

SIEMENS

SIMATIC NET

Industrial Ethernet Security SCALANCE S

Commissioning and Hardware Installation Manual

<u>Preface</u>	1
<u>Safety notices</u>	2
<u>Description</u>	3
<u>Deployment planning</u>	4
<u>Mounting</u>	5
<u>Commissioning</u>	6
<u>Troubleshooting/FAQs</u>	7
<u>Dimension drawings</u>	8
<u>Approvals</u>	A

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Table of contents

1	Preface	5
2	Safety notices	7
2.1	General notices	7
2.2	Information on use in hazardous areas	8
2.3	Notices on use in hazardous areas according to ATEX and IECEx	9
2.4	Information on use in hazardous areas according to UL-Hazloc	10
2.5	Information on use in hazardous areas according to UL	10
3	Description	11
3.1	Technical specifications	11
3.2	Hardware characteristics	15
3.3	Components of the product	16
3.4	Power supply	16
3.5	Signaling contact	17
3.6	Displays	19
4	Deployment planning	23
4.1	Unpacking and checking	23
4.2	Attachment to Ethernet	23
4.3	Reset button - resetting the configuration to the factory settings	25
4.4	C-PLUG (configuration plug)	27
5	Mounting	31
5.1	Notes on installation	31
5.2	Types of installation	31
5.2.1	Installation on a DIN rail	32
5.2.2	Installation on a standard rail	34
5.2.3	Wall mounting	35
5.2.4	Grounding	35
6	Commissioning	37
6.1	Step 1: Connecting up the SCALANCE S device	39
6.2	Step 2: Configuring and downloading	40
7	Troubleshooting/FAQs	43
7.1	Replacing a SCALANCE S device	43
7.2	Transferring new firmware	43

7.3	SCALANCE S device does not restart correctly	44
7.4	SCALANCE S device cannot be reached	44
7.5	SCALANCE S device is compromised	44
8	Dimension drawings.....	47
A	Approvals	49
	Index	55

Preface

Trademarks

The following and possibly other names not identified by the registered trademark sign ® are registered trademarks of Siemens AG:

C-PLUG, CP 343-1, CP 443-1, SCALANCE, SIMATIC, SOFTNET

Validity of the documentation

This manual will familiarize you with the handling and all important properties of the following SCALANCE S devices:

- SCALANCE S602, article number: 6GK5602-0BA10-2AA3
- SCALANCE S612, article number: 6GK5612-0BA10-2AA3
- SCALANCE S623, article number: 6GK5623-0BA10-2AA3
- SCALANCE S627-2M, article number: 6GK5627-2BA10-2AA3

You will learn how the device can be installed and commissioned in a few simple steps.

Note

The specified approvals apply only when the corresponding mark is printed on the product.

Notes on configuration

The SCALANCE S devices listed above can be configured with the following tools:

Configuration tool	Relevant documentation
Security Configuration Tool (standalone and integrated in STEP 7 as of V5.5 SP2 HF1)	Configuration manual "SIMATIC NET Industrial Ethernet Security - Basics and Application". You will find a current release on the Internet under the following entry ID: 56577508 (http://support.automation.siemens.com/WWW/view/en/56577508)
STEP 7 as of V12	Online help "Information system", section "Industrial Ethernet Security"

The descriptions of configuring SCALANCE S devices in this manual refer to the Security Configuration Tool.

Information on media modules and SFPs

The media modules and SFPs that can be used for the SCALANCE S627-2M are listed in the next section of this manual:
 Technical specifications (Page 11)

You will find more detailed information on the use media modules and SFPs such as technical specifications, instructions for installation and commissioning on the Internet under the following entry ID: 74843168

(<http://support.automation.siemens.com/WW/view/en/74843168>)

SIMATIC NET glossary

Explanations of many of the specialist terms used in this documentation can be found in the SIMATIC NET glossary.

You will find the SIMATIC NET glossary here:

- SIMATIC NET Manual Collection or product DVD

The DVD ships with certain SIMATIC NET products.

- On the Internet under the following address:

50305045 (<http://support.automation.siemens.com/WW/view/en/50305045>)

Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, solutions, machines, equipment and/or networks. They are important components in a holistic industrial security concept. With this in mind, Siemens' products and solutions undergo continuous development. Siemens recommends strongly that you regularly check for product updates.

For the secure operation of Siemens products and solutions, it is necessary to take suitable preventive action (e.g. cell protection concept) and integrate each component into a holistic, state-of-the-art industrial security concept. Third-party products that may be in use should also be considered. For more information about industrial security, visit <http://www.siemens.com/industrialsecurity>.

To stay informed about product updates as they occur, sign up for a product-specific newsletter. For more information, visit <http://support.automation.siemens.com>.

Safety notices

Read the safety notices

Note the following safety notices. These relate to the entire working life of the device.


You should also read the safety notices relating to handling in the individual sections, particularly in the sections "Installation" and "Commissioning".


2.1 General notices


Do not start up until you have established that the machine on which you intend to run this component complies with the directive 89/392/EEC.


NOTICE
<p>Battery change</p> <p>Each SCALANCE S device has a battery. This battery must not be changed by customers or by service personnel. A battery can only be changed in the MF-K production factory. If this becomes necessary, send the device to the following address with the remark "battery change":</p> <p>Siemens AG I IA SC MF-K BP51 Repair Center Östliche Rheinbrückenstr. 50 76187 Karlsruhe, Germany</p>


2.2 Information on use in hazardous areas


 WARNING
When used in hazardous environments corresponding to Class I, Division 2 or Class I, Zone 2, the device must be installed in a cabinet or a suitable enclosure.

 WARNING
EXPLOSION HAZARD DO NOT CONNECT OR DISCONNECT EQUIPMENT WHEN A FLAMMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT.

 WARNING
EXPLOSION HAZARD SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2 OR ZONE 2.

 WARNING
EXPLOSION HAZARD DO NOT OPEN WHEN ENERGIZED.

 WARNING
The device may only be operated in an environment with pollution degree 1 or 2 (see IEC 60664-1).

 WARNING
The equipment is designed for operation with Safety Extra-Low Voltage (SELV) by a Limited Power Source (LPS). This means that only SELV / LPS complying with IEC 60950-1 / EN 60950-1 / VDE 0805-1 must be connected to the power supply terminals. The power supply unit for the equipment power supply must comply with NEC Class 2, as described by the National Electrical Code (r) (ANSI / NFPA 70). If the equipment is connected to a redundant power supply (two separate power supplies), both must meet these requirements.

⚠ WARNING

If a device is operated in an ambient temperature of more than 45 °C, the temperature of the device housing may be higher than 70 °C. The device must therefore be installed so that it is only accessible to service personnel or users that are aware of the reason for restricted access and the required safety measures at an ambient temperature higher than 45 °C.

2.3 Notices on use in hazardous areas according to ATEX and IECEx

Safety notices for use according to ATEX and IECEx

If you use the device under ATEX or IECEx conditions you must also keep to the following safety notices in addition to the general safety notices for protection against explosion:

⚠ WARNING

To comply with EC Directive 94/9 (ATEX95) or the conditions of IECEx, this enclosure or cabinet must meet the requirements of at least IP54 in compliance with EN 60529.

⚠ WARNING

Take measures to prevent transient voltage surges of more than 40% of the rated voltage. This is the case if you only operate devices with SELV (safety extra-low voltage).

⚠ WARNING

Safety measures at higher temperatures

If the cable or conduit entry point exceeds 70 °C or the branching point of conductors exceeds 80 °C, special precautions must be taken. If the equipment is operated in an air ambient in excess of 50 °C up to 70 °C, only use cables with an admitted maximum operating temperature of at least 100 °C.

⚠ WARNING


EXPLOSION HAZARD

Do not press the RESET button if there is a potentially explosive atmosphere.

2.4 Information on use in hazardous areas according to UL-Hazloc

Safety notices when using the device according to Underwriters Laboratories for Hazardous Locations (UL-HazLoc)

If you use the device under UL-HazLoc conditions you must also keep to the following safety notices in addition to the general safety notices for protection against explosion:


 WARNING
EXPLOSION HAZARD DO NOT DISCONNECT WHILE CIRCUIT IS LIVE UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS.

