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Automation Technology > Industrial Communication > Industrial Ethernet > RUGGEDCOM Ethernet
Switches Layer 3 / Routers > RUGGEDCOM RX5000 / MX5000 Multi-Service Platform managed

6GK6050-0MM2.-....   RUGGEDCOM MX5000

Technical Data

Product-type designation	RUGGEDCOM MX5000
	THE RUGGEDCOM MX5000 IS AN MIL-STD HIGH PORT DENSITY ROUTING AND SWITCHING PLATFORM, DESIGNED TO OPERATE IN THE MOST DEMANDING ENVIRONMENTS. THE RUGGEDCOM MX5000 CAN WITHSTAND HIGH LEVELS OF ELECTROMAGNETIC INTERFERENCE, RADIO FREQUENCY INTERFERENCE AND A WIDE TEMPERATURE RANGE OF -40 CEL TO +85 CEL. UP TO 48 10/100TX MICROD UP TO 96 10/100TX RJ45 PORTS UP TO 48 100FX OPTICAL PORTS UP TO 2 GIGABIT ETHERNET PORTS LONG-HAUL OPTICS ALLOW DISTANCES UP TO 90KM MULTIPLE CONNECTOR TYPES (ST AND LC)
Transmission rate	
Transfer rate / 1	10 Mbit/s
Transfer rate / 2	100 Mbit/s
Transfer rate / 3	1000 Mbit/s
Transfer rate / 4	10 Gbit/s
Interfaces	
Number of electrical/optical connections / for network components or terminal equipment / maximum	98
• remark	up to 96 x 10/100TX RJ45 Ports + 2 Ports via Switch Modul
number of electrical/optical connections / for gigabit Ethernet / maximum	26
Number of electrical connections	
• for network components and terminal equipment	
• maximum	96
• for gigabit Ethernet / maximum	24
• for serial interfaces / in accordance with RS 232/RS 422/RS 485 / maximum	48
• for operator console	1
• for management purposes	1
Design of electrical connection	
• for operator console	RS232
• for management purposes	RJ45
• for power supply	3-pole terminal block, permanently

	installed
Number of optical connections / for network components or terminal equipment / maximum	48
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 voltage / of the signal contact	
• at AC	
• maximum	150 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
product characteristic	
• voltage supply modular	Yes
• voltage supply hot-swappable	Yes
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
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	19" rack
Number of slots	6
Width	454.66 mm (17.9 in)
Height	175.26 mm (6.9 in)
Depth	302.006 mm (11.89 in)
Net weight	

• Comment	Weight is depending on the built in modules
Material / of the enclosure	18 AWG galvanized steel enclosure
Type of mounting	
• Installation 19 inch	Yes
• 35 mm DIN rail mounting	No
• wall mounting	Yes
Product properties, functions, components / general	
product function	
• RAW socket mode for any serial protocols	Yes
number of automatically learnable MAC addresses	98304
memory capacity	
• of MAC-address table	64 Kibyte
• of message buffer / maximum	2 Mibyte
switch-latency period	10.5 µs
transfer rate / of the switch	88 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
• NETCONF	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	No
• DHCP Option 66	No
• DHCP Option 67	No

Product functions / Routing	
Product function	
• dynamic IP routing	Yes
protocol / is supported	
• RIP v1	Yes
• RIPv2	Yes
• OSPFv2	Yes
• VRRP	No
• BGP	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	
• ACL - MAC-based	Yes
• ACL-Role based	Yes
• IEEE 802.1x (radius)	Yes
• blocking of communication via physical ports	Yes

protocol / is supported	
• SSH	Yes
product function / port-rate-limiting	Yes
Product functions / Time	
Protocol / is supported	
• SNTP	Yes
Type of time synchronization	NTP
Standards, specifications, approvals	
Standard	
• for EMC	FCC Part 15 (Class A), EN55022 (CISPR22 Class A)
• for safety / of CSA and UL	cTUVus (Compliant to UL 60950-1:2007, CAN/CSA-C22.2 No. 60950-1-07, EN 60950-1:2006)
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
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
• RFC2475-Differentiated Service	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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