SIEMENS

RUGGEDCOM RSG920P

Compact High Density Gigabit Switch

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The RUGGEDCOM RSG920P is a rugged, high density, small form factor Layer 2 switch with Power-over-Ethernet (PoE) capability designed for space limited cabinets with high bandwidth requirements.

Contents

Product overview and benefits

The RUGGEDCOM RSG920P is a rugged, high density, Ethernet switch designed to operate in harsh environments with widely varying climatic and environmental conditions. Tested and certified to withstand extreme temperature, vibration and shock, the RUGGEDCOM RSG920P offers exceptional reliability for industrial applications such as transportation systems and oil and gas applications.
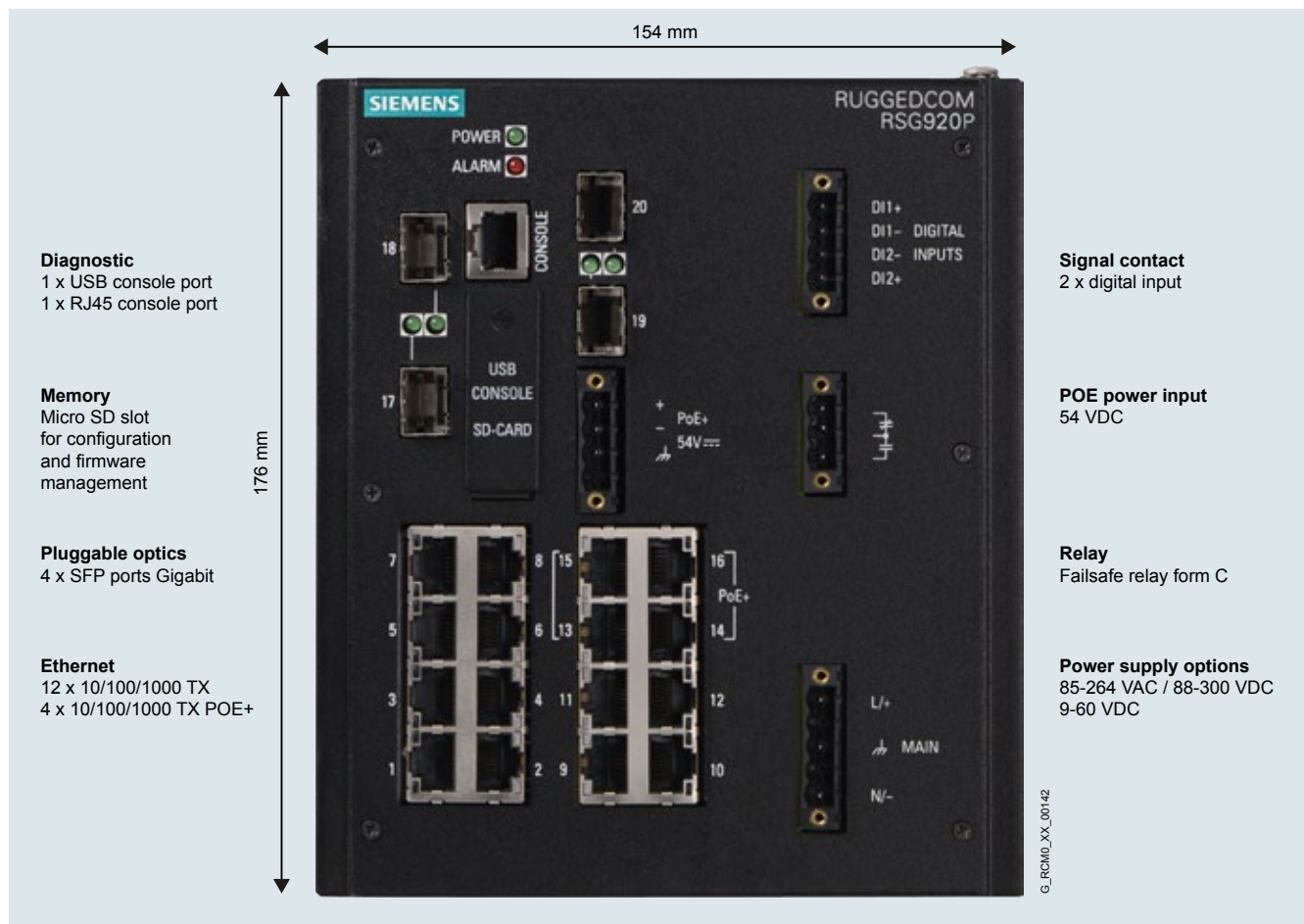
With 20 Gigabit Ethernet ports, the RUGGEDCOM RSG920P is suitable for applications that require high bandwidths and is ready to accommodate future network expansions. 4 SFP slots provide ultimate flexibility in uplink distances and bandwidth with support for Gigabit as well as Fast Ethernet fiber SFP. The small form factor of the RUGGEDCOM RSG920P allows deployment in space limited cabinets and on DIN rails.