This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D or non-hazardous locations only.

This equipment is suitable for use in Class I, Zone 2, Group IIC or non-hazardous locations only.

2.5 Information on use in hazardous areas according to UL

Valid only in areas where NEC or CEC applies

 WARNING
Warning for areas subject to NEC or CEC: Safety notice for connectors with LAN (Local Area Network) marking: A LAN or LAN segment, with all its associated interconnected equipment, shall be entirely contained within a single low-voltage power distribution and within a single building. The LAN is considered to be in an "environment A" according IEEE802.3 or "environment 0" according IEC TR 62102, respectively. Never make direct electrical connection to TNV-circuits (Telephone Network) or WAN (Wide Area Network).

Description

3.1 Technical specifications

Connections	
Attachment of end devices or network components over twisted pair	10/100/1000 Mbps (half/full duplex)
SCALANCE S602/S612	2 x RJ-45 jacks with MDI-X assignment
SCALANCE S623	3 x RJ-45 jacks with MDI-X assignment
SCALANCE S627-2M	3 x RJ-45 jacks with MDI-X assignment 2 x media modules slots each for one 2-port media module
Connector for power supply	1x4-pin plug-in terminal block
Connector for signaling contact	1x2-pin plug-in terminal block
Electrical data	
Power supply	Supply 24 VDC (19.2 to 28.8 VDC) <ul style="list-style-type: none"> Implemented redundantly Safety extra-low voltage (SELV)
Typical power consumption at 24 VDC, 1000 Mbps	
SCALANCE S602/S612	9.0 W
SCALANCE S623	9.7 W
SCALANCE S627-2M	12.0 W without media modules / max. 2.5 W extra per media module
Max. current consumption at rated voltage	
SCALANCE S602/S612	0.5 A
SCALANCE S623	0.5 A
SCALANCE S627-2M	0.7 A
Permitted cable lengths	
Connection over Industrial Ethernet FC TP cables	
0 - 100 m	Industrial Ethernet FC TP standard cable with IE FC RJ-45 plug 180 or Over Industrial Ethernet FC outlet RJ-45 with 0 - 90 m Industrial Ethernet FC TP standard cable + 10 m TP cord
0 - 85 m	Industrial Ethernet FC TP marine/trailing cable with IE FC RJ-45 plug 180 or 0 - 75 m Industrial Ethernet FC TP marine/trailing cable + 10 m TP cord

Description

3.1 Technical specifications

Permitted environmental conditions for SCALANCE S602 / S612 / S623				
Operating temperature (vertical installation)				
Horizontal DIN rail (normal position)		-40 °C to +60 °C		
All other positions (e.g. vertical DIN rail)		- -40 °C to +40 °C		
Storage/transport temperature		-40 °C through +80 °C		
Max. relative humidity in operation		95% (no condensation)		
Max. ambient temperature at operating altitude		Up to 2000 m above sea level at max. 56 °C ambient temperature Up to 3000 m above sea level at max. 50 °C ambient temperature		
Permitted environmental conditions for SCALANCE S627-2M				
Media module:	Operating temperature (vertical installation):	Storage/transport temperature:	Max. relative humidity in operation at 25 °C:	Max. ambient temperature at operating altitude:
Without or with the following media modules: <ul style="list-style-type: none"> • MM991-2 (BFOC) • MM991-2LD (BFOC) • MM991-2 (SC) • MM991-2LH+ • MM991-2LD (SC) • MM992-2 • MM992-2LD • MM992-2LH • MM992-2LH+ • MM992-2ELH • MM992-2CUC • MM992-2CU • MM992-2M12 • MM992-2VD 	Horizontal mounting rail (normal position): -40 °C to +60 °C All other positions (e.g. vertical mounting rail): -40 °C to +50 °C	-40 °C to +80 °C	95% (no condensation)	Horizontal standard rail (normal position): <ul style="list-style-type: none"> • up to 2000 m above sea level at max. 56 °C • up to 3000 m above sea level at max. 50 °C All other positions (e.g. vertical standard rail): <ul style="list-style-type: none"> • up to 2000 m above sea level at max. 40 °C • up to 3000 m above sea level at max. 35 °C

With media module MM992-2SFP and the following SFP transceivers: <ul style="list-style-type: none"> SFP991-1 SFP991-1LH+ SFP991-1LD SFP992-1 SFP992-1LD SFP992-1LH SFP992-1LH+ SFP992-1ELH SFP991-1ELH200 	Horizontal mounting rail (normal position): -40 °C to +50 °C All other positions (e.g. vertical mounting rail): -40 °C to +40 °C	-40 °C to +80 °C	95% (no condensation)	Horizontal standard rail (normal position): <ul style="list-style-type: none"> up to 2000 m above sea level at max. 45 °C up to 3000 m above sea level at max. 40 °C All other positions (e.g. vertical standard rail): <ul style="list-style-type: none"> up to 2000 m above sea level at max. 40 °C up to 3000 m above sea level at max. 35 °C
Approvals				
ATEX Zone 2		EN 60079-15		
Construction				
Installation options		<ul style="list-style-type: none"> 35 mm DIN rail S7-300 standard rail Wall mounting 		
Dimensions (W x H x D) in mm				
SCALANCE S602/S612/S623		60 x 125 x 124		
SCALANCE S627-2M		120 x 125 x 124		
Weight in g				
SCALANCE S602/S612		790		
SCALANCE S623		815		
SCALANCE S627-2M		1300		
Article numbers				
SCALANCE S602		6GK5602-0BA10-2AA3		
SCALANCE S612		6GK5612-0BA10-2AA3		
SCALANCE S623		6GK5623-0BA10-2AA3		
SCALANCE S627-2M		6GK5627-2BA10-2AA3		
System manual "SIMATIC NET Industrial Ethernet Network Manual"		6GK1970-1BA10-0AA0		
Article numbers for supported media modules (for SCALANCE S627-2M)				
MM991-2 (BFOC)		6GK5991-2AB00-8AA0		
MM991-2LD (BFOC)		6GK5991-2AC00-8AA0		
MM991-2 (SC)		6GK5991-2AD00-8AA0		
MM991-2LH+		6GK5991-2AE00-8AA0		
MM991-2LD (SC)		6GK5991-2AF00-8AA0		
MM992-2		6GK5992-2AL00-8AA0		
MM992-2LD		6GK5992-2AM00-8AA0		

Description

3.1 Technical specifications

MM992-2LH	6GK5992-2AN00-8AA0
MM992-2LH+	6GK5992-2AP00-8AA0
MM992-2ELH	6GK5992-2AQ00-8AA0
MM992-2CUC	6GK5992-2GA00-8AA0
MM992-2CU	6GK5992-2SA00-8AA0
MM992-2M12	6GK5992-2HA00-0AA0
MM992-2VD	6GK5992-2VA00-8AA0
Article number for supported SFP media module (for SCALANCE S627-2M)	
MM992-2SFP	6GK5992-2AS00-8AA0
Article numbers for supported SFPs (for SFP media module)	
SFP991-1	6GK5991-1AD00-8AA0
SFP991-1LH+	6GK5991-1AE00-8AA0
SFP991-1LD	6GK5991-1AF00-8AA0
SFP991-1ELH200	6GK5991-1AE30-8AA0
SFP992-1	6GK5992-1AL00-8AA0
SFP992-1LD	6GK5992-1AM00-8AA0
SFP992-1LH	6GK5992-1AN00-8AA0
SFP992-1LH+	6GK5992-1AP00-8AA0
SFP992-1ELH	6GK5992-1AQ00-8AA0
Article numbers for accessories	
IE FC Stripping Tool	6GK1901-1GA00
IE FC blade cassettes	6GK1901-1GB00
IE FC TP standard cable (Fast Ethernet)	6XV1840-2AH10
IE FC TP trailing cable (Fast Ethernet)	6XV1840-3AH10
IE FC TP marine cable (Fast Ethernet)	6XV1840-4AH10
IE FC TP standard cable 4X2(gigabit Ethernet)	6XV1870-2E
IE FC TP flexible cable 4X2 (gigabit Ethernet)	6XV1870-2H
IE FC RJ-45 Plug 180 (Fast Ethernet) pack of 1	6GK1901-1BB10-2AA0
IE FC RJ-45 Plug 180 (Fast Ethernet) pack of 10	6GK1901-1BB10-2AB0
IE FC RJ-45 Plug 180 (Fast Ethernet) pack of 50	6GK1901-1BB10-2AE0
IE FC RJ-45 Plug 180 4X2 (gigabit Ethernet) pack of 1	6GK1901-1BB11-2AA0
IE FC RJ-45 Plug 180 4X2 (gigabit Ethernet) pack of 10	6GK1901-1BB11-2AB0
IE FC RJ-45 Plug 180 4X2 (gigabit Ethernet) pack of 50	6GK1901-1BB11-2AE0
IE FC M12 Plug PRO 4x2 (gigabit Ethernet) pack of 1	6GK1901-0DB30-6AA0
IE FC M12 Plug PRO 4x2 (gigabit Ethernet) pack of 8	6GK1901-0DB30-6AA8
FC FO termination kit	6GK1900-1GL00-0AA0
FC FO standard cable GP	6XV1847-2A

