PoE+ 10Gigabit Ethernet Switch   |   |
| <b>Standard Compliances</b>              | IEEE 802.3, IEEE 802.3af (15.40 watts), IEEE 802.3at (30 watts)   |   |
| <b>Regulatory Compliances (*Pending)</b> | <p>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</p> <p>EMC: EN 55032/24 CE Emissions/Immunity, IEC 61000-6-4 Industrial Emissions, IEC 61000-6-2 Industrial Immunity</p> <p>EMI: CISPR 32, FCC 47 Part 15 Subpart B Class A</p> <p>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)</p> <p>IP Rating: IP40 Protection<br/>ACT: TAA, BAA, NDAA</p> |   |
| <b>Environmental</b>                     | REACH, RoHS and WEEE  |   |
| <b>PoE Modes</b>                         | IEEE Alternate A (Alt A)  |   |
| <b>Frame Size</b>                        | Up to 10,240 bytes  |   |
| <b>Port Types</b>                        | <p>Copper: 10/100/1000BASE-T (RJ-45)</p> <p>SFP/SFP+: 10GBASE-X Fiber Transceivers<br/>10GBASE-T Copper Transceivers<br/>1000BASE-X Fiber Transceivers<br/>1000BASE-T Copper Transceivers<br/>10/100/1000BASE-T SGMII Copper Transceivers</p>   |   |
| <b>Cable Types</b>                       | <p>Copper: EIA/TIA 568A/B, Cat 5 UTP and higher</p> <p>Fiber: Multimode: 50/125, 62.5/125µm<br/>Single-mode: 9/125µm</p>  |   |
| <b>DC Power Requirements</b>             | 4 RJ-45 Ports:<br>+46 to +57VDC;<br>2.33A @ 56VDC<br>2 Pin Terminal (isolated)  | 8 RJ-45 Ports<br>+46 to +57VDC;<br>4.49A @ 56VDC<br>2 Pin Terminal (isolated) |
| <b>Dimensions (W x D x H)</b>            | 1.5" x 5.5" x 5.5 (38.1 mm x 139.7 mm x 139.7 mm)   |   |
| <b>Weight</b>                            | 4 RJ-45 Ports:<br>1.70 lb. (772 grams)  | 8 RJ-45 Ports:<br>1.77 lb. (803 grams)  |
| <b>Operating Temperature</b>             | Industrial: -40 to 75°C<br>Storage: -40 to 80°C   |   |
| <b>Humidity</b>                          | 5 to 95% (non-condensing)   |   |
| <b>Altitude</b>                          | -100m to 4,000m (operational)   |   |
| <b>MTBF (hours)</b>                      | 280,000   |   |
| <b>Warranty</b>                          | 5 year product warranty with 24/7/365 free Technical Support  |   |

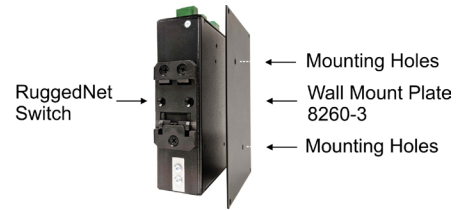
# ORDERING INFORMATION

| RuggedNet 10GPoE+/Si Models |   |
|-----------------------------|---|
| Model Number                | Description   |
| 9583-0-24-2Z                | RuggedNet 10GPoE+/Si 2 x SFP/SFP+ uplink port and 4 x RJ-45 PoE/PoE+ ports, Dual DC Terminal Connectors, Industrial Temperature |
| 9583-0-28-2Z                | RuggedNet 10GPoE+/Si 2 x SFP/SFP+ uplink port and 8 x RJ-45 PoE/PoE+ ports, Dual DC Terminal Connectors, Industrial Temperature |

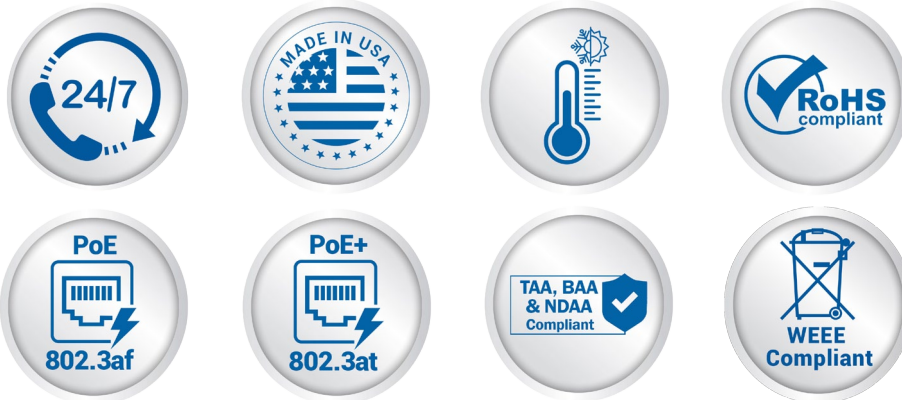
Contact Omnitron for other fiber options. Order the appropriate SFPs separately. [Visit the Omnitron Optical Transceivers web page.](#)

## ACCESSORIES

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



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



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