

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

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	
<ul style="list-style-type: none"> for network components or terminal equipment 	16; RJ45 with securing collar
Number of 10/100/1000 Mbit/s RJ45 ports / Integrated	
<ul style="list-style-type: none"> with securing collar 	16
Number of electrical connections	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> • with securing collar 	8
<ul style="list-style-type: none"> • with securing collar / with PoE 	8
Number of 100 Mbit/s LC ports	
<ul style="list-style-type: none"> • for multimode 	12
<ul style="list-style-type: none"> • for single mode (LD) 	12
<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	
<ul style="list-style-type: none"> • for multimode 	12
<ul style="list-style-type: none"> • for single mode (LD) 	12
<ul style="list-style-type: none"> • for single mode (LH) 	12
<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	
<ul style="list-style-type: none"> • for SFP 	12; 100 Mbit/s or 1000 Mbit/s SFP plug-in transceiver

Interfaces / others

Number of electrical connections	
<ul style="list-style-type: none"> • for operator console 	1
<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
<ul style="list-style-type: none"> • for redundant voltage supply 	1
Type of electrical connection	
<ul style="list-style-type: none"> • for operator console 	RJ11 port
<ul style="list-style-type: none"> • for management purposes 	RJ45 port
<ul style="list-style-type: none"> • for signaling contact 	2-pole terminal block
<ul style="list-style-type: none"> • for power supply 	4-pole terminal block
Number of extender expansion interfaces	2
design of the removable storage	
<ul style="list-style-type: none"> • C-PLUG/KEY-PLUG 	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
Operating current / of the signaling contacts	
<ul style="list-style-type: none"> • 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)
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Product functions / management, configuration

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
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

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	
<ul style="list-style-type: none"> • ACL - MAC-based • ACL - port/MAC-based • IEEE 802.1x (radius) • Broadcast/Multicast/Unicast Limiter • broadcast blocking 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
Protocol / is supported	
<ul style="list-style-type: none"> • SSH 	Yes

Product functions / Time

Product function	
<ul style="list-style-type: none"> • SICLOCK support 	Yes
Protocol / is supported	
<ul style="list-style-type: none"> • NTP • SNTP 	<p>Yes</p> <p>Yes</p>
Type of time synchronization	IEEE 1588 available soon

Standards, specifications, approvals

Standard	
<ul style="list-style-type: none"> • for FM • for hazardous zone • for safety / from CSA and UL • for hazardous zone / from CSA and UL • for emitted interference • for interference immunity 	<p>FM3611: Class 1, Division 2, Group A, B, C, D / T4, Class 1, Zone 2, Group IIC, T4</p> <p>EN 60079-0: 2009, EN60079-15: 2010, II 3 G Ex nA IIC T4 Gc, KEMA 07 ATEX 0145 X, IECEx DEK 14.0025X</p> <p>UL 508, UL 60950-1, CSA C22.2 Nr. 60950-1-03</p> <p>ISA 12.12.01-2012 (Hazardous Location), Class 1 / Division 2 / Group A, B, C, D / T4, Class 1 / Zone 2 / Group IIC / T4</p> <p>EN 61000-6-4 (Class A)</p> <p>EN 61000-6-2</p>
Certificate of suitability / CE marking	Yes
Certificate of suitability	EN 61000-6-2, EN 61000-6-4
<ul style="list-style-type: none"> • C-Tick • KC approval 	<p>Yes</p> <p>Yes</p>
Marine classification association	
<ul style="list-style-type: none"> • American Bureau of Shipping Europe Ltd. (ABS) • Bureau Veritas (BV) • Det Norske Veritas (DNV) • Germanische Lloyd (GL) • Lloyds Register of Shipping (LRS) • Nippon Kaiji Kyokai (NK) • Polski Rejestr Statkow (PRS) • Royal Institution of Naval Architects (RINA) 	<p>No</p> <p>No</p> <p>Yes</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
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

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