SE 60 LSNi SmartKey Blocking Unit

Security Systems

EN

Installation manual

SE 60 LSNi

BOSCH

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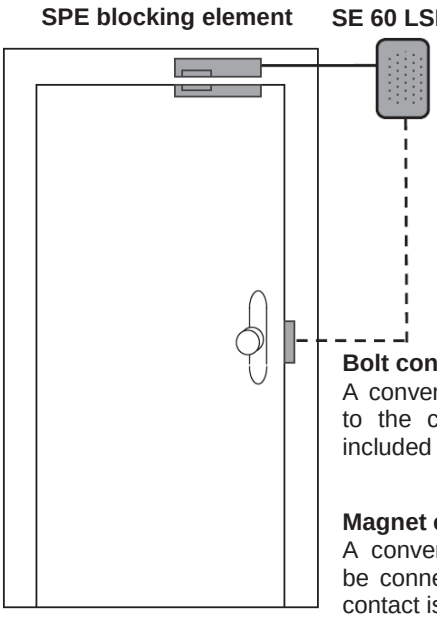
System overview

The SmartKey blocking unit is used to mechanically lock doors. The SE 60 LSNi control unit controls the SPE blocking element depending on the state of the bolt contact and/or the intrusion control panel (control panel armed/disarmed). When the door is closed (bolt contact is activated), the bolts of the SPE blocking element are automatically engaged. When the door is unlocked, the bolts are disengaged if the detection area is disarmed. When the detection area is activated, the bolts remain engaged, thus preventing unintended access to the area.

SPE blocking element

The SPE blocking element is an additional lock for the door and is intended to prevent unauthorized entry to the armed area. The SPE blocking element must always be mounted in the secure area with a kit that is designed for it to be fitted to different door types (the illustration here shows on-door mounting, other variants are shown below). A conventional magnet contact can be used in the on-door mounting kit

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



SE 60 LSNi control unit
The control unit processes the status reports from all components in the system, communicates these reports to the intrusion detection system and controls the SPE blocking element. The control unit is mounted in the secure area.

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

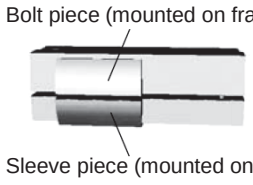
Magnet contact
A conventional standard magnet contact can be connected to the control unit. The magnet contact is not included in the scope of delivery.

Variants and kits for the SPE blocking element

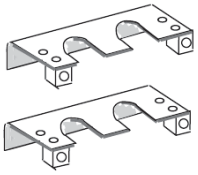
Mounting on the door or frame

Kit for on-door mounting

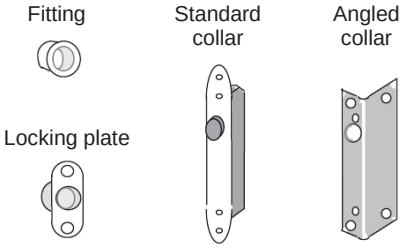
A conventional magnet contact can be used in the on-door mounting kit.



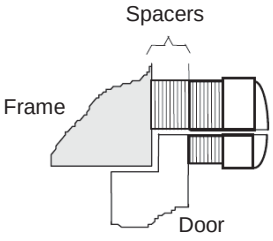
Kit for glass doors



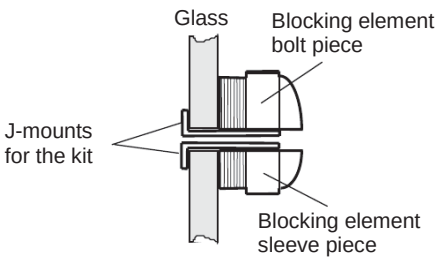
Mounting in the door or frame



Installation example:



Installation example:



