



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 integrated;

<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	

<ul style="list-style-type: none"> <li>• for operator console</li> <li>• for management purposes</li> <li>• for signaling contact</li> <li>• for power supply</li> </ul>	1
type of electrical connection	
<ul style="list-style-type: none"> <li>• for operator console</li> <li>• for management purposes</li> <li>• for signaling contact</li> <li>• for power supply</li> </ul>	RJ11 RJ45 2-pole terminal block 4-pole terminal block
number of extender expansion interfaces	2
design of the removable storage	
<ul style="list-style-type: none"> <li>• C-PLUG/KEY-PLUG</li> </ul>	Yes
product feature / hot-swappable interface modules	Yes
<b>signal inputs/outputs</b>	
operating voltage / of the signaling contacts	
<ul style="list-style-type: none"> <li>• at DC / rated value</li> </ul>	24 V
operational current / of the signaling contacts	
<ul style="list-style-type: none"> <li>• at DC / maximum</li> </ul>	0.1 A
<b>supply voltage, current consumption, power loss</b>	
product component / connection for redundant voltage supply	Yes
type of voltage supply / redundant power supply unit	No
supplied active power / of PSE / with PoE	
<ul style="list-style-type: none"> <li>• per port / maximum</li> <li>• total / maximum</li> </ul>	30 W 180 W
<b>type of voltage / 1 / of the supply voltage</b>	DC
<ul style="list-style-type: none"> <li>• supply voltage / 1 / rated value</li> <li>• power loss [W] / 1 / rated value</li> <li>• supply voltage / 1 / rated value</li> <li>• consumed current / 1 / maximum</li> <li>• type of electrical connection / 1 / for power supply</li> <li>• product component / 1 / fusing at power supply input</li> </ul>	24 V 48 W 19.2 ... 28.8 V 2 A 4-pole terminal block Yes
<b>ambient conditions</b>	
ambient temperature	
<ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> </ul>	-40 ... +70 °C -40 ... +85 °C -40 ... +85 °C
relative humidity	
<ul style="list-style-type: none"> <li>• at 25 °C / without condensation / during operation / maximum</li> </ul>	95 %
protection class IP	IP20
<b>design, dimensions and weights</b>	
design	modular
width	140 mm
height	147 mm
depth	125 mm
net weight	1.25 kg
fastening method	
<ul style="list-style-type: none"> <li>• 19-inch installation</li> <li>• 35 mm top hat DIN rail mounting</li> <li>• wall mounting</li> <li>• S7-300 rail mounting</li> <li>• S7-1500 rail mounting</li> </ul>	No Yes No Yes Yes
<b>product features, product functions, product components / general</b>	
cascading in cases of star topology	any (depending only on signal propagation time)
<b>product functions / management, configuration, engineering</b>	
product function	
<ul style="list-style-type: none"> <li>• CLI</li> </ul>	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
<b>product functions / diagnostics</b>	
product function	
• port diagnostics	Yes
• statistics Packet Size	Yes
• statistics packet type	Yes
• error statistics	Yes
• SysLog	Yes
<b>product functions / VLAN</b>	
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
<b>product functions / DHCP</b>	
product function	
• DHCP client	Yes
• DHCP Option 82	Yes
• DHCP Option 66	Yes
• DHCP Option 67	Yes
<b>product functions / routing</b>	
service / routing / note	IP routing integrated
product function	
• static IP routing	Yes
• static IP routing IPv6	Yes
• dynamic IP routing	Yes
• dynamic IP routing IPv6	Yes

