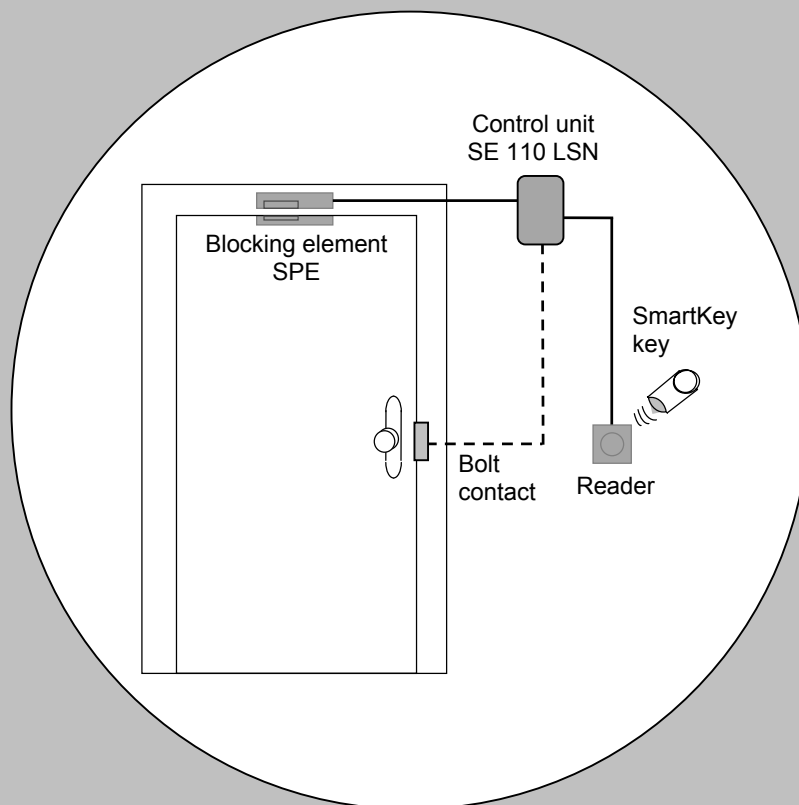


INSTALLATION MANUAL

SmartKey Arming Device SE 110 LSN



BOSCH

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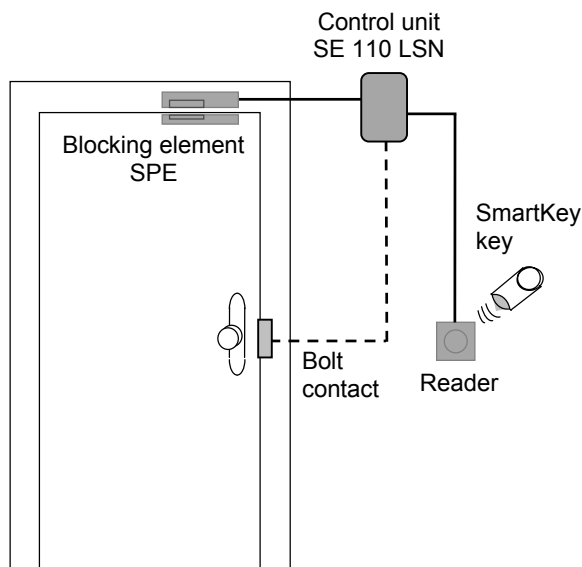
System Overview

The SmartKey arming device LSN is a system solution for arming intrusion alarm systems. Thus the individual components of the system can be assembled individually depending on the required operating conditions. Operating modes are possible with or without the blocking element SPE. Users authorized to arm/disarm are specified when programming the control panel.

Blocking element SPE

The blocking element SPE is an additional bolt on the door and should prevent inadvertent entry into an armed area. The blocking element SPE is always installed in the secured area in connection with a kit to adjust it properly for the various doors (the figure shows an on-the-door installation, for additional variants, see installation of blocking element SPE). In the kit on-the-door installation, a conventional magnet contact can be used.

Operating modes with or without blocking element SPE can occur.



SmartKey Keys

There are two types of SmartKey keys

- Keys with security card
- Standard keys (without security card)

Key with security card: the system functions like a locking system. The key set consists of a numbered quantity of valid keys and a security card. The control unit is initialized using the security card and only accepts the keys of the key set. To reorder keys, the security card must be sent to the manufacturer with the order. The label of the key consists of a sequential key number, a security card number, and an 8-digit identification number.

Standard key (without security card): The keys are not numbered and can be programmed in any way. The label of the key consists of an 8-digit identification number.

Control unit SE 110 LSN

The control unit processes the state messages of all components connected to the system, communicates these to the intrusion detection system, and controls the blocking element. The control unit is installed in the secured area.

Reader

With the aid of an electronic key, the reader is used to arm or disarm the system. LED and buzzer inform about the state of the system and the operation.

The reader can also be installed on the surface or recessed (outside the secured area).

Bolt contact

A bolt contact can be connected to the control unit. The bolt contact is not included in the scope of delivery.

