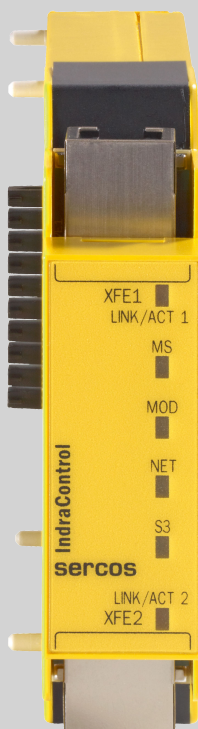


IndraControl SafeLogic compact

Sercos Gateway

Operating Instructions
R9111338431

Edition 03



Change Record

Edition 03, 2018-09

Refer to [tab. 1-1 "Change Record" on page 1](#)

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Editorial Department

Automation Systems Development XLC System Development MaJu (MaKo/MePe)

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1 About this documentation

Editions of this documentation

Edition	Release Date	Notes
01	2013-04	First edition
02	2014-02	Supplements
03	2018-09	Standards used are updated

Tab. 1-1: Change Record

1.1 Overview on target groups and product phases

In the following illustration, the framed activities, product phases and target groups refer to the present documentation.

Example: In the product phase "Mounting (assembly/installation)", the "mechanic/electrician" can execute the activity "unpack, mount and install" using this documentation.

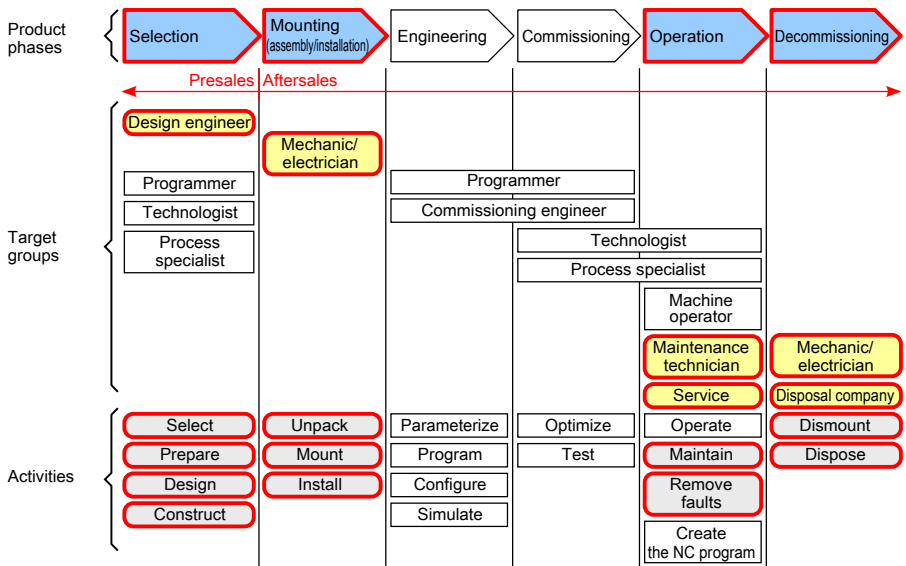


Fig. 1-1: Assigning the present documentation to the target groups, product phases and activities of the target group

1.2 Purpose

These operating instructions can only be used together with other SafeLogic compact operating instructions (see [tab. 1-2 "Required and supplementing"](#))

[documentation" on page 2](#)). The operating instructions instructs the technical personnel of the machine manufacturer or machine operator on safe mounting, adjustment, electrical installation, commissioning as well as on operation and maintenance of the SafeLogic compact Sercos Gateway.

These operating instructions do not provide information on the operation of the machine in which a SafeLogic compact modular safety control and a Sercos gateway is integrated. For information on the operation, refer to the operating instructions of the respective machine.

1.3 Qualifications

Required qualification: Individual who is able to assess the tasks assigned and identify possible safety risks owing to qualification in the subject, knowledge and experience. The individual should also be familiar with the standards and regulations.

1.4 Scope

These operating instructions apply to the SafeLogic compact Sercos Gateway with the type code "SLC-3-GS3S00300".

The type code specifications are located on the type plate of the device, also refer to [chapter 2.1 "Product identification" on page 3](#).

1.5 Related documents

The following operating instructions are available for the SafeLogic compact system:

Document	Title	Part number
Operating Instructions	Rexroth IndraControl SafeLogic compact Hardware	R911332746
Operating Instructions	Rexroth IndraControl SafeLogic compact Diagnostic Gateway	R911332752
Operating Instructions	Rexroth IndraControl SafeLogic compact Designer Software	R911332749
Project Planning Manual	Rexroth IndraControl SafeLogic compact Sercos Gateway	R911338436