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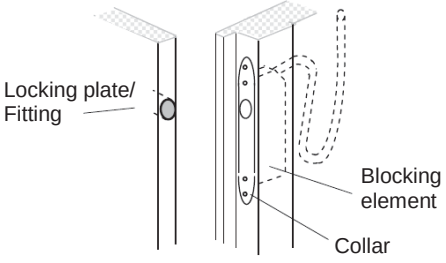
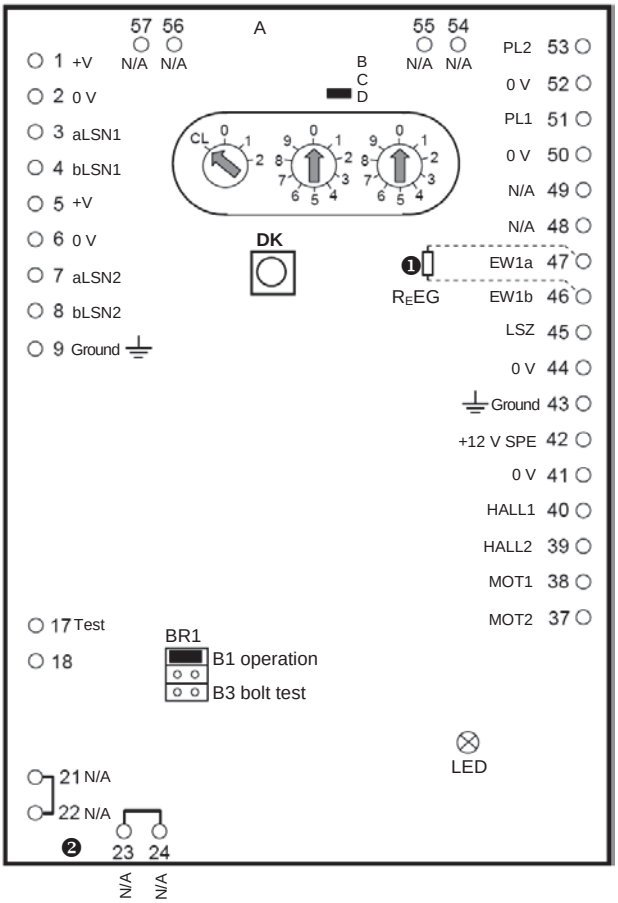


Description of the connections to the control unit

The connections to the control unit have different functions. There are inputs and outputs as well as plug-in terminals. For the scope of the basic functions, the inputs and outputs must be laid out according to a specific scheme.



❶ R_EEG 12K1 already installed

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

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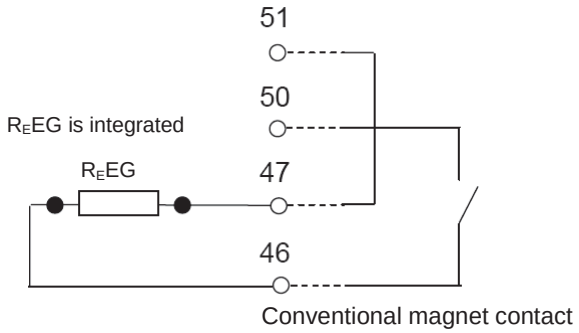
Connection	Designation	Function	Description
1	+V	Input	9.6–30 V power supply
2	0 V	Input	0 V power supply
3	aLSN1	Input	Incoming LSN
4	bLSN1	Input	Incoming LSN
5	+V	Output	9.6–30 V power supply
6	0 V	Output	0 V power supply
7	aLSN2	Output	Outgoing LSN
8	bLSN2	Output	Outgoing LSN
9	Ground	Distributor	Functional ground
17	Test	Input	This input is only for test purposes, i.e., a cable may only be connected temporarily to perform a test. If 0 V is applied, the SPE blocking element bolt retracts.
18			N/A
21/22	N/A	Distributor	Free plug-in terminals, 21 and 22 connected
23/24	N/A	Distributor	Free plug-in terminals, 23 and 24 connected
37/38	MOT2/MOT1	Output	SPE blocking element motor control
39	HALL2	Input	Bolt starting position detection
40	HALL1	Input	Bolt final position detection
41	0 V	Output	SPE blocking element 0 V power supply
42	+V	Output	SPE blocking element 12 V power supply
43	Ground	Distributor	Functional ground
44/45	0 V/LSZ	Input	Connection option for conventional bolt contact
46/47	EW1b/EW1a	Input	Connection option for magnet contact
50/51	0 V/PL 1	Input	Connection option for magnet contact 
48/49	N/A	Distributor	Free plug-in terminals
52/53	0 V/PL 2	Input	Free usable primary line
54–57	N/A	Distributor	Free plug-in terminals

Note: The primary lines PL 1, PL 2 and LSZ are assessed by the control unit.