Magnet contact

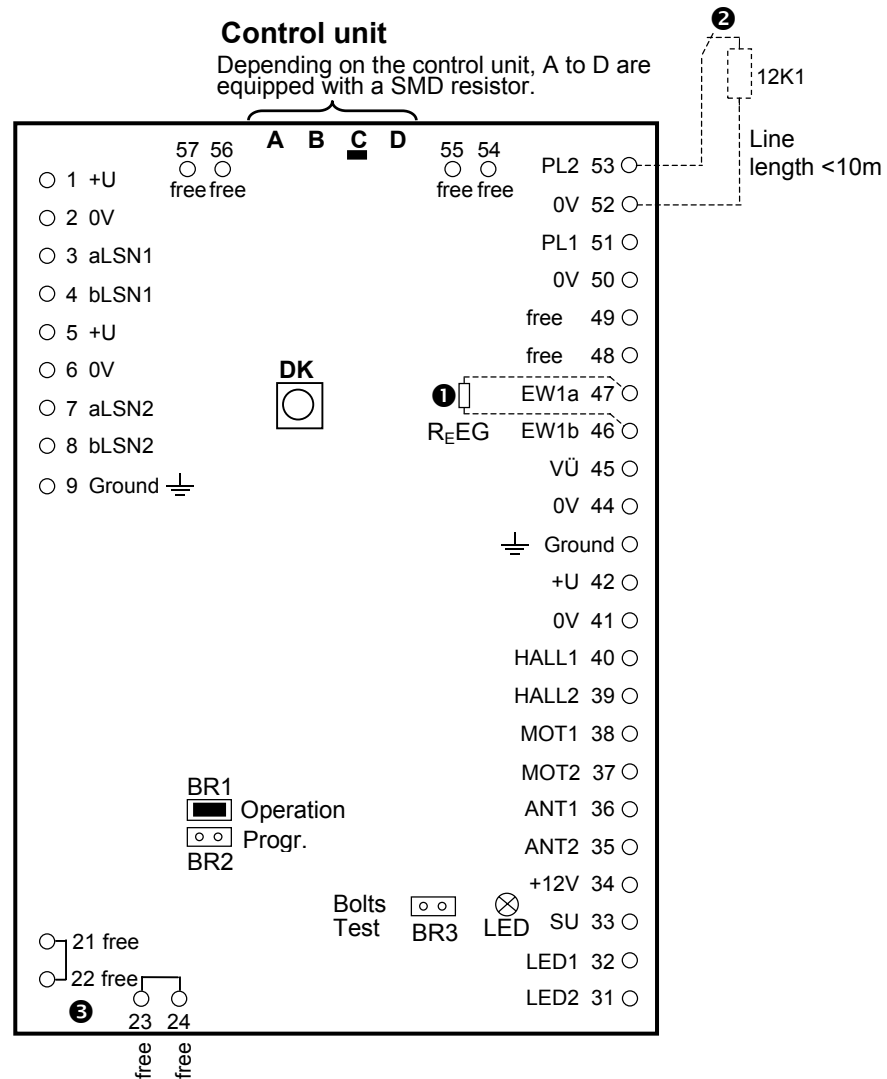
A conventional magnet contact can be connected to the control unit. The magnet contact is not included in the scope of delivery.

Note: the use of conventional contacts is recommended since these can be processed directly by the control unit.

System Description

Description of the Connections of the Control Unit

The control unit's connections have various functions. There are inputs and outputs as well as spare terminals. For the scope of the basic functions, the inputs and outputs must be occupied according to a particular scheme.



System Description

Description of the Connections of the Control Unit

Con- nection	Name	Function	Description
1	+U	Input	Power supply 9.6 - 30V
2	0V	Input	Power supply 0V
3	aLSN1	Input	LSN incoming
4	bLSN1	Input	LSN incoming
5	+U	Output	Power supply 9.6 - 30V
6	0V	Output	Power supply 0V
7	aLSN2	Output	LSN outgoing
8	bLSN2	Output	LSN outgoing
9	Ground	Distributor	Operating ground
21/22	free	Distributor	free spare terminals 21 and 22 connected
23/24	free	Distributor	free spare terminals 23 and 24 connected
31	LED 2	Output	green LED reader
32	LED 1	Output	red LED reader
33	SU	Output	Reader buzzer
34	+12V	Output	Power supply 12V reader
35/36	ANT2/ANT1	Input	Reader antenna
37/38	MOT2/MOT1	Output	Drive motor blocking element SPE
39	HALL2	Input	Recognition initial state of the bolt
40	HALL1	Input	Recognition final state of the bolt
41	0V	Output	Power supply 0V lock element SPE
42	+U	Output	Power supply 12V lock element SPE
43	Ground	Distributor	Operating ground
44/45	0V/VÜ	Input	Connection for bolt contact
46/47	EW1b/EW1a	Input	Connection for magnet contact
50/51	0V/PL 1	Input	Connection for magnet contact
			<p style="text-align: center;">conventional magnet contact</p>
48/49	free	Distributor	free spare terminals
52/53	0V/PL 2	Input	freely-usable primary line
54 - 57	free	Distributor	free spare terminals

Note: the primary lines PL 1, PL 2 and VÜ are evaluated by the control unit.

Installation Instructions

Installation of System Components



During installation, observe the following:

- Use only shielded cable.
- When working with the circuit boards, adhere to the usual safety measures for CMOS technology. This also applies for soldering. When working on the control panel, wear a grounding armband.

Installation of the Control Unit

- Install the control unit on the wall. When selecting a position, make sure that the reader and blocking element SPE are provided with a 6 m sealed cable, which may not be extended.



Installation of the Reader

- Next, install the reader according to the installation instructions in the accessory kit.



The installation height should not be less than 1.20 m and recessed mounting is the preferred procedure. The reader is sealed and completely resistant to environmental influences. Only put the reader cover on after concluding all functional tests since removing a cover that has already been put on causes damage to the cover! The reader must be provided with a sealed 6 m cable, which may not be extended.

Installation Instructions

Installing the Blocking Element SPE

- Install the blocking element SPE using the installation instructions and the appropriate kit included in the accessories kit.



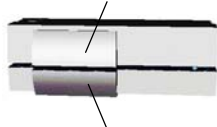
Secure the door against slamming. Otherwise, the bolt of the blocking element SPE could be damaged during start-up by a slamming door.

Variants and kits for the blocking element SPE

Installation on the door or on the frame

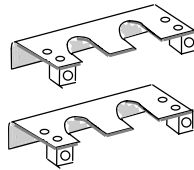
Kit for on-the-door installation
In the kit on-the-door installation, a conventional magnet contact can be used.

