



SCALANCE XC416-8 managed Layer 3 IE switch, 16x 10/100/1000 Mbps RJ45, 8x 1G/10 Gbps SFP+ port, LED diagnostics,error signaling contact with select/set button; PROFINET IO; device; network management, redundancy functions; office features (RSTP, VLAN, IGMP,...); CLP included in scope of supply; assembly: DIN rail/S7 mounting rail

product type designation	
product brand name	SCALANCE
product type designation	XC416-8
Technical Product Detail Page	https://l.siemens.com/1P6GK5424-8TR00-2AC2
transfer rate	
transfer rate	10, 100, 1000 Mbit/s
transfer rate	10 Gbit/s
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	
• with securing collar	16
number of electrical connections	
• for SFP+	8; 1000 Mbps and 10000 Mbps SFP usable
interfaces / other	
number of electrical connections	
• for operator console	1
• for signaling contact	1
• for power supply	2
type of electrical connection	
• for operator console	USB (2.0 type B, USB-to-serial adapter)
• for signaling contact	2-pole terminal block
• for power supply	2 x 2-pole terminal block
design of the removable storage	
• CLP	Yes
operating voltage / of the signaling contacts	
• at DC / rated value	24 V
operational current / of the signaling contacts	
• at DC / maximum	0.1 A
supply voltage, current consumption, power loss	
product component / connection for redundant voltage supply	Yes
type of voltage supply / redundant power supply unit	No
type of voltage / 1 / of the supply voltage	DC
• supply voltage / 1 / rated value	24 V
• power loss [W] / 1 / rated value	43.2 W
• power loss [W] / at DC / at 24 V / typical	25.92 W
• supply voltage / 1 / voltage range	19.2 ... 28.8
• consumed current / 1 / maximum	1.8 A
• consumed current / at DC / at 24 V / typical	1.08 A

<ul style="list-style-type: none"> • type of electrical connection / 1 / for power supply • product component / 1 / fusing at power supply input • fuse protection type / 1 / at input for supply voltage 	2 x 2-pole terminal block Yes F 10 A / 250 V
ambient conditions	
ambient temperature	
<ul style="list-style-type: none"> • during operation • during storage • during transport 	-40 ... +60 °C -40 ... +85 °C -40 ... +85 °C
relative humidity	
<ul style="list-style-type: none"> • at 25 °C / without condensation / during operation / maximum 	95 %
operating condition / fanless operation	Yes
protection class IP	IP20
design, dimensions and weights	
design	compact
width	210 mm
height	147 mm
depth	125 mm
net weight	1.8 kg
fastening method	
<ul style="list-style-type: none"> • 19-inch installation • 35 mm DIN-rail mounting • wall mounting • S7-300 rail mounting • S7-1500 rail mounting 	No Yes Yes Yes Yes
product features, product functions, product components / general	
cascading in the case of a redundant ring / at reconfiguration time of ≤ 0.3-s	50
number of automatically learnable MAC addresses	16382
number of QoS queues / per port	8
product function	
<ul style="list-style-type: none"> • QoS according to IEEE 802.1Q 	Yes
product feature	
<ul style="list-style-type: none"> • Store & Forward switching method 	Yes
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 • switch-managed 	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
PROFINET conformity class	B
network load class / according to PROFINET	III
telegram length / for Ethernet / maximum	9194 byte
protocol / is supported	
<ul style="list-style-type: none"> • Telnet • HTTP • HTTPS • TFTP • FTP • SFTP • BOOTP • NETCONF 	Yes Yes Yes Yes Yes Yes Yes No