Tab. 1-2: Required and supplementing documentation

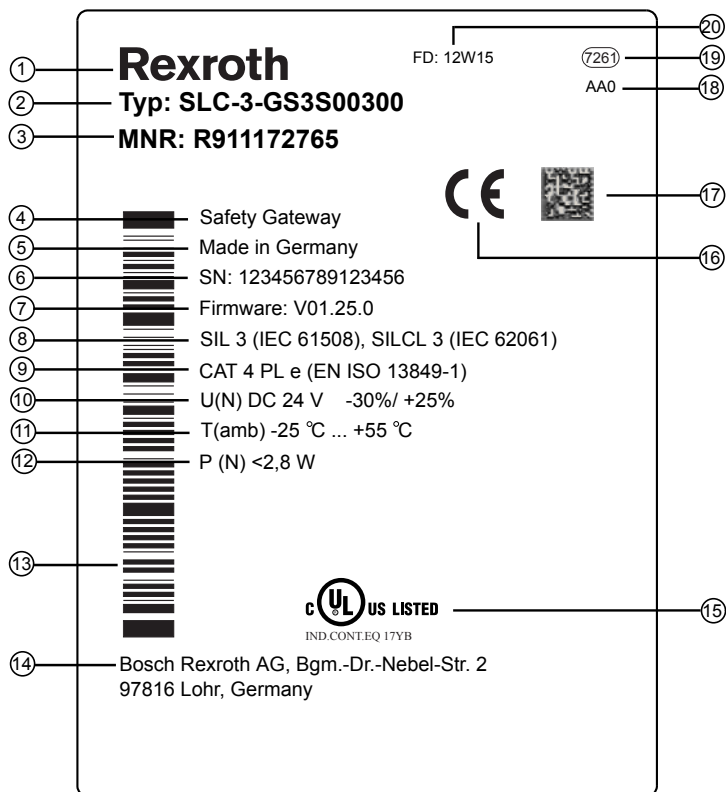
1.6 Customer feedback

Customer requests, comments or suggestions for improvement are of great importance to us. Please email your feedback on the documentations to Feedback.Documentation@boschrexroth.de. Directly insert comments in the electronic PDF document and send the PDF file to Bosch Rexroth.

2 Product identification and scope of delivery

2.1 Product identification

The type plate is located on the right side of the SafeLogic compact Sercos Gateway.



- | | |
|---------------------------|----------------------------|
| ① Word mark | ⑪ Ambient temperature |
| ② Type name (type code) | ⑫ Rated power |
| ③ Part number | ⑬ Serial number as barcode |
| ④ Device name | ⑭ Company address |
| ⑤ Name of origin | ⑮ UL conformity marking |
| ⑥ Serial number | ⑯ CE conformity marking |
| ⑦ Firmware version | ⑰ QR code |
| ⑧ Safety integrity level1 | ⑱ State of revision |
| ⑨ Safety integrity level1 | ⑲ Sector/plant number |
| ⑩ Rated voltage | ⑳ Manufacturing date |

Fig. 2-1: Type plate of the SafeLogic compact Sercos Gateway

2.2 Scope of delivery

- SafeLogic compact Sercos Gateway SLC-3-GS3S00300

3 Using safety instructions

3.1 Structure of the safety instructions

The safety instructions are structured as follows:

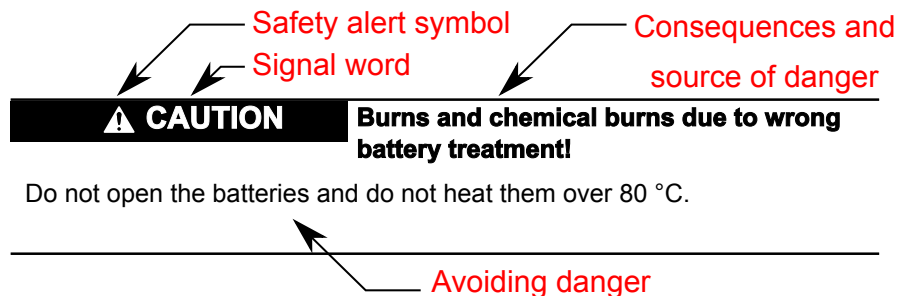


Fig. 3-1: Structure of the safety instructions

3.2 Explaining signal words and safety alert symbol

The safety instructions in this documentation contain specific signal words (danger, warning, caution, notice) and, if necessary, a safety alert symbol (according to ANSI Z535.6-2006).

The signal word draws attention to the safety instruction and indicates the risk potential.

The safety alert symbol (triangular safety reflector with exclamation marks), preceding the signal words Danger, Warning, Caution indicates hazards for persons.

DANGER

In case of non-compliance with this safety instruction, death or serious injury will occur.

WARNING

In case of non-compliance with this safety instruction, death or serious injury can occur.

⚠ CAUTION

In case of non-compliance with this safety instruction, minor or moderate injury can occur.

NOTICE

In case of non-compliance with this safety instruction, material damage can occur.

3.3 Symbols used

Pointers are displayed as follows:



This is a note.

Tips are displayed as follows:



This is a tip.

3.4 Explaining the signal alert symbol on the device



If this symbol is on your device, you have to observe the documentation on the device. The respective documentation informs on the type of hazard as well as the steps required to avoid this hazard.

