SIEMENS

Data sheet 6GK5646-2GS00-2AC2

product type designation	**S646**



SCALANCE SC646-2C Industrial Security Appliance; For protection of devices and networks in discrete manufacturing and the process industry for protection of the industrial communication with firewall and VPN; Further functions: address conversion (NAT/NAPT); Connection to SINEMA RC; 4x ports electrical 10/100/1000 Mbit/s RJ45 and 2x combo port electrical or optical; 10/100/1000 Mbit/s RJ45 or 100 Mbit/s SFP or 1000 Mbit/s SFP.

product brand name	SCALANCE
Technical Product Detail Page	https://i.siemens.com/1P6GK5646-2GS00-2AC2
transfer rate	
transfer rate	10, 100, 1000 Mbit/s
interfaces	
number of electrical/optical connections / for network components or terminal equipment / maximum	6
number of 10/100/1000 Mbit/s RJ45 ports / integrated / with securing collar	6
number of electrical connections / for SFP+ / integrated	2
number of combo ports / with RJ45 interface for optical plug-in transceiver	2
number of electrical connections	
● for signaling contact	1
● for power supply	1
● for redundant voltage supply	1
type of electrical connection	
● for signaling contact	2-pole terminal block
● for power supply	4-pole terminal block
design of the removable storage / C-PLUG	Yes
signal inputs/outputs	
number of electrical connections	
● for digital input signals	1
type of electrical connection	
● for digital input signals	2-pole terminal block
● for digital output signals	2-pole terminal block
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	
type of voltage / 1 / of the supply voltage	DC; (with plugged-in SFPs)
● supply voltage / 1 / rated value	24 V
● power loss [W] / 1 / rated value	9.6 W
● supply voltage / 1 / rated value	9.6 ... 31.2 V
● consumed current / 1 / maximum	0.4 A
type of voltage / 2 / of the supply voltage	DC
● supply voltage / 2 / rated value	24 V
● power loss [W] / 2 / rated value	9.6 W
● supply voltage / 2 / rated value / minimum	9.6 V
● supply voltage / 2 / rated value / maximum	31.2 V

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● consumed current / 2 / maximum	0.4 A
ambient conditions	
ambient temperature	
● during operation	-40 ... +70 °C
● during storage	-40 ... +85 °C
● during transport	-40 ... +85 °C
relative humidity / at 25 °C / without condensation / during operation / maximum	95 %
protection class IP	IP20
design, dimensions and weights	
design	compact
width	60 mm
height	145 mm
depth	125 mm
net weight	0.58 kg
fastening method	Fixing bolt with additional screw protection
fastening method	
● 35 mm DIN-rail mounting	Yes
● S7-300 rail mounting	Yes
● S7-1500 rail mounting	Yes
● wall mounting	Yes
product features, product functions, product components / general	
product function / DynDNS client	Yes
product functions / management, configuration, engineering	
product function	
● CLI	Yes
● web-based management	Yes
● MIB support	Yes
protocol / is supported	
● Telnet	No
● HTTP	No
● HTTPS	Yes
● TFTP	Yes
● FTP	Yes
● SFTP	Yes
● DCP	Yes
● LLDP	Yes
● SNMP v1	Yes
● SNMP v2	Yes
● SNMP v3	Yes
product function	
● RMON	Yes
● port mirroring	Yes
● multiport mirroring	Yes
● CoS	Yes
type of configuration	WBM, CLI, SNMP
PROFINET conformity class	A
product functions / diagnostics	
product function	
● SysLog	Yes
● packet filter log	Yes
● audit log	Yes
● system log	Yes
● port diagnostics	Yes
● statistics Packet Size	Yes
● statistics packet type	Yes
● error statistics	Yes
product functions / VLAN	
product function	