With a capability of 4 Power-over-Ethernet (PoE) interfaces supplying up to 120 W (30 W per port) of power, the RUGGEDCOM RSG920P can accommodate various PoE devices such as cameras, intercom devices, Wireless LAN Access Points and Bluetooth sensors. The Smart Power Management for PoE gives higher priority to the most important devices in a network when power demand exceeds supply.

Benefits
- Meet the growing demand for Ethernet in roadside and wayside cabinets without the need for multiple devices
- Reduce cabling costs and simplify camera, radio and peripheral device connectivity by supplying power and Ethernet in one cable
- Get the capacity of a 19" switch in very space limited environments
- Benefit from easy in-field configuration and upgrade

Technical data

Diagnostic
1 x USB console port
1 x RJ45 console port

Memory
Micro SD slot
for configuration
and firmware
management

Pluggable optics
4 x SFP ports Gigabit

Ethernet
12 x 10/100/1000 TX
4 x 10/100/1000 TX POE+

Signal contact
2 x digital input

POE power input
54 VDC

Relay
Failsafe relay form C

Power supply options
85-264 VAC / 88-300 VDC
9-60 VDC

Technical data	
Ethernet interfaces	
RJ45	16 x 10/100/1000 Mbps
SFP FO (small form-factor pluggable)	4 x 100/1000 Mbps
Switch performance	
Maximum bandwidth	20 Gbps full duplex
Switching method	Store and forward
Power-over-Ethernet	
Number of ports	4
Supported specifications	IEEE 802.3af, IEEE 802.3at
Bandwidth	10/100/1000 Mbps
Combined max power output	120 W (Max. 30 W/port)
Power supply characteristics	
Supported input voltage ranges	85 – 264 VAC / 100 – 300 VDC
PoE input voltage	44 - 57 VDC (IEEE 802.3af), 50 – 57 VDC (IEEE 802.3at)
Power consumption	< 30 W
Mechanical specifications	
Dimensions (W x H x D) in mm	154 mm x 152 mm x 176 mm
Weight	4.7 kg
Mounting	DIN rail and panel mount
Ambient conditions	
Operating temperature	-40° C to +85° C
IP rating	IP40

Features

Software

The RUGGEDCOM RSG920P runs Rugged Operating System (ROS®) and delivers high performance switching.

ROS® supports the standard network technologies, such as Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), Remote Monitoring (RMON), Simple Network Management Protocol (SNMP) and others, including proprietary protocol enhancements such as Siemens eRSTP (enhanced Rapid Spanning Tree Protocol) and Fast Root Failover (FRF).

Software features

- Quality of service (802.1p) for traffic prioritization
- NTP time synchronization (client and server)
- Smart power management for PoE interfaces
- Port rate and Broadcast Storm Limiting
- Port configuration, status, statistics, mirroring
- Simple Management interface through WebUI and console interface
- Single file configuration ensures easy installation and configuration control

Cyber security

Cyber security is an important issue in many industries where advanced automation and communications networks play a crucial role in mission critical applications and where high reliability is of paramount importance. Key RUGGEDCOM RSG920P features that address security issues at the local area network level include:

- Passwords – support for multiple access levels with separate credentials for each level
- SSH / SSL – extends capability of password protection to add encryption of passwords and data as they cross the network
- Enable / disable ports – capability to disable ports so unauthorized devices can't connect to unused ports
- SNMPv3 – encrypted authentication and access security
- HTTPS – for secure access to the web interface
- 802.1x – to ensure only permitted devices can connect to the device
- MAC address authentication – control access to devices that do not support RADIUS

Hardware

The RUGGEDCOM RSG920P has been specifically designed and certified for industrial applications such as transportation systems and oil and gas applications.

