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Show actual product details

Data sheet 6GK5416-4GS00-2AM2

Product type designation



SCALANCE XM416-4C

SCALANCE XM416-4C; MANAGED MODULAR IE SWITCH; 16 X 10/100/1000 MBIT/S RJ45; 4 X 100/1000 MBIT/S SFP; CONTAINS 4 COMBO PORTS; 16 PORTS USABLE IN TOTAL; EXPANDABLE UP TO 24 PORTS ELECTRICAL OR OPTICAL; LAYER 3 WITH KEY PLUG AVAILABLE MOUNTING DIN-/S7-PROFILE-RAIL PROFINET-IO DEVICE; REDUNDANCY FUNCTIONS; OFFICE FEATURES (RSTP, VLAN, IGMP,..); C-PLUG IN SCOPE OF SUPPLY

Transmission rate	
Transfer rate	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s
Number of ports / maximum	24

Interfaces / for communication / maximum configuration for modular devices	
Number of electrical ports / maximum	24
Number of electrical ports / with PoE / maximum	8
Number of optical ports / maximum	12

Interfaces / for communication / integrated	
Number of electrical connections	
• for network components or terminal equipment	16; RJ45 with securing collar
Number of 10/100/1000 Mbit/s RJ45 ports / Integrated	
• with securing collar	16
Number of electrical connections	
• for SFP	4; 100 Mbit/s or 1000 Mbit/s SFP plug-in transceiver
Number of combo ports / with RJ45 interface for optical plug-in transceiver	4; 100 Mbit/s or 1000 Mbit/s SFP plug-in transceiver
Number of connectable extender modules	1

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Interfaces / for communication / pluggable / maximum	
Number of 10/100/1000 Mbit/s RJ45 ports	
• with securing collar	8
• with securing collar / with PoE	8
Number of 100 Mbit/s LC ports	
• for multimode	12
• for single mode (LD)	12
• for single mode (LH+)	12
• for single mode (ELH200)	12
Number of 1000 Mbit/s LC ports	
• for multimode	12
• for single mode (LD)	12
• for single mode (LH)	12
• for single mode (LH+)	12
• for single mode (ELH)	12
Number of electrical connections	
• for SFP	12; 100 Mbit/s or 1000 Mbit/s SFP plug-in transceiver

Interfaces / others	
Number of electrical connections	
• for operator console	1
• for management purposes	1
• for signaling contact	1
• for power supply	1
• for redundant voltage supply	1
Type of electrical connection	
• for operator console	RJ11 port
• for management purposes	RJ45 port
• for signaling contact	2-pole terminal block
• for power supply	4-pole terminal block
Number of extender expansion interfaces	2
design of the removable storage	
• C-PLUG/KEY-PLUG	Yes
Product feature / hot-swappable interface modules	Yes

Signal-Inputs/outputs	
Operating voltage / of the signaling contacts	
• at DC / Rated value	24 V
Operating current / of the signaling contacts	
• at DC / maximum	0.1 A

Supply voltage, current consumption, power loss	
Type of voltage supply / redundant power supply unit	No

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Type of voltage / of the supply voltage	DC
Supply voltage	
• external	24 V
• external	19.2 ... 28.8 V
Product component / fusing at power supply input	Yes
Fuse protection type / at input for supply voltage	F 15 A / 125 V
Consumed current / maximum	2 A
Power loss [W]	
• at DC / at 24 V	48 W
Supplied active power / of PSE / with PoE	
• per port / maximum	30 W
• total / maximum	180 W

Permitted ambient conditions

Ambient temperature	
• during operation	-40 ... +70 °C
• during storage	-40 ... +85 °C
• during transport	-40 ... +85 °C
Relative humidity	
• at 25 °C / without condensation / during operation / maximum	95 %
Protection class IP	IP20

Design, dimensions and weight

Design	SIMATIC S7-1500 device design
Width	140 mm
Height	147 mm
Depth	125 mm
Net weight	1.25 kg
Mounting type	
• 19-inch installation	No
• 35 mm DIN rail mounting	Yes
• wall mounting	No
• S7-300 rail mounting	Yes
• S7-1500 rail mounting	Yes

Product properties, functions, components / general

Cascading in cases of star topology	any (depending only on signal propagation time)

Product functions / management, configuration

Product function	
• CLI	Yes
• web-based management	Yes
• MIB support	Yes
• TRAPs via email	Yes

