

Technical Data

Product-type designation RUGGEDCOM RS969NC

Product description



IP65/IP67 Rated...t Encrypt002

RUGGEDCOM RS969NC IS AN INDUSTRIALLY HARDENED, FULLY MANAGED ETHERNET SWITCH PROVIDING DUAL FIBER OPTICAL GIGABIT ETHERNET PORTS & 8 FAST ETHERNET COPPER PORTS IN AN IP66/IP67 RATED PACKAGE. 56-BIT ENCRYPTION; FIBER OPTICAL GIGABIT ETHERNET PORTS (1000BASEX) WITH: IP66/IP67 RATED FIBER OPTICAL CONNECTORS (TYPE LC); 8-FAST ETHERNET PORTS (10/100BASETX) WITH: IP66/IP67 M12 D-CODE OR RJ45 CONNECTORS;

Transmission rate

Transfer rate / 1	10 Mbit/s
Transfer rate / 2	100 Mbit/s

Interfaces

Number of electrical/optical connections / for network components or terminal equipment / maximum	10
<ul style="list-style-type: none"> remark 	8 x Fast Ethernet Ports (10/100TX) + 2 Fiber Optical Gigabit Ethernet Ports
number of electrical/optical connections / for gigabit Ethernet / maximum	2
Number of electrical connections	
<ul style="list-style-type: none"> for network components or terminal equipment / maximum 	8
<ul style="list-style-type: none"> for gigabit Ethernet / maximum 	0
<ul style="list-style-type: none"> for operator console 	1
<ul style="list-style-type: none"> for management purposes 	0
Design of electrical connection	
<ul style="list-style-type: none"> for operator console 	RS232
<ul style="list-style-type: none"> for power supply 	5-pole M23 male connector, screwable
Number of optical connections / for network components or terminal equipment / maximum	2
Range / at the optical interface / depending on the optical fiber used	2...90 km
operating distance / of optical interface / depending of	0.5...25 km

used optical fiber / at gigabit	
Signal-Inputs/outputs	
Relay design	Form-C contact relay (SP CO)
type of the relay output	Changeover contact
Operating current / of signaling contacts	
<ul style="list-style-type: none"> at DC at 30 V / maximum 	1 A
Supply voltage, current consumption, power loss	
product options / wide range power supply	Yes
Type / 1 / of supply voltage	DC
Supply voltage / 1	
<ul style="list-style-type: none"> rated value rated value 	24 V 10...36 V
Current consumed / 1 / at rated value of supply voltage / max.	0.4 A
Type / 2 / of supply voltage	DC
Supply voltage / 2	
<ul style="list-style-type: none"> rated value rated value 	48 V 36...59 V
Current consumed / 2 / at rated value of supply voltage / max.	0.2 A
Type / 3 / of supply voltage	DC
Supply voltage / 3	
<ul style="list-style-type: none"> rated value 	88...300 V
Type / 4 / of supply voltage	AC
Supply voltage / 4	
<ul style="list-style-type: none"> rated value 	85...264 V
Power loss	
<ul style="list-style-type: none"> maximum 	10 W
Permitted ambient conditions	
Ambient temperature	
<ul style="list-style-type: none"> during operating Comment 	-40...+85 °C A maximum operating temperature of +85 °C is permissible for a duration of 16 hours
Coating	Conformal Coating optional
operating condition / fanless operation	Yes
Protection class IP	IP66/67
Design, dimensions and weight	
Design	compact
Width	177.8 mm (7 in)
Height	196.85 mm (7.75 in)
Depth	()
Depth / remark	9.4 cm / 3.7 inch for the RJ45 variant, 8.8 cm / 3.45 inch for the M12 variant

Net weight	2.5 kg
Material / of the enclosure	Cast Aluminum Enclosure
Mounting type	
<ul style="list-style-type: none"> • 19-inch installation 	No
<ul style="list-style-type: none"> • 35 mm DIN rail mounting 	Yes
<ul style="list-style-type: none"> • wall mounting 	Yes
Product properties, functions, components / general	
number of automatically learnable MAC addresses	8192
memory capacity	
<ul style="list-style-type: none"> • of MAC-address table 	64 Kibyte
switch-latency period	7 µs
transfer rate / of the switch	5.6 Gbit/s
number of priority channels	4
product characteristic	
<ul style="list-style-type: none"> • no head-off-line-blocking 	Yes
<ul style="list-style-type: none"> • Switching-Method Store & Forward 	Yes
Product functions / management, configuration	
Product function	
<ul style="list-style-type: none"> • CLI 	Yes
<ul style="list-style-type: none"> • web-based management 	Yes
<ul style="list-style-type: none"> • MIB support 	Yes
<ul style="list-style-type: none"> • RMON 	Yes
<ul style="list-style-type: none"> • switch-managed 	Yes
Protocol / is supported	
<ul style="list-style-type: none"> • Telnet 	Yes
<ul style="list-style-type: none"> • HTTP 	Yes
<ul style="list-style-type: none"> • HTTPS 	No
<ul style="list-style-type: none"> • TFTP 	Yes
<ul style="list-style-type: none"> • IGMP (snooping/querier) 	Yes
number of groups / at IGMP	256
Protocol / is supported	
<ul style="list-style-type: none"> • SNMP v1 	Yes
<ul style="list-style-type: none"> • SNMP v2 	No
<ul style="list-style-type: none"> • SNMP v2c 	Yes
<ul style="list-style-type: none"> • SNMP v3 	Yes
product function / for MIB-support	
<ul style="list-style-type: none"> • by BRIDGE-MIB 	RFC1493
<ul style="list-style-type: none"> • by IF-MIB 	RFC2863
<ul style="list-style-type: none"> • by RMON-MIB 	RFC2819
<ul style="list-style-type: none"> • by RSTP-MIB 	draft-ietf-bridge-bridgemib-smiv2-03-RSTP-MIB
<ul style="list-style-type: none"> • by SNMPv2-MIB 	RFC1907