4 Intended use

The SafeLogic compact Sercos Gateway can only be operated in connection with a SafeLogic compact system. The firmware version of the connected SafeLogic compact CPUx has to have at least V2.0.0. The version of the configuration software SafeLogic Designer has to be at least 1.4.0. The SafeLogic compact Sercos Gateway supports Sercos in the third generation.

⚠ WARNING

The SafeLogic compact Sercos Gateway is a Safety module facilitating the transmission of safety-relevant data via Sercos.

Even though the control system was developed, manufactured and tested according to the safety standards and certified by an accredited test institute, using this component does not automatically ensure a functionally safe machine. The machine manufacturer still has to perform a risk analysis and provide safety measures for risk reduction and to validate the operating method. Only a complete implementation of the requirements (such as systematic measures, software requirements, integration of sensors and actuators) according to the applied standards (DIN EN ISO 13849 and DIN EN 62061) can ensure the functional safety.

The SafeLogic compact Sercos Gateway may only be used by qualified personnel and only at the machine at which the SafeLogic compact Sercos Gateway was mounted and initially commissioned by qualified personnel according to this operating instructions.

⚠ WARNING

Comply with the safety instructions and safety measures for the SafeLogic compact Sercos Gateway!

Any warranty claim against the Bosch Rexroth AG shall be waived if the device is modified or changed in any way - even within the framework of mounting or installation.



- During the mounting, installation and usage of the SafeLogic compact Sercos Gateway, comply with the standards and directives applicable in your country
- The national and international rules and regulations apply to the installation and use as well as commissioning and periodic technical inspection of the modular SafeLogic compact safety control, in particular:
 - The low voltage directive 2014/35/EU
 - Machine directive 2006/42/EC
 - EMC directive 2014/30/EU
 - Provision and use of work equipment directive 2009/104/EC
 - The accident prevention regulations and safety rules

Only skilled personnel can execute the tests.

These operating instructions do not provide instructions for operating the machine in which the safety controller is, or will be, integrated. The operating instructions of the machine contains the information.

WARNING

Only use the SafeLogic compact system in an industrial environment!

The SafeLogic compact system meets the prerequisites for class A (industrial applications) according to the "emission" standard. The SafeLogic compact system is thus only intended for use in an industrial environment.

4.1 UL/CSA applications

- To be used in a Pollution Degree 2 environment only.
- Use 60°C/75°C conductors. The max. operating ambient temperature is 55°C.
- For UL applications the device must be used with a Class 2 power supply or Class 2 transformer in accordance with UL1310 or UL1585.
- The power supply of the SafeLogic compact Sercos Gateway has to be executed by a power supply unit with protective separation, protected by a fuse according to UL 248 with max. 100 V. V corresponds to the DC supply voltage with a max. of 42.4 V DC. The UL 508 requirements are thus complied with.



The safety functions are not evaluated by UL. The approval is granted according to UL 508, general applications.

5 Spare parts and accessories

5.1 Spare parts

There are no spare parts available for the SafeLogic compact Sercos Gateway.
The SafeLogic compact Sercos Gateway is not subject to any wear.

5.2 Accessories

The following cables can be used as connecting cable for Sercos interfaces according to the current specifications of Sercos international:

Ordering code	Part number	Description
RKB0007/002,5	R911170147	Ethernet cable, 10-Base-T, CAT.5, crosslink, ready-made, with RJ45 connector on both sides, 2.5 m
RKB0007/005,0	R911170148	Ethernet cable, 10-Base-T, CAT.5, crosslink, ready-made, with RJ45 connector on both sides, 5.0 m
RKB0007/010,0	R911170149	Ethernet cable, 10-Base-T, CAT.5, crosslink, ready-made, with RJ45 connector on both sides, 10.0 m
RKB0007/025,0	R911170150	Ethernet cable, 10-Base-T, CAT.5, crosslink, ready-made, with RJ45 connector on both sides, 25.0 m
RKB0008/002,5	R911170151	Ethernet cable, 10-Base-T, CAT.5, ready-made, on both sides with RJ45 connector, 2.5 m
RKB0008/005,0	R911170152	Ethernet cable, 10-Base-T, CAT.5, ready-made, on both sides with RJ45 connector, 5.0 m
RKB0008/010,0	R911170153	Ethernet cable, 10-Base-T, CAT.5, ready-made, on both sides with RJ45 connector, 10.0 m
RKB0008/025,0	R911170154	Ethernet cable, 10-Base-T, CAT.5, ready-made, on both sides with RJ45 connector, 25.0 m

6 Ambient conditions

	In operation	Storage and transport
Climatic ambient conditions and characteristics		
Ambient temperature T_U	-25 to +55 °C	-40 to +70 °C
Relative humidity	10 % to 95 %, non-condensing	10 % to 95 %, non-condensing
Climatic conditions	55 °C, 95 % relative air humidity (EN 61131-2)	–
Operating height	Max. 2000 m above sea level (80 kPa)	Max. 3000 m above sea level (70 kPa)

