



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 with Key-Plug plug available .

product type designation	SCALANCE XM416-4C
transfer 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	16; RJ45 with securing collar
<ul style="list-style-type: none"> for network components or terminal equipment 	
number of 10/100/1000 Mbit/s RJ45 ports / integrated	16
<ul style="list-style-type: none"> with securing collar 	
number of electrical connections	4; 100 Mbit/s or 1000 Mbit/s SFP plug-in transceiver
<ul style="list-style-type: none"> for SFP 	
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
interfaces / for communication / plug-in	
number of 10/100/1000 Mbit/s RJ45 ports	8
<ul style="list-style-type: none"> with securing collar 	
	8
number of 100 Mbit/s LC ports	12
<ul style="list-style-type: none"> for multimode 	
<ul style="list-style-type: none"> for single mode (LD) 	
<ul style="list-style-type: none"> for single mode (LH+) 	
	12
<ul style="list-style-type: none"> for single mode (ELH200) 	12
number of 1000 Mbit/s LC ports	12
<ul style="list-style-type: none"> for multimode 	
<ul style="list-style-type: none"> for single mode (LD) 	
<ul style="list-style-type: none"> for single mode (LH) 	
<ul style="list-style-type: none"> for single mode (LH+) 	
	12
<ul style="list-style-type: none"> for single mode (ELH) 	12
number of electrical connections	12; 100 Mbit/s or 1000 Mbit/s SFP plug-in transceiver
<ul style="list-style-type: none"> for SFP 	
interfaces / other	
number of electrical connections	1
<ul style="list-style-type: none"> for operator console 	
<ul style="list-style-type: none"> for management purposes 	
	1
<ul style="list-style-type: none"> for signaling contact 	1

<ul style="list-style-type: none"> • for power supply 	1
type of electrical connection <ul style="list-style-type: none"> • for operator console • for management purposes • for signaling contact 	RJ11 RJ45 2-pole terminal block
number of extender expansion interfaces	2
design of the removable storage <ul style="list-style-type: none"> • C-PLUG • C-PLUG/KEY-PLUG 	Yes Yes
product feature / hot-swappable interface modules	Yes
signal inputs/outputs	
operating voltage / of the signaling contacts <ul style="list-style-type: none"> • at DC / rated value 	24 V
operational current / of the signaling contacts <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • per port / maximum • total / maximum 	30 W 180 W
type of voltage / 1 / of the supply voltage <ul style="list-style-type: none"> • supply voltage / 1 / rated value • power loss [W] / 1 / rated value • supply voltage / 1 / rated value • consumed current / 1 / maximum • type of electrical connection / 1 / for power supply • product component / 1 / fusing at power supply input 	DC 24 V 48 W 19.2 ... 28.8 V 2 A 4-pole terminal block Yes
ambient conditions	
ambient temperature <ul style="list-style-type: none"> • during operation • during storage • during transport 	-40 ... +70 °C -40 ... +85 °C -40 ... +85 °C
relative humidity <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 35 mm top hat DIN rail mounting • S7-300 rail mounting • S7-1500 rail mounting 	Yes Yes Yes
product features, product functions, product components / general	
cascading in the case of a redundant ring / at reconfiguration time of ≤ 0.31-s	50
cascading in cases of star topology	any (depending only on signal propagation time)
product functions / management, configuration, engineering	
product function <ul style="list-style-type: none"> • CLI • web-based management • MIB support • TRAPs via email • configuration with STEP 7 • RMON • port mirroring • multipoint mirroring • CoS 	Yes Yes Yes Yes Yes Yes Yes Yes Yes

• PROFINET IO diagnosis	Yes
PROFINET conformity class	B
product function / 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
• 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
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
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	
product function	