Installation instructions

1. Mounting the system components

Observe the following during mounting:

- Only use shielded cables.
- The standard precautions for C-MOS technology must be taken when handling PCBs This also applies for soldering work. Wear a grounding armband when working on the control panel

Mounting the control unit

- Mount the control unit on the wall. When selecting the position, be aware that the SPE blocking element has a fixed molded cable of 6 m length, which cannot be extended.

Mounting the SPE blocking element

- Mount the SPE blocking element using the appropriate kit in line with the mounting instructions enclosed.

Ensure the door cannot bang shut. Otherwise the SPE blocking element bolt could be damaged during commissioning by a door banging shut.

2. Mounting of magnet contact and bolt contact

Mount the magnet contact or bolt contact according to the appropriate manufacturer's instructions. The control unit serves as the distributor for the contacts.

3. Connecting the control panel and optional components

Make sure that the control panel is disconnected from the power supply.

Connect the control unit and the optional components according to the relevant interface.

Address switch: The address switch is used on LSN control panels currently being planned. The address switch does not need to be set on any of the LSN control panels currently available. The address switch remains at positions CL 0 0. Factory default.

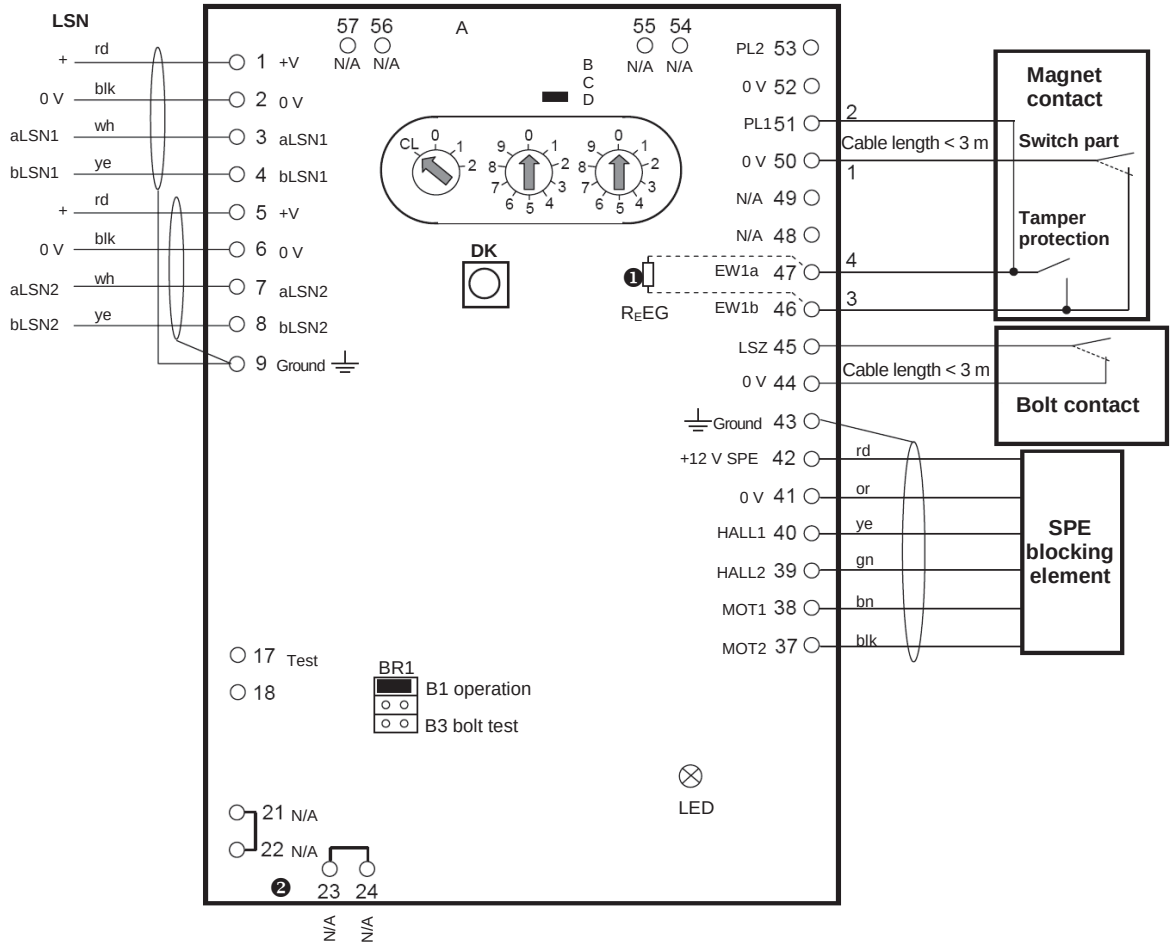
Advance information regarding the address switch:

