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Data sheet 6GK5416-4GR00-2AM2



SCALANCE XM416-4C; managed modular IE switch; 16x 10/100/1000 Mbit/s RJ45; 4x 100/1000 Mbit/s SFP; contains 4 combo ports; in total 16 ports can be used; expandable to 24 ports electrical or optical; assembly: DIN rail/S7 mounting rail, PROFINET IO device; redundancy functions; office features (RSTP, VLAN, IGMP,..); C-PLUG in scope of supply; Layer 3 integrated;

product type designation	
product brand name	SCALANCE
product type designation	XM416-4C
Technical Product Detail Page	https://i.siemens.com/1P6GK5416-4GR00-2AM2
transfer rate	
transfer rate	10, 100, 1000 Mbit/s
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	
● 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
interfaces / for communication / plug-in	
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
interfaces / other	
number of electrical connections	
● for operator console	1
● for signaling contact	1
● for power supply	1
type of electrical connection	
● for operator console	RJ11

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● for management purposes	RJ45
● for signaling contact	2-pole terminal block
number of extender expansion interfaces	2
design of the removable storage	
● C-PLUG	Yes
product feature / hot-swappable interface modules	Yes
operating voltage / of the signaling contacts	
● at DC / rated value	24 V
operational current / of the signaling contacts	
● at DC / maximum	0.1 A
supply voltage, current consumption, power loss	
product component / connection for redundant voltage supply	Yes
supplied active power / of PSE / with PoE	
● per port / maximum	30 W
● total / maximum	180 W
type of voltage / 1 / of the supply voltage	DC
● supply voltage / 1 / rated value	24 V
● power loss [W] / 1 / rated value	48 W
● supply voltage / 1 / voltage range	19.2 ... 28.8
● consumed current / 1 / maximum	2 A
● type of electrical connection / 1 / for power supply	4-pole terminal block
● product component / 1 / fusing at power supply input	Yes
● fuse protection type / 1 / at input for supply voltage	F 15 A / 125 V
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 weights	
design	modular
width	140 mm
height	147 mm
depth	125 mm
net weight	1.25 kg
fastening method	
● 35 mm DIN-rail mounting	Yes
● S7-300 rail mounting	Yes
● S7-1500 rail mounting	Yes
product features, product functions, product components / general	
cascading in the case of a redundant ring / at reconfiguration time of <\~0.3\~s	50
cascading in cases of star topology	any (depending only on signal propagation time)
product functions / management, configuration, engineering	
product function	
● CLI	Yes
● web-based management	Yes
● MIB support	Yes
● TRAPs via email	Yes
● configuration with STEP 7	Yes
● RMON	Yes
● port mirroring	Yes
● multiport mirroring	Yes
● CoS	Yes
● PROFINET IO diagnosis	Yes
● switch-managed	Yes

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PROFINET conformity class	B
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
● EtherNet/IP	Yes
● SNMP v1	Yes
● SNMP v2	Yes
● SNMP v3	Yes
● IGMP (snooping/querier)	Yes
identification & maintenance function	
● I&M0 - device-specific information	Yes
● I&M1 - higher level designation/location designation	Yes
product functions / diagnostics	
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
number of VLANs - dynamic / maximum	255
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 integrated
product function	
● static IP routing	Yes
● static IP routing IPv6	Yes
● dynamic IP routing	Yes
● dynamic IP routing IPv6	Yes
protocol / is supported	
● RIPv2	Yes
● RIPnG for IPv6	Yes
● OSPFv2	Yes
● OSPFv3 for IPv6	Yes
● VRRP	Yes
● VRRP for IPv6	Yes
product functions / redundancy	
protocol / is supported / Media Redundancy Protocol (MRP)	Yes
product function	
● media redundancy protocol (MRP) with redundancy	Yes

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manager	
● Media Redundancy Protocol Interconnection (MRP-I)	Yes; LC mode
● of the PROFINET IO device / is supported / H-Sync forwarding	Yes
● of the PROFINET IO device / is supported / PROFINET system redundancy	Yes
● ring redundancy	Yes
● high speed redundancy protocol (HRP) with redundancy manager	Yes
● high speed redundancy protocol (HRP) with standby redundancy	Yes
● redundancy procedure STP	Yes
● redundancy procedure RSTP	Yes
● redundancy procedure RSTP+	Yes
● redundancy procedure MSTP	Yes
● passive listening	Yes
protocol / is supported	
● LACP	Yes
system modification during operation	
product function / configuration in RUN via CiR/H-CiR	Yes
product functions / security	
product function	
● IEEE 802.1x (radius)	Yes
● broadcast/multicast/unicast limiter	Yes
● broadcast blocking	Yes
protocol / is supported	
● SSH	Yes
● SSL	Yes
product functions / time	
product function	
● SICLOCK support	Yes
● NTP-client	Yes
● SNTP client	Yes
protocol / is supported	
● NTP	Yes
● SNTP	Yes
standards, specifications, approvals	
certificate of suitability	
● CE marking	Yes
● UKCA marking	Yes
● cULus approval	Yes
● KC approval	Yes
● Regulatory Compliance Mark (RCM)	Yes
standard	
● for EMC interference emission	EN 61000-6-4 (Class A)
● for immunity to EMC	EN 61000-6-2
● for safety / from CSA and UL	UL 508, UL 60950-1, CSA C22.2 Nr. 60950-1-03
standards, specifications, approvals / hazardous environments	
certificate of suitability	
● ATEX	Yes
● UKEX	Yes
● IECEx	Yes
● ULhazloc approval	Yes
● CCC / for hazardous zone according to GB standard	Yes
● FM registration	Yes
standards, specifications, approvals / other	
certificate of suitability	
● RoHS conformity	Yes
resistance to air pollution / conformity according to ANSI/ISA-71.04	Yes; G3

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standards, specifications, approvals / marine classification	
certificate of suitability / shipbuilding approval / note	Certifications marked 'No' are currently under renewal.
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	No
● French marine classification society (BV)	No
● Chinese Classification Society (CCS)	No
● Det Norske Veritas (DNV)	No
● Korean Register of Shipping (KRS)	No
● Lloyds Register of Shipping (LRS)	No
● Nippon Kaiji Kyokai (NK)	No
● Polski Rejestr Statkow (PRS)	No
● Royal Institution of Naval Architects (RINA)	Yes

product functions / general	
MTBF	22 a
warranty period	5 a
product function / is supported / identification link	Yes; acc. to IEC 61406-1:2022

further information / internet links	
internet link	
● to website: Selection guide for cables and connectors	https://support.industry.siemens.com/cs/ww/en/view/109766358
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: Industrial communication	https://www.siemens.com/simatic-net
● to web page: SiePortal	https://sieportal.siemens.com/
● to website: Image database	https://www.automation.siemens.com/bilddb
● to website: CAx-Download-Manager	https://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 cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement - and continuously maintain - a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Approvals / Certificates

General Product Approval

CE EG-Konf. | Declaration of Conformity | EAC | China RoHS | Manufacturer Declaration | UL

General Product Approval				EMV	For use in hazardous locations
RCM	CE EG-Konf.	UKCA	China RoHS	KC	IECEx

For use in hazardous locations	Test Certificates	Maritime application

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ATEX	FM	CCC-Ex	Type Test Certificates/Test Report	ABS	BUREAU VERITAS

Maritime application					Industrial Communication
DNV	LRS	NK / Nippon Kaiji Kyokai	PRS	RINA	PROFINET

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