



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 supply; Layer 3 integrated;

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	16; RJ45 with securing collar
<ul style="list-style-type: none"> for network components or terminal equipment 	
number of 10/100/1000 Mbit/s RJ45 ports / integrated	16
<ul style="list-style-type: none"> with securing collar 	
number of electrical connections	4; 100 Mbit/s or 1000 Mbit/s SFP plug-in transceiver
<ul style="list-style-type: none"> for SFP 	
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	
<ul style="list-style-type: none"> with securing collar 	8
<ul style="list-style-type: none"> with securing collar / with PoE 	8
number of 100 Mbit/s LC ports	
<ul style="list-style-type: none"> for multimode 	12
<ul style="list-style-type: none"> for single mode (LD) 	12
<ul style="list-style-type: none"> for single mode (LH+) 	12
<ul style="list-style-type: none"> for single mode (ELH200) 	12
number of 1000 Mbit/s LC ports	
<ul style="list-style-type: none"> for multimode 	12
<ul style="list-style-type: none"> for single mode (LD) 	12
<ul style="list-style-type: none"> for single mode (LH) 	12
<ul style="list-style-type: none"> for single mode (LH+) 	12
<ul style="list-style-type: none"> for single mode (ELH) 	12
number of electrical connections	
<ul style="list-style-type: none"> for SFP 	12; 100 Mbit/s or 1000 Mbit/s SFP plug-in transceiver
interfaces / other	
number of electrical connections	
<ul style="list-style-type: none"> for operator console 	1
<ul style="list-style-type: none"> for management purposes 	1
<ul style="list-style-type: none"> for signaling contact 	1
<ul style="list-style-type: none"> for power supply 	1

type of electrical connection	RJ11 RJ45 2-pole terminal block
<ul style="list-style-type: none"> • for operator console • for management purposes • for signaling contact 	
number of extender expansion interfaces	2
design of the removable storage	Yes
<ul style="list-style-type: none"> • C-PLUG • C-PLUG/KEY-PLUG 	Yes
product feature / hot-swappable interface modules	Yes

signal inputs/outputs

operating voltage / of the signaling contacts	24 V
<ul style="list-style-type: none"> • at DC / rated value 	
operational current / of the signaling contacts	0.1 A
<ul style="list-style-type: none"> • at DC / maximum 	

supply voltage, current consumption, power loss

product component / connection for redundant voltage supply	Yes
supplied active power / of PSE / with PoE	
<ul style="list-style-type: none"> • per port / maximum • total / maximum 	30 W 180 W
type of voltage / 1 / of the supply voltage	DC
<ul style="list-style-type: none"> • supply voltage / 1 / rated value • power loss [W] / 1 / rated value • supply voltage / 1 / rated value • consumed current / 1 / maximum • type of electrical connection / 1 / for power supply • product component / 1 / fusing at power supply input 	24 V 48 W 19.2 ... 28.8 V 2 A 4-pole terminal block Yes

ambient conditions

ambient temperature	
<ul style="list-style-type: none"> • 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 weights

design	modular
width	140 mm
height	147 mm
depth	125 mm
net weight	1.25 kg
fastening method	
<ul style="list-style-type: none"> • 35 mm top hat DIN rail mounting • S7-300 rail mounting • S7-1500 rail mounting 	Yes Yes Yes

product features, product functions, product components / general

cascading in the case of a redundant ring / at reconfiguration time of $\leq 0.3\text{ s}$	50
cascading in cases of star topology	any (depending only on signal propagation time)

product functions / management, configuration, engineering

product function	
<ul style="list-style-type: none"> • CLI • web-based management • MIB support • TRAPs via email • configuration with STEP 7 • RMON • port mirroring • multiport mirroring • CoS • PROFINET IO diagnosis 	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
PROFINET conformity class	B

product function / switch-managed telegram length / for Ethernet / maximum protocol / is supported	Yes 9216 byte
<ul style="list-style-type: none"> • Telnet • HTTP • HTTPS • TFTP • FTP • BOOTP • GMRP • DCP • LLDP • EtherNet/IP • SNMP v1 • SNMP v2 • SNMP v3 • IGMP (snooping/querier) 	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
identification & maintenance function	
<ul style="list-style-type: none"> • I&M0 - device-specific information • I&M1 - higher level designation/location designation 	Yes Yes

product functions / diagnostics

product function	
<ul style="list-style-type: none"> • port diagnostics • statistics Packet Size • statistics packet type • error statistics • SysLog 	Yes Yes Yes Yes Yes

product functions / VLAN

product function	
<ul style="list-style-type: none"> • VLAN - port based • VLAN - protocol-based • VLAN - IP-based • VLAN dynamic 	Yes Yes Yes Yes
number of VLANs / maximum	255
number of VLANs - dynamic / maximum	255
protocol / is supported / GVRP	Yes

