

SCALANCE XM416-4C; managed modular IE switch; 16x 10/100/1000 Mbit/s RJ45; 4x 100/1000 Mbit/s SFP; contains 4 combo ports; in total 16 ports can be used; expandable to 24 ports electrical or optical; assembly: DIN rail/S7 mounting rail, PROFINET IO device; redundancy functions; office features (RSTP, VLAN, IGMP,..); C-plug in scope of delivery; Layer 3 with key plug available



<b>Product type designation</b>	<b>SCALANCE XM416-4C</b>
<b>Transfer rate</b>	
Transfer rate	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s
Number of ports / maximum	24
<b>Interfaces / for communication / maximum configuration for modular devices</b>	
Number of electrical ports / maximum	24
Number of electrical ports / with PoE / maximum	8
Number of optical ports / maximum	12
<b>Interfaces / for communication / Integrated</b>	
Number of electrical connections	
• for network components or terminal equipment	16; RJ45 with securing collar
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
<b>Interfaces / for communication / plug-in</b>	
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
<b>Interfaces / other</b>	
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
• for management purposes	RJ45
• 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
<b>Signal inputs/outputs</b>	
Operating voltage / of the signaling contacts	
• at DC / Rated value	24 V
Operating current / of the signaling contacts	
• at DC / maximum	0.1 A
<b>Supply voltage, current consumption, power loss</b>	

Type of voltage supply / redundant power supply unit	No
Type of voltage / of the supply voltage	DC
Supply voltage	
• external	24 V
• external / minimum	19.2 V
• external / maximum	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

### 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 weights

Design	modular
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 features, product functions, product components / general

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

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
PROFINET conformity class	B
Product function / 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
• SNMP v1	Yes
• SNMP v2	Yes
• SNMP v3	Yes
• IGMP (snooping/querier)	Yes
Identification & maintenance function	
• I&M0 - device-specific information	Yes
• I&M1 – higher-level designation/location designation	Yes

### Product functions / Diagnostics

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
Product function	
• Static IP routing	Yes
• Static IP routing IPv6	Yes
• dynamic IP routing	Yes
• dynamic IP routing IPv6	Yes
Protocol / is supported	
• RIPv2	Yes
• RIPv6	Yes
• OSPFv2	Yes
• OSPFv3 for IPv6	Yes
• VRRP	Yes
• VRRP for IPv6	Yes

### 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	
<ul style="list-style-type: none"> <li>• LACP</li> </ul>	Yes
<b>Product functions / Security</b>	
Product function	
<ul style="list-style-type: none"> <li>• ACL - MAC-based</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• ACL - port/MAC-based</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• IEEE 802.1x (radius)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Broadcast/Multicast/Unicast Limiter</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• broadcast blocking</li> </ul>	Yes
Protocol / is supported	
<ul style="list-style-type: none"> <li>• SSH</li> </ul>	Yes
<b>Product functions / time</b>	
Product function	
<ul style="list-style-type: none"> <li>• SICLOCK support</li> </ul>	Yes
Protocol / is supported	
<ul style="list-style-type: none"> <li>• NTP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• SNTP</li> </ul>	Yes
<b>Standards, specifications, approvals</b>	
Standard	
<ul style="list-style-type: none"> <li>• for FM</li> </ul>	FM3611: Class 1, Divison 2, Group A, B, C, D / T4, Class 1, Zone 2, Group IIC, T4
<ul style="list-style-type: none"> <li>• for hazardous zone</li> </ul>	EN 60079-0: 2009, EN60079-15: 2010, II 3 G Ex nA IIC T4 Gc, KEMA 07 ATEX 0145 X, IECEx DEK 14.0025X
<ul style="list-style-type: none"> <li>• for safety / from CSA and UL</li> </ul>	UL 508, UL 60950-1, CSA C22.2 Nr. 60950-1-03
<ul style="list-style-type: none"> <li>• for hazardous zone / from CSA and UL</li> </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"> <li>• for emitted interference</li> </ul>	EN 61000-6-4 (Class A)
<ul style="list-style-type: none"> <li>• for interference immunity</li> </ul>	EN 61000-6-2
<b>Standards, specifications, approvals / CE</b>	
Certificate of suitability / CE marking	Yes
<b>Standards, specifications, approvals / other</b>	
Certificate of suitability	EN 61000-6-2, EN 61000-6-4
<ul style="list-style-type: none"> <li>• C-Tick</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• KC approval</li> </ul>	Yes
<b>Standards, specifications, approvals / marine classification</b>	
Marine classification association	
<ul style="list-style-type: none"> <li>• American Bureau of Shipping Europe Ltd. (ABS)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Bureau Veritas (BV)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Det Norske Veritas (DNV)</li> </ul>	No

• Germanische Lloyd (GL)	No
• DNV GL	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (NK)	Yes
• Polski Rejestr Statkow (PRS)	Yes
• Royal Institution of Naval Architects (RINA)	Yes

### Standards, specifications, approvals / Product conformity

MTBF	22 y
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### Further information / Internet-Links

#### Internet-Link

• to website: Selector SIMATIC NET SELECTION TOOL	<a href="http://www.siemens.com/snst">http://www.siemens.com/snst</a>
• to website: Industrial communication	<a href="http://www.siemens.com/simatic-net">http://www.siemens.com/simatic-net</a>
• to website: Industry Mall	<a href="https://mall.industry.siemens.com">https://mall.industry.siemens.com</a>
• to website: Information and Download Center	<a href="http://www.siemens.com/industry/infocenter">http://www.siemens.com/industry/infocenter</a>
• to website: Image database	<a href="http://automation.siemens.com/bilddb">http://automation.siemens.com/bilddb</a>
• to website: CAx Download Manager	<a href="http://www.siemens.com/cax">http://www.siemens.com/cax</a>
• to website: Industry Online Support	<a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a>

### 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:

12/17/2019