Power Supply

- Integrated power supply
- Universal high-voltage range: 100 – 300 VDC or 85 – 264 VAC

Configuration interfaces

The RUGGEDCOM RSG920P is equipped with a USB interface which enables easy in field configuration and upgrading. Storing application data, firmware and device configuration for commissioning and field maintenance is simple with the Micro SD card slot.

Digital Input

The RUGGEDCOM RSG920P offers 2 digital inputs to connect to external devices such as cabinet doors monitors, motion detectors and other sensors. The status of the input can be read through SNMP.

Harsh environments

As with all RUGGEDCOM products, Highly Accelerated Life Testing (HALT) has been used in the early stages of product development – to detect any design or performance issues.
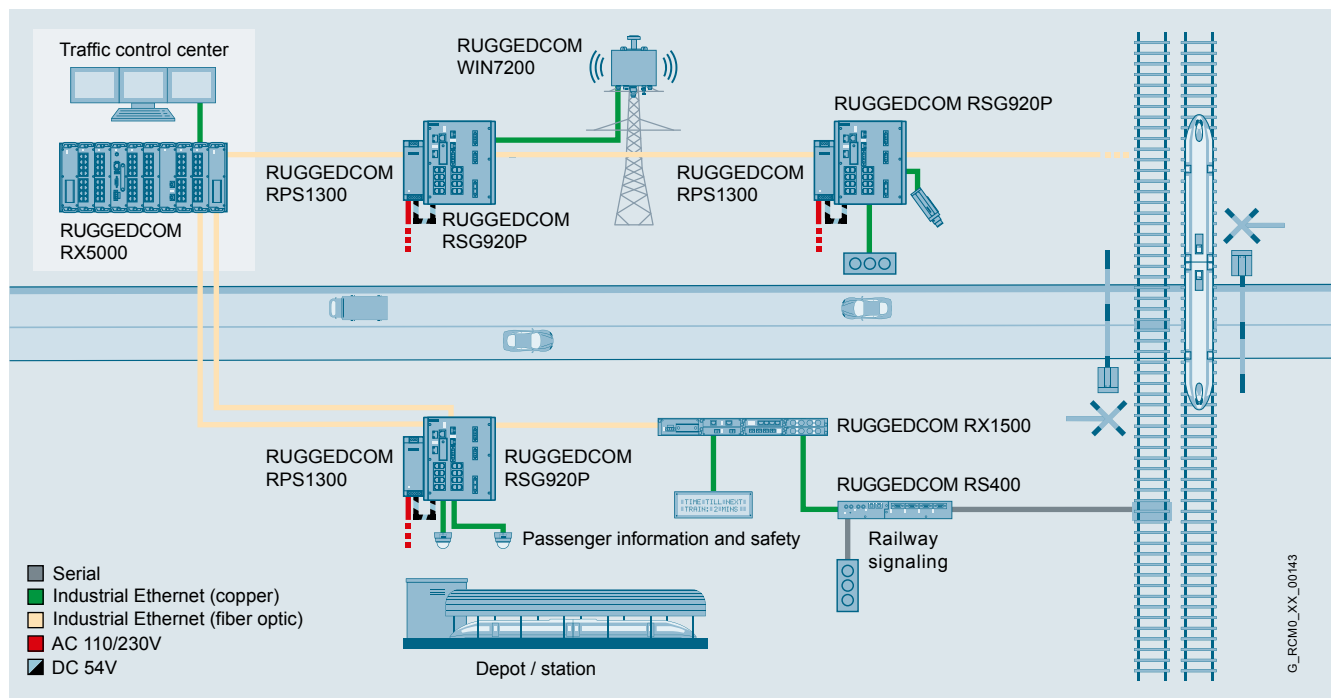
- Temperature: -40° C to +85° C – no fans
- Safety: CSA/UL 60950
- Vibration: IEC 60255-21-1, Class 2
- Shock: IEC 60255-21-2, Class 2
- Humidity: IEC 60068-2-30, up to 95% relative humidity