CL 0 0 = "Classic" LSN mode (default setting)

001–254 = LSNi mode with manual addressing of the control unit

0 0 0 = LSNi mode with automatic addressing of the control unit

The address of the control unit is set by adjusting the three rotating switches. Use a flat-blade screwdriver to set each switch. The switches click as they turn. The valid range is 1 to 254. Settings between 255 and 299 lead to an error message on the control panel.



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

4. Programming

Programming of the SE 60 LSNi and all other system components is performed by the corresponding program on the control panel.

5. SPE blocking element function test

Turn on the power supply

- Before turning on the power supply, make sure that bridge B1 is inserted in the control unit
- Turn on the power

Functional test

1. Remove the jumper from B1 on the control unit and insert it in B3.
   ➡ The SPE blocking element bolt extends. Yellow LED lights up on the control unit.
2. Remove the jumper from B3 on the control unit.
   ➡ The SPE blocking element bolt retracts. The LED on the control unit goes out.
3. Repeat steps 1–2 with the door closed, to check the bolt on the SPE blocking element fits into the bolt receiver accurately.
4. After the function test, insert the jumper back into bridge B1 in the control unit.

The yellow LED on the control unit circuit board shows the status of the system, as follows:

LED	Status	Required action
off	System is OK.	None
Single flashing pulse	Bolt does not extend or retract.	▪ Check the SPE blocking element and the bolt receiver are correctly mounted and check the electrical connection ▪ Repeat the test

6. Completing the system installation

After **completing** the connection work:

1. Make sure that bridge BR1 is closed in the control unit for normal operation.
2. Place the cover on the control unit.
3. Carry out a check of the system.

First, thoroughly check the following:

- Are the components correctly wired?
- Is there a short circuit/wire breakage?
- Are the components supplied with power?
- Is bridge BR1 correctly inserted in the control unit?

Problem	Possible cause(s)	Elimination
Bolt does not extend/ retract during the function test.	• Mounting fault • SPE blocking element damaged	Check the SPE blocking element is assembled and mounted correctly, then repeat the test. If this is not successful, replace the SPE blocking element.

Operating problems under normal circumstances

Problem	Possible cause	Elimination
Door cannot be unlocked, although the bolt contact is open.	Bolt jams (door might be slightly warped).	Shake the door lightly and operate the bolt contact again. If this is not successful, the door must be opened with a strong push/pull (predetermined breaking point in the SPE blocking element breaks without damaging the door).

Notes on maintenance and service

General

Maintenance and inspection work must be carried out at specified intervals by appropriately qualified personnel. In all other respects, the conditions of DIN VDE 0833 apply for this work.

Inspection and maintenance

- Function test of the tamper contact in the control unit
- Visual inspection of the mounting/damage
- SPE blocking element function test

Function test of the SPE blocking element with bolt contact:

1. Operate the bolt contact while the door is closed.
   ➡ The SPE blocking element bolt extends.
2. Return the bolt contact to its normal position.
   ➡ The SPE blocking element bolt retracts.