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• Configuration with STEP 7	Yes
• RMON	Yes
• Port mirroring	Yes
• multiport mirroring	Yes
• CoS	Yes
• PROFINET IO diagnosis	Yes
• switch-managed	Yes
Telegram length / for Ethernet / maximum	9216 byte
Protocol / is supported	
• Telnet	Yes
• HTTP	Yes
• HTTPS	Yes
• TFTP	Yes
• FTP	Yes
• BOOTP	Yes
• GMRP	Yes
• DCP	Yes
• LLDP	Yes
• IGMP (snooping/querier)	Yes
Identification & maintenance function	
• I&M0 - device-specific information	Yes
• I&M1 – higher-level designation/location designation	Yes
Protocol / is supported	
• SNMP v1	Yes
• SNMP v2	Yes
• SNMP v3	Yes
Product functions / Diagnosis	
Product function	
• Port diagnostics	Yes
• Statistics Packet Size	Yes
• Statistics packet type	Yes
• Error statistics	Yes
• SysLog	Yes
Product functions / VLAN	
Product function	
• VLAN - port based	Yes
• VLAN - protocol-based	Yes
• VLAN - IP-based	Yes
• VLAN dynamic	Yes
Number of VLANs / maximum	255

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Number of VLANs - dynamic / maximum	255
Protocol / is supported / GVRP	Yes

Product functions / DHCP	
Product function	
• DHCP client	Yes
• DHCP Option 82	Yes
• DHCP Option 66	Yes
• DHCP Option 67	Yes

Product functions / Routing	
Service / Routing / Note	IP routing in combination with KEY-PLUG XM-400, IPv6 available soon
Product function	
• Static IP routing	Yes
• Static IP routing IPv6	No
• dynamic IP routing	Yes
• dynamic IP routing IPv6	No
Protocol / is supported	
• RIPv2	Yes
• RIPnG for IPv6	No
• OSPFv2	Yes
• OSPFv3 for IPv6	No
• VRRP	Yes
• VRRP for IPv6	No

Product functions / Redundancy	
Product function	
• Ring redundancy	Yes
• High Speed Redundancy Protocol (HRP)	Yes
• high speed redundancy protocol (HRP) with redundancy manager	Yes
• high speed redundancy protocol (HRP) with standby redundancy	Yes
Protocol / is supported / Media Redundancy Protocol (MRP)	Yes
Product function	
• media redundancy protocol (MRP) with redundancy manager	Yes
• redundancy procedure STP	Yes
• redundancy procedure RSTP	Yes
• redundancy procedure MSTP	Yes
• Passive listening	Yes
Protocol / is supported	

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• LACP	Yes

Product functions / Security	
Product function	
• ACL - MAC-based	Yes
• ACL - port/MAC-based	Yes
• IEEE 802.1x (radius)	Yes
• Broadcast/Multicast/Unicast Limiter	Yes
• broadcast blocking	Yes
Protocol / is supported	
• SSH	Yes

Product functions / Time	
Product function	
• SICLOCK support	Yes
Protocol / is supported	
• NTP	Yes
• SNTP	Yes
Type of time synchronization	IEEE 1588 available soon

Standards, specifications, approvals	
Standard	
• for FM	FM3611: Class 1, Divison 2, Group A, B, C, D / T4, Class 1, Zone 2, Group IIC, T4
• for hazardous zone	EN 60079-0: 2009, EN60079-15: 2010, II 3 G Ex nA IIC T4 Gc, KEMA 07 ATEX 0145 X, IECEx DEK 14.0025X
• for safety / from CSA and UL	UL 508, UL 60950-1, CSA C22.2 Nr. 60950-1-03
• for hazardous zone / from CSA and UL	ISA 12.12.01-2012 (Hazardous Location), Class 1 / Division 2 / Group A, B, C, D / T4, Class 1 / Zone 2 / Group IIC / T4
• for emitted interference	EN 61000-6-4 (Class A)
• for interference immunity	EN 61000-6-2
Certificate of suitability / CE marking	Yes
Certificate of suitability	EN 61000-6-2, EN 61000-6-4
• C-Tick	Yes
• KC approval	Yes
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	No
• Bureau Veritas (BV)	No
• Det Norske Veritas (DNV)	Yes
• Germanische Lloyd (GL)	No
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (NK)	Yes
• Polski Rejestr Statkow (PRS)	Yes

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• Royal Institution of Naval Architects (RINA)	Yes
MTBF / at 40 °C	22 y

Further Information / Internet Links

Internet-Link	
• to website: Selector SIMATIC NET SELECTION TOOL	http://www.siemens.com/snst
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: Industry Mall	https://mall.industry.siemens.com
• to website: Information and Download Center	http://www.siemens.com/industry/infocenter
• to website: Image database	http://automation.siemens.com/bilddb
• to website: CAx Download Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com

Security information

Security information	Siemens provides products and solutions with industrial security functions that support the secure operation of plants, solutions, machines, equipment and/or networks. They are important components in a holistic industrial security concept. With this in mind, Siemens' products and solutions undergo continuous development. Siemens recommends strongly that you regularly check for product updates. For the secure operation of Siemens products and solutions, it is necessary to take suitable preventive action(e.g. cell protection concept) and integrate each component into a holistic, state-of-the-art industrial security concept. Third-party products that may be in use should also be considered. For more information about industrial security, visit http://www.siemens.com/industrialsecurity. To stay informed about product updates as they occur, sign up for a product-specific newsletter. For more information, visit http://support.automation.siemens.com. (V3.4)
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