Certifications

- IEC 61000-6-2 (industrial environments)
- NEMA TS-2 (traffic control equipment)
- EN 50121-4 (railway applications)
- IEC 61850-3 (electric substations)
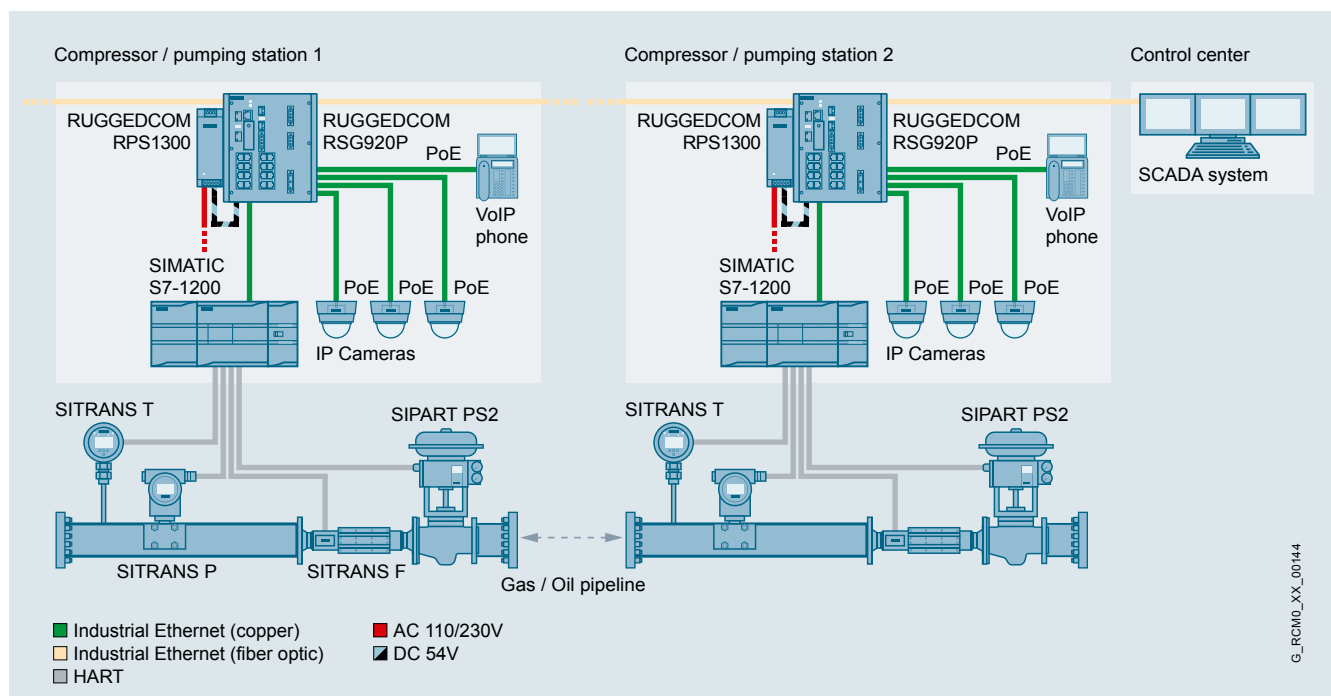- IEEE 1613 (electric substations)

Use cases

Multimodal transportation networks

Traffic control center

RUGGEDCOM WIN7200

RUGGEDCOM RSG920P

RUGGEDCOM RPS1300

RUGGEDCOM RSG920P

RUGGEDCOM RPS1300

RUGGEDCOM RX5000

RUGGEDCOM RPS1300

RUGGEDCOM RSG920P

RUGGEDCOM RX1500

RUGGEDCOM RS400

Passenger information and safety

Railway signaling

Depot / station

- ■ Serial
- ■ Industrial Ethernet (copper)
- ■ Industrial Ethernet (fiber optic)
- ■ AC 110/230V
- ◩ DC 54V

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Connecting devices in multimodal transportation networks is made easy with the RUGGEDCOM RSG920P, a multipurpose switch that offers a tremendous amount of flexibility in a standard configuration.

