RuggedNet® 10G/Si

Unmanaged Industrial 6 and 10 Port 10Gigabit Ethernet Switch

The RuggedNet 10G/Si is a ruggedized unmanaged industrial Ethernet switch that features two 1/10G uplink ports and four or eight 10/100/1000 RJ-45 ports. The RuggedNet 10G/Si enables industrial network distance extension with fiber cabling.

The RuggedNet 10G/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 10G/Si to operate as two independent and isolated Ethernet switches. In Dual Device mode, the 10G/Si provides separate and independent data traffic paths between each uplink port and a group of copper ports.

The 10G/Si 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 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 RuggedNet compact industrial Ethernet switches 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.
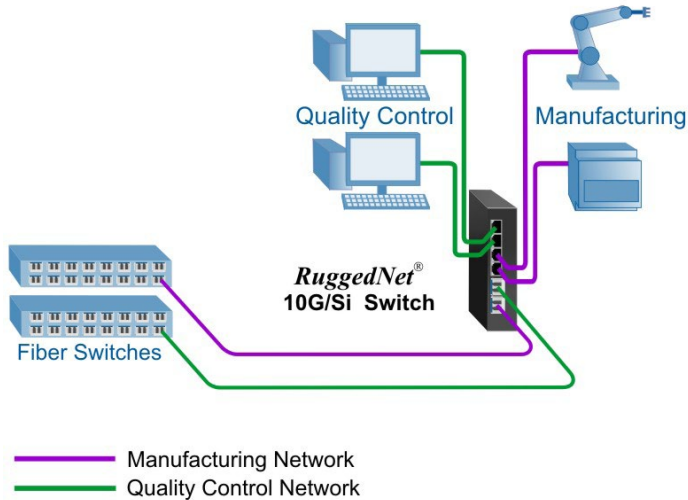

SFPs not included

KEY FEATURES

■ Unmanaged 6 and 10 Port 1/10G Ethernet Switch

■ 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 ports

■ Supports jumbo frames up to 10,240 bytes

■ Uplink redundancy

■ Dual Device mode for operating as two separate switches

■ Directed Switch mode AKA Camera mode to prevent port flooding

■ Dual DC power for redundancy

■ Wall, Rack and DIN-rail mountable

■ Fan-less design

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

■ Made in the USA

■ Free 24/7/365 Technical Support

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APPLICATIONS

Dual Device Mode Application

This Dual Device feature is extremely useful when two isolated networks domains share a single network distribution location.
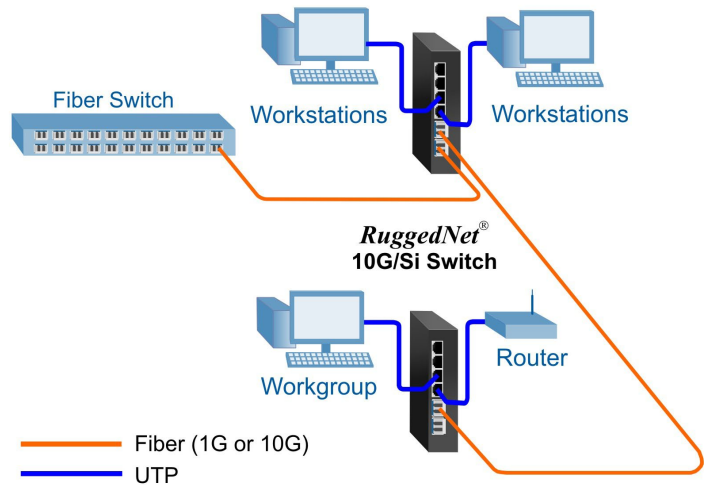
The example below depicts a scenario where the Quality Control (green) network and the Manufacturing (purple) network are sharing a single hub distribution location. Using the two uplinks and the Dual Switch mode facilitates using a single switch driving both the Quality Control and the Manufacturing devices while maintaining isolation between the networks.

Industrial Daisy Chain Application

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

In this application, two locations are connected using the RuggedNet switches providing high speed connectivity between the workstations and the router.
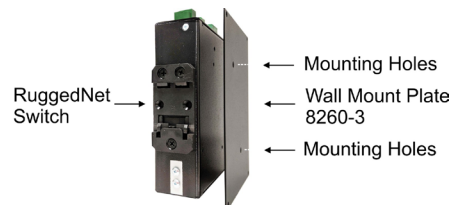

ORDERING INFORMATION

RuggedNet 10G/Si Models	
Model Number	**Description**
2903-0-24-2Z	RuggedNet 10G/Si 2 x SFP/SFP+ uplink port and 4 x RJ-45 ports, Dual DC Terminal Connectors, Industrial Temperature
2903-0-28-2Z	RuggedNet 10G/Si 2 x SFP/SFP+ uplink port and 8 x RJ-45 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

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

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SPECIFICATIONS

Description	**RuggedNet® 10G/Si** 10/100/1000BASE-T with 1/10G Uplink Ports Ruggedized Unmanaged 6 and 10 Port 10Gigabit Ethernet Switch	
Standard Compliances	IEEE 802.3	

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
	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	

Environmental	REACH, RoHS and WEEE	
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	4 RJ-45 Ports: +12 to +57VDC; 0.86A @ 12VDC 0.22A @ 48VDC 2 Pin Terminal (non-isolated)	8 RJ-45 Ports: +12 to +57VDC; 0.94A @ 12VDC 0.24A @ 48VDC 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	4 RJ-45 Ports: 1.70 lb. (772 grams)	8 RJ-45 Ports: 1.77 lb. (803 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)	304,000	
Warranty	5 year product warranty with 24/7/365 free Technical Support	

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800-675-8410 • 949-250-6510 • www.omnitron-systems.com • info@omnitron-systems.com • 38 Tesla, Irvine, CA USA 92618