<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 	No
<ul style="list-style-type: none"> • VLAN - IP-based 	No
<ul style="list-style-type: none"> • VLAN dynamic 	Yes
number of VLANs / maximum	257
number of VLANs - dynamic / maximum	257
number of VLANs / at ring redundancy (HRP; MRP; standby link)	257
product functions / DHCP	
product function	
<ul style="list-style-type: none"> • DHCP server 	Yes
<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 integrated
product function	
<ul style="list-style-type: none"> • static IP routing 	Yes
<ul style="list-style-type: none"> • static IP routing IPv6 	No
<ul style="list-style-type: none"> • dynamic IP routing 	Yes
<ul style="list-style-type: none"> • dynamic IP routing IPv6 	No
protocol / is supported	
<ul style="list-style-type: none"> • RIPv2 	Yes
<ul style="list-style-type: none"> • RIPv2 for IPv6 	No
<ul style="list-style-type: none"> • OSPFv2 	Yes
<ul style="list-style-type: none"> • OSPFv3 for IPv6 	No
<ul style="list-style-type: none"> • VRRP 	Yes
<ul style="list-style-type: none"> • VRRP for IPv6 	No
product functions / redundancy	
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 / PROFINET system redundancy 	Yes
<ul style="list-style-type: none"> • ring redundancy 	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
<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"> • High-availability Seamless Redundancy (HSR) 	Yes
<ul style="list-style-type: none"> • Parallel Redundancy Protocol (PRP)/operation in the PRP-network 	Yes
<ul style="list-style-type: none"> • Parallel Redundancy Protocol (PRP)/Redundant Network Access (RNA) 	Yes
<ul style="list-style-type: none"> • passive listening 	Yes
protocol / is supported	
<ul style="list-style-type: none"> • LACP 	Yes
system modification during operation	
product function / configuration in RUN via CiR/H-CiR	Yes
product functions / security	
product function	
<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
<ul style="list-style-type: none"> • IEEE 1588 v2 transparent forwarding 	Yes
protocol / is supported	
<ul style="list-style-type: none"> • NTP 	Yes
<ul style="list-style-type: none"> • SNTP 	Yes
accuracy / at IEEE 1588 v2	
<ul style="list-style-type: none"> • not less than 	100 µs
<ul style="list-style-type: none"> • typical 	50 ns
standards, specifications, approvals	
certificate of suitability	
<ul style="list-style-type: none"> • CE marking 	Yes
<ul style="list-style-type: none"> • UKCA marking 	Yes
<ul style="list-style-type: none"> • cULus approval 	Yes
<ul style="list-style-type: none"> • KC approval 	Yes
<ul style="list-style-type: none"> • Regulatory Compliance Mark (RCM) 	Yes
standard	
<ul style="list-style-type: none"> • for EMC interference emission 	EN 61000-6-4 (Class A)
<ul style="list-style-type: none"> • for immunity to EMC 	EN 61000-6-2
<ul style="list-style-type: none"> • for safety / from CSA and UL 	UL 60950-1; CSA C22.2 No. 213-M1987
standards, specifications, approvals / hazardous environments	
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"> • railway application in accordance with EN 50125-3 	Yes; Section 4.2: Class AX (up to 2000m); section 4.3: T1: Containers N.T.C and T.C. / Buildings N.C.C and C.C, T2: Containers N.T.C and T.C. / Buildings N.C.C and C.C, TX: Containers N.T.C and T.C. / Buildings N.C.C and C.C., derating according to the manual must be observed when SFP/SFP+ transceivers are used --> only for variants with optical connections; In addition, depending on the installation position, the derating according to the manual must be taken into account; section 4.4: T1: Containers C.C. / Buildings N.C.C and C.C., T2: Containers C.C. / Buildings N.C.C and C.C, T3: Containers C.C. / Buildings N.C.C and C.C; section 4.11: C1: Indoor, C2: Indoor (except condensation), C3: Indoor (except condensation), 4B1, 4S10, UL 61010-2-10;

section 4.13: partially, Test Fc: Vibration EN 60068-2-6; IEC 60068-2-6, Test Ea: Shock EN 60068-2-27; IEC 60068-2-27, Test Ec: Rough handling, shocks EN 60068-2-31; IEC 60068-2-31; section 4.14: yes; section 4.15: yes, according to manual.

resistance to air pollution / conformity according to ANSI/ISA-71.04	Yes; G3
IT security for industrial automation systems / according to IEC 62443-4-2:2019	Yes

standards, specifications, approvals / Environmental Product Declaration

Environmental Product Declaration	Yes
global warming potential [CO2 eq]	
<ul style="list-style-type: none"> total during manufacturing during operation after end of life 	<p>1244.3 kg</p> <p>122.74 kg</p> <p>1120.64 kg</p> <p>0.91 kg</p>

product functions / general

warranty period	5 a
product function / is supported / identification link	Yes; acc. to IEC 61406-1:2022

further information / internet links

internet link	
<ul style="list-style-type: none"> to website: Selection guide for cables and connectors to web page: selection aid TIA Selection Tool to website: Industrial communication to web page: SiePortal to website: Image database to website: CAx-Download-Manager to website: Industry Online Support 	<p>https://support.industry.siemens.com/cs/ww/en/view/109766358</p> <p>https://www.siemens.com/tstcloud</p> <p>https://www.siemens.com/simatic-net</p> <p>https://sieportal.siemens.com/</p> <p>https://www.automation.siemens.com/bilddb</p> <p>https://www.siemens.com/cax</p> <p>https://support.industry.siemens.com</p>

security information

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Approvals / Certificates

General Product Approval



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