Connecting compressor and pumping stations along oil pipelines

Compressor / pumping station 1

Compressor / pumping station 2

Control center

RUGGEDCOM RPS1300

RUGGEDCOM RSG920P

PoE

RUGGEDCOM RPS1300

RUGGEDCOM RSG920P

PoE

SCADA system

VoIP phone

VoIP phone

SIMATIC S7-1200

PoE PoE PoE

SIMATIC S7-1200

PoE PoE PoE

IP Cameras

IP Cameras

SITRANS T

SIPART PS2

SITRANS T

SIPART PS2

SITRANS P SITRANS F

Gas / Oil pipeline

- ■ Industrial Ethernet (copper)
- ■ Industrial Ethernet (fiber optic)
- ■ HART
- ■ AC 110/230V
- ◩ DC 54V

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The RUGGEDCOM RSG920P is ideal for the field level where growing demands for Ethernet connectivty exists.

Accessories

The Power-over-Ethernet ports of the RUGGEDCOM RSG920P are powered by an external power supply. The RUGGEDCOM RPS1300 is the companion power supply of the RUGGEDCOM RSG920P capable of providing enough power to all 4 Power-over-Ethernet ports simultaneously.

Power supply characteristics	
Input voltage range	85 – 132 / 170 – 264 VAC
Output voltage range	48 – 54 VDC
Active power supplied	140 Watt
Mechanical specifications	
Dimensions (W x H x D)	42 mm x 134 mm x 42 mm
Mounting	DIN rail mount
Ambient conditions	
Operating temperature	-40° C to +75° C
IP rating	IP20

Ordering options

Product	Article number							
RUGGEDCOM RSG920P	6GK6092-0PS2	.	– 0	.	A	.	–	Z
RUGGEDCOM RSG920PNC	6GK6092-0PS1	.	– 0	.	A	.	–	Z
Power supply								
Low voltage (9-60 VDC)		1						
High voltage (85 – 264 VAC / 88 – 300 VDC)		3						
Mounting kit								
No mounting option					A			
DIN rail mounting kit					B			
Panel mounting kit					C			
Manufacturing modification								
Standard						0		
Conformal coating						1		
Explosive atmospheres modification						2		

SFP options on uplink ports	Port 17	Port 18	Port 19	Port 20
SFP, blank	A00	B00	C00	D00
SFP, 100 FX, multimode LC, 1310 nm, 2 km	A01	B01	C01	D01
SFP, 100 FX, singlemode LC, 1310 nm, 20 km	A02	B02	C02	D02
SFP, 1000 SX, multimode LC, 850 nm, 500 m	A03	B03	C03	D03
SFP, 1000 LX, singlemode LC, 1310 nm, 10 km	A04	B04	C04	D04
SFP, 1000 LX, singlemode LC, 1310 nm, 25 km	A05	B05	C05	D05
SFP, 1000 LX, singlemode LC, 1310 nm, 70 km	A06	B06	C06	D06

Examples	Order code
RUGGEDCOM RSG920PNC with high voltage power supply + panel mounting kit + port 17-19 with SFP, 1000 LX, singlemode LC, 1310 nm, 25 km + port 20 with SFP, blank.	6GK6092-0PS13-0CA0-Z A05 + B05 + C05 + D00
RUGGEDCOM RSG920P with high voltage power supply + DIN mounting kit + conformal coating + port 17 with SFP, 1000 LX, singlemode LC, 1310 nm, 10 km + port 18-20 with SFP, blank.	6GK6092-0PS23-0CA1-Z A04 + B00 + C00 + D00

Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions only form one element of such a concept.

Customer is responsible to prevent unauthorized access to its plants, systems, machines and networks. Systems, machines and components should only be connected to the enterprise network or the internet if and to the extent necessary and with appropriate security measures (e.g. use of firewalls and network segmentation) in place.

Additionally, Siemens' guidance on appropriate security measures should be taken into account. For more information about industrial security, please visit:
siemens.com/industrialsecurity

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends to apply product updates as soon as available and to always use the latest product versions. Use of product versions that are no longer supported, and failure to apply latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under:
siemens.com/industrialsecurity

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