

SCALANCE XR322-12; managed layer 2; IE switch, 19" rack; 20x 100/1000 Mbps RJ45 port; 2x 1G/2.5G/5G/10 Gbps RJ45 port, 4x 100M/1G SFP port; 8x 1G/10G SFP+ port; LED diagnostics; error signaling contact; select/set button; PROFINET IO device; network management; integrated redundancy manager; office features (RSTP, VLAN, IGMP,...); CLP included in scope of supply; power supply 230 V AC;



product type designation	
product brand name	SCALANCE
transfer rate	
transfer rate	10, 100, 1000 Mbit/s
transfer rate	2.5, 5, 10 Gbit/s
interfaces / for communication / integrated	
number of electrical connections	
• for network components or terminal equipment	22; RJ45
number of 10/100/1000 Mbit/s RJ45 ports	
• with securing collar	22
number of 1000/2500/5000/10000 Mbps RJ45 ports / with securing collar	2
number of electrical connections	
• for SFP	4; 100 Mbps and 1000 Mbps SFP usable
• 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	1
type of electrical connection	
• for operator console	USB (2.0 Port, Type B, serial via USB)
• for signaling contact	2-pole terminal block
• for power supply	IEC plug C14 AC supply or 2-pole terminal block for DC supply
design of the removable storage	
• CLP	Yes
operating voltage / of the signaling contacts	
• at AC / rated value	24 V
• 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	No
type of voltage supply / redundant power supply unit	No
<b>type of voltage / 1 / of the supply voltage</b>	DC
• supply voltage / 1 / rated value	100V ... 250V DC
• power loss [W] / 1 / rated value	99 W
• supply voltage / 1 / rated value	77 ... 300 V
• consumed current / 1 / maximum	0.8 A
• type of electrical connection / 1 / for power supply	2-pole terminal block

<ul style="list-style-type: none"> <li>product component / 1 / fusing at power supply input</li> <li>fuse protection type / 1 / at input for supply voltage</li> </ul>	<p>Yes</p> <p>F 4A / 250 V</p>
<b>type of voltage / 2 / of the supply voltage</b>	AC (50 / 60Hz)
<ul style="list-style-type: none"> <li>supply voltage / 2 / rated value</li> <li>power loss [W] / 2 / rated value</li> <li>supply voltage / 2 / rated value</li> <li>consumed current / 2 / maximum</li> <li>type of electrical connection / 2 / for power supply</li> <li>fuse protection type / 2 / at input for supply voltage</li> </ul>	<p>240 V; 110V ... 240V AC</p> <p>99 W</p> <p>85 ... 264 V</p> <p>0.8 A</p> <p>C14, IEC plug</p> <p>F 4A / 250 V</p>

<b>ambient conditions</b>	
ambient temperature / in horizontal mounting position / during operation	-25 ... +60 °C; Starting at -25 °C; The maximum ambient temperature during operation depends on the operating height and the plug-in transceivers, see also manual.
installation altitude / at height above sea level / maximum	3000 m
relative humidity <ul style="list-style-type: none"> <li>at 25 °C / without condensation / during operation / maximum</li> </ul>	95 %
operating condition / fanless operation	Yes
protection class IP	IP20

<b>design, dimensions and weights</b>	
design	19-inch rack
number of modular height units / relating to 19-inch cabinet	1
width	446 mm
height	43.6 mm
depth	374.8 mm
net weight	8.2 kg
material / of the enclosure	metal
fastening method <ul style="list-style-type: none"> <li>19-inch installation</li> </ul>	Yes

<b>product features, product functions, product components / general</b>	
cascading in the case of a redundant ring / at reconfiguration time of <math>\leq 0.3 \mu s</math>	50
cascading in cases of star topology	any (depending only on signal propagation time)
number of automatically learnable MAC addresses	16382
number of QoS queues / per port	8
product function <ul style="list-style-type: none"> <li>QoS according to IEEE 802.1Q</li> </ul>	Yes
product feature <ul style="list-style-type: none"> <li>Store &amp; Forward switching method</li> </ul>	Yes

<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> <li>RMON</li> <li>SMTP server</li> <li>port mirroring</li> <li>multiport mirroring</li> <li>Encapsulated Remote Traffic Mirroring (ERTM)</li> <li>CoS</li> <li>PROFINET IO diagnosis</li> <li>switch-managed</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
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"> <li>Telnet</li> <li>HTTP</li> <li>HTTPS</li> <li>TFTP</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>

• FTP	Yes
• SFTP	Yes
• BOOTP	Yes
• NETCONF	No
• GMRP	Yes
• DCP	Yes
• LLDP	Yes
• EtherNet/IP	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

**product functions / diagnostics**

product function	
• port diagnostics	Yes
• statistics Packet Size	Yes
• statistics packet type	Yes
• error statistics	Yes
• SysLog	Yes

**product functions / VLAN**

product function	
• VLAN - port based	Yes
• VLAN - protocol-based	No
• VLAN - IP-based	No
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	
• DHCP server	Yes
• DHCP client	Yes
• DHCP Option 82	Yes
• DHCP Option 66	Yes
• DHCP Option 67	Yes