Bolt piece (installed on the frame)



Sleeve piece (installed on the door)

Kit for glass doors

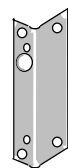
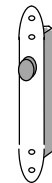


Installation on the door or on the frame

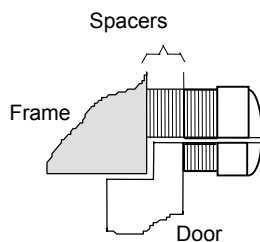
Bushing Normal collar Angled collar



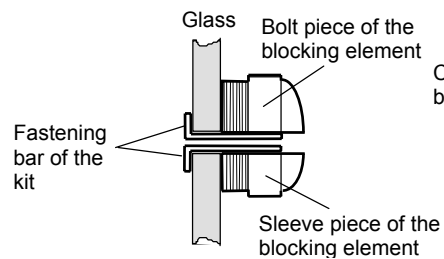
Counter-piece



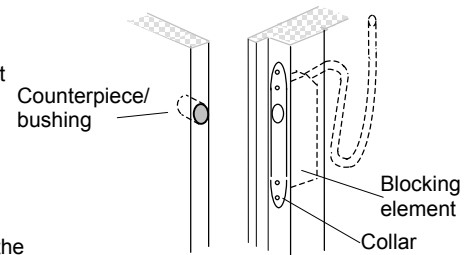
Installation example:



Installation example:



Installation example:



Installation Instructions

Installation of Magnetic Contact and Bolt Contact

Install the conventional magnet contact or bolt contact according to the respective manufacturer's instructions. The Control Unit serves here as the distributor for the contacts.

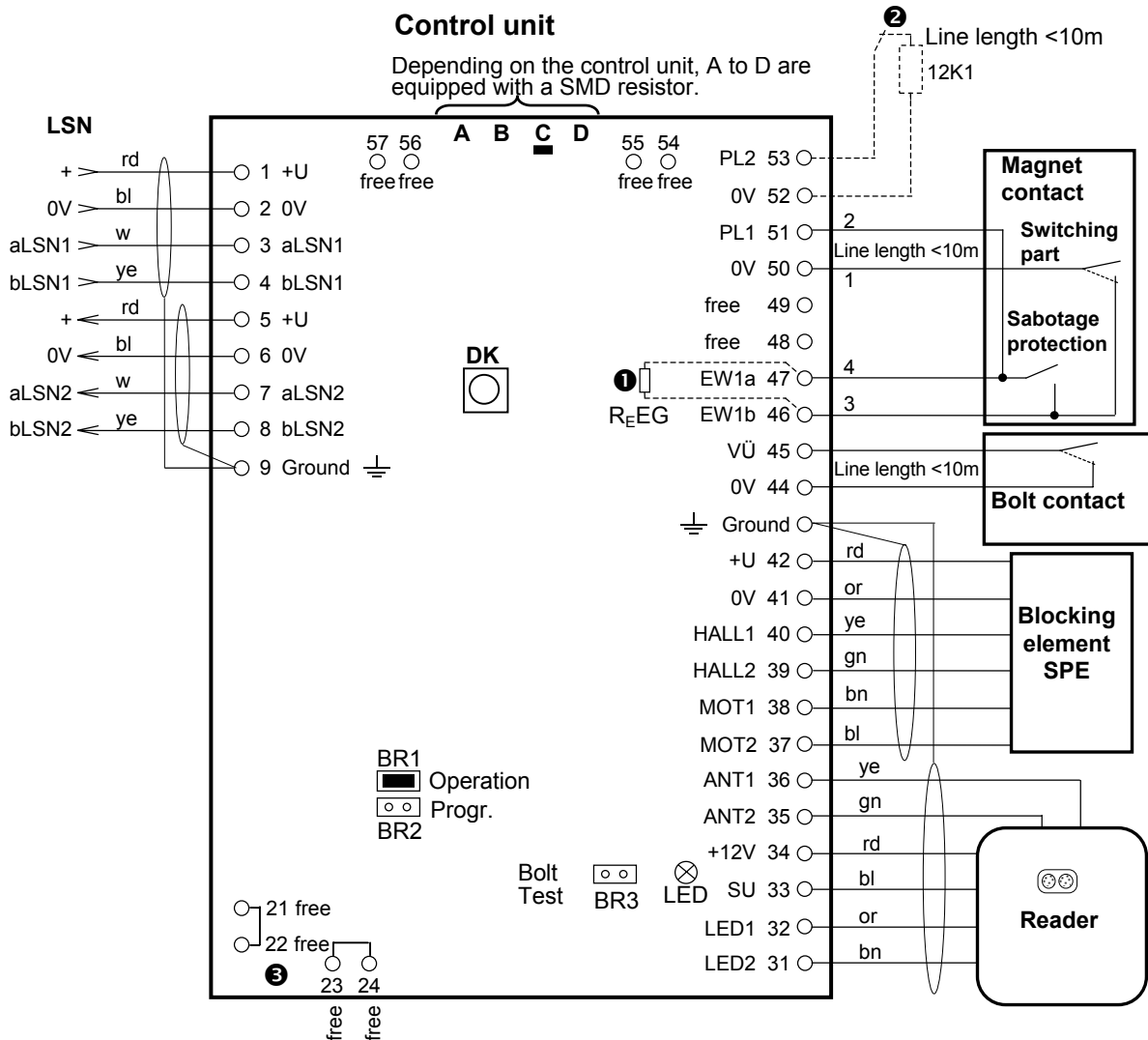
Switching on of Central and Optional Components

1. Connect the control panel to the control panel.



Make sure that the control panel is voltage-free before you begin with the connection of the control unit to the control panel.