FC FO trailing cable	6XV1847-2C
FC SC Plug, pack of 10	6GK1900-1LB00-0AC0
FC BFOC Plug, pack of 20	6GK1900-1GB00-0AC0
FC SC Coupler, pack of 5	6GK1900-1LP00-0AB0
FC BFOC Coupler, pack of 10	6GK1900-1GP00-0AB0
C-PLUG	6GK1900-0AB00

3.2 Hardware characteristics

All SCALANCE S devices have the following essential characteristics:

Hardware

- Rugged housing with degree of protection IP20
- Optional mounting on an S7-300 or DIN 35 mm rail, wall mounting
- Redundant power supply
- Signaling contact



Figure 3-1 SCALANCE S627-2M


3.3 Components of the product

What ships with the SCALANCE S?

- SCALANCE S device
- 2-pin plug-in terminal block (signaling contact)
- 4-pin plug-in terminal block (power supply)
- Information on the product
- DVD with the following content:
 - Manual
 - Security Configuration Tool configuration software

The SOFTNET Security Client is provided on a separate DVD and does not ship with the product.

3.4 Power supply

 WARNING
Use safety extra-low voltage only The SCALANCE S device is designed for operation with safety extra-low voltage. This means that only safety extra-low voltages (SELV) complying with IEC950/EN60950/VDE0805 can be connected to the power supply terminals. The power supply unit to supply the SCALANCE S must comply with NEC Class 2 (voltage range 19.2 - 28.8 V). The device may only be supplied by a power unit that meets the requirements of class 2 for power supply units of the "National Electrical Code, Table 11 (b)". If the device is connected to a redundant power supply (two separate power supplies), both must meet these requirements.

Note

Never connect the SCALANCE S to AC voltage or to DC voltage higher than 28.8 VDC.

The power supply is connected using a 4-pin plug-in terminal block. The power supply can be connected redundantly. Both inputs are isolated. There is no distribution of load. When a redundant power supply is used, the power supply unit with the higher output voltage supplies the SCALANCE S alone. The power supply is connected over a high resistance with the enclosure to allow an ungrounded set up.

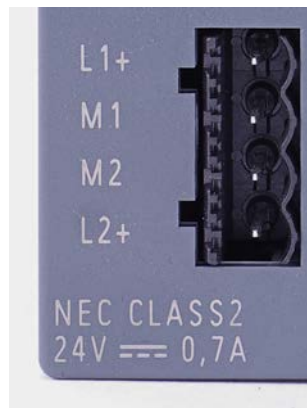


Figure 3-2 Power supply for SCALANCE S627-2M

3.5 Signaling contact

Note

The signaling contact can be subjected to a maximum load of 100 mA (safety extra low voltage (SELV), 24 VDC).

Never connect the signaling contact of the SCALANCE S to AC voltage or to DC voltage higher than 32 VDC. The polarity of the connectors is irrelevant.

The signaling contact is connected to a 2-pin plug-in terminal block. The signaling contact is a floating switch with which error/fault states can be signaled by breaking the contact.

The following errors/faults can be signaled by the signaling contact:

- Fault in the power supply
- Internal fault

When only one power supply of a redundant power supply is applied, an error is signaled.

If a fault occurs or if no power is applied to the SCALANCE S, the signaling contact is opened. In normal operation, the signaling contact is closed.

Description

3.5 Signaling contact

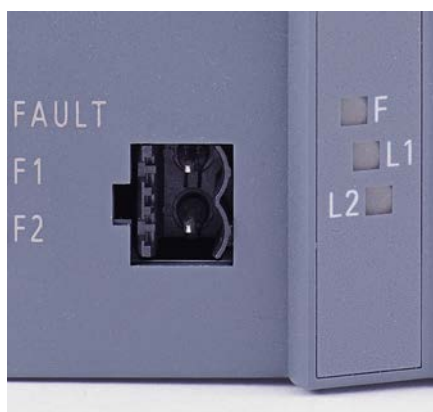


Figure 3-3 Signaling contact for SCALANCE S627-2M

3.6 Displays



Figure 3-4 Operating displays

- ① Port status display P1
- ② Port status display P2
- ③ Port status display P3
- ④ Port status display P4
- ⑤ Port status display P5
- ⑥ Port status display P6
- ⑦ Port status display P7
- ⑧ Fault display (F) and power display (L1, L2)

Fault indicator (fault LED)

Display of the operating state:

Status	Meaning
Lit red	Device detects an error (Signaling contact is open) The following faults/errors are detected: <ul style="list-style-type: none"> • internal fault/error (e.g. startup failed) • Invalid C-PLUG (invalid formatting)
Lit green	Device is in productive operation (Signaling contact closed)
Not lit	Device failure; no power supply (Signaling contact is open)
Lit orange (constant)	Device is starting up (Signaling contact is open) If no IP address was assigned, the device remains in this status.
Flashes orange and red alternately	Device resets itself to factory settings (Signaling contact is open)

Power LEDs (L1, L2)

The status of the power supply is indicated by two LEDs:

Status	Meaning
LED L1 / L2	
Lit green	Power supply L1 or L2 is connected.
Not lit	in non-redundant mode: Power supply L1 or L2 is not connected or < 14 V (L+).
Lit red	In redundant mode: One of the two connected power supplies L1 or L2 failed during operation or < 14 V (L+).

Port status indicator (green/yellow LEDs)

The status of each of the interfaces is indicated by a two-color LED per port:

Device type	Number of port LEDs	LED lit green	LED lit yellow
S602	2	TP link exists, no data reception.	TP link exists, data traffic at TP port.
S612	2		
S623	3		
S627-2M	7		

Note

Learn phase of the SCALANCE S602 in ghost mode


While the SCALANCE S602 is learning the IP address of the internal node in ghost mode, the two port LEDs of the SCALANCE S602 \geq V3.1 flash synchronized according to the following pattern, assuming there is no further data traffic: "Long - Long - Short".

Deployment planning

4.1 Unpacking and checking

Unpacking, checking

1. Make sure that the package is complete.
2. Check all the parts for transport damage.

 WARNING
Do not use any parts that show evidence of damage.

4.2 Attachment to Ethernet

Possible attachments

Each SCALANCE S device has a certain number of ports to which the network nodes can be connected. Depending on the interface, the network nodes are handled differently.