	In operation	Storage and transport
Climatic ambient conditions and characteristics		
Mechanic ambient conditions and characteristics		
Mounting position	Vertical mounting on rail to DIN EN 60715	–
Vibration resistance	10 Hz - 500 Hz/3 g (EN 60 068-2-6)	–
Shock resistance		–
Continuous shock	10 g, 16 ms (EN 60 068-2-29)	
Single shock	30 g, 11 ms (EN 60 068-2-27)	
Free fall	-	With product packaging, the height of fall is 300 mm With shipping packaging, the height of fall is 1000 mm Acc. to DIN EN 60068-2-32, method 1
Electromagnetic operating conditions and characteristics		
EMC	Class A (EN 61000-6-2, EN 55011)	–

Tab. 6-1: Overview on all ambient conditions

NOTICE**Defective product due to gases jeopardizing functions**

Due to the risk of corrosion, avoid sulphurous gases (e.g. sulphur dioxide (SO₂) and hydrogen sulphide (H₂S)). The product is not resistant against these gases.

NOTICE**Failure of the product due to contaminated air**

- The ambient air must not contain acids, alkaline solutions, corrosive agents, salts, metal vapors and other electrically conductive contaminants in high concentrations
- The devices to be installed into the housing and installation compartments must at least comply with the degree of protection IP 54 according to DIN EN 60529.
- The device shall be provided in a suitable fire enclosure in the end-use application.



This is a product that corresponds to the limit values of the emitted interference of class A (industrial environments), but not of class B (residential area and small enterprises).

When using the product in residential areas or small enterprises, the operator has to take actions to prevent radio interferences (also refer to DIN EN 55022).

7 Technical data

7.1 Field bus

Field bus	Sercos
Number	2
Connection method	RJ-45 socket
Transfer rate	100 MBit/s (100Base-TX)
MAC address	Saved on electronic type plate, can be read out via the configuration tool

7.2 Power supply

The module bus connector supplies the SafeLogic compact Sercos Gateway with power.

Supply voltage	24 V DC (16.8 V DC 24 V DC 30 V DC)
Nominal current	Typ. 110 mA (if nominal current is 24 V DC)
Power consumption	Max. 2.7 W
Type of supply voltage	PELV or SELV (provided via SLC-3-CPU). For the power supply unit requirements refer to the instruction "IndraControl SafeLogic compact Hardware", see tab. 1-2 "Required and supplementing documentation" on page 2.

7.3 Safety-related characteristic parameters

Safety integrity level SIL	SIL 3 (IEC 61508)
Safety integrity claim limit (SIL)	SIL CL3 (EN 62061)
Category	Category 4 (DIN EN ISO 13849-1)
Performance level PL	PL e (DIN EN ISO 13849-1)
PFH (average frequency of a dangerous failure per hour)	0.4×10^{-9} 1/h
PFD _{avg} (average probability of a dangerous failure in case of request)	3.5×10^{-5}

Hardware error tolerance (HFT)	1
Service life T_M	20 years (DIN EN ISO 13849) The manufacturing ate is written on the type plate: FD: Year/calendar week
MTTF _d (mean time to failure)	2,500 years
DC _{avg} (average diagnostic coverage)	99% $\triangleq$ high
Protection class	III (EN 61140)
Degree of protection	IP 20 (EN 60529)
Degree of pollution	2 (EN 61131-2)

7.4 Dimensions and weight

Dimensions (W × H × D)	Ca. 22.5 × 96.5 × 120.8 mm
Weight (without packaging)	Ca. 130 g

8 Standards

8.1 Standards used

The SafeLogic compact Sercos Gateway has been developed according to the following DIN EN standards.

8.1.1 General standards

Standard	
IEC 60204-1	Safety of machinery – Electrical equipment of machines – Part 1: General requirements (IEC 60204-1:2015); German version FprEN 60204-1:2014 Draft
DIN EN 61131-1	Programmable controllers – Part 1: General information (IEC 61131-1:2003); German edition EN 61131-1:2003
DIN EN 61131-2	Programmable controllers – Part 2: Equipment requirements and tests (IEC 61131-2:2007) German version EN 61131-2:2007 and corrections till 2009

Standard	
DIN EN 61000-6-2	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments (IEC 61000-6-2:2005); German version EN 61000-6-2:2005 with corrections until 2011
DIN EN 61000-6-4	Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Electromagnetic emission for industrial environments (IEC 61000-6-4:2006 + A1:2010); German version EN 61000-6-4:2007 + A1:2011

Tab. 8-1: General standards

8.1.2 Safety standards

Standard	
DIN EN 61508-1	Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 1: General requirements (IEC 61508-1:2010); German version EN 61508-1:2010
DIN EN 61508-2	Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 2: Requirements on the safety-related electric/electronic/programmable electronic systems (IEC 61508-2:2010); German version EN 61508-3:2010
DIN EN 61508-3	Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 3: Software requirements (IEC 61508-3:2010); German version EN 61508-3:2010
DIN EN 62061	Safety of machinery Functional safety of safety-related electrical, electronic and programmable electronic control systems (IEC 62061:2005 and corrections till 2015) German version EN 62061:2005 and corrections till 2015