Function test of the SPE blocking element with control unit (tamper contact open):

• See function test on page 8

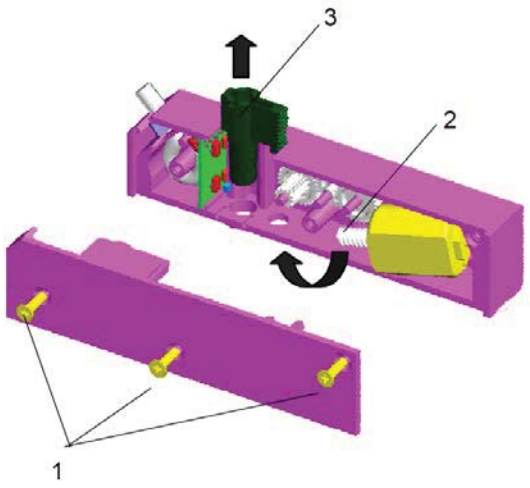
Replacing the bolt in the SPE blocking element

(for example if the bolt breaks or if the bolt can no longer be moved)

The bolt can be replaced while the system is running (while it is disarmed).

Proceed as follows with the help of the appropriate mounting instructions:

1. Expose the SPE blocking element by removing the plastic cover for the bolt piece (for on-door mounting) or the collar (built-in version). On the on-door version, it may be necessary to unscrew the magnet contact housing.
2. Release the screws on the SPE blocking element (1) and remove the cover.
3. Slightly lift the worm gear (2) on the motor, so that the bolt (3) is released from the gear framework.
4. Pull out the bolt.
5. Insert a new bolt.
6. Return the motor to its original position.
7. Replace the cover and tighten the screws.
8. Mount the SPE blocking element in line with the mounting instructions.



Technical data

SE 60 LSNi control unit

Operating voltage	9.6 V to 30 V
Total current consumption including blocking element at an input voltage of 9.6 V	
- Standby LSN part	3.53 mA
- Standby additional supply	41 mA
- Bolts are engaged	110 mA for 200 ms
- Bolts blocked	470 mA for 200 ms
Total current consumption including blocking element at an input voltage of 28 V	
- Standby LSN part	3.53 mA
- Standby additional supply	30 mA
- Bolts are engaged	65 mA for 200 ms
- Bolts blocked	200 mA for 200 ms
Environmental Conditions	
- Environmental class	2
- Protection category	IP 30
- Operating temperature	-5 °C to +45 °C
- Storage temperature	-40 °C to +85 °C
Housing	
- Material	ABS
- Color	RAL 9002
Dimensions (H x W x D)	160 x 135 x 35 mm
Weight	0.25 kg
VdS approval (class C) for whole system	G 106062, C

Laws/Standards/Guidelines

The system fulfills all the requirements resulting from the relevant laws, standards and guidelines, in particular
- EN 61000-6-3
- EN 50130-4
- DIN VDE 0833, Part 1 and 3
- VdS 2110
- VdS 2227
- VdS 2119
- VdS 2311
- VdS 2203
- VdS 2252

Blocking element

Maximum distance between bolt and locking plate	4 mm
Bolt break force	Approx. 1 kN
Cable to control unit	Max. 6 m, 6-pin, shielded, permanently sealed
Environmental Conditions	
- Environmental class	3
- Protection category	IP 44
- Operating temperature	-25 °C to +55 °C
- Storage temperature	-40 °C to +85 °C
Housing	
- Material	ABS
- Color	RAL 9002
Weight	
- Surface mounted models	0.45 kg
- Recessed mounted models	0.40 kg
Dimensions (H x W x D)	28 x 118 x 16 mm

Note on blocking element: SE 60 LSNi without bolt contact. If all the bolts of all SE 60 LSNi in a detection area are activated at the same time, the values for "Bolt activated" must be added together when calculating the current. Due to the time shift caused by the LSN, up to four SE 60 LSNi can be activated within 200 ms.

125 kHz
0.029 uW (-10 dBuA/m)

Notes

Bosch Security Systems
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www.boschsecurity.com

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