

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
---------------	------------------------------------

Interfaces

Number of electrical/optical connections	
--	--

- for network components or terminal equipment / maximum
- as combo port / for network components or terminal equipment

24

4

Number of electrical connections	
----------------------------------	--

- for network components or terminal equipment / with extender modules

8

Design of electrical/optical connections / for network components or terminal equipment	
---	--

SFP

Type of electrical connection	
-------------------------------	--

- for network components or terminal equipment
- for network components or terminal equipment / with extender modules

RJ45 port

RJ45 port

Number of optical interfaces	
------------------------------	--

<ul style="list-style-type: none"> • for fiber optic cable / at 100 Mbit/s 	4
<ul style="list-style-type: none"> • for fiber optic cable / at 1000 Mbit/s 	4
<ul style="list-style-type: none"> • for fiber optic cable / with extender modules 	8
Design of the optical interface	
<ul style="list-style-type: none"> • for fiber optic cable / at 100 Mbit/s 	SFP slot
<ul style="list-style-type: none"> • for fiber optic cable / at 1000 Mbit/s 	SFP slot
<ul style="list-style-type: none"> • for fiber optic cable / with extender modules 	SFP slot

Interfaces / for communication / integrated

Number of electrical connections / for network components or terminal equipment	16
Number of electrical connections / for Power-over-Ethernet / for network components or terminal equipment	0
Number of electrical connections	
<ul style="list-style-type: none"> • for SFP 	4
Number of combo ports / with RJ45 interface for optical plug-in transceiver	4

Interfaces / for communication / pluggable / maximum

Number of electrical connections	
<ul style="list-style-type: none"> • for SFP 	12

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 property / 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
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
Active power loss	
• at DC / at 24 V	48 W
Active power supplied / 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
• 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 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
• 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

<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

Product functions / Time

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

Standards, specifications, approvals

Standard	
<ul style="list-style-type: none"> • for FM 	FM3611: Class 1, Divison 2, Group A, B, C, D / T4, Class 1, Zone 2, Group IIC, T4
<ul style="list-style-type: none"> • 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
<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
Certificate of suitability	EN 61000-6-2, EN 61000-6-4
<ul style="list-style-type: none"> • CE marking 	Yes
<ul style="list-style-type: none"> • C-Tick 	Yes
<ul style="list-style-type: none"> • KC approval 	Yes
Marine classification association	
<ul style="list-style-type: none"> • Det Norske Veritas (DNV) 	Yes
<ul style="list-style-type: none"> • Germanische Lloyd (GL) 	Yes
<ul style="list-style-type: none"> • Nippon Kaiji Kyokai (NK) 	Yes
<ul style="list-style-type: none"> • Royal Institution of Naval Architects (RINA) 	Yes
MTBF / at 40 °C	22 y

Further Information / Internet Links

Internet-Link	
<ul style="list-style-type: none"> • to website: Selector SIMATIC NET SELECTION TOOL 	http://www.siemens.com/snst

- to website: Industrial communication
- to website: Industry Mall
- to website: Image database
- to website: CAx Download Manager
- to website: Industry Online Support

<http://www.siemens.com/simatic-net>

<https://mall.industry.siemens.com>

<http://automation.siemens.com/bilddb>

<http://www.siemens.com/cax>

<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)

last modified:

24.09.2015