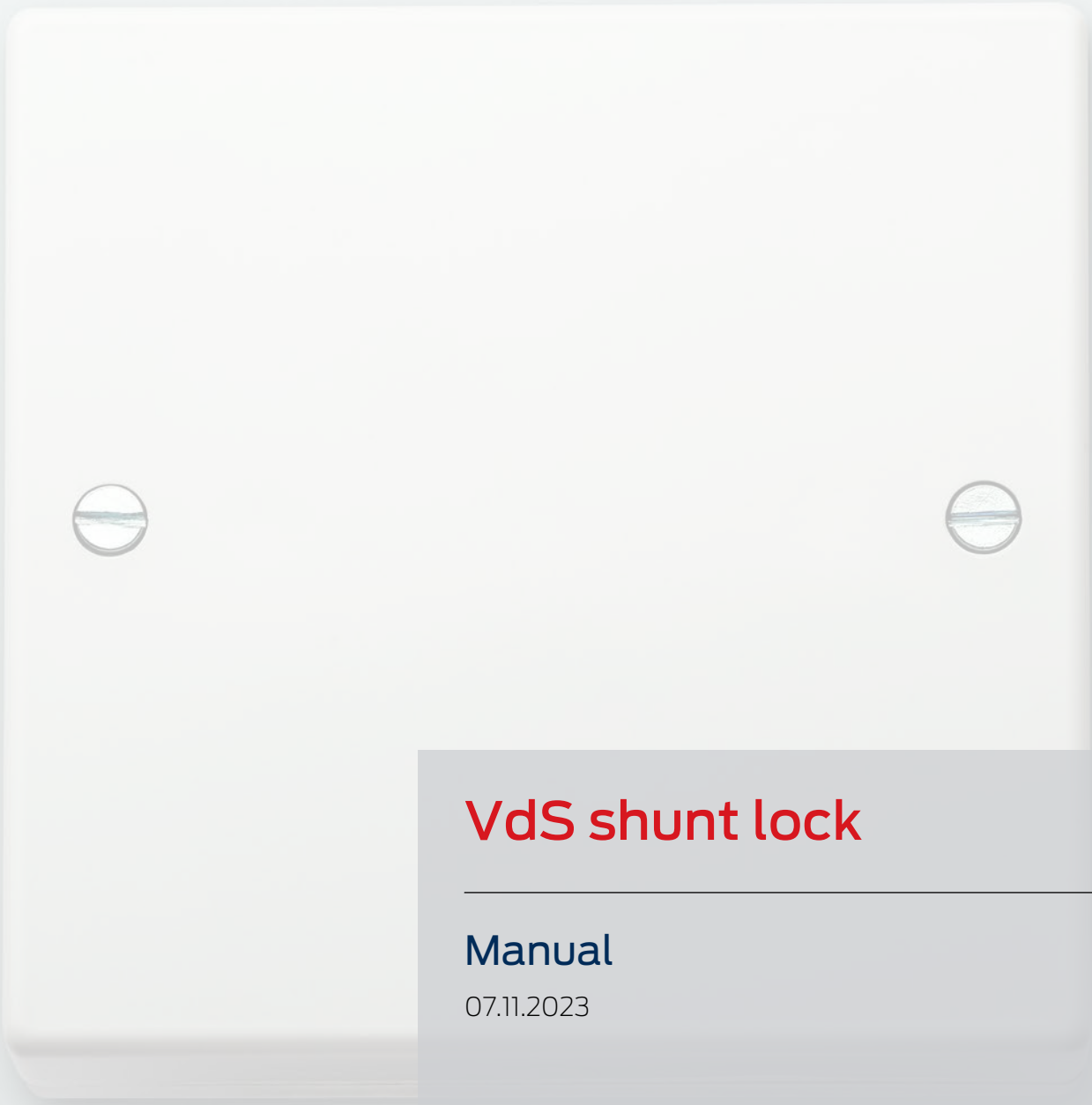


VdS shunt lock

Manual

07.11.2023

SimonsVoss technologies

Contents

1. General safety instructions

Signal word: Possible immediate effects of non-compliance
DANGER: Death or serious injury (likely)
WARNING: Death or serious injury (possible, but unlikely)
CAUTION: Minor injury
IMPORTANT: Property damage or malfunction
NOTE: Low or none

WARNING

Blocked access

Access through a door may stay blocked due to incorrectly fitted and/or incorrectly programmed components. SimonsVoss Technologies GmbH is not liable for the consequences of blocked access such as access to injured or endangered persons, material damage or other damage!