**product functions / redundancy**

protocol / is supported / Media Redundancy Protocol (MRP)	Yes
product function	
• media redundancy protocol (MRP) with redundancy manager	Yes
• Media Redundancy Protocol Interconnection (MRP-I)	Yes
• of the PROFINET IO device / is supported / H-Sync forwarding	Yes
• of the PROFINET IO device / is supported / PROFINET system redundancy	Yes
• ring redundancy	Yes
• high speed redundancy protocol (HRP) with redundancy manager	Yes
• high speed redundancy protocol (HRP) with standby redundancy	Yes
• redundancy procedure STP	Yes
• redundancy procedure RSTP	Yes
• redundancy procedure RSTP+	Yes
• redundancy procedure MSTP	Yes
• High-availability Seamless Redundancy (HSR)	Yes
• Parallel Redundancy Protocol (PRP)/operation in the PRP-network	Yes
• Parallel Redundancy Protocol (PRP)/Redundant Network Access (RNA)	Yes
• passive listening	Yes

protocol / is supported	
<ul style="list-style-type: none"> <li>• STP/RSTP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• STP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• RSTP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• RSTP big network support</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• LACP</li> </ul>	Yes
<b>system modification during operation</b>	
product function / configuration in RUN via CiR/H-CiR	Yes
<b>product functions / security</b>	
product function	
<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
<ul style="list-style-type: none"> <li>• SSL</li> </ul>	Yes
<b>product functions / time</b>	
product function	
<ul style="list-style-type: none"> <li>• SICLOCK support</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• NTP-client</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• SNTP client</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• IEEE 1588 v2 transparent forwarding</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
<ul style="list-style-type: none"> <li>• IEEE 1588 profile default</li> </ul>	No
accuracy / at IEEE 1588 v2	
<ul style="list-style-type: none"> <li>• not less than</li> </ul>	100 µs
<ul style="list-style-type: none"> <li>• typical</li> </ul>	50 ns
<b>standards, specifications, approvals</b>	
certificate of suitability	
<ul style="list-style-type: none"> <li>• CE marking</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• UKCA marking</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• EC Declaration of Conformity EN 61010, IEC 61010-1, UL 61010A-1</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• cULus approval</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• KC approval</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Regulatory Compliance Mark (RCM)</li> </ul>	Yes
product conformity / according to EMC-guideline	2014/30/EU
standard	
<ul style="list-style-type: none"> <li>• for EMC interference emission</li> </ul>	EN 61000-6-4
<ul style="list-style-type: none"> <li>• for immunity to EMC</li> </ul>	EN 61000-6-2
<ul style="list-style-type: none"> <li>• for safety / from CSA and UL</li> </ul>	UL 62368-1, UL 61010
<b>standards, specifications, approvals / other</b>	
certificate of suitability	
<ul style="list-style-type: none"> <li>• railway application in accordance with EN 50121-4</li> </ul>	Yes; use only in areas not accessible to the public
<ul style="list-style-type: none"> <li>• railway application in accordance with EN 50125-3</li> </ul>	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; 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 62368-1, 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
<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>	No

• French marine classification society (BV)	No
• Chinese Classification Society (CCS)	No
• Det Norske Veritas (DNV)	No
• Korean Register of Shipping (KRS)	No
• Lloyds Register of Shipping (LRS)	No
• Nippon Kaiji Kyokai (NK)	No
• Polski Rejestr Statkow (PRS)	No
• Royal Institution of Naval Architects (RINA)	No

**standards, specifications, approvals / Environmental Product Declaration**

Environmental Product Declaration	Yes
global warming potential [CO2 eq]	
• total	1274.81 kg
• during manufacturing	225.96 kg
• during operation	1048 kg
• after end of life	0.85 kg

**product functions / general**

MTBF	10 a
reference temperature / for MTBF determination	40 °C
reference code	
• according to IEC 81346-2	KF
• according to IEC 81346-2:2019	KFE
Warranty period	5 a
product function / is supported / identification link	Yes; acc. to IEC 61406-1:2022

**further information / internet links**

internet link	
• to website: Selection guide for cables and connectors	<a href="https://support.industry.siemens.com/cs/ww/en/view/109766358">https://support.industry.siemens.com/cs/ww/en/view/109766358</a>
• to web page: selection aid TIA Selection Tool	<a href="https://www.siemens.com/tstcloud">https://www.siemens.com/tstcloud</a>
• to website: Industrial communication	<a href="https://www.siemens.com/simatic-net">https://www.siemens.com/simatic-net</a>
• to web page: SiePortal	<a href="https://sieportal.siemens.com/">https://sieportal.siemens.com/</a>
• to website: Image database	<a href="https://www.automation.siemens.com/bilddb">https://www.automation.siemens.com/bilddb</a>
• to website: CAX-Download-Manager	<a href="https://www.siemens.com/cax">https://www.siemens.com/cax</a>
• to website: Industry Online Support	<a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a>

**security information**

security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit <a href="http://www.siemens.com/cybersecurity-industry">www.siemens.com/cybersecurity-industry</a> . Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under <a href="https://www.siemens.com/cert">https://www.siemens.com/cert</a> . (V4.7)
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**Approvals / Certificates**

General Product Approval	Radio Equipment Type Approval Certificate
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Test Certificates	Environment	Industrial Communication
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