SCALANCE S device	Interface	Ports of the interface	Port type
SCALANCE S602 / S612	External	P1	Built-in RJ-45 jack (copper)
	Internal	P2	Built-in RJ-45 jack (copper)
SCALANCE S623	External	P1	Built-in RJ-45 jack (copper)
	Internal	P2	Built-in RJ-45 jack (copper)
	DMZ	P3	Built-in RJ-45 jack (copper)
SCALANCE S627-2M	External	P1	Built-in RJ-45 jack (copper)
		P4	Media module port (copper/FOC)
		P5	Media module port (copper/FOC)
	Internal	P2	Built-in RJ-45 jack (copper)
		P6	Media module port (copper/FOC)
		P7	Media module port (copper/FOC)
	DMZ	P3	Built-in RJ-45 jack (copper)

The Ethernet interfaces must not be confused when connecting to the communications network:

- X1 interface - external
Red marking = unprotected network area;
- Interface X2 - internal
Green marking = network protected by SCALANCE S;
- Interface X3 - DMZ (universal network interface)
Green marking = unprotected network area or network protected by SCALANCE S.

If the interfaces are swapped over, the device loses its protective function.

Note

TP cords or TP-XP cords with a maximum length of 10 m can be connected at the RJ-45 TP ports.

In conjunction with the Industrial Ethernet FastConnect IE FC Standard Cable and IE FC RJ-45 Plug 180, a total cable length of maximum 100 m is possible between two devices.

Note

4x2 TP cable required for gigabit connection

For data transfer at 1000 Mbps, you need to connect gigabit devices with 4 x 2 TP cables (twisted pair) to the SCALANCE S \geq V4.

You will find more detailed information on cabling via Industrial Ethernet on the Internet under the following entry ID: 27069465

(<http://support.automation.siemens.com/WW/view/en/27069465>)

Autonegotiation

The SCALANCE S device supports autonegotiation.

Autonegotiation means that the connection and transmission parameters are negotiated automatically with the network component connected to the interface of the SCALANCE S.

MDI / MDIX autocrossover function

The SCALANCE S device supports the MDI / MDIX autocrossover function.

The advantage of the MDI /MDIX autocrossover function is that straight-through cables can be used throughout and crossover Ethernet cables are unnecessary. This prevents malfunctions resulting from swapping over send and receive cables. This greatly simplifies installation.

The MDI / MDIX autocrossing function can only be used if autonegotiation is enabled.

Insulation between the TP ports

Between the TP ports, an insulation voltage of 1.5 kV is adhered to (corresponds to IEEE802.3, Section 33.4.1.1, Environment B).

See also

Technical specifications (Page 11)

4.3 Reset button - resetting the configuration to the factory settings

SCALANCE S switches have a reset button. The reset button is located on the rear of the housing below the M32 plug immediately above the C-PLUG.



Figure 4-1 Reset button and slot for the C-PLUG

Note

Make sure that only authorized personnel has access to the SCALANCE S device.

What does the reset button do?

Two functions can be triggered with the reset button:

- Restart

The device is restarted. The loaded configuration is retained.

- Reset to factory settings

The device is restarted and reset to the status set in the factory. A configuration loaded on the SCALANCE S device or on an inserted C-PLUG is deleted.

4.3 Reset button - resetting the configuration to the factory settings

Restart - follow the steps below

1. If necessary, remove the SCALANCE S device from its mounting to allow access to the compartment. The compartment is protected by a screw plug.
2. Remove the M32 plug on the rear of the device.

The reset button is in a compartment on the rear of the SCALANCE S directly above the slot for the C-PLUG.
3. Press the reset button for less than five seconds.

The restart takes up to 2 minutes. During the restart, the fault LED is lit orange. Make sure that the power supply is not interrupted during the reset.

On completion of the restart, the device automatically changes to productive mode. The fault LED is then lit permanently green.
4. Close the recess with the M32 plug and mount the device again.

Reset to factory settings - follow the steps below

Note

If a C-PLUG is plugged in when you reset to factory settings, the C-PLUG is erased.

1. If necessary, remove the SCALANCE S device from its mounting to allow access to the compartment. The compartment is protected by a screw plug.
2. Remove the M32 plug on the rear of the device.

The reset button is in a compartment on the rear of the SCALANCE S directly above the slot for the C-PLUG.
3. Keep the reset button pressed for a minimum of 5 seconds until the fault display flashes orange-red.

Resetting takes up to 2 minutes. During the reset, the fault LED flashes orange-red. Make sure that the power supply is not interrupted during this time.

On completion of the reset, the device starts up again automatically. The restart takes up to 2 minutes. During the restart, the fault LED is lit orange. Make sure that the power supply is not interrupted during the reset.
4. Close the recess with the M32 plug and mount the device again.

4.4 C-PLUG (configuration plug)

Area of application

The C-PLUG is an exchangeable medium for storage of the configuration and project engineering data of the basic device (SCALANCE S). This means that the configuration data remains available if the basic device is replaced.

How it works

Power is supplied by the basic device. The C-PLUG retains all data permanently when the power is turned off.

Removing the C-PLUG

It is only necessary to remove the C-PLUG if the basic device fails (hardware fault).

NOTICE
Check the operating status
The C-PLUG may only be removed when the power is off.

Replacing the C-PLUG

NOTICE
Damage to hardware by replacing during operation
Replacing the C-PLUG during operation can lead to damage to the hardware (device and C-PLUG).
Replace the C-PLUG only when the device is turned off.

Inserting and removing the C-PLUG

The slot for the C-PLUG is located on the back of the device. You insert the C-PLUG as follows:

1. Remove the M32 plug.
2. Insert the C-PLUG in the intended slot.
3. Then close the slot with the M32 plug.



Figure 4-2 Inserting the C-PLUG in the device and removing the C-PLUG from the device with a screwdriver

Function

If an empty C-PLUG (factory settings) is inserted, all configuration data of the SCALANCE S is shifted to it when the device starts up. Changes to the configuration during operation are also saved on the C-PLUG without any operator intervention being necessary.

A basic device with an inserted C-PLUG automatically uses the configuration data of the C-PLUG when it starts up. This is, however, only possible when the data was written by a compatible device type.

This allows fast and simple replacement of the basic device. If a device is replaced, the C-PLUG is taken from the failed component and inserted in the replacement. After it has started up, the replacement device has the same device configuration as the failed device.

Note

Consistent project data - adapting the MAC address

After replacing the device with a spare, the configuration data should be consistent. To achieve this, you should adapt the MAC address from the project engineering to the MAC address printed on the replacement device.

If you use the previously configured C_PLUG of the device you are replacing, this is not absolutely necessary to start up and run the device.

Note

Reset to factory settings

If a C-PLUG is plugged in when you reset to factory settings, the C-PLUG is erased.

Note

Setting the time-of-day after inserting a C-PLUG

After you have inserted the C-PLUG in a new device, check the time-of-day on the device to make sure the certificates are still valid.

Use of a C-PLUG that already contains configuration data

Use only C-PLUGs that are formatted for the relevant SCALANCE S device type. C-PLUGs that have already been used in other device types and formatted for these device types must not be used.

The following table shows which C-PLUG you can use for which SCALANCE S device type:

SCALANCE S device type	C-PLUG formatted by									
	S602 V2	S612 V2 / S613 V2	S602 V3	S602 ≥ V3.1 in ghost mode	S602 V4	S612 V3	S612 V4	S623 V3	S623 V4	S627-2M V4
S602 V2	x	-	-	-	-	-	-	-	-	-
S612 V2 / S613 V2	-	x	-	-	-	-	-	-	-	-
S602 V3	x	-	x	-	-	-	-	-	-	-
S602 ≥ V3.1 in ghost mode	-	-	-	x	-	-	-	-	-	-
S602 V4	x	-	x	x	x	-	-	-	-	-
S612 V3	-	x	-	-	-	x	-	-	-	-
S612 V4	-	x	-	-	-	x	x	-	-	-
S623 V3	-	-	-	-	-	-	-	x	-	-
S623 V4	-	-	-	-	-	-	-	x	x	-
S627-2M V4	-	-	-	-	-	-	-	-	-	x

- x C-PLUG can be used with the device type
- C-PLUG cannot be used with the device type

Before you use a formatted C-PLUG for another device, you will need to reset the SCALANCE S device to the factory settings by pressing the reset button and then download the required project to the SCALANCE S device. The use of C-PLUGs that are formatted without a module ID is possible without resetting to the factory settings.

