



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

product type designation		SCALANCE XM416-4C
transfer rate		
transfer rate		10 Mbit/s, 100 Mbit/s, 1000 Mbit/s
number of ports / maximum		24
interfaces / for communication / maximum configuration for modular devices		
number of electrical ports / maximum		24
number of electrical ports / with PoE / maximum		8
number of optical ports / maximum		12
interfaces / for communication / integrated		
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
interfaces / for communication / plug-in		
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
interfaces / other		
number of electrical connections		
• for operator console		1
• for management purposes		1

<ul style="list-style-type: none"> <li>• for signaling contact</li> <li>• for power supply</li> </ul>	1
type of electrical connection	1
<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> <li>• web-based management</li> <li>• MIB support</li> <li>• TRAPs via email</li> <li>• configuration with STEP 7</li> </ul>	Yes Yes Yes Yes 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 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 for IPv6	Yes
• OSPFv2	Yes
• OSPFv3 for IPv6	Yes

<ul style="list-style-type: none"> <li>• VRRP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• VRRP for IPv6</li> </ul>	Yes
<b>product functions / redundancy</b>	
product function	
<ul style="list-style-type: none"> <li>• ring redundancy</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• High Speed Redundancy Protocol (HRP)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• high speed redundancy protocol (HRP) with redundancy manager</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• high speed redundancy protocol (HRP) with standby redundancy</li> </ul>	Yes
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> </ul>	Yes
<ul style="list-style-type: none"> <li>• Media Redundancy Protocol Interconnection (MRP-I)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• redundancy procedure STP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• redundancy procedure RSTP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• redundancy procedure RSTP+</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• redundancy procedure MSTP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• passive listening</li> </ul>	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 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 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
MTBF	22 y
reference code	
<ul style="list-style-type: none"> <li>• acc. to IEC 81346-2</li> </ul>	KF
<ul style="list-style-type: none"> <li>• according to IEC 81346-2:2019</li> </ul>	KFE
<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> <li>• KC approval</li> </ul>	Yes 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> <li>• French marine classification society (BV)</li> <li>• Det Norske Veritas (DNV)</li> <li>• Germanische Lloyd (GL)</li> <li>• DNV GL</li> <li>• Lloyds Register of Shipping (LRS)</li> <li>• Nippon Kaiji Kyokai (NK)</li> <li>• Polski Rejestr Statkow (PRS)</li> <li>• Royal Institution of Naval Architects (RINA)</li> </ul>	Yes Yes No No Yes Yes Yes Yes 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> <li>• to website: Industrial communication</li> <li>• to website: Industry Mall</li> <li>• to website: Information and Download Center</li> <li>• to website: Image database</li> <li>• to website: CAx-Download-Manager</li> <li>• to website: Industry Online Support</li> </ul>	<a href="http://www.siemens.com/tia-selection-tool">http://www.siemens.com/tia-selection-tool</a> <a href="http://www.siemens.com/simatic-net">http://www.siemens.com/simatic-net</a> <a href="https://mall.industry.siemens.com">https://mall.industry.siemens.com</a> <a href="http://www.siemens.com/industry/infocenter">http://www.siemens.com/industry/infocenter</a> <a href="http://automation.siemens.com/bilddb">http://automation.siemens.com/bilddb</a> <a href="http://www.siemens.com/cax">http://www.siemens.com/cax</a> <a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a>
<b>security information</b>	
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