Standard	
DIN EN 61326-3-1	Electrical equipment for measurement, control, and laboratory use – EMC requirements – Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (Functional safety) – General industrial applications (IEC 61326-3-1:2008); German version EN 61326-3-1:2008 with corrections until 2009
DIN EN 61131-6	Programmable controllers – Part 6: Functional safety (IEC 61131-6:2012) German version EN 61131-6:2012 Draft
DIN EN ISO 13849-1	Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design (ISO 13849-1:2015); German version EN ISO 13849-1:2015
DIN EN ISO 13849-2	Safety of machinery – Safety-related parts of control systems – Part 2: Validation (ISO 13849-2:2012); German version EN ISO 13849-2:2012

Tab. 8-2: Safety standards

8.2 CE marking

8.2.1 Declaration of conformity



The Safety function module as safety component corresponds to the following directives:

- Machinery directive 2006/42/EC
- EMC Directive 2014/30/EU

The complete EC declaration of conformity is available upon request.

8.2.2 UL/CSA certified



The device is certified according to:

- **UL508** (Industrial Control Equipment) and
- **C22.2 no. 142-M1987** (CSA)

Approved under UL file no. E210730.

9 Interfaces

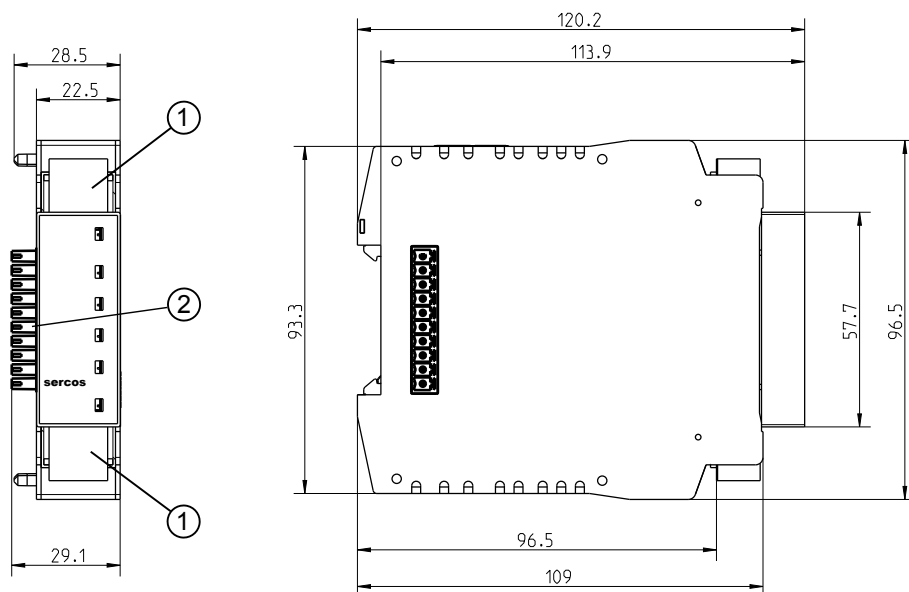
The SafeLogic compact Sercos Gateway is provided with the following interfaces:

- 10-pin socket strip on the left side of the housing:
Incoming internal communication interface of the SafeLogic compact bus system with 24 V power supply from the CPU module.
- 10-pin connection strip on the right side of the housing:
Further internal communication interface of the SafeLogic compact bus system. The 24 V voltage supply of the CPU module is also used to supply subsequent modules.
- Front:
Two Sercos interfaces with outputs up (XFE1) or down (XFE2).

The LED displays are explained under [chapter 12.2 "Operating and error displays" on page 20](#).

10 Mounting, demounting and electric installation

10.1 Housing dimensions



- 1 Sercos connections
- 2 Module bus connector

Fig. 10-1: Dimensional drawing in millimeters

10.2 Mounting

⚠ WARNING

Do not mount the control, modules or plugs under voltage. The system might start accidentally!

Disconnect the complete station and the components from voltage before mounting the components! Connect the voltage only again after the entire station has been set up. While operating voltage is applied, modules must not be plugged to nor be removed from the SafeLogic compact system.



The SafeLogic compact system must be mounted in a control cabinet with at least IP 54 enclosure rating.

The SafeLogic compact Sercos Gateway has to be directly connected to the right of the main module SLC-3-CPU0 or SLC-3-CPU1. The SafeLogic compact Sercos Gateway is located in a 22.5 mm wide modular system for 35 mm DIN rails according to EN 60715. The modules are connected to each other via a plug connection integrated in the housing. Mount the modules in accordance with EN 50274. Ensure suitable ESD protective measures while mounting. Otherwise, the SafeLogic compact components can be damaged. Take suitable measures to ensure that foreign matter does not enter the connector openings, in particular the openings of the system plug.