Procedure after removing or after damage to a C-PLUG

After inserting a C-PLUG, the configuration data of the SCALANCE S device is copied to the C-PLUG and deleted from the internal non-volatile memory of the SCALANCE S device. After removing a C-PLUG or if a C-PLUG is damaged, there is therefore no configuration data available. To return the SCALANCE S to operation either download the required configuration to the SCALANCE S or insert a C-PLUG with the required configuration in the SCALANCE S.

Diagnostics

Inserting a C-PLUG that does not contain the configuration of a compatible device type, removing the C-PLUG during operation, or general malfunctions of the C-PLUG are indicated by the diagnostics mechanisms of the end device (fault display red).

Mounting

5.1 Notes on installation

Note**Keeping to the relevant installation guidelines**

During installation and operation, keep to the installation instructions and safety-related notices as described here and in the system manual "Industrial Communication SIMATIC NET Industrial Ethernet Network Manual" (entry ID: 27069465 (<http://support.automation.siemens.com/WW/view/en/27069465>)).

 **CAUTION**

Provide suitable shade to protect the device against direct sunlight. This avoids unwanted warming of the device and prevents premature aging of the device and cabling.

Note

The requirements of EN61000-4-5, surge test on power supply lines are met only when a Blitzductor BVT AVD 24V type no. 918 422 is used.

Manufacturer:

DEHN+SÖHNE GmbH+Co. KG Hans Dehn Str.1 Postfach 1640 D-92306 Neumarkt, Germany

5.2 Types of installation

Types of installation

The SCALANCE S can be installed in various ways:

- Installation on a 35 mm DIN rail
- Installation on a SIMATIC S7-300 standard rail
- Wall mounting

5.2.1 Installation on a DIN rail

Installation

Install the SCALANCE S on a 35 mm DIN rail complying with DIN EN 50022.

1. Place the upper catch of the device over the top of the DIN rail and then push in the lower part of the device against the rail until it clips into place.
2. Install the electrical connecting cables and the terminal block for the signaling contact.



Figure 5-1 SCALANCE S installation on a DIN rail (35 mm)

Uninstalling

To remove the SCALANCE S from the DIN rail:

1. First disconnect the TP cables and pull out the terminal block for the power supply and the signaling contact.
2. Use a screwdriver to release the lower rail catch of the device and pull the lower part of the device away from the rail.



Figure 5-2 SCALANCE S removing from a DIN rail (35 mm)

5.2.2 Installation on a standard rail

Installation on a SIMATIC S7-300 standard rail

1. Place the upper guide at the top of the SCALANCE S housing in the S7 standard rail.
2. Screw the SCALANCE S device to the lower part of the standard rail.



Figure 5-3 SCALANCE S installation on a SIMATIC S7-300 standard rail

5.2.3 Wall mounting

Installation fittings

Use the following fittings, for example when mounting on a concrete wall:

- 4 wall plugs, 6 mm in diameter and 30 mm long
- Screws 3.5 mm in diameter and 40 mm long

Note

The wall mounting must be capable of supporting at least four times the weight of the device.

5.2.4 Grounding

Installation on a DIN rail

The device is grounded over the DIN rail.

S7 standard rail

The device is grounded over its rear panel and the neck of the screw.

Wall mounting

The device is grounded by the securing screw in the unpainted hole.

Note

Note that the SCALANCE S must be grounded over a securing screw with low resistance.

NOTICE
Before you connect the device!
Before putting the device into operation, make sure that you read the information in the sections "Product properties" and "Installation" carefully and follow the instructions there, particularly those in the safety notices.

Principle

To operate the SCALANCE S, you need to download a configuration created with the Security Configuration Tool or STEP 7 as of V12. Configuration using the Security Configuration Tool is described below.

Configuring a SCALANCE S also includes the following aspects:

- Mode selection
- IP parameters
- Firewall rules
- IPsec tunnel (not for S602)

Before putting the device into operation, you can first create the entire configuration offline and then download it.

Depending on the application, download the configuration to one or more SCALANCE S devices during the commissioning phase.

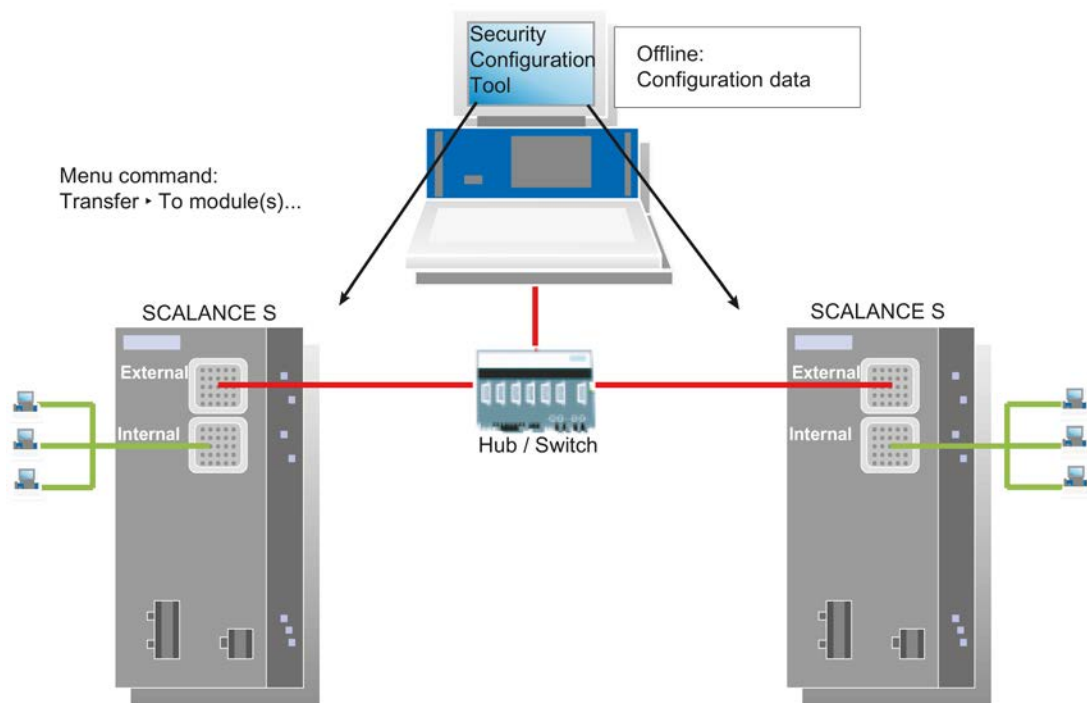


Figure 6-1 Overview of commissioning

Factory defaults

With the factory defaults (settings as supplied or after resetting to factory defaults), the SCALANCE S behaves as follows after you turn on the power supply:

- IP communication is not possible since the IP settings are missing; the SCALANCE S itself does not yet have an IP address.

As soon as the SCALANCE S device is assigned a valid IP address by the configuration, the device is accessible (IP communication is then possible). If router information is also included in the configuration and has been downloaded to the SCALANCE S, the device can also be reached via routers.

- The device has a fixed, default MAC address; the MAC address is printed on the device and must be used during configuration.
- The firewall is preconfigured with the following basic firewall rules:
 - All frames from internal to external and vice versa are blocked.
 - All frames from internal to the SCALANCE S device are allowed
 - For SCALANCE S623/S627-2M: In terms of the basic firewall settings, the DMZ interface behaves like an external interface.

The unconfigured status can be recognized when the fault display is lit orange.

6.1 Step 1: Connecting up the SCALANCE S device

Follow the steps below:

1. First unpack the SCALANCE S and check that it is undamaged.
2. If applicable, insert the media modules and SFPs in the SCALANCE S (S627-M2 only).

NOTICE

Install and remove media modules only when the power is off

Media modules may only be inserted in or removed from a SCALANCE S device when the power supply to the device has been turned off.