<ul style="list-style-type: none"> • of the PROFINET IO device / is supported / PROFINET system redundancy 	Yes
<ul style="list-style-type: none"> • ring redundancy 	Yes
<ul style="list-style-type: none"> • High Speed Redundancy Protocol (HRP) 	Yes
<ul style="list-style-type: none"> • high speed redundancy protocol (HRP) with redundancy manager 	Yes
<ul style="list-style-type: none"> • high speed redundancy protocol (HRP) with standby redundancy 	Yes
protocol / is supported / Media Redundancy Protocol (MRP)	Yes
product function	
<ul style="list-style-type: none"> • media redundancy protocol (MRP) with redundancy manager 	Yes
<ul style="list-style-type: none"> • Media Redundancy Protocol Interconnection (MRP-I) 	Yes
<ul style="list-style-type: none"> • of the PROFINET IO device / is supported / H-Sync forwarding 	Yes
<ul style="list-style-type: none"> • redundancy procedure STP 	Yes
<ul style="list-style-type: none"> • redundancy procedure RSTP 	Yes
<ul style="list-style-type: none"> • redundancy procedure RSTP+ 	Yes
<ul style="list-style-type: none"> • redundancy procedure MSTP 	Yes
<ul style="list-style-type: none"> • passive listening 	Yes
protocol / is supported	
<ul style="list-style-type: none"> • LACP 	Yes
product functions / security	
product function	
<ul style="list-style-type: none"> • ACL - MAC-based 	Yes
<ul style="list-style-type: none"> • ACL - port/MAC-based 	Yes
<ul style="list-style-type: none"> • IEEE 802.1x (radius) 	Yes
<ul style="list-style-type: none"> • broadcast/multicast/unicast limiter 	Yes
<ul style="list-style-type: none"> • broadcast blocking 	Yes
protocol / is supported	
<ul style="list-style-type: none"> • SSH 	Yes
<ul style="list-style-type: none"> • SSL 	Yes
product functions / time	
product function	
<ul style="list-style-type: none"> • SICLOCK support 	Yes
<ul style="list-style-type: none"> • NTP-client 	Yes
<ul style="list-style-type: none"> • SNTP client 	Yes
protocol / is supported	
<ul style="list-style-type: none"> • NTP 	Yes
<ul style="list-style-type: none"> • SNTP 	Yes
system modification during operation	
product function / configuration in RUN via CiR/H-CiR	Yes
standards, specifications, approvals	
standard	
<ul style="list-style-type: none"> • for FM 	FM3611: Class 1, Division 2, Group A, B, C, D / T4, Class 1, Zone 2, Group IIC, T4
<ul style="list-style-type: none"> • for safety / from CSA and UL 	UL 508, UL 60950-1, CSA C22.2 Nr. 60950-1-03
<ul style="list-style-type: none"> • for emitted interference 	EN 61000-6-4 (Class A)
<ul style="list-style-type: none"> • for interference immunity 	EN 61000-6-2
MTBF	22 a
reference code	
<ul style="list-style-type: none"> • according to IEC 81346-2 	KF
<ul style="list-style-type: none"> • according to IEC 81346-2:2019 	KFE
standards, specifications, approvals / CE	
certificate of suitability / CE marking	Yes
certificate of suitability / RoHS conformity	Yes; 2011/65/EU
standards, specifications, approvals / hazardous environments	
standard / 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
<ul style="list-style-type: none"> • 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
certificate of suitability	
<ul style="list-style-type: none"> • CCC / for hazardous zone according to GB standard 	Yes

- CCC / for hazardous zone according to GB standard / as marking

Ex nA IIC T4 Gc

standards, specifications, approvals / other

certificate of suitability	EN 61000-6-2, EN 61000-6-4
<ul style="list-style-type: none"> • C-Tick 	Yes
<ul style="list-style-type: none"> • KC approval 	Yes

standards, specifications, approvals / marine classification

Marine classification association	
<ul style="list-style-type: none"> • American Bureau of Shipping Europe Ltd. (ABS) 	Yes
<ul style="list-style-type: none"> • French marine classification society (BV) 	Yes
<ul style="list-style-type: none"> • DNV GL 	Yes
<ul style="list-style-type: none"> • Lloyds Register of Shipping (LRS) 	Yes
<ul style="list-style-type: none"> • Nippon Kaiji Kyokai (NK) 	Yes
<ul style="list-style-type: none"> • Polski Rejestr Statkow (PRS) 	Yes
<ul style="list-style-type: none"> • Royal Institution of Naval Architects (RINA) 	Yes








further information / internet links

internet link	
<ul style="list-style-type: none"> • to web page: selection aid TIA Selection Tool 	http://www.siemens.com/tia-selection-tool
<ul style="list-style-type: none"> • to website: Industrial communication 	http://www.siemens.com/simatic-net
<ul style="list-style-type: none"> • to website: Industry Mall 	https://mall.industry.siemens.com
<ul style="list-style-type: none"> • to website: Information and Download Center 	http://www.siemens.com/industry/infocenter
<ul style="list-style-type: none"> • to website: Image database 	http://automation.siemens.com/bilddb
<ul style="list-style-type: none"> • to website: CAx-Download-Manager 	http://www.siemens.com/cax
<ul style="list-style-type: none"> • to website: Industry Online Support 	https://support.industry.siemens.com

security information

security information	<p>Siemens provides products and solutions with industrial security 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 security 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 security measures that may be implemented, please visit https://www.siemens.com/industrialsecurity. 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 Security RSS Feed under https://www.siemens.com/cert. (V4.6)</p>
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Approvals / Certificates

General Product Approval	EMC	For use in hazardous locations		
Manufacturer Declaration  UL	 RCM	ATEX-Zone 2-Declaration  IECEX	FM	
For use in hazardous locations	Declaration of Conformity			
CCC-Ex  UL	 EG-Konf.			Manufacturer Declaration
Test Certificates	Marine / Shipping			

[Type Test Certificates/Test Report](#)



[NK / Nippon Kaiji Kyokai](#)



Marine / Shipping

other

Environment



[PROFINET-Certification](#)



last modified:

9/22/2023