2. Connect the optional components according to the connection.



❶ R_EEG 12K1 already built in

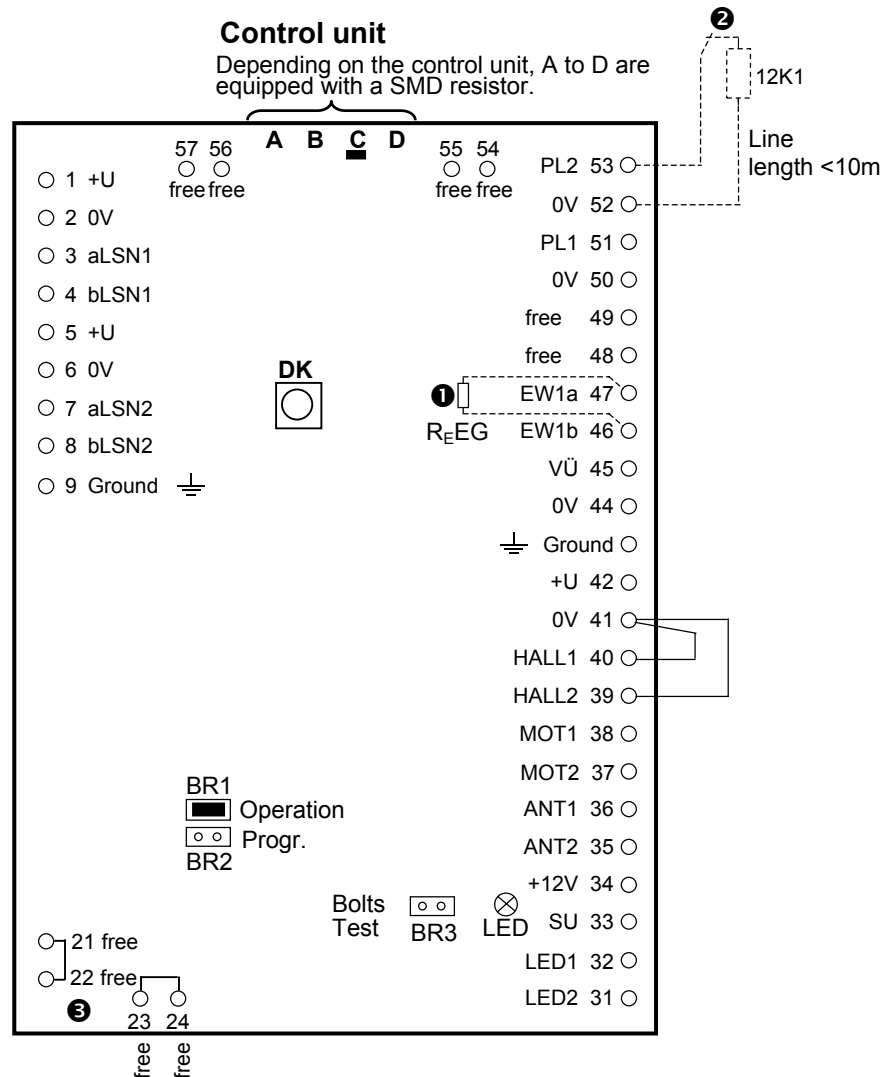
❷ PL 2 freely-usable primary line (line length <10 m)

❸ Points 21/22 and 23/24 are connected internally.

Installation Instructions

Switching on Operation without Blocking Element SPE

The setting of the operating mode without blocking element SPE is undertaken with the following circuit on the control unit. The inputs HALL1 and HALL2 must be connected with 0V.



Installation Instructions

Functional Test of Blocking Element SPE and Control Unit

Switching on the supply voltage

- Before switching on the supply voltage, make sure that the bridge BR1 is plugged in to the control unit.
- Switch on the supply voltage.

The yellow LED of the control unit displays the state of the system as follows:

Yellow LED	State	Action required
off	System is working	none
on (static)	Defective electronics	Switch the supply voltage off and then on again. If the LED is still on, the control unit must be changed out.

Functional test

1. On the control unit, remove the jumper from BR 1 and place it on BR 3.
 - ➔ The bolts of the blocking element SPE are extended. Yellow LED on the control unit lights up. Red and green LEDs on the reader light up. The buzzer on the reader sounds for 5 seconds.
2. On the control unit, pull the jumper off BR 3.
 - ➔ The bolt of the blocking element SPE is extended. The LEDs of the control unit and reader go out.
3. Repeat steps 1 - 2 with a closed door in order to check the precise extension of the bolt of the blocking element SPE into the bolt holder.
4. After the functional test, plug the jumper on bridge BR1 into the control unit once again.

The yellow LED on the circuit board of the control unit displays the state of the system as follows:

LED	State	Action required
off	System is working	none
1 blink	<ul style="list-style-type: none">• Bolt does not extend out or in	<ul style="list-style-type: none">• Check the blocking element SPE and the bolt holder for correct installation and electrical connection.• Repeat the test.

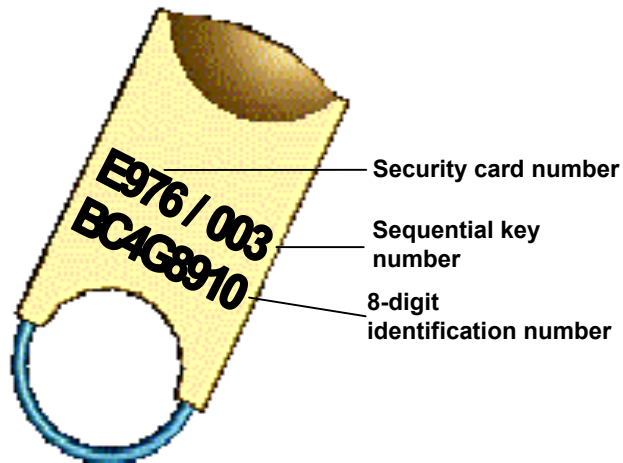
Installation Instructions

Programming the Keys and Programming the System

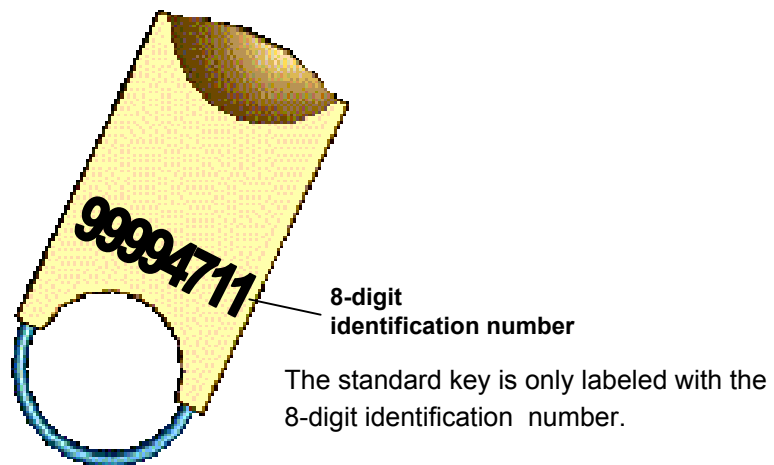
Depending on the “key type” and “programming type of the key”, execute **one** of the 4 following steps. The programming of the keys as described under 2 or 4 should only be used in exceptional cases. You will find the description on the following pages.