Use only approved media modules and SFPs

Only use media modules and SFPs in the modules slots that are supported by the SCALANCE S627-2M. These media modules and SFPs are listed in the following section:

- Technical specifications (Page 11)

3. Connect the power supply to the SCALANCE S.
Result: After connecting the power, the fault display (F) is lit yellow.
4. Now establish the physical network connections by plugging the network cable connectors into the ports you want to use (RJ-45 jacks or media module ports).
 - Connect the external interface with the external network to which the configuration PC/PG is connected.
 - Connect the internal interface with the internal network.
 - If applicable, connect the DMZ interface with the corresponding network component.

Note:

During commissioning, you can, in principle, initially connect the configuration PC/PG to one of the interfaces of the SCALANCE S device and do without a connection to other network nodes until the device has been supplied with a configuration. If you connect directly to the SCALANCE S interfaces, however, you would need to configure each individual SCALANCE S device separately.

If you use the DMZ interface for the initial download of a configuration (assignment of initial IP addresses to the interfaces), you should enable the DMZ interface in this configuration. Initial download of a configuration via the DMZ interface is possible only as of SCT V4.0.

5. Now continue with the next step "Configuring and downloading".

6.2 Step 2: Configuring and downloading

The section below describes how to configure the SCALANCE S module with the Security Configuration Tool starting from the factory settings.

Follow the steps below:

1. Start the supplied Security Configuration Tool configuration software.
2. Select the "Project" > "New..." menu command.
3. In the dialog that follows, create a new user with a user name and the corresponding password. The "administrator" role is assigned to the user automatically. Confirm your entries with "OK".

Result: A new project is created. The "Selection of a module or software configuration" dialog opens.

4. Configure the product type, module and firmware release.
5. In the "Configuration" area, enter the MAC address in the required format.

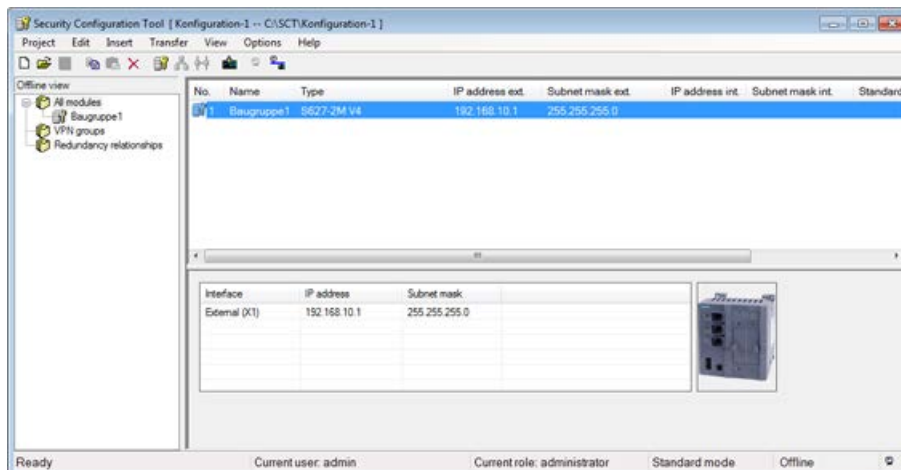
The MAC address is printed on the front of the SCALANCE S module.



6. Enter the external IP address and the external subnet mask in the relevant boxes and confirm the dialog with "OK".

Result: The module will then be displayed in the list of configured modules.

7. Select your module and, if necessary, enter the IP address of the default router by clicking in the "Default Router" column.

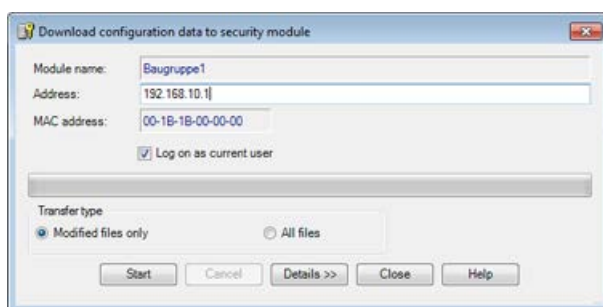


Optional: Configure any other properties of the module if required. You will find more detailed information on this in the configuration manual "Industrial Ethernet Security - Basics and Application" that can also be found on the product data medium.

8. Save the project with the following menu command: "Project" > "Save As...".
9. Select the module in the content area and select the menu command "Transfer" > "To module...".

When you first load a configuration after installing the Security Configuration Tool, a dialog appears in which you can select the required network adapter.

10. If you click on the "Start" button in the "Download configuration data to security module" dialog, you transfer the configuration to the SCALANCE S module.



Result: The SCALANCE S module is now configured and can communicate at the IP level. This mode is indicated by the Fault display being lit green.

Troubleshooting/FAQs

7.1 Replacing a SCALANCE S device

When using a C-PLUG, a SCALANCE S device can be replaced without a PC (without needing to download the configuration to the new device). The C-PLUG of the device you are replacing is simply inserted in the new device you want to put into operation, refer to the following section of this manual:

- C-PLUG (configuration plug) (Page 27)

NOTICE
Damage to hardware by replacing during operation
Replacing the C-PLUG during operation can lead to damage to the hardware (device and C-PLUG).
Replace the C-PLUG only when the device is de-energized.

7.2 Transferring new firmware

You can download new firmware versions to a SCALANCE S device with the Security Configuration Tool or STEP 7 as of V12.

Requirements

To transfer new firmware to a SCALANCE S device, the following conditions must be met:

- You must have administrator rights for the project.
- The SCALANCE S device must already have been configured with an IP address and be reachable.

The transfer is encrypted

The firmware is transferred over a secure connection and can therefore also be transferred from the unprotected network.

The firmware itself is signed and encrypted. This ensures that only authentic firmware can be downloaded to the SCALANCE S device.

The transfer can take place during operation

The firmware can be transferred while a SCALANCE S device is in operation. Communication is, however, interrupted after the download until the automatic restart of the SCALANCE S device is completed. Newly downloaded firmware only becomes active after the SCALANCE S device has been restarted.

If the transfer is disrupted and aborted, the device starts up again with the old firmware version.

Make the transfer in the Security Configuration Tool as follows:

Select the SCALANCE S in the content area and select the menu command "Transfer" > "Transfer firmware...".

7.3 SCALANCE S device does not restart correctly

If the fault LED of the SCALANCE S device is lit red after booting, you should first completely reset the device. Press the reset button until the fault LED starts to flash orange-red. The device is then reset to the factory settings and runs a reboot. For productive operation, you must then download the configuration to the device again.

If rebooting fails three times in succession, the firmware is reset to the previously used version. If, however, the fault LED of the SCALANCE S device continues to be lit red, the device will need to be sent in for repair.

See also

Reset button - resetting the configuration to the factory settings (Page 25)

7.4 SCALANCE S device cannot be reached

Possible causes:

- Your computer is not in the same network as the SCALANCE S device.
- The SCALANCE S device is currently running a reset.

7.5 SCALANCE S device is compromised

A SCALANCE S device is compromised when

- the private key belonging to the server certificate,
- the private key of the certificate authority,

- the key of a VPN group with the authentication method "Pre-shared key" or
- the password of a user has become known.

Private key of the server certificate known

If the private key belonging to the server certificate has become known, the server certificate on the SCALANCE S device must be replaced. The user names stored on the SCALANCE S device do not need to be changed.

Security Configuration Tool - follow the steps below:

1. Select the "Options" > "Certificate manager..." menu command, "Device certificates" tab.
2. Select the SSL certificate of the SCALANCE S module and select the entry "Renew certificate..." in the shortcut menu.
3. Enter the parameters for the new SSL certificate and confirm your entry with "OK".
4. Download the configuration to the SCALANCE S module.

The private key of the certificate authority is known

If the private key of the certificate authority has become known, the certificate of the certificate authority must be replaced on the SCALANCE S module. The user names can remain unchanged. The VPN groups do, however, require new certificates provided by the new certificate authority.

Security Configuration Tool - follow the steps below:

1. If necessary, change the project to advanced mode with the menu command "View" > "Advanced mode".
2. In the navigation area, select the VPN group you want to edit.
3. Select the "Edit" > "Properties..." menu command.
4. Generate a new VPN group certificate by clicking the "New..." button in the "Certificate" area.
5. Confirm the next two dialogs with "Yes" or "OK".
6. Download the configuration to all SCALANCE S modules that belong to the VPN group.