Snap the SafeLogic compact Sercos Gateway onto the DIN rail:

1. Hang the device onto the DIN rail ①.
2. Ensure that the earthing spring contact is positioned correctly ②. The earthing spring contact of the SafeLogic compact Sercos Gateway must contact the DIN rail securely to allow electrical conductivity.
3. Latch the SafeLogic compact Sercos Gateway onto the DIN rail by pressing it lightly in the direction of the arrow ③.

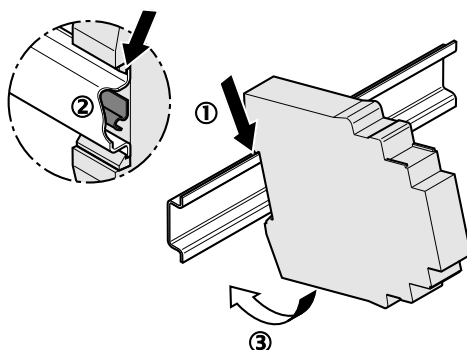


Fig. 10-2: Snap the SafeLogic compact Sercos Gateway onto the DIN rail

4. If there are several modules, slide the modules together individually in the direction of the arrow until the side plug connection latches in.
5. Install end clips on the left and right.

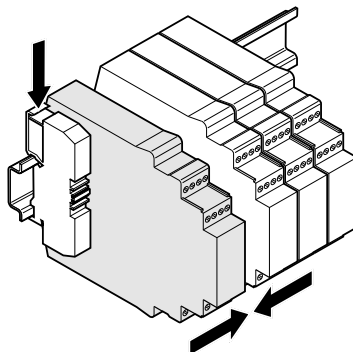


Fig. 10-3: Pushing modules together and installing end brackets

10.3 Demounting

WARNING

Do not demount the control, modules or plugs under voltage. The system might start accidentally!

Disconnect the complete station and the components before demounting the components! Connect the voltage only again after demounting.

Remove the connectors at the Sercos connections.

Remove the SafeLogic compact Sercos Gateway from the DIN rail:

1. Remove the end clamps on both sides.

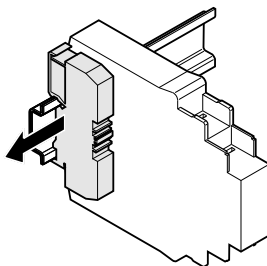


Fig. 10-4: Removing the end clamps

2. If there are several modules, slide the modules away from each other individually in the direction of the arrow until the side plug connection is separated.

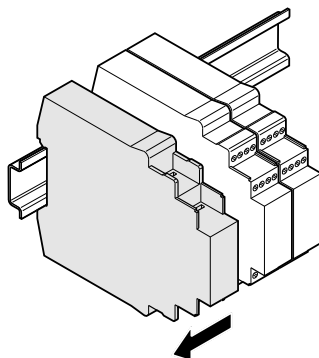


Fig. 10-5: Disconnecting the plug-in connection

3. Press the SafeLogic compact Sercos Gateway down ① and remove the SafeLogic compact Sercos Gateway from the DIN rail in the direction of the arrow while the Sercos Gateway is pressed down ②.

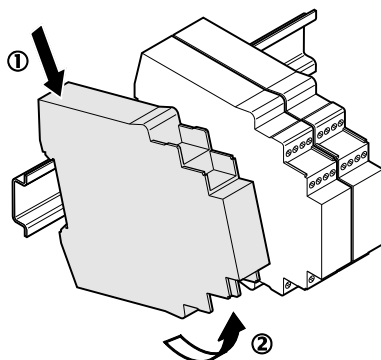


Fig. 10-6: Remove the SafeLogic compact Sercos Gateway from the DIN rail

10.4 Electric installation

As the voltage for the SafeLogic compact Sercos Gateway is supplied via the CPU module, please refer to the specifications in the operating instructions "Rexroth IndraControl SafeLogic compact Hardware" for information about the electric installation (see [tab. 1-2 "Required and supplementing documentation" on page 2](#)).

⚠ WARNING**Unexpected system start-up due to installing energized components!**

- Disconnect the complete station and the components before mounting or demounting the components! Connect the voltage only after the entire station has been set up.
- All safety-related components of the system (wiring, connected sensors and commanders, configuration, contactor monitoring) have to meet the corresponding safety standard (e.g. DIN EN 62 061, DIN EN 60204 or DIN EN ISO 13 849-1).
- The voltage supply has to fulfill the regulations for extra-low voltages with safe separation (SELV, PELV) in accordance with EN 60664 and EN 50178 (equipment of electrical power installation with electronic devices) .
- The external voltage supply of the device has to be able to bridge brief mains voltage failures of 20 ms as specified in EN60204-1. Otherwise, the SafeLogic compact control can sporadically switch off in case of temporary voltage drops.
- To ensure electromagnetic compatibility (EMC), the DIN mounting rail must be connected to functional earth (FE). Additionally, connect all network cable shields directly at the control cabinet entrance to a common FE ground line.