protocol / is supported	
<ul style="list-style-type: none"> <li>• RIPv2</li> <li>• RIPnG for IPv6</li> <li>• OSPFv2</li> <li>• OSPFv3 for IPv6</li> <li>• VRRP</li> <li>• VRRP for IPv6</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<b>product functions / redundancy</b>	
product function	
<ul style="list-style-type: none"> <li>• ring redundancy</li> <li>• High Speed Redundancy Protocol (HRP)</li> <li>• high speed redundancy protocol (HRP) with redundancy manager</li> <li>• high speed redundancy protocol (HRP) with standby redundancy</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
protocol / is supported / Media Redundancy Protocol (MRP)	Yes
product function	
<ul style="list-style-type: none"> <li>• media redundancy protocol (MRP) with redundancy manager</li> <li>• Media Redundancy Protocol Interconnection (MRP-I)</li> <li>• redundancy procedure STP</li> <li>• redundancy procedure RSTP</li> <li>• redundancy procedure RSTP+</li> <li>• redundancy procedure MSTP</li> <li>• passive listening</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
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> <li>• ACL - port/MAC-based</li> <li>• IEEE 802.1x (radius)</li> <li>• broadcast/multicast/unicast limiter</li> <li>• broadcast blocking</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
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> <li>• SNTP</li> </ul>	<p>Yes</p> <p>Yes</p>
<b>standards, specifications, approvals</b>	
standard	
<ul style="list-style-type: none"> <li>• for FM</li> <li>• for safety / from CSA and UL</li> <li>• for emitted interference</li> <li>• for interference immunity</li> </ul>	<p>FM3611: Class 1, Divison 2, Group A, B, C, D / T4, Class 1, Zone 2, Group IIC, T4</p> <p>UL 508, UL 60950-1, CSA C22.2 Nr. 60950-1-03</p> <p>EN 61000-6-4 (Class A)</p> <p>EN 61000-6-2</p>
MTBF	22 y
<b>standards, specifications, approvals / CE</b>	
certificate of suitability / CE marking	Yes
<b>standards, specifications, approvals / hazardous environments</b>	
standard / for hazardous zone	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>• 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

certificate of suitability	
<ul style="list-style-type: none"> <li>• CCC / for hazardous zone according to GB standard</li> </ul>	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>• French marine classification society (BV)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Det Norske Veritas (DNV)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Germanische Lloyd (GL)</li> </ul>	No
<ul style="list-style-type: none"> <li>• DNV GL</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Lloyds Register of Shipping (LRS)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Nippon Kaiji Kyokai (NK)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Polski Rejestr Statkow (PRS)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Royal Institution of Naval Architects (RINA)</li> </ul>	Yes
<b>further information / internet-Links</b>	
Internet-Link	
<ul style="list-style-type: none"> <li>• to web page: selection aid TIA Selection Tool</li> </ul>	<a href="http://www.siemens.com/tia-selection-tool">http://www.siemens.com/tia-selection-tool</a>
<ul style="list-style-type: none"> <li>• to website: Industrial communication</li> </ul>	<a href="http://www.siemens.com/simatic-net">http://www.siemens.com/simatic-net</a>
<ul style="list-style-type: none"> <li>• to website: Industry Mall</li> </ul>	<a href="https://mall.industry.siemens.com">https://mall.industry.siemens.com</a>
<ul style="list-style-type: none"> <li>• to website: Information and Download Center</li> </ul>	<a href="http://www.siemens.com/industry/infocenter">http://www.siemens.com/industry/infocenter</a>
<ul style="list-style-type: none"> <li>• to website: Image database</li> </ul>	<a href="http://automation.siemens.com/bilddb">http://automation.siemens.com/bilddb</a>
<ul style="list-style-type: none"> <li>• to website: CAx-Download-Manager</li> </ul>	<a href="http://www.siemens.com/cax">http://www.siemens.com/cax</a>
<ul style="list-style-type: none"> <li>• to website: Industry Online Support</li> </ul>	<a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a>
<b>security information</b>	
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 <a href="http://www.siemens.com/industrialsecurity">http://www.siemens.com/industrialsecurity</a> . To stay informed about product updates as they occur, sign up for a product-specific newsletter. For more information, visit <a href="http://support.automation.siemens.com">http://support.automation.siemens.com</a> . (V3.4)

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