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● VLAN - port based	Yes
● VLAN - protocol-based	No
● VLAN - IP-based	No
● VLAN dynamic	No
number of VLANs / maximum	257
product functions / DHCP	
product function	
● DHCP client	Yes
● DHCP server - internal network	Yes
● DHCP Option 66	Yes
● DHCP Option 67	Yes
product functions / routing	
product function / static IP routing	Yes
protocol / is supported / VRRP	Yes
product function / static IP routing IPv6	Yes
protocol / is supported / OSPFv2	Yes
protocol / is supported / OSPFv3 for IPv6	Yes
product functions / security	
firewall version	stateful inspection
product function / with VPN connection	IPsec, OpenVPN
type of encryption algorithms / with VPN connection	AES-256, AES-192, AES-128, 3DES-168, DES-56
type of authentication procedure / with VPN connection	Preshared key (PSK), X.509v3 certificates
type of hashing algorithms / with VPN connection	MD5, SHA-1, SHA-256, SHA-384, SHA-512
number of possible connections / with VPN connection	200
product function	
● password protection	Yes
● bandwidth limitation	No
● NAT/NAPT	Yes
● IEEE 802.1x (radius)	Yes
● RADIUS client	Yes
● broadcast/multicast/unicast limiter	Yes
● broadcast blocking	Yes
protocol / is supported / SSH	Yes
product functions / redundancy	
product function	
● ring redundancy	Yes
● standby redundancy	Yes
● High Speed Redundancy Protocol (HRP)	Yes
protocol / is supported / Media Redundancy Protocol (MRP)	Yes
product function	
● redundancy procedure STP	Yes
● redundancy procedure RSTP	Yes
● passive listening	Yes
product functions / time	
protocol / is supported / NTP	Yes
product function	
● NTP-client	Yes
● NTP-server	Yes
protocol / is supported / SNTP	Yes
product function	
● SNTP client	Yes
● SNTP server	Yes
● IEEE 1588 v2 master	Yes
product feature / hardware real time clock w. battery backup	Yes
standards, specifications, approvals	
standard / for FM	FM19US0167X
certificate of suitability	
● UKCA marking	Yes
standard	

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● for safety / from CSA and UL	UL 60950 E115352 / CSA C22.2 no. 60950-1-03, CSA C22.2 no. 213-M1987 (available soon)
● for emitted interference	EN 61000-6-4: 2007
● for interference immunity	EN 61000-6-2: 2005
certificate of suitability	AS/NZS 2064 (Class A), EN 61000-6-2, EN 61000-6-4
● CE marking	Yes
● C-Tick	Yes
● CCC	Yes
MTBF	31.64 a
● standard	EN/IEC 61709
● reference temperature	40 °C
● IT security for industrial automation systems / according to IEC 62443-4-2:2019	Yes
product function / is supported / identification link	Yes; acc. to IEC 61406-1:2022
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
standards, specifications, approvals / hazardous environments	
standard / for hazardous zone	EN 60079-0: 2006, EN60079-15: 2005, II 3 G Ex nA IIC T4 Gc, KEMA 07ATEX0145 X
certificate of suitability / CCC / for hazardous zone according to GB standard	Yes; GB3836.1, GB3836.8
certificate of suitability / CCC / for hazardous zone according to GB standard / as marking	Ex nA IIC T4 Gc
standards, specifications, approvals / Environmental Product Declaration	
Environmental Product Declaration	Yes
global warming potential [CO2 eq]	
● total	261.7 kg
● during manufacturing	31.33 kg
● during operation	229.9 kg
● after end of life	0.47 kg
accessories	
product extension / optional	
● C-PLUG	Yes
further information / internet links	
internet link	
● to website: Selection guide for cables and connectors	https://support.industry.siemens.com/cs/ww/en/view/109766358
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: Industrial communication	https://www.siemens.com/simatic-net
● to web page: SiePortal	https://sieportal.siemens.com/
● to website: Image database	https://www.automation.siemens.com/bilddb
● to website: CAx-Download-Manager	https://www.siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com
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 www.siemens.com/cybersecurity-industry. Siemens' products and solutions

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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 https://www.siemens.com/cert. (V4.7)

Approvals / Certificates

General Product Approval

China RoHS | Declaration of Conformity

General Product Approval | EMV | For use in hazardous locations

TUEV | China RoHS

For use in hazardous locations | Test Certificates | Maritime application

FM | CCC-Ex | Type Test Certificates/Test Report

Maritime application | Dangerous goods

NK / Nippon Kaiji Kyokai | Dangerous goods information

Dangerous goods | Environment | Industrial Communication

Dangerous goods information | PROFINET

last modified: 8/28/2026

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