The key of a VPN group with the authentication method "Pre-shared key" is known

If the key of a VPN group that uses the authentication method "Pre-shared key" has become known, the key must be renewed in the VPN group properties of this VPN group. Following this, the new configuration must be downloaded to all SCALANCE S modules that are members of the VPN group.

Security Configuration Tool - follow the steps below:

1. If necessary, change the project to advanced mode with the menu command "View" > "Advanced mode".
2. In the navigation area, select the VPN group you want to edit.
3. Select the "Edit" > "Properties..." menu command.
4. Generate a new key by clicking the "New..." button in the "Pre-shared key" area.
5. Confirm the next dialog with "Yes".
6. Download the configuration to all SCALANCE S modules that belong to the VPN group.

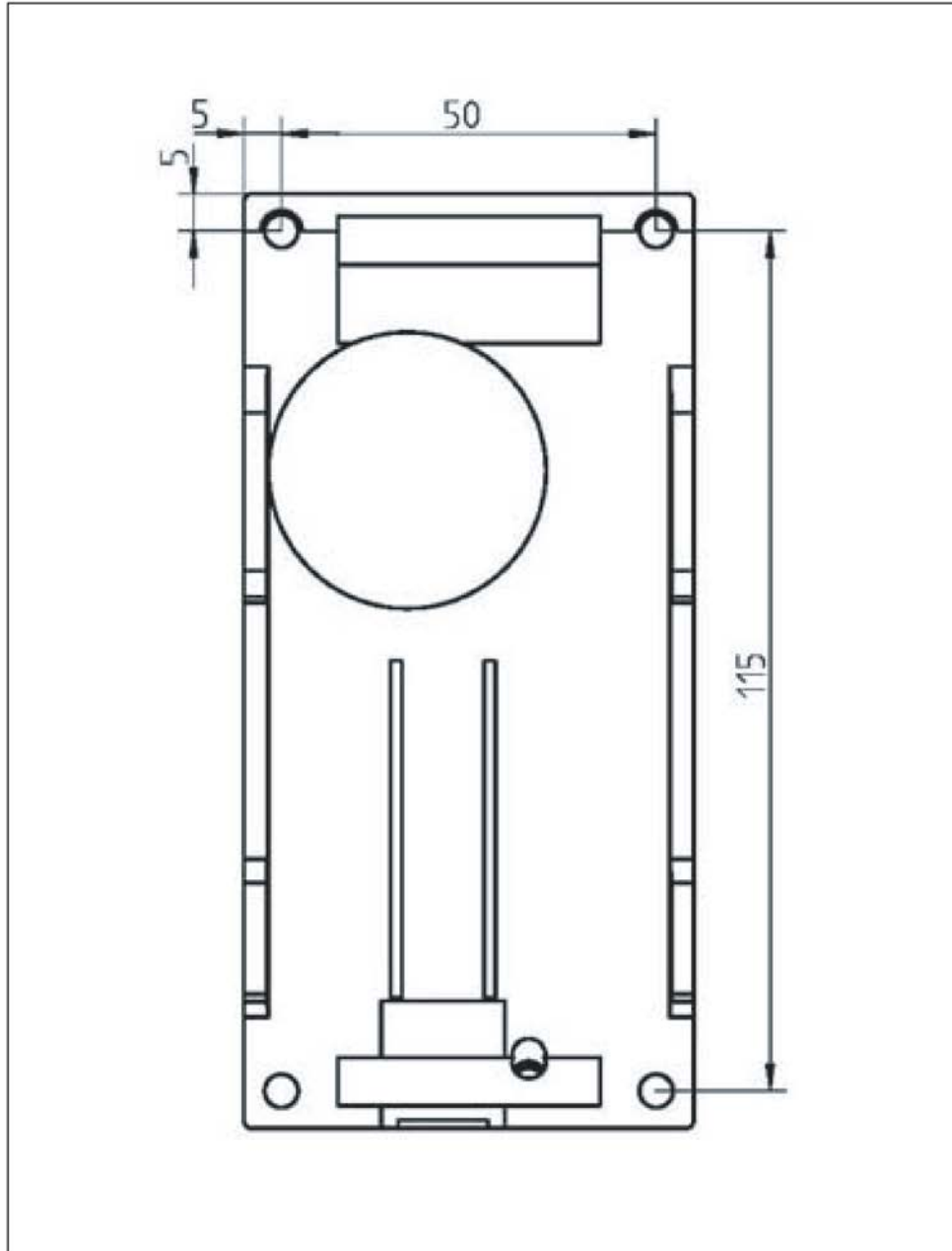
Password of a user is known

If the password of a user with administrator rights relating to configuration and/or to a module or several modules is known, the server certificate of the corresponding module and the password of the user should be changed.

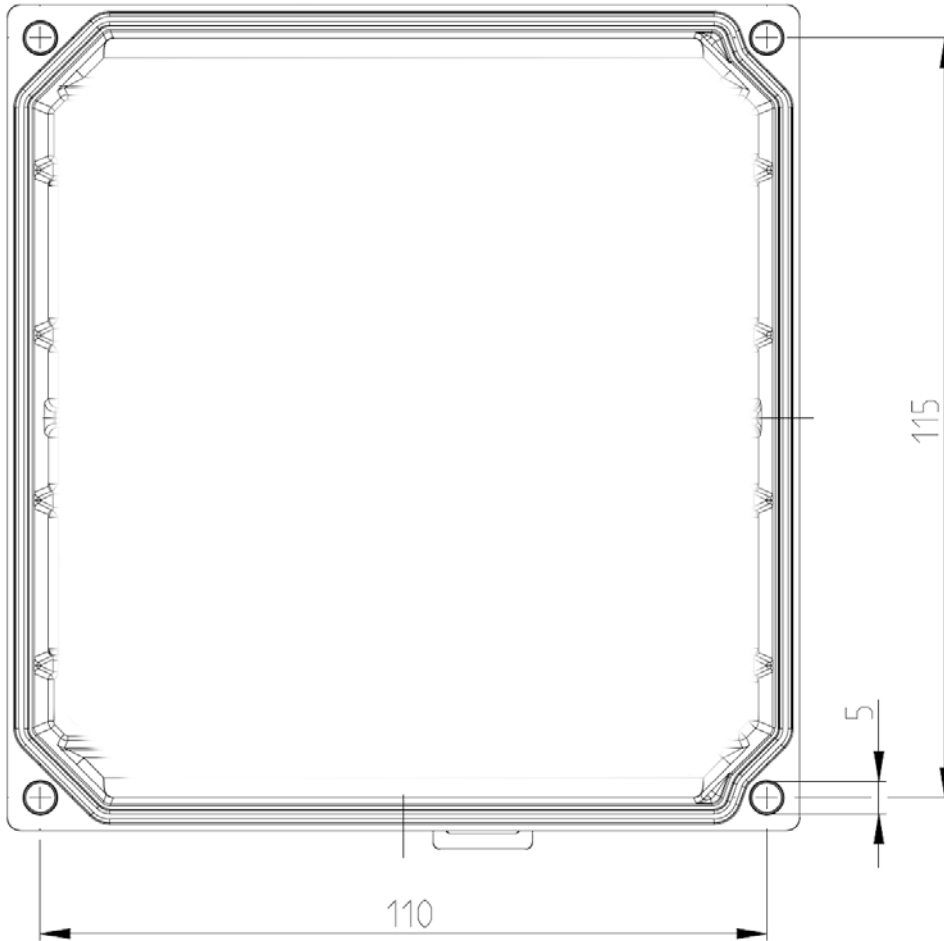
If the password of a user who is assigned the "standard", "diagnostics" or "remote access" role is known, the password of the user should be changed.

Dimension drawings

Dimension drawing for SCALANCE S602 / S612 / S623 devices



Dimension drawing for SCALANCE S627-2M devices



Approvals

The SIMATIC NET products described in these Operating Instructions have the approvals listed below.