NOTICE**Damages due to electrostatic discharges!**

Ensure that suitable ESD protective measures are taken during mounting. Otherwise the devices may be damaged.

Connecting Sercos cables:

1. Connect the Sercos cables to the XFE1 and XFE2 connections.
2. Fix the cables to avoid damage due to vibration.
3. Connect the cable shields of the Sercos cables directly at the control cabinet input to the mutual functional earth (FE).

11 Commissioning

**No system commissioning without approval by a qualified person!**

Ensure that qualified staff checks, documents and releases the system before the initial commissioning of the system in which the SafeLogic compact system is used.

The SafeLogic compact system is configured using the configuration software SafeLogic Designer either via the RS232 interface of the SLC-3-CPUx module or via the Ethernet interface of a SafeLogic compact Ethernet Gateway. For a detailed description of the configuration, refer to the operating instructions

"Rexroth IndraControl SafeLogic compact Designer Software" (see [tab. 1-2](#) "Required and supplementing documentation" on page 2).



- The SafeLogic Designer software with at least version V1.4.0 is required for configuration and commissioning.
- The SafeLogic compact system does not have to be reconfigured after a module has been replaced as the configuration is saved on the SafeLogic flash drive.

12 Device description

The SafeLogic compact Sercos Gateway SLC-3-GS3S00300 allows to transfer safety-relevant data between the safe compact small control SafeLogic compact (SLc) and the CIP Safety on Sercos devices. The SafeLogic compact Sercos Gateway supports Sercos in the third generation.

12.1 Connections und LED

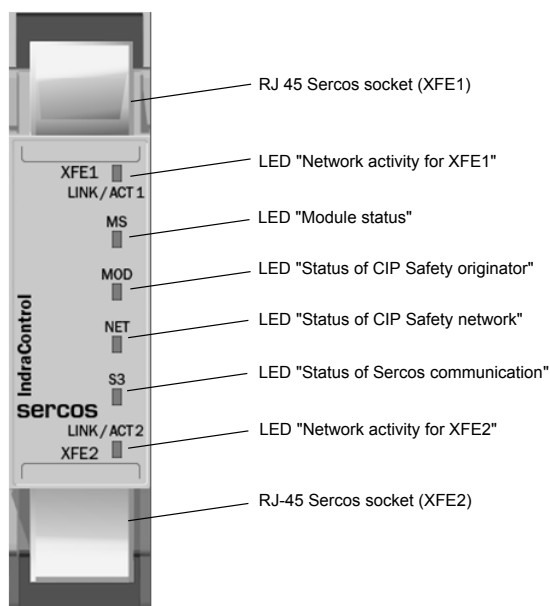


Fig. 12-1: Connections and LED

12.2 Operating and error displays

The meanings of the LED displays are listed in the following tables:

LED	Color	Status
LINK/	Off	No Ethernet connection
ACT1	Green	Ethernet connection is active, no data transfer
LINK/	Green/orange	EtherNet connection active, data transmission
ACT2		

Tab. 12-1: LED to display the Ethernet connections XFE1 and XFE2

LED	Color	Status
MS	Off	No operating voltage or no communication with CPU module
	Green	"RUN"
	Green (1 Hz) flashing	"STOP"
	Red (1 Hz) flashing	Configuration required or configuration in progress
	Red (2 Hz) flashing	Safety-relevant error. Cause: Error detection using firmware of the SafeLogic compact Sercos Gateway
	Red	Safety-relevant error. Cause: Error while communicating with the CPU
	Red/green (1 Hz) flashing	"RUN", a non-safety-relevant error is present

Tab. 12-2: Display of the operating state (module status)

LED	Color	Status
MOD	Off	No operating voltage
	Red/green (1 Hz) flashing	Self-test
	Green (1 Hz) flashing	No configuration or application in the "STOP" state
	Green	Operating state. Application is in the "RUN" state
	Red (1 Hz) flashing	Recoverable error (e.g. configuration error)
	Red	Unrecoverable error. It is possible that the SafeLogic compact Sercos Gateway has to be replaced (critical fault)
NET	Off	No operating voltage
	Green (1 Hz) flashing	A connection to the Sercos connection is established, but no cyclic CIP Safety communication takes place
	Green	Cyclic CIP Safety communication (for at least one connection)
	Red (1 Hz) flashing	One or several CIP Safety connections report an error in the cyclic communication (e.g. timeout, CRC)
	Red	No communication possible (e.g. Sercos bus is not in CP4)