1. Keys **with** security card, program the keys via the **programming**.
2. Keys **with** security card, program the keys via the **reader**.
3. Standard key (**without** security card), program the keys via the **programming**.
4. Standard key (**without** security card), program the keys via the **reader**.

Keys (with security card)



Standard keys (without security card)




Installation Instructions

1. Keys with security card Programming the keys via the programming

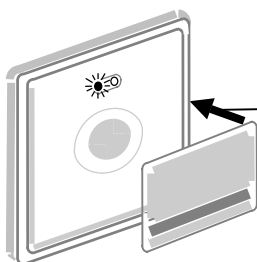
The programming of the SE 110 LSN as well as the programming of the key identification numbers is done with the corresponding programming program (e.g. WinPara or NzPara). This way, the 8-digit identification number of the key is entered. In the programming program, make your selection so that the programming of the keys should occur via the programming (with NZPara for the SE 100, select the parameter “**integrated**”). The maximum number of keys depends on the respective control panel.

The programming is done in two steps. First the security card is programmed. When programming the security card via the reader, the manufacturer's general factory code is replaced by the individual customer code. Then the programming is done with the entry of the 8-digit identification number of the keys.

Operating sequence:

1.  The connectors with the LSN lines (3,4 and 7,8) must absolutely be unplugged from the control unit. A LSN line fault is announced by the control panel.

2. Plug the jumper on bridge BR2 on the control unit circuit board.



3. Hold the front **or** back side of the security card at a distance of max. 2 cm parallel to the reader, until the red LED lights up.

→ The security card is thus read in.

4. Plug the jumper back on BR1

→ The yellow LED on the control unit and the red LED on the reader go out.

5. Plug the connector with the LSN lines into the control unit again and execute a reset of the LSN line fault on the control panel.

6. In the programming program, make your selection so that the programming of the keys should occur via the programming (with NZPara for the SE 100, select the parameter “**integrated**”). In the programming program, enter the 8-digit identification number of the keys and program the control panel.


→ The keys are thus programmed.

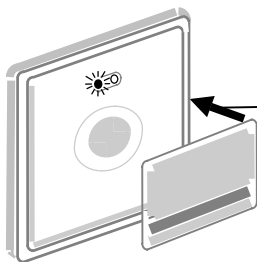
2. Keys with security card Programming the keys via the reader

If the programming of the 8-digit identification numbers of the keys does not occur via the programming, the programming of the keys (max. 16) can also occur directly via the reader. In the programming program (e.g. WinPara or NzPara), make your selection so that the programming of the keys is done via the reader (with NzPara select the parameter “**standalone**” for the SE 100). The programming of the control panel must occur before the programming of the keys.

The programming is done in two steps. First the security card is programmed, then the keys. When programming the security card via the reader, the manufacturer's general factory code is replaced by the individual customer code.

Operating sequence:

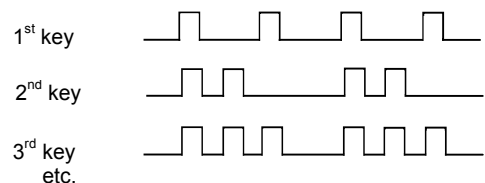
1. The programming with the corresponding settings is already completed (see above).
2.  The connectors with the LSN lines (3,4 and 7,8) must absolutely be unplugged from the control unit. A LSN line fault is announced by the control panel.
3. Plug the jumper on the circuit board of the control unit on bridge BR2.



4. Hold the front **or** back side of the security card at a distance of max. 2 cm parallel to the reader, until the red LED lights up.

→ The security card is thus read in.

5. Hold the first key by the curvature in the middle of the reader at a distance of max. 2 cm, until a short acknowledgement tone sounds.
6. Repeat step 5 for all additional keys. The blinking of the yellow LED on the analysis unit and the red LED on the reader correspond to the number of keys.



7. Plug the jumper back on BR1
→ The yellow LED on the control unit and the red LED on the reader go out.
The keys are thus programmed.
8. Plug the connector with the LSN lines into the control unit again and execute a reset of the LSN line fault on the control panel.

Installation Instructions


3. Standard keys (without security card)

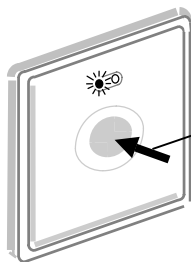
Programming the standard keys via the programming

The programming of the SE 110 LSN as well as the programming of the key identification numbers is done with the corresponding programming program (e.g. WinPara or NzPara). This way, the 8-digit identification number of the key is entered. In the programming program, make your selection so that the programming of the keys should occur via the programming (with NZPara for the SE 100, select the parameter “**integrated**”). The maximum number of keys depends on the respective control panel.

The programming is done in two steps. First, any standard keys are programmed via the reader. Here, the manufacturer's general factory code is replaced by the code of the standard key. Then the programming is done with the entry of the 8-digit identification numbers for the keys.

Operating sequence:

1.  The connectors with the LSN lines (3,4 and 7,8) must absolutely be unplugged from the control unit. A LSN line fault is announced by the control panel.
2. Plug the jumper on the circuit board of the control unit on bridge BR2.



3. Hold the front or back side of any standard key at a distance of max. 2 cm parallel to the reader, until the red LED lights up.
→ The code of a standard key is thus read in.