product functions / DHCP

product function	
<ul style="list-style-type: none"> • DHCP client • DHCP Option 82 • DHCP Option 66 • DHCP Option 67 	Yes Yes Yes Yes

product functions / routing

service / routing / note	IP routing integrated
product function	
<ul style="list-style-type: none"> • static IP routing • static IP routing IPv6 • dynamic IP routing • dynamic IP routing IPv6 	Yes Yes Yes Yes
protocol / is supported	
<ul style="list-style-type: none"> • RIPv2 • RIPnG for IPv6 • OSPFv2 • OSPFv3 for IPv6 • VRRP • VRRP for IPv6 	Yes Yes Yes Yes Yes Yes

product functions / redundancy

product function	
<ul style="list-style-type: none"> • of the PROFINET IO device / is supported / PROFINET system redundancy • ring redundancy • High Speed Redundancy Protocol (HRP) • high speed redundancy protocol (HRP) with 	Yes Yes Yes Yes

redundancy manager	
<ul style="list-style-type: none"> • high speed redundancy protocol (HRP) with standby redundancy 	Yes
protocol / is supported / Media Redundancy Protocol (MRP)	Yes
product function	
<ul style="list-style-type: none"> • media redundancy protocol (MRP) with redundancy manager 	Yes
<ul style="list-style-type: none"> • Media Redundancy Protocol Interconnection (MRP-I) 	Yes
<ul style="list-style-type: none"> • of the PROFINET IO device / is supported / H-Sync forwarding 	Yes
<ul style="list-style-type: none"> • redundancy procedure STP 	Yes
<ul style="list-style-type: none"> • redundancy procedure RSTP 	Yes
<ul style="list-style-type: none"> • redundancy procedure RSTP+ 	Yes
<ul style="list-style-type: none"> • redundancy procedure MSTP 	Yes
<ul style="list-style-type: none"> • passive listening 	Yes
protocol / is supported	
<ul style="list-style-type: none"> • LACP 	Yes
product functions / security	
product function	
<ul style="list-style-type: none"> • ACL - MAC-based 	Yes
<ul style="list-style-type: none"> • ACL - port/MAC-based 	Yes
<ul style="list-style-type: none"> • IEEE 802.1x (radius) 	Yes
<ul style="list-style-type: none"> • broadcast/multicast/unicast limiter 	Yes
<ul style="list-style-type: none"> • broadcast blocking 	Yes
protocol / is supported	
<ul style="list-style-type: none"> • SSH 	Yes
<ul style="list-style-type: none"> • SSL 	Yes
product functions / time	
product function	
<ul style="list-style-type: none"> • SICLOCK support 	Yes
<ul style="list-style-type: none"> • NTP-client 	Yes
<ul style="list-style-type: none"> • SNTP client 	Yes
protocol / is supported	
<ul style="list-style-type: none"> • NTP 	Yes
<ul style="list-style-type: none"> • SNTP 	Yes
system modification during operation	
product function / configuration in RUN via CiR/H-CiR	Yes
standards, specifications, approvals	
standard	
<ul style="list-style-type: none"> • for FM 	FM3611: Class 1, Divison 2, Group A, B, C, D / T4, Class 1, Zone 2, Group IIC, T4
<ul style="list-style-type: none"> • for safety / from CSA and UL 	UL 508, UL 60950-1, CSA C22.2 Nr. 60950-1-03
<ul style="list-style-type: none"> • for emitted interference 	EN 61000-6-4 (Class A)
<ul style="list-style-type: none"> • for interference immunity 	EN 61000-6-2
MTBF	22 a
reference code	
<ul style="list-style-type: none"> • according to IEC 81346-2 	KF
<ul style="list-style-type: none"> • according to IEC 81346-2:2019 	KFE
standards, specifications, approvals / CE	
certificate of suitability / CE marking	Yes
certificate of suitability / RoHS conformity	Yes; 2011/65/EU
standards, specifications, approvals / hazardous environments	
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"> • 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
certificate of suitability	
<ul style="list-style-type: none"> • CCC / for hazardous zone according to GB standard 	Yes
standards, specifications, approvals / other	
certificate of suitability	EN 61000-6-2, EN 61000-6-4
<ul style="list-style-type: none"> • C-Tick 	Yes
<ul style="list-style-type: none"> • KC approval 	Yes

standards, specifications, approvals / marine classification

Marine classification association

• American Bureau of Shipping Europe Ltd. (ABS)	Yes
• French marine classification society (BV)	Yes
• 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

further information / internet-Links

Internet-Link

• to web page: selection aid TIA Selection Tool	http://www.siemens.com/tia-selection-tool
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: Industry Mall	https://mall.industry.siemens.com
• to website: Information and Download Center	http://www.siemens.com/industry/infocenter
• to website: Image database	http://automation.siemens.com/bilddb
• to website: CAx-Download-Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com

security information

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