6GK6021-0MS2.-....   RUGGEDCOM M2100

Technical Data

Product-type designation	RUGGEDCOM M2100
Product description	**MIL-STD 19-Port Modular Managed Ethernet Switch with Gigabit Uplink Ports, 128-bit Encryption**
	THE RUGGEDCOM M2100 IS AN MIL-STD HARDENED, FULLY MANAGED, MODULAR, ETHERNET SWITCH; 128-BIT ENCRYPTION; UP TO 3-GIGABIT ETHERNET PORTS COPPER AND/OR FIBER; UP TO 16-FAST ETHERNET PORTS COPPER AND/OR FIBER; 2 PORT MODULES FOR TREMENDOUS FLEXIBILITY; NON-BLOCKING, STORE AND FORWARD SWITCHING; SUPPORTS MANY TYPES OF FIBER (MULTIMODE, SINGLEMODE, BI-DIRECTIONAL SINGLE STRAND) LONG HAUL OPTICS ALLOW GIGABIT DISTANCES UP TO 70KM MULTIPLE CONNECTOR TYPES (ST, MTRJ, LC, SC, RJ45, MICRO-D)
Transmission rate	
Transfer rate / 1	10 Mbit/s
Transfer rate / 2	100 Mbit/s
Transfer rate / 3	1000 Mbit/s
Interfaces	
Number of electrical/optical connections / for network components or terminal equipment / maximum	19
• remark	Slot 1, 2, 3, 4, 7, 8, 9, 10 with 2 x Fast Ethernet Ports each + Slot 5 with 2 x Gigabit Ports + Slot 6 with 1 x Gigabit Port
number of electrical/optical connections / for gigabit Ethernet / maximum	3
Number of electrical connections	
• for network components and terminal equipment	
• maximum	16
• for gigabit Ethernet / maximum	3
• for operator console	1
• for management purposes	0
Design of electrical connection	
• for operator console	RJ45
• for power supply and signaling contact	10-pole terminal block, screwable or

	plugable, screw contact
Number of optical connections / for network components or terminal equipment / maximum	16
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) as critical alarm relay
type of the relay output	Change-over (NO/NC)
operating voltage / of the signal contact	
• at AC	
• maximum	250 V
• at DC	
• maximum	125 V
Operating current / of signaling contacts	
• at AC	
• at 250 V / maximum	2 A
• at DC	
• at 30 V / maximum	2 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	
• rated value	24 V
• rated value	10…36 V
Current consumed / 1 / at rated value of supply voltage / max.	1.2 A
Type of voltage / 2 / of the supply voltage	DC
Supply voltage / 2	
• rated value	48 V
• rated value	36…59 V
Current consumed / 2 / at rated value of supply voltage / max.	0.6 A
Type of voltage / 3 / of the supply voltage	DC
Supply voltage / 3	
• rated value	88…300 V
Type of voltage / 4 / of the supply voltage	AC
Supply voltage / 4	
• rated value	85…264 V
Power loss	
• maximum	28 W
Permitted ambient conditions	
Ambient temperature	
• during operating	-40…+85 °C
• 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	IP40
Design, dimensions and weight	
design of display / LED panel mounted on the front or on the rear side	Yes
Design	19" rack
number of heigth rack units / related to 19 inch cabinet	1
Number of slots	10
Width	464.8 mm (18.3 in)
Height	44.2 mm (1.74 in)
Depth	315 mm (12.4 in)
Net weight	5.2 kg
Material / of the enclosure	18 AWG galvanized steel enclosure
Type of mounting	
• Installation 19 inch	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	2 Mibyte
switch-latency period	7 µs
transfer rate / of the switch	9.2 Gbit/s
number of priority channels	4
product characteristic	
• no head-off-line-blocking	Yes
• Switching-Methode Store & Forward	Yes
• Zero-Packet-Loss technology	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
• 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	
• 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 / Routing	
protocol / is supported	
• PPP	Yes

Product functions / Redundancy	
Product function	
• redundancy procedure STP	Yes
• RSTP redundancy protocol	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
• RADIUS client	Yes

protocol / is supported	
• RADIUS	Yes
• TACACS+	Yes
• SSL	Yes
key length	
• at SSL	128 bit
• at RSA	1024 bit
product function / port-rate-limiting	Yes
Product functions / Time	
product function	
• SNTP-client	Yes
• SNTP-server	Yes
Protocol / is supported	
• SNTP	Yes
Standards, specifications, approvals	
Standard	
• for EMC	FCC Part 15 (Class A), EN55022 (CISPR22 Class A)
• 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	
• CE mark	Yes
• IEC 61850-3	Yes
product conformity	
• according to IEEE 802.3-10BaseT	Yes
• according to IEEE 802.3u-100BaseTX	Yes
• according to IEEE 802.3u-100BaseFX	Yes
• according to IEEE 802.3x-Flow Control	Yes
• according to IEEE 802.3ab-1000BaseT	Yes
• according to IEEE 802.3ad-Link Aggregation	Yes
• according to IEEE 802.1d-MAC Bridges	Yes
• according to IEEE 802.1d-STP	Yes
• according to IEEE 802.1p-class of service	Yes
• according to IEEE 802.1Q-VLAN tagging	Yes
• according to IEEE 802.1Q-2005 (formerly IEEE 802.1s) MSTP	Yes
• according to IEEE 802.1w-RRST	Yes
• according to IEEE 802.1x-port based Network Access Control	Yes
product conformity	
• according to MIL-STD 167-Vibration	Yes
• according to MIL-STD 461-EMI	Yes
• according to MIL-STD 810-Temperature and Humidity	Yes

• according to MIL-S 901D-Shock (Hard Mounted)	Yes
• according to MIL-STD 1399 Magnetic Field (DC Magnetic Exposure)	Yes
product conformity	
• RFC768-UDP	Yes
• RFC783-TFTP	Yes
• RFC791-IP	Yes
• RFC792-ICMP	Yes
• RFC793-TCP	Yes
• RFC826-ARP	Yes
• RFC854-Telnet	Yes
• RFC894-IP over Ethernet	Yes
• RFC1112-IGMPv1	Yes
• RFC1519-CIDR	Yes
• RFC1541-DHCP (client)	Yes
• RFC2030-SNTP	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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