• by SNMPv2-SMI	RFC2578
• by SNMPv2-TC	RFC2579
• by TCP-MIB	RFC2012
• by UDP-MIB	RFC2013
Product functions / VLAN	
Product function	
• VLAN - port based	Yes
Number of VLANs / maximum	255
VLAN-Identification number	1...4094
Protocol / is supported / GVRP	Yes
Product functions / DHCP	
Product function	
• DHCP client	Yes
• DHCP Option 82	Yes
• DHCP Option 66	No
• DHCP Option 67	No
Product functions / Redundancy	
Product function	
• redundancy procedure STP	Yes
• redundancy procedure RSTP	Yes
• redundancy procedure MSTP	Yes
• eRSTP	Yes
Protocol / is supported	
• STP	Yes
• RSTP	Yes
• MSTP	Yes
Product functions / Security	
product function	
• IEEE 802.1x (radius)	Yes
protocol / is supported	
• TACACS+	Yes
• SSH	No
• SSL	Yes
key length	
• at SSL	56 bit
• at RSA	1024 bit
product function / port-rate-limiting	Yes
adjustable port-rate-limitation	62 kbit/s ...256 Mbit/s
Product functions / Time	
product function	
• SNTP-client	Yes
• SNTP-server	Yes

Protocol / is supported	
<ul style="list-style-type: none"> • SNMP 	Yes
Standards, specifications, approvals	
Standard	
<ul style="list-style-type: none"> • for EMC 	FCC Part 15 (Class A), EN55022 (CISPR22 Class A)
<ul style="list-style-type: none"> • for safety / of CSA and UL 	cCSAus (Compliant with CSA C22.2 No. 60950, UL 60950, EN60950) (Pending)
Laser protection class	Complies with 21 CFR Chapter1, Subchapter J
Verification of suitability	
<ul style="list-style-type: none"> • CE mark 	Yes
<ul style="list-style-type: none"> • IEC 61850-3 	Yes
product conformity	
<ul style="list-style-type: none"> • according to IEEE 802.3-10BaseT 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.3u-100BaseTX 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.3u-100BaseFX 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.3x-Flow Control 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.3ab-1000BaseT 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.3ad-Link Aggregation 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.1d-MAC Bridges 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.1d-STP 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.1p-class of service 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.1Q-VLAN tagging 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.1Q-2005 (formerly IEEE 802.1s) MSTP 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.1w-RRST 	Yes
<ul style="list-style-type: none"> • according to IEEE 802.1x-port based Network Access Control 	Yes
product conformity	
<ul style="list-style-type: none"> • RFC768-UDP 	Yes
<ul style="list-style-type: none"> • RFC783-TFTP 	Yes
<ul style="list-style-type: none"> • RFC791-IP 	Yes
<ul style="list-style-type: none"> • RFC792-ICMP 	Yes
<ul style="list-style-type: none"> • RFC793-TCP 	Yes
<ul style="list-style-type: none"> • RFC826-ARP 	Yes
<ul style="list-style-type: none"> • RFC854-Telnet 	Yes
<ul style="list-style-type: none"> • RFC894-IP over Ethernet 	Yes
<ul style="list-style-type: none"> • RFC1112-IGMPv1 	Yes
<ul style="list-style-type: none"> • RFC1519-CIDR 	Yes
<ul style="list-style-type: none"> • RFC1541-DHCP (client) 	Yes
<ul style="list-style-type: none"> • RFC2068-HTTP 	Yes

• RFC2236-IGMPv2	Yes
• RFC2284-EAP	Yes
• RFC2475-Differentiated Service	Yes
• RFC2865-RADIUS	Yes
• RFC3414-SNMPv3-USM	Yes
• RFC3415-SNMPv3-VACM	Yes

Further Information / Internet Links

Internet-Link	
• to website: Industry Mall/RUGGEDCOM-Selector	http://ruggedcom-selector.automation.siemens.com
• to website: Industry Mall	http://www.siemens.com/industrial-controls/mall
• to website: Selector for cables and connectors	http://www.siemens.com/snst
• to website: Siemens RUGGEDCOM	http://siemens.com/ruggedcom
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: Information and Download Center	http://www.siemens.com/automation/net/catalog
• to website: Image database	http://automation.siemens.com/bilddb
• to website: CAx Download Manager	http://www.siemens.com/cax
• to website: Industry Online Support	http://support.automation.siemens.com

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