4. Plug the jumper back on BR1
→ The yellow LED on the control unit and the red LED on the reader go out.
5. Plug the connector with the LSN lines into the control unit again and execute a reset of the LSN line fault on the control panel.
6. In the programming program, make your selection so that the programming of the keys should occur via the programming (with NZPara for the SE 100, select the parameter “**integrated**”). In the programming program, enter the 8-digit identification number of the keys and program the control panel.
→ The standard keys are thus programmed.

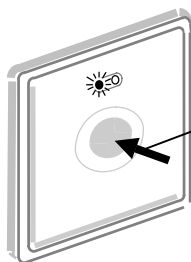
4. Standard key (without security card) Programming the keys via the reader

If the programming of the 8-digit identification numbers of the keys does not occur via the programming, the programming of the keys (max. 16) can also occur directly into the reader. In the programming program (e.g. WinPara or NzPara), make your selection so that the programming of the keys is done via the reader (with NzPara select the parameter “**standalone**” for the SE 100). The programming of the control panel must occur before the programming of the keys.

When programming the standard key via the reader, the manufacturer's general factory code is replaced by the code of the standard key.

Operating sequence:

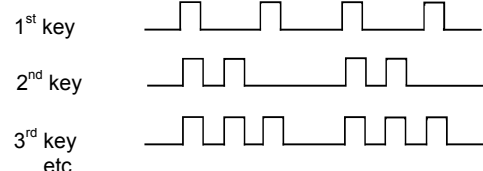
1.  The connectors with the LSN lines (3,4 and 7,8) must absolutely be unplugged from the control unit. A LSN line fault is announced by the control panel.
2. Plug the jumper on the circuit board of the control unit on bridge BR2.



3. Hold any standard key up to the curvature in the middle of the reader at a distance of max. 2 cm, until the red LED blinks and 2 acknowledgement tones sound.
→ The standard key is thus read in.

4. Hold all additional standard keys by the curvature in the middle of the reader at a distance of max. 2 cm, until a short acknowledgement tone sounds.

The blinking of the yellow LED on the control unit and the red LED on the reader correspond to the number of keys.



5. Plug the jumper back on BR1
→ The yellow LED on the control unit and the red LED on the reader go out.
The keys are thus programmed.
6. Plug the connector with the LSN lines into the control unit again and execute a reset of the LSN line fault on the control panel.

Installation Instructions

Conclusion of System Installation

1. Ensure that for normal operation, the bridge BR1 is connected to the control unit. Put the cover on the control unit.
2. Ensure that the red and green LEDs on the reader are off (= normal operating state).
3. For each key, arm and disarm the system (see the next chapter) to check that the programming is correct. (Inform the operator in advance so that the normal operating procedure is not compromised unnecessarily.)

Note: if the bolt contact is closed, the bolt extends.

View the System State

View the system state

- Hold the key up to the reader for **1 second**.
 - The state of the system is displayed according to the table.

Display element	Behavior	Meaning
green LED	lights up	System is disarmed
	blinking	System is attempting to disarm
red LED	lights up	System is armed
	blinking	System is attempting to arm
Buzzer	Short tone for 0.5 s	Procedure was started
	Constant tone for 2.5 s	Procedure was executed successfully
	Interval tone for 5 s	Procedure was not executed successfully

Operating the System

Arming/Disarming

Arming

- Hold the key up to the reader for **3 seconds** until the buzzer sounds briefly.
 - ➔ The **green** LED begins to **light**, indicating that the system is currently disarmed.
 - ➔ The **red** LED begins to **blink**, that is, the arming is started. Additional displays (LEDs) occur as described in the left box (successful arming) **or** as described in the right box (arming not successful).

- ➔ The **green** LED goes out.
- ➔ **Red** LED and **buzzer** are activated for 2.5 seconds (constant signal).

Arming was successful.

- ➔ The **red** LED goes out.
- ➔ The **green** LED lights up for 5 seconds.
- ➔ At the same time, the **buzzer** sounds for 5 seconds in the interval tone.

Arming was not successful.

The table “Problems with Operation during Normal Operation” can assist you further.

Disarming

- Hold the key up to the reader for **3 seconds** until the buzzer sounds briefly.
 - ➔ The **red** LED begins to **light**, indicating that the system is currently armed.
 - ➔ The **green** LED begins to **blink**, that is, the disarming is started. Additional displays (LEDs) occur as described in the left box (successful disarming) **or** as described in the right box (disarming not successful).

- ➔ The **red** LED goes out.
- ➔ **Green** LED and **buzzer** are controlled for 2.5 seconds (constant signal).

Disarming was successful.

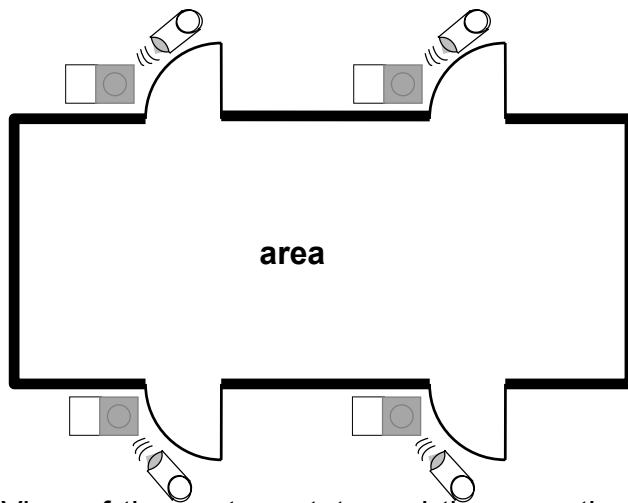
- ➔ The **green** LED goes out.
- ➔ The **red** LED lights up for 5 seconds.
- ➔ At the same time, the **buzzer** sounds for 5 seconds in the interval tone.

Disarming was not successful.

The table “Problems with Operation during Normal Operation” can assist you further.

Operating Example with 4 SmartKeys

All SmartKeys are equally entitled to arm/disarm



Arming:

If all bolt contacts are closed and the detection area is ready for arming, then the arming can occur using any SmartKey. All bolts of the blocking element SPE are extended.

