

Product type designation
Product description

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

Interfaces	
Number of electrical/optical connections	
• for network components or terminal equipment / maximum	24
• as combo port / for network components or terminal equipment	4
Number of electrical connections	
• for network components or terminal equipment	16
• for network components or terminal equipment / with extender modules	8
• for SFP+/SFP	4
• for operator console	1
• for management purposes	1
• for signaling contact	1
• for power supply	1
• for redundant voltage supply	1

Design of electrical/optical connections / for network components or terminal equipment	SFP
Design of the electrical connection	
<ul style="list-style-type: none"> • for network components or terminal equipment 	RJ45 port
<ul style="list-style-type: none"> • for network components or terminal equipment / with extender modules 	RJ45 port
<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 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
Number of extender expansion interfaces	2
design of the removable storage / C-PLUG/KEY-PLUG	Yes

Signal-Inputs/outputs

Operating voltage / of the signaling contacts	
<ul style="list-style-type: none"> • for DC / Rated value 	24 V
Operating current / of the signaling contacts	
<ul style="list-style-type: none"> • for 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	
<ul style="list-style-type: none"> • external 	24 V
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • for DC / at 24 V 	48 W

Permitted ambient conditions

Ambient temperature	
<ul style="list-style-type: none"> • during operation 	-40 ... +70 °C
<ul style="list-style-type: none"> • during storage 	-40 ... +85 °C
<ul style="list-style-type: none"> • during transport 	-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 weight

Design	SIMATIC S7-1500 device design
Width	140 mm
Height	147 mm
Depth	125 mm
Net weight	1.25 kg
Mounting type	
<ul style="list-style-type: none"> • 19-inch installation 	No
<ul style="list-style-type: none"> • 35 mm DIN rail mounting 	Yes
<ul style="list-style-type: none"> • wall mounting 	No
<ul style="list-style-type: none"> • S7-300 rail mounting 	Yes
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • CLI 	Yes
<ul style="list-style-type: none"> • web-based management 	Yes
<ul style="list-style-type: none"> • MIB support 	Yes
<ul style="list-style-type: none"> • TRAPs via email 	Yes
<ul style="list-style-type: none"> • Configuration with STEP 7 	Yes
<ul style="list-style-type: none"> • RMON 	Yes
<ul style="list-style-type: none"> • Port mirroring 	Yes
<ul style="list-style-type: none"> • multiport mirroring 	Yes
<ul style="list-style-type: none"> • CoS 	Yes
<ul style="list-style-type: none"> • PROFINET IO diagnosis 	Yes
<ul style="list-style-type: none"> • switch-managed 	Yes
Telegram length / for Ethernet / maximum	9216 byte
Protocol / is supported	
<ul style="list-style-type: none"> • Telnet 	Yes
<ul style="list-style-type: none"> • HTTP 	Yes
<ul style="list-style-type: none"> • HTTPS 	Yes
<ul style="list-style-type: none"> • TFTP 	Yes
<ul style="list-style-type: none"> • FTP 	Yes
<ul style="list-style-type: none"> • BOOTP 	Yes
<ul style="list-style-type: none"> • GMRP 	Yes
<ul style="list-style-type: none"> • DCP 	Yes
<ul style="list-style-type: none"> • LLDP 	Yes
<ul style="list-style-type: none"> • 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 for IPv6	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
• Media Redundancy Protocol (MRP)	Yes
• 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
• for safety / from CSA and UL	UL 60950-1, CSA C22.2 No. 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
- for interference immunity

Certificate of suitability

- CE marking
- C-Tick
- KC approval
- E1 approval
- E1 approval

MTBF / at 40 °C

EN 61000-6-4 (Class A)

EN 61000-6-2

EN 61000-6-2, EN 61000-6-4

Yes

Yes

No

No

No

22 y

Further Information / Internet Links

Internet-Link

- to website: Selector SIMATIC NET SELECTION TOOL
- to website: Industrial communication
- to website: Industry Mall
- to website: Information and Download Center
- to website: Image database
- to website: CAx Download Manager
- to website: Industry Online Support

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

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

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

<http://www.siemens.com/automation/net/catalog>

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

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

<http://support.automation.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:

15.12.2014