

Product type designation

SCALANCE XM416-4C
SCALANCE XM416-4C; MANAGED MODULAR IE SWITCH; LAYER 3 INTEGRATED; 16 X 10/100/1000 MBIT/S RJ45; 4 X 100/1000 MBIT/S SFP; CONTAINS 4 COMBO PORTS; USABLE 16 PORTS IN TOTAL; EXPANDABLE TO 24 PORTS ELEKTRICAL OR OPTICAL; 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
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 • for Power-over-Ethernet / for network components or terminal equipment	16; RJ45 with securing collar 0
Number of 10/100 Mbit/s RJ45 ports / Integrated • with securing collar	16
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

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
Type of voltage / of the supply voltage	DC
Supply voltage • external • external	24 V 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 • total / maximum	30 W 180 W

Permitted ambient conditions

Ambient temperature • during operation • during storage • during transport	-40 ... +70 °C -40 ... +85 °C -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 • 35 mm DIN rail mounting • wall mounting • S7-300 rail mounting • S7-1500 rail mounting	No Yes No Yes Yes

Product properties, functions, components / general

Cascading in cases of star topology	any (depending only on signal propagation time)
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Product functions / management, configuration

Product function • CLI • web-based management	Yes Yes
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• MIB support • TRAPs via email • Configuration with STEP 7 • RMON • Port mirroring • multiport mirroring • CoS • PROFINET IO diagnosis • switch-managed	Yes Yes Yes Yes Yes Yes Yes Yes Yes
Telegram length / for Ethernet / maximum	9216 byte
Protocol / is supported • Telnet • HTTP • HTTPS • TFTP • FTP • BOOTP • GMRP • DCP • LLDP • IGMP (snooping/querier)	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Identification & maintenance function • I&M0 - device-specific information • I&M1 – higher-level designation/location designation	Yes Yes
Protocol / is supported • SNMP v1 • SNMP v2 • SNMP v3	Yes Yes Yes
Product functions / Diagnosis	
Product function • Port diagnostics • Statistics Packet Size • Statistics packet type • Error statistics • SysLog	Yes Yes Yes Yes Yes
Product functions / VLAN	
Product function • VLAN - port based • VLAN - protocol-based • VLAN - IP-based	Yes Yes 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 integrated, 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
• RIPv6	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	
• 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, Division 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
• 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

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