Disarming:

Disarming can occur with any SmartKey. All bolts of the blocking element SPE are extended.

View of the system state and the operation of the arming/disarming is done as described on the previous pages.

Disarming on “Forced Unlocking and Alarm Display”



If this feature is programmed on the EMA, the operator must be informed of the following.

If the red LED blinks constantly on reader after disarming, SmartKey displays an intrusion alarm. It is recommended that, for the protection of the operator, you agree on a procedure for this case, e.g. do not enter the area, do not call security or the police, etc. The red LED will go out again when you reset the intrusion detection system.

With this feature, on a triggered external alarm, the bolts of the blocking element SPE are extended immediately and after successful disarming of the external alarm, the user is signaled (the red LED blinks).

Removing Faults

Problems during Installation and Programming in the Keys

First, check the following thoroughly:

- Are the components cabled correctly?
- Is there a short circuit/broken wire?
- Is the component receiving power?
- Is bridge BR1 correctly plugged into the control unit?

Problem	Possible cause(s)	Elimination
LEDs on the entry/analysis unit do not light up during the functional test.	Components are damaged (transport damage, incorrect handling, etc.)	Components must be changed out.
Bolts do not extend out/in during the functional test.	<ul style="list-style-type: none"> • Installation error • Blocking element SPE damaged 	Check the assembly and installation of the blocking element SPE and repeat the test. If this is not successful, change out the blocking element SPE.
When programming the keys, a brief tone sounds (<i>only if the keys were programmed directly via the reader</i>).	Max. permissible number of keys (16) was exceeded.	Check the correct number of keys.

Possibilities for Diagnosing the Opened Control Unit

Yellow LED	State	Action required
off	System is working	none
on	Defective electronics	<ul style="list-style-type: none"> • Switch the supply voltage off and then on again. If the LED is still on, the control unit must be changed out.
1 blink	<ul style="list-style-type: none"> • Bolt does not extend. • Bolt extends, but it does not recognize the end position. 	<ul style="list-style-type: none"> • Check the blocking element SPE and the bolt holder for correct installation.
2 blinks	Antenna fault	<ul style="list-style-type: none"> • Check the reader for correct connection. • Switch the supply voltage off and then on again. If the LED continues to blink, the reader must be changed out.

Removing Faults

Operating Problems during Normal Operation

Problem	Possible cause(s)	Elimination
Area cannot be armed (reader does not react).	<ul style="list-style-type: none">• Key was outside the recognition radius.• Key was not held in front of the reader long enough.• There were metal parts between the key and reader.	Repeat the arming, while observing possible causes of errors.
Area cannot be armed (interval tone sounds for 5 seconds on the reader).	<ul style="list-style-type: none">• Open doors or windows.• With several block-type lock areas: sequence of the arming was not adhered to.	Repeat the arming, while observing possible causes of errors.
Area cannot be disarmed (reader does not react).	<ul style="list-style-type: none">• Key was outside the recognition radius.• Key was not held in front of the reader long enough.• There were metal parts between the key and reader.	Repeat the disarming, while observing possible causes of errors.
Door cannot be unlocked even though the disarming occurred properly.	Bolt sticks (door is perhaps slightly warped).	Shake the door gently and try again, first arming, then disarming. If this does not succeed, the door must be opened forcibly (the part in the blocking element SPE that should break will break, the door will not be damaged).

Removing Faults

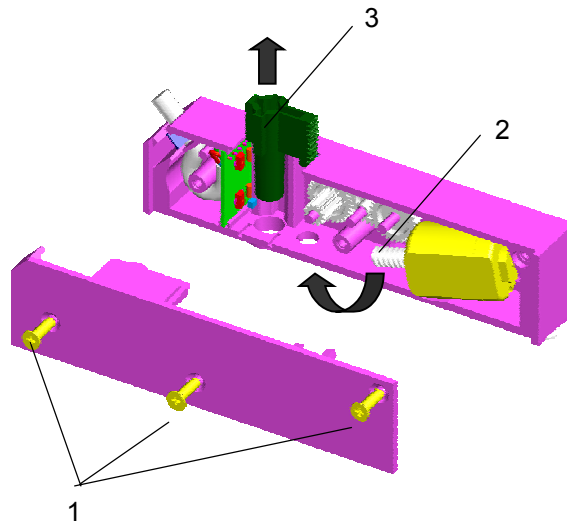
Exchanging the Bolt in the Lock Element SPE

(e. g. if the bolt breaks or if the bolt can no longer be moved)

The bolt exchange can occur on the operating system (if it is disarmed).

Proceed as follows, consulting the respective installation instructions:

1. Uncover the blocking element SPE by removing the plastic cover of the bolt part (for on-the-door installation) or the collar (built-in version). With the on-the-door version, if necessary, the housing of the magnet contact must be unscrewed.
2. Loosen the screws on the blocking element SPE (1) and remove the cover.
3. Raise the worm (2) of the motor slightly so that the bolt (3) disengages from the cog wheel.
4. Pull the bolt out.
5. Place a new bolt in.
6. Restore the motor to its original position.
7. Replace the cover and tighten the screws.
8. Install the blocking element SPE according to the installation instructions.



General

Maintenance and inspection must be carried out at specified intervals and by appropriate qualified personnel. Furthermore, for all such work, the provisions of DIN VDE 0833 apply.

Inspection and Maintenance

- Functional check of the device contacts of the control unit
- Visual check of the fastening/for damage
- Functional test of the blocking element SPE

Functional test of the blocking element SPE with bolt contact:

1. Activate the bolt contact with a closed door.
 - ➔ The bolt of the blocking element SPE is extended.
2. Bring the bolt contact back to the normal position.
 - ➔ The bolt of the blocking element SPE is retracted

Functional test blocking element SPE with control unit (device contact open):

1. On the control unit, remove the jumper from BR 1 and place it on BR 3.
 - ➔ The bolt of the blocking element SPE is extended.
 - Yellow LED on the control unit lights up.
2. On the control unit, pull the jumper off BR 3.
 - ➔ The bolt of the blocking element SPE is retracted
 - Yellow LED on the control unit lights up.
3. Repeat steps 1 and 2 with a closed door in order to check the precise extension of the bolt of the blocking element SPE into the bolt holder.
4. After the functional test, plug the jumper on bridge BR1 into the control unit once again.