Note

Issued approvals on the type plate of the device

The specified approvals apply only when the corresponding mark is printed on the product. You can check which of the following approvals have been granted for your product by the markings on the type plate.

Current approvals on the Internet

You will find the current approvals for the product on the Internet pages of Siemens Industry Online Support.

<https://support.industry.siemens.com/cs/ww/de/en/15327/cert>
<https://support.industry.siemens.com/cs/ww/en/ps/15327/cert>

EC directives

SIMATIC NET products meet the requirements and aims of the following EC directives.

EMC directive (electromagnetic compatibility)

The SIMATIC NET products described in these operating instructions meet the requirements of EC directive 2004/108/EC "Electromagnetic Compatibility" for the following areas of application:

Field of application	Requirements		
	RF interference level	Immunity to interference	Degree of protection
Industry	EN 61000-6-4 : 2007	EN 61000-6-2 : 2005	IP20

RoHS directive (Restriction of certain Hazardous Substances)

The SIMATIC NET products described in these operating instructions meet the requirements of the EC directive 2011/65/EC for the restriction of the use of certain hazardous substances in electrical and electronic equipment.

- Applied standard: EN 50581:2012

 **WARNING**

Personal injury and property damage can occur

The installation of expansions that are not approved for SIMATIC NET products or their target systems may violate the requirements and regulations for safety and electromagnetic compatibility.

Only use expansions that are approved for the system.

- **Keep to the installation guidelines**
The devices meet the requirements if you adhere to the installation and safety instructions contained in this documentation and in the following documentation when installing and operating the devices.
- **You can always find the latest documentation on the Internet**
The current descriptions of the currently available products can always be found on the Internet under the specified entry IDs/Internet pages:
 - "Industrial Ethernet / PROFINET Industrial Ethernet" System Manual
 - "Industrial Ethernet / PROFINET - Passive network components" System Manual
 - "EMC Installation Guidelines" configuration manual
60612658 (<http://support.automation.siemens.com/WW/view/en/60612658>)
- **Working on the device**
To protect the device from electrostatic discharge, personnel must first discharge any electrostatic charge from their body before touching the device.

Note

The test was performed with a device and a connected communications partner that also meets the requirements of the standards listed above.

When operating the device with a communications partner that does not comply with these standards, adherence to the corresponding values cannot be guaranteed.

EU declaration of conformity

You will find EC declaration of conformity for these products on the Internet pages of Siemens Industry Online Support (<https://support.industry.siemens.com/cs/ww/en/view/66920341>).

Notes for the Manufacturers of Machines

This product is not a machine in the sense of the EC Machinery Directive. There is therefore no declaration of conformity relating to the EC Machinery Directive for this product. If the product is part of the equipment of a machine, it must be included in the procedure for obtaining the declaration of conformity by the manufacturer of the machine.

cULus Approval for Information Technology Equipment

cULus Listed I. T. E.

Underwriters Laboratories Inc. complying with

- UL 60950-1 (Information Technology Equipment)
- CSA C22.2 No. 60950-1-03

Report no. E115352

- UL 508
- CSA C22.2 No. 142-M1987

Report no. E85972

cULus Approval Hazardous Location

cULus Listed I. T. E. FOR HAZ. LOC.

Underwriters Laboratories Inc. complying with

- UL 60950-1 (Information Technology Equipment)
- ANSI/ISA 12.12.01-2007
- CSA C22.2 No. 213-M1987

Approved for use in

Cl. 1, Div. 2, GP A, B, C, D T4

Cl. 1, Zone 2, GP IIC T4


Report no. E240480

FM

The product meets the requirements of the standards:

- Factory Mutual Approval Standard Class Number 3611
- FM Hazardous (Classified) Location Electrical Equipment:
Non Incendive / Class I / Division 2 / Groups A,B,C,D / T4 and
Non Incendive / Class I / Zone 2 / Group IIC / T4

ATEX (explosion protection directive)

 WARNING
<p>When using SIMATIC NET products in hazardous area zone 2, make absolutely sure that the associated conditions in the following document are adhered to:</p> <p>"SIMATIC NET Product Information Use of subassemblies/modules in a Zone 2 Hazardous Area".</p> <p>You will find this document</p> <ul style="list-style-type: none">• on the data medium that ships with some devices.• on the Internet pages of Siemens Industry Online Support (https://support.industry.siemens.com/cs/us/en). <p>Enter the document identification number C234 as the search term.</p>

SIMATIC NET products meet the requirements of the EC directive:94/9/EC "Equipment and Protective Devices for Use in Potentially Explosive Atmospheres".

ATEX classification:

II 3 G Ex nA IIC T4 Gc

KEMA 07ATEX0145 X

The products meet the requirements of the following standards:

- EN 60079-15 (electrical apparatus for potentially explosive atmospheres; Type of protection "n")
- EN 60079-0 (Explosive atmospheres - Part 0: Equipment - General requirements)

The current versions of the standards can be seen in the EU Declaration of Conformity.

IECEX

The SIMATIC NET products meet the requirements of explosion protection according to IECEX.

IECEX classification:

Ex nA IIC T4 Gc

DEK 14.0025X

The products meet the requirements of the following standards:

- IEC 60079-15 (Explosive atmospheres - Part 15: Equipment protection by type of protection "n")
- IEC 60079-0 (Explosive atmospheres - Part 0: Equipment - General requirements)

The current versions of the standards can be seen in the EU Declaration of Conformity.

RCM

The product meets the requirements of the AS/NZS 2064 standard (Class A).

MTBF (40 °C)

- SCALANCE S602/S612: 54,56 a
- SCALANCE S623: 52.42 a
- SCALANCE S627-2M: 38.13 a

Marking for the customs union



EAC (Eurasian Conformity)

Customs union of Russia, Belarus and Kazakhstan

Declaration of the conformity according to the technical regulations of the customs union (TR CU)

Index

A

- AC voltage, 16
- Administrator rights, 43
- Approvals, 5
- Article numbers, 13
- Attachments, 11
- Autocrossover, 24
- Autonegotiation, 24

B

- Basic rules for firewall, 38

C

- Cable lengths, 11
- CD, 16
- Commissioning, 37
- Components of the product, 16
- Configuration, 5
 - Initial, 37
 - Loading, 37
- Configuring offline, 37
- C-PLUG, 27
 - Empty, 28
 - Removing, 27
 - Replacing, 27
 - Reset, 29
- C-PLUG slot, 28

D

- Degree of protection, 15
- DIN rail, 15, 31, 32
- Displays, 20
 - Fault display, 20
 - Port status LEDs, 20
 - Power LEDs (L1, L2), 20

E

- Electrical data, 11
- Environmental conditions, 12

- Ethernet cable
 - Crossover, 24

F

- Factory defaults, 25, 38
- Firmware update, 43

G

- Glossary, 6

H

- Hardware, 5, 15

I

- Installation, 31, 31
 - Installation on a DIN rail, 32
 - Installation on a standard rail, 34
 - Types of installation, 31
 - Uninstalling, 33
 - Wall mounting, 35, 35
- Installation location, 12

L

- Load distribution, 16

M

- M32 screw cover, 28
- MAC address, 28, 37
- MDI / MDIX autocrossover function, 24
- Media modules, 12

N

- National Electrical Code, table 11 (b), 16

P

- Port status LEDs, 20

Possible attachments, 23
Power display, 20
Power supply, 15, 16

R

Replacement device, 28
Replacing a device, 28
Reset button, 25
Reset to factory settings, 26
RJ-45 jacks, 23

S

S7 standard rail, 35
Safety notices
 general, 7
 Use in hazardous areas, 7
SFP, 13
Signaling contact, 17
SIMATIC NET glossary, 6
Standard rail, 31, 34
Standards, approvals, 13
 EN61000-4-5, 31
 IEC950/EN60950/ VDE0805, 16
Status as supplied, 38
System manual, 50

T

Terminal block, 16
TP interfaces, 23
TP ports
 Insulation, 25

W

Wall mounting, 31, 35