6GK6041-6AT2.-.... RUGGEDCOM RS416

Technical Data

Product-type designation	**RUGGEDCOM RS416**
Product description	**serial device server with an integrated fully managed Ethernet switch, 128-bit Encryption, up to 16 serial ports & up to 4 Ethernet ports, Copper or Fiber options, Supports IEEE 1588 v2, Non-blocking, store and forward switching**
	THE RUGGEDCOM RS416 IS AN INDUSTRIALLY HARDENED SERIAL DEVICE SERVER WITH AN INTEGRATED, FULLY MANAGED, ETHERNET SWITCH, DESIGNED TO OPERATE RELIABLY IN ELECTRICALLY HARSH AND CLIMATICALLY DEMANDING ENVIRONMENTS. 128-BIT ENCRYPTION; UP TO 16 SERIAL PORTS & UP TO 4 ETHERNET PORTS, COPPER OR FIBER OPTIONS; SUPPORTS IEEE 1588 V2; NON-BLOCKING, STORE AND FORWARD SWITCHING
Transmission rate	
Transfer rate	
• 1	10 Mbit/s
• 2	100 Mbit/s
Transfer rate	
• in accordance with RS 232	300…115200 bit/s
• in accordance with RS 422/485	300…115200 bit/s
• according to V.90	56000 bit/s
Interfaces	
Number of electrical/optical connections / for network components or terminal equipment / maximum	4
Number of electrical connections	
• for network components and terminal equipment	4
• maximum	4
• for serial interfaces / in accordance with RS 232/RS 422/RS 485 / maximum	16

• for signaling contact	1
• for power supply	1
• for redundant power supply	1
Design of electrical connection	
• for network components and terminal equipment	RJ45-Port, SUB-D 9 pin
• for signaling contact	10-pole terminal block
• for power supply	10-pole terminal block
Number of optical connections / for network components or terminal equipment / maximum	4
Number of optical connections / for fiber-optic cables	
• at 10 Mbit/s	4
• at 100 Mbit/s	4
Design of optical interface / for optical waveguide	
• at 10 Mbit/s	ST-Port (BFOC-Port)
• at 100 Mbit/s	ST-/SC-/MTRJ-/LC-Port
Range / at the optical interface / depending on the optical fiber used	2…90 km
Signal-Inputs/outputs	
Operating voltage / of signaling contacts / at AC / rated value	250 V
Operating current / of signaling contacts / at AC / maximum	0.4 A
Operating voltage / of signaling contacts / at DC / rated value	30 V
Operating current / of signaling contacts / at DC / maximum	2 A
Supply voltage, current consumption, power loss	
product options / wide range power supply	Yes
Type of voltage supply	True Dual Redundant Parallel Load Sharing (Optional)
Type of voltage / 1 / of the supply voltage	DC
Supply voltage / 1	
• rated value	24 V
• rated value	18…36 V
Type of voltage / 2 / of the supply voltage	DC
Supply voltage / 2	
• rated value	48 V
• rated value	36…59 V
Type of voltage / 3 / of the supply voltage	DC
Supply voltage / 3	
• nominal value	110 V
• rated value	88…300 V
Type of voltage / 4 / of the supply voltage	AC
Supply voltage / 4	

• rated value	85…265 V
Product component / fusing at power supply input	Yes
Power loss	
• maximum	15 W
Permitted ambient conditions	
Ambient temperature	
• during operating	-40…+85 °C
• during storage	-40…+85 °C
• during transport	-40…+85 °C
• Comment	A maximum operating temperature of +85 °C is permissible for a duration of 16 hours
Relative humidity / at 25 °C / without condensation / during operating / maximum	95 %
Coating	conformal coating optional
operating condition / fanless operation	Yes
Protection class IP	IP40
Design, dimensions and weight	
Design	19-inch rack
Width	466.7 mm (18.37 in)
Height	44 mm (1.73 in)
Depth	315 mm (12.4 in)
Net weight	5.2 kg
Material / of the enclosure	18 AWG galvanized steel enclosure
Type of mounting	
• 35 mm DIN rail mounting	Yes
• S7-300 rail mounting	No
• Installation 19 inch	Yes
• wall mounting	Yes
product component part / integrated / Ethernet switch	Yes
product function	
• DNP 3.0 to DNP conversion via UDP/TCP	Yes
• Modbus RTU to Modbus TCP conversion	Yes
• RAW socket mode for any serial protocols	Yes
Protocol / is supported	
• DNP3	Yes
• GVRP	Yes
• HTTP	Yes
• Modbus TCP	Yes
• TFTP	Yes
Product function / CLI	Yes
Product function / RMON	Yes
Product function / web-based management	Yes
Protocol / is supported / Telnet	Yes

Product function / MIB support	Yes
Protocol / is supported	
• SNMP v1	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
• by SNMPv2-MIB	RFC1907
• by SNMPv2-SMI	RFC2578
• by SNMPv2-TC	RFC2579
• by TCP-MIB	RFC2012
• by UDP-MIB	RFC2013
Number of VLANs / maximum	255
Product function / VLAN - port based	Yes
Product function	
• DHCP Option 82	Yes
product function	
• redundancy procedure MSTP	No
• RSTP redundancy protocol	Yes
• eRSTP	Yes
Protocol / is supported	
• MSTP	No
• RSTP	Yes
Product function / IEEE 802.1x (radius)	Yes
Protocol / is supported / SSL	Yes
Protocol / is supported	
• NTP	Yes
• SNTP	Yes
Standards, specifications, approvals	
Standard	
• for EMC	FCC Part 15 (Class A), EN55022 (CISPR22 Class A)
• for safety / of CSA and UL	UL 60950-1, CSA C22.2 no. 60950-7
• for hazardous area / of CSA and UL	Hazardous Locations: Class 1 Division 2
• for emitted interference	EN 61000-6-4 (Class A)
• for interference immunity	EN 61000-6-2
Laser protection class	Complies with 21 CFR Chapter 1, Subchapter J
Verification of suitability	EN 61000-6-2, EN 61000-6-10
Verification of suitability	
• regarding NEMA	TS 2

• CE mark	Yes
• C-Tick	No
• IEC 61850-3	Yes
Further Information / Internet Links	
Internet link	
• to website	
• Industry Mall/RUGGEDCOM Selector	http://ruggedcom-selector.automation.siemens.com
• 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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