The yellow LED on the circuit board of the control unit displays the state of the system as follows:

Yellow LED	State	Action required
off	System is working.	none
1 blink	Bolt does not extend.	<ul style="list-style-type: none">• Check the blocking element SPE and the bolt holder for correct installation and electrical connection.• Repeat the test.

Notes for Maintenance and Service

Loss of Keys

- If the programming of the keys occurred **via the programming**, then the following steps are required:
 1. Lock the keys on the control unit of the control panel or delete the keys with the corresponding programming program (e.g. WinPara or NzPara).
 2. Order a new key.
 - see chapter "Ordering Additional Keys"

- If the programming of the keys occurred **directly via the reader**, then the following steps are required:
 1. For security reasons, delete all remaining keys as well as the individual customer code; that is, the delivery state is restored.
 - see chapter "Restoring the Delivery State"
 2. Program the security card and standard keys and all remaining keys in once again
 - see chapter "Programming the Keys and Programming the System"
 3. Order a new key.
 - see chapter "Ordering Additional Keys"

Loss of the Security Card

The operation of the system is not compromised by the loss of the security card. Insofar as additional keys are required later, a new security card **and** new keys must be ordered from the manufacturer.

After receipt of the new security card and keys, the following steps are required:

1. Restore delivery state
 - see chapter "Restoring the Delivery State"
2. Program new security card and keys
 - see chapter "Programming the Keys and Programming the System"

Ordering Additional Keys

If you need additional keys (e.g. for new employees), the following steps are required:

Keys with security card


- Send the security card to the manufacturer with the order so that the additional keys can be entered there.
- Upon receipt, program the additional keys as described in the chapter “Programming the Keys and Programming the System”. The security card (or the customer code) does **not** have to be programmed again.

Standard keys (without security card)

- Order additional standard keys.
- After receipt of the keys, program the standard key in like an additional key (see chapter “Programming the Keys and Programming the System”).

Restoring the Delivery State

Restore the delivery state as follows:

1. The system is in a disarmed state (e.g. revision mode).
2.  Remove the cover of the control unit. The connector with the LSN lines (3,4 and 7,8) must absolutely be unplugged from the control unit.
3. In the control unit, plug the jumper from bridge BR1 on BR2.
4. Hold the device contact GK for at least 3 seconds until the buzzer sounds.
➔ All keys as well as the customer code are thus deleted.
The delivery state has been restored.
5. In the control unit, plug the jumper from BR2 back on BR1.
6. Plug the connector with the LSN lines into the control unit again and execute a reset of the LSN line fault on the control panel.

Technical Data

Control unit SE 110 LSN

Operating voltage	9.6 V ... 30 V
Total power requirement incl. blocking element with input voltage 9.6 V	
- Standby LSN part	3.53 mA
- Standby additional supply	41 mA
- Bolt is activated	110 mA for 200 ms
- Bolt blocked	470 mA for 200 ms
Total power requirement incl. blocking element with input voltage 28 V	
- Standby LSN part	3.53 mA
- Standby additional supply	30 mA
- Bolt is activated	65 mA for 200 ms
- Bolt blocked	200 mA for 200 ms
Environmental conditions	
- Environmental class	2
- Protection type	IP 30
- Operating temperature	-5°C ... +45°C
- Storage temperature	-40°C ... +85°C
Housing	
- Material	ABS
- Color	RAL 9002
Measurements (WxHxD)	135 x 160 x 35 mm
Weight	0.25 kg
VdS recognition number filed (Cl. C) for entire system	C

Note:

SE 110 LSN without bolt contact.

If all bolts of all SE 110 LSN in a detection area are activated simultaneously, in the voltage calculation, the values for "bolt activated" must be added.

Due to the LSN-conditioned time delay, up to 4 SE 110 LSNs can be activated within 200 ms.

Laws/Norms/Guidelines

The SmartKey system fulfills all guidelines that result from the relevant norms and guidelines, especially from
 DIN EN 50081/82
 DIN VDE 0833, part 1 and 3
 VdS 2110
 VdS 2227
 VdS 2119
 VdS 2311
 VdS 2203
 VdS 2252
 EN 50131-1

Reader

Frequency	125 kHz
Transmitting power	250 mW
Cable to the control unit	max. 6 m, 6-pin, shielded, permanently sealed
Environmental conditions	
- Environmental class	3
- Protection type	IP 65
- Operating temperature	-25°C ... +70°C
- Storage temperature	-40°C ... +85°C
Housing	
- Material	ASA Luran S
- Color	Titan white (cf. RAL 9010)
Measurements (WxHxD) for building into 55 mm-surface/recessed box	80 x 80 x 30 mm
Weight	0.35 kg

Blocking element SPE

Bolt max. distance from counterpiece	4 mm
Cable to the control unit	max. 6 m, 6-pin, shielded, permanently sealed
Environmental conditions	
- Environmental class	3
- Protection type	IP 44
- Operating temperature	-25°C ... +55°C
- Storage temperature	-40°C ... +85°C
Housing	
- Material	ABS
- Color	RAL 9002
Weight	
- Surface variant	0.45 kg
- Recessed variant	0.40 kg
Measurements (WxHxD)	118 x 28 x 16

Key

Range	max. 20 mm
Environmental conditions	
- Environmental class	4
- Protection type	IP 67
- Operating temperature	-40°C ... +70°C
- Storage temperature	-40°C ... +85°C
Housing	
- Material	ABS
- Color	RAL 9005 (black)
Coding variants	10 ⁷
Measurements (WxHxD)	24 x 53 x 11 mm
Weight	0.010 kg

BOSCH

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