

Product type designation
Product description

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
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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

Design of the electrical connection

- for network components or terminal equipment
- for network components or terminal equipment / with extender modules
- for operator console
- for management purposes
- for signaling contact
- for power supply

Number of optical interfaces

- for fiber optic cable / at 100 Mbit/s
- for fiber optic cable / at 1000 Mbit/s
- for fiber optic cable / with extender modules

Design of the optical interface

- for fiber optic cable / at 100 Mbit/s
- for fiber optic cable / at 1000 Mbit/s
- for fiber optic cable / with extender modules

Number of extender expansion interfaces

design of the removable storage / C-PLUG/KEY-PLUG

SFP

RJ45 port

RJ45 port

RJ11 port

RJ45 port

2-pole terminal block

4-pole terminal block

4

4

8

SFP slot

SFP slot

SFP slot

2

Yes

Signal-Inputs/outputs

Operating voltage / of the signaling contacts

- for DC / Rated value

24 V

Operating current / of the signaling contacts

- 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

- 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

Active power loss

- for DC / at 24 V

48 W

Permitted ambient conditions

Ambient temperature

- 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 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)
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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 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
• RIPv2 for IPv6	No
• OSPFv2	Yes
• OSPFv3 for IPv6	No

- VRRP
- VRRP for IPv6

Yes
No

Product functions / Redundancy

Product function

- Ring redundancy
- High Speed Redundancy Protocol (HRP)
- high speed redundancy protocol (HRP) with redundancy manager
- high speed redundancy protocol (HRP) with standby redundancy
- Media Redundancy Protocol (MRP)
- media redundancy protocol (MRP) with redundancy manager
- redundancy procedure STP
- redundancy procedure RSTP
- redundancy procedure MSTP
- Passive listening

Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes

Protocol / is supported

- LACP

Yes

Product functions / Security

Product function

- ACL - MAC-based
- ACL - port/MAC-based
- IEEE 802.1x (radius)
- Broadcast/Multicast/Unicast Limiter
- broadcast blocking

Yes
Yes
Yes
Yes
Yes

Protocol / is supported

- SSH

Yes

Product functions / Time

Product function

- SICLOCK support

Yes

Protocol / is supported

- NTP
- SNTP

Yes
Yes

Type of time synchronization

IEEE 1588 available soon

Standards, specifications, approvals

Standard

- for FM
- for hazardous zone
- for safety / from CSA and UL

FM3611: Class 1, Division 2, Group A, B, C, D / T4, Class 1, Zone 2, Group IIC, T4
EN 60079-0: 2009, EN60079-15: 2010, II 3 G Ex nA IIC T4 Gc, KEMA 07 ATEX 0145 X
UL 60950-1, CSA C22.2 No. 60950-1-03

- for hazardous zone / from CSA and UL
- for emitted interference
- for interference immunity

Certificate of suitability

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

MTBF / at 40 °C

ISA 12.12.01-2012 (Hazardous Location), Class 1 / Division 2 /
Group A, B, C, D / T4, Class 1 / Zone 2 / Group IIC / T4
EN 61000-6-4 (Class A)
EN 61000-6-2
EN 61000-6-2, EN 61000-6-4
Yes
Yes
No
No
No
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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

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