Tab. 12-3: Special displays for CIP Safety on Sercos

States of the LED S3 within a period of three seconds												Sercos communication status
–	–	–	–	–	–	–	–	–	–	–	–	No Sercos communication
or	or	or	or	or	or	or	or	or	or	or	or	Communication phase 0
gn	or	or	or	or	or	or	or	or	or	or	or	Communication phase 1
gn	or	gn	or	or	or	or	or	or	or	or	or	Communication phase 2
gn	or	gn	or	gn	or	or	or	or	or	or	or	Communication phase 3
gn	gn	gn	gn	gn	gn	gn	gn	gn	gn	gn	gn	Communication phase 4
or	gn	or	gn	or	gn	or	gn	or	gn	or	gn	Hot-plug phase 0
or	gn	gn	gn	gn	gn	gn	gn	gn	gn	gn	gn	Hot-plug phase 1
or	gn	or	gn	gn	gn	gn	gn	gn	gn	gn	gn	Hot-plug phase 2
gn	–	gn	–	gn	–	gn	–	gn	–	gn	–	Fast forward → Loopback
rt	or	rt	or	rt	or	rt	or	rt	or	rt	or	Application error
gn	rt	gn	rt	gn	rt	gn	rt	gn	rt	gn	rt	MST losses
rt	rt	rt	rt	rt	rt	rt	rt	rt	rt	rt	rt	Communication error (C1D)
–	or	–	or	–	or	–	or	–	or	–	or	Identification
rt	–	rt	–	rt	–	rt	–	rt	–	rt	–	Watchdog error

– : Off

or: Orange

gn: Green

rt: Red

Tab. 12-4: Sercos communication status

13 Troubleshooting and debugging

LEDs indicate the operating states of the SafeLogic compact Sercos Gateway.

Errors	Cause
All LEDs off	The external 24 V voltage supply is missing or beyond the specified operating range.
No Sercos connection at XFE1 or XFE2	Possible causes: • The Sercos cabling (e.g. position of the plug in the RJ45 sockets) is incorrect. • The respective Sercos communication partners are not enabled • The parameterization is incorrect (refer to the project planning manual "Rexroth IndraControl SafeLogic compact Sercos Gateway" in tab. 1-2 "Required and supplementing documentation" on page 2).

Tab. 13-1: Possible error states and causes

For the description of the LED displays, refer to [chapter 12.2 "Operating and error displays"](#) on [page 20](#).



- Error messages can be displayed in the "Diagnostics" standard view of the SafeLogic compact Designer if you are connected to the SafeLogic compact system.
- For information on how to perform diagnostics see the "Rexroth IndraControl SafeLogic compact Designer Software" operating instructions, chapter "Diagnostic view", see [tab. 1-2 "Required and supplementing documentation" on page 2](#).
- Error displays and troubleshooting are described in detail in the project planning manual "Rexroth IndraControl SafeLogic compact Sercos Gateway", see [tab. 1-2 "Required and supplementing documentation" on page 2](#).

**Do not open the housing!**

Do not open the housing of the SafeLogic compact Sercos Gateway!

14 Maintenance

14.1 Cleaning notes

NOTICE

The SafeLogic compact Sercos Gateway is damaged when using solvents!

Do not use any solvents (e. g. diluents)!

14.2 Maintenance notes

The SafeLogic compact Sercos Gateway does not have to be maintained. The following needs to be checked at least annually at the SafeLogic compact Sercos Gateway:

- The correct position
- The correct cabling (shielding and securing of Sercos cables)
- Damage or rupture of the housing
- The tight screw connection of the end brackets on the left and right of the control

Replace the SafeLogic compact Sercos Gateway immediately when damaged.

15 Ordering information

15.1 Accessories and spare parts

For ordering information on accessories and spare parts, refer to [chapter 5 "Spare parts and accessories" on page 8](#).

15.2 Ordering data

Type code	Product description	Part number
SLC-3-GS3S00300	SafeLogic compact Sercos Gateway	R911172765

16 Disposal

16.1 Take-Back

Our products can be returned to our premises free of charge for disposal. However, the products must be free of impurities like oil, grease or other impurities.

Furthermore, the products returned for disposal must not contain any undue foreign material or foreign components.

Send the products "free domicile" to the following address:

Bosch Rexroth AG
Electric Drives and Controls
Bürgermeister-Dr.-Nebel-Straße 2
97816 Lohr, Germany

16.2 Packaging

The packaging materials consist of cardboard, plastic material, wood or expanded polystyrene (EPS). These material can easily be recycled.

For ecological reasons, please refrain from returning the empty packages to us.

17 Service and support

Our worldwide service network provides an optimized and efficient support. Our experts offer you advice and assistance should you have any queries. You can contact us **24/7**.

Service Germany

Our technology-oriented Competence Center in Lohr, Germany, is responsible for all your service-related queries for electric drive and controls.

Contact the **Service Hotline** and **Service Helpdesk** under:

Phone: **+49 9352 40 5060**
Fax: **+49 9352 18 4941**
E-mail: service.svc@boschrexroth.de
Internet: <http://www.boschrexroth.com>

Additional information on service, repair (e.g. delivery addresses) and training can be found on our internet sites.

Service worldwide

Outside Germany, please contact your local service office first. For hotline numbers, refer to the sales office addresses on the internet.

Preparing information

To be able to help you more quickly and efficiently, please have the following information ready:

- Detailed description of malfunction and circumstances
- Type plate specifications of the affected products, in particular type codes and serial numbers
- Your contact data (phone and fax number as well as your e-mail address)

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Notes

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