



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 with Key-Plug 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"> • for signaling contact 	1
<ul style="list-style-type: none"> • for power supply 	1
type of electrical connection	
<ul style="list-style-type: none"> • for operator console 	RJ11
<ul style="list-style-type: none"> • for management purposes 	RJ45
<ul style="list-style-type: none"> • for signaling contact 	2-pole terminal block
number of extender expansion interfaces	2
design of the removable storage	
<ul style="list-style-type: none"> • C-PLUG 	Yes
<ul style="list-style-type: none"> • C-PLUG/KEY-PLUG 	Yes
product feature / hot-swappable interface modules	Yes
signal inputs/outputs	
operating voltage / of the signaling contacts	
<ul style="list-style-type: none"> • at DC / rated value 	24 V
operational current / of the signaling contacts	
<ul style="list-style-type: none"> • at DC / maximum 	0.1 A
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 	30 W
<ul style="list-style-type: none"> • total / maximum 	180 W
type of voltage / 1 / of the supply voltage	DC
<ul style="list-style-type: none"> • supply voltage / 1 / rated value 	24 V
<ul style="list-style-type: none"> • power loss [W] / 1 / rated value 	48 W
<ul style="list-style-type: none"> • supply voltage / 1 / rated value 	19.2 ... 28.8 V
<ul style="list-style-type: none"> • consumed current / 1 / maximum 	2 A
<ul style="list-style-type: none"> • type of electrical connection / 1 / for power supply 	4-pole terminal block
<ul style="list-style-type: none"> • product component / 1 / fusing at power supply input 	Yes
ambient conditions	
ambient temperature	
<ul style="list-style-type: none"> • during operation 	-40 ... +70 °C
<ul style="list-style-type: none"> • during storage 	-40 ... +85 °C
<ul style="list-style-type: none"> • during transport 	-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 	Yes
<ul style="list-style-type: none"> • S7-300 rail mounting 	Yes
<ul style="list-style-type: none"> • S7-1500 rail mounting 	Yes
product features, product functions, product components / general	
cascading in the case of a redundant ring / at reconfiguration time of $\lt; \sim 0.3 \text{ s}$	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 	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
PROFINET conformity class	B
product function / 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"> EtherNet/IP 	Yes
<ul style="list-style-type: none"> SNMP v1 	Yes
<ul style="list-style-type: none"> SNMP v2 	Yes
<ul style="list-style-type: none"> SNMP v3 	Yes
<ul style="list-style-type: none"> IGMP (snooping/querier) 	Yes
identification & maintenance function	
<ul style="list-style-type: none"> I&M0 - device-specific information 	Yes
<ul style="list-style-type: none"> I&M1 – higher level designation/location designation 	Yes
product functions / diagnostics	
product function	
<ul style="list-style-type: none"> port diagnostics 	Yes
<ul style="list-style-type: none"> statistics Packet Size 	Yes
<ul style="list-style-type: none"> statistics packet type 	Yes
<ul style="list-style-type: none"> error statistics 	Yes
<ul style="list-style-type: none"> SysLog 	Yes
product functions / VLAN	
product function	
<ul style="list-style-type: none"> VLAN - port based 	Yes
<ul style="list-style-type: none"> VLAN - protocol-based 	Yes
<ul style="list-style-type: none"> VLAN - IP-based 	Yes
<ul style="list-style-type: none"> VLAN dynamic 	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 	Yes
<ul style="list-style-type: none"> DHCP Option 82 	Yes
<ul style="list-style-type: none"> DHCP Option 66 	Yes
<ul style="list-style-type: none"> DHCP Option 67 	Yes
product functions / routing	
service / routing / note	IP routing in combination with KEY-PLUG XM-400
product function	
<ul style="list-style-type: none"> static IP routing 	Yes
<ul style="list-style-type: none"> static IP routing IPv6 	Yes
<ul style="list-style-type: none"> dynamic IP routing 	Yes
<ul style="list-style-type: none"> dynamic IP routing IPv6 	Yes
protocol / is supported	
<ul style="list-style-type: none"> RIPv2 	Yes
<ul style="list-style-type: none"> RIPnG for IPv6 	Yes
<ul style="list-style-type: none"> OSPFv2 	Yes
<ul style="list-style-type: none"> OSPFv3 for IPv6 	Yes

<ul style="list-style-type: none"> • VRRP 	Yes
<ul style="list-style-type: none"> • VRRP for IPv6 	Yes
product functions / redundancy	
product function	
<ul style="list-style-type: none"> • of the PROFINET IO device / is supported / PROFINET system redundancy 	Yes
<ul style="list-style-type: none"> • ring redundancy 	Yes
<ul style="list-style-type: none"> • High Speed Redundancy Protocol (HRP) 	Yes
<ul style="list-style-type: none"> • high speed redundancy protocol (HRP) with redundancy manager 	Yes
<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 y
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 <ul style="list-style-type: none">from CSA and 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 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 <ul style="list-style-type: none">C-TickKC approval	EN 61000-6-2, EN 61000-6-4 Yes Yes
standards, specifications, approvals / marine classification	
Marine classification association <ul style="list-style-type: none">American Bureau of Shipping Europe Ltd. (ABS)French marine classification society (BV)DNV GLLloyds Register of Shipping (LRS)Nippon Kaiji Kyokai (NK)Polski Rejestr Statkow (PRS)Royal Institution of Naval Architects (RINA)	Yes Yes Yes Yes Yes Yes Yes
further information / internet-Links	
Internet-Link <ul style="list-style-type: none">to web page: selection aid TIA Selection Toolto website: Industrial communicationto website: Industry Mallto website: Information and Download Centerto website: Image databaseto website: CAX-Download-Managerto website: Industry Online Support	http://www.siemens.com/tia-selection-tool http://www.siemens.com/simatic-net https://mall.industry.siemens.com http://www.siemens.com/industry/infocenter http://automation.siemens.com/bilddb http://www.siemens.com/cax https://support.industry.siemens.com
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