

6GK6096-8MS2.-.... RUGGEDCOM M969

Technical Data

Product-type designation

RUGGEDCOM M969



THE RUGGEDCOM M969 IS A MIL-STD HARDENED, FULLY MANAGED ETHERNET SWITCH PROVIDING DUAL FIBER OPTICAL ETHERNET PORTS & 8 FAST ETHERNET COPPER PORTS IN A MIL-STD 901D RATED PACKAGE. 128-BIT ENCRYPTION; FIBER OPTICAL ETHERNET PORTS (100BASEX AND 1000BASEX) WITH: IP66/IP67 RATED FIBER OPTICAL CONNECTORS (TYPE LC); 8-FAST ETHERNET PORTS (10/100BASETX) WITH: IP66/IP67 RATED M12 D-CODE CONNECTORS OR IP66/IP67 RATED SHROUDED RJ45 STYLE 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
number of electrical/optical connections / for gigabit Ethernet / maximum	2
Number of electrical connections	
<ul style="list-style-type: none"> for network components and terminal equipment maximum for gigabit Ethernet / maximum for operator console for management purposes 	8 0 1 0
Design of electrical connection	
<ul style="list-style-type: none"> for operator console for power supply 	RS232 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 used optical fiber / at gigabit	0.5...25 km

Signal-Inputs/outputs	
Relay design	Form-C contact relay (SP CO)
type of the relay output	Change-over (NO/NC)
Operating current / of signaling contacts	
<ul style="list-style-type: none"> at DC 	
<ul style="list-style-type: none"> at 30 V / maximum 	1 A
Supply voltage, current consumption, power loss	
product options / wide range power supply	Yes
Type of voltage / 1 / of the supply voltage	DC
Supply voltage / 1	
<ul style="list-style-type: none"> rated value 	24 V
<ul style="list-style-type: none"> rated value 	10...36 V
Current consumed / 1 / at rated value of supply voltage / max.	0.4 A
Type of voltage / 2 / of the supply voltage	DC
Supply voltage / 2	
<ul style="list-style-type: none"> rated value 	48 V
<ul style="list-style-type: none"> rated value 	36...59 V
Current consumed / 2 / at rated value of supply voltage / max.	0.2 A
Type of voltage / 3 / of the supply voltage	DC
Supply voltage / 3	
<ul style="list-style-type: none"> rated value 	88...300 V
Type of voltage / 4 / of the 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 	-40...+85 °C
<ul style="list-style-type: none"> Comment 	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	209.55 mm (8.25 in)
Depth	94 mm (3.7 in)
Net weight	2.85 kg
Material / of the enclosure	Cast Aluminum Enclosure
Type of mounting	
<ul style="list-style-type: none"> Installation 19 inch 	No
<ul style="list-style-type: none"> 35 mm DIN rail mounting 	Yes

• wall mounting	Yes
Product properties, functions, components / general	
number of automatically learnable MAC addresses	8192
memory capacity	
• of MAC-address table	64 Kibyte
• of message buffer / maximum	1 Mibyte
switch-latency period	7 µs
transfer rate / of the switch	5.6 Gbit/s
number of priority channels	4
product characteristic	
• no head-off-line-blocking	Yes
• Switching-Methode Store & Forward	Yes
Product functions / management, configuration	
Product function	
• CLI	Yes
• web-based management	Yes
• MIB support	Yes
• RMON	Yes
• switch-managed	Yes
Protocol / is supported	
• Telnet	Yes
• HTTP	Yes
• HTTPS	No
• TFTP	Yes
• SFTP	Yes
• IGMP (snooping/querier)	Yes
number of groups / at IGMP	256
Protocol / is supported	
• SNMP v1	Yes
• SNMP v2	No
• SNMP v2c	Yes
• SNMP v3	Yes
product function / for MIB-support	
• by BRIDGE-MIB	RFC1493
• by IF-MIB	RFC2863
• by RMON-MIB	RFC2819
• by RSTP-MIB	draft-ietf-bridge-bridgemib-smiv2-03-RSTP-MIB
• 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	
<ul style="list-style-type: none"> VLAN - port based 	Yes
Number of VLANs / maximum	255
VLAN-Identification number	1...4094
Protocol / is supported / GVRP	Yes
Product functions / DHCP	
Product function	
<ul style="list-style-type: none"> DHCP client 	Yes
<ul style="list-style-type: none"> DHCP Option 82 	Yes
<ul style="list-style-type: none"> DHCP Option 66 	No
<ul style="list-style-type: none"> DHCP Option 67 	No
Product functions / Routing	
protocol / is supported	
<ul style="list-style-type: none"> PPP 	Yes
Product functions / Redundancy	
Product function	
<ul style="list-style-type: none"> redundancy procedure STP 	Yes
<ul style="list-style-type: none"> RSTP redundancy protocol 	Yes
<ul style="list-style-type: none"> redundancy procedure MSTP 	Yes
<ul style="list-style-type: none"> eRSTP 	Yes
Protocol / is supported	
<ul style="list-style-type: none"> STP 	Yes
<ul style="list-style-type: none"> RSTP 	Yes
<ul style="list-style-type: none"> MSTP 	Yes
Product functions / Security	
product function	
<ul style="list-style-type: none"> IEEE 802.1x (radius) 	Yes
<ul style="list-style-type: none"> RADIUS client 	Yes
protocol / is supported	
<ul style="list-style-type: none"> RADIUS 	Yes
<ul style="list-style-type: none"> TACACS+ 	Yes
<ul style="list-style-type: none"> SSL 	Yes
key length	
<ul style="list-style-type: none"> at SSL 	128 bit
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> SNTP-client 	Yes
<ul style="list-style-type: none"> SNTP-server 	Yes
Protocol / is supported	
<ul style="list-style-type: none"> SNTP 	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"> • according to MIL-STD 167-Vibration 	Yes
<ul style="list-style-type: none"> • according to MIL-STD 461-EMI 	Yes
<ul style="list-style-type: none"> • according to MIL-STD 810-Temperature and Humidity 	Yes
<ul style="list-style-type: none"> • according to MIL-S 901D-Shock (Hard Mounted) 	Yes
<ul style="list-style-type: none"> • according to MIL-STD-1275B-Power Quality 	Yes
<ul style="list-style-type: none"> • according to MIL-STD 1399 Magnetic Field (DC Magnetic Exposure) 	No
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

• RFC1541-DHCP (client)	Yes
• 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
• Siemens RUGGEDCOM	http://siemens.com/ruggedcom
• Industry Mall	http://www.siemens.com/industrial-controls/mall
• selection instrument cables and connectors	http://www.siemens.com/snst
• CAx-Download-Manager	http://www.siemens.com/cax
• industrial communication	http://www.siemens.com/simatic-net
• Information und Download Center	http://www.siemens.com/automation/net/catalog
• image database	http://automation.siemens.com/bilddb
• Industry Online Support	http://support.automation.siemens.com

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