Blocked access through manipulation of the product

If you change the product on your own, malfunctions can occur and access through a door can be blocked.

- Modify the product only when needed and only in the manner described in the documentation.

IMPORTANT

Damage resulting from electrostatic discharge (ESD)

This product contains electronic components that may be damaged by electrostatic discharges.

1. Use ESD-compliant working materials (e.g. Grounding strap).
2. Ground yourself before carrying out any work that could bring you into contact with the electronics. For this purpose, touch earthed metallic surfaces (e.g. door frames, water pipes or heating valves).

Damage resulting from liquids

This product contains electronic and/or mechanic components that may be damaged by liquids of any kind.

- Keep liquids away from the electronics.

Damage resulting from aggressive cleaning agents

The surface of this product may be damaged as a result of the use of unsuitable cleaning agents.

- Only use cleaning agents that are suitable for plastic or metal surfaces.

Damage as a result of mechanical impact

This product contains electronic components that may be damaged by mechanical impacts of any kind.

1. Avoid touching the electronics.
2. Avoid other mechanical influences on the electronics.

Damage as a result of overcurrent or overvoltage

This product contains electronic components that may be damaged by excessive current or voltage.

- Do not exceed the maximum permissible voltages and/or currents.

Damage due to polarity reversal

This product contains electronic components that may be damaged by reverse polarity of the power source.

- Do not reverse the polarity of the voltage source (batteries or mains adapters).

Operational malfunction due to radio interference

This product may be affected by electromagnetic or magnetic interference.

- Do not mount or place the product directly next to devices that could cause electromagnetic or magnetic interference (switching power supplies!).

Communication interference due to metallic surfaces

This product communicates wirelessly. Metallic surfaces can greatly reduce the range of the product.

- Do not mount or place the product on or near metallic surfaces.

NOTE

Intended use

SimonsVoss-products are designed exclusively for opening and closing doors and similar objects.

- Do not use SimonsVoss products for any other purposes.

Qualifications required

The installation and commissioning requires specialized knowledge.

- Only trained personnel may install and commission the product.

Incorrect installation

SimonsVoss Technologies GmbH accepts no liability for damage caused to doors or components due to incorrect fitting or installation.

Modifications or further technical developments cannot be excluded and may be implemented without notice.

The German language version is the original instruction manual. Other languages (drafting in the contract language) are translations of the original instructions.

Read and follow all installation, installation, and commissioning instructions. Pass these instructions and any maintenance instructions to the user.

2. Product-specific safety instructions

DANGER

Explosion hazard due to use in potentially explosive atmospheres

The use of the block lock components in a potentially explosive atmosphere can lead to an explosion.

- Do not use the block lock components in potentially explosive atmospheres.

IMPORTANT

Damage as a result of voltage potentials

Working on the live system can cause damage to the system.

- Disconnect the system from the power supply before carrying out any soldering or connecting work.

ESD damage caused by unsuitable soldering irons

Soldering work with unsuitable soldering irons can damage electronic components.

- Only use galvanically isolated soldering irons with temperature control.

Damage due to aggressive vapours

The block lock components are affected by metal or plastic decomposing vapours.

- Keep the block lock components away from metal or plastic decomposing vapours.

Deteriorated communication due to improper cabling

Unsuitable cables, interrupted wires and improper shielding may affect the communication between the components.

1. Use suitable, shielded cables (like common telephone wire Y(ST)Y).
2. Minimize the number of clamping points.
3. Connect the shield to the earthing soldering lugs (PE). Then connect the screen on one side to a suitable earth potential, e.g. a busbar or a ring earth electrode.
4. Refer to the manual for further information on proper cabling.

NOTE

Variable range

The range of the block lock components depends on structural conditions and can vary.

NOTE

Documentation of the burglar alarm system

The documentation of the burglar alarm system may contain further information, including wiring.

- Refer to the documentation of the burglar alarm system.

CAUTION

Further safety regulations

Other safety regulations may apply.

1. Please observe the VDE safety regulations.
2. Observe the regulations of the local power supply company (EVU).
3. Observe the DIN standards.
4. Observe the guidelines of VdS class C (for VdS-compliant installation, see *VdS requirements [▸ 22]*).

3. Meaning of the text formatting

This documentation uses text formatting and design elements to facilitate understanding. The table explains the meaning of possible text formatting:

Example	button
☑ Example ☐ Example	checkbox
◉ Example	Option
[Example]	Tab
"Example"	Name of a displayed window
| Example |	Upper programme bar
Example	Entry in the expanded upper programme bar
Example	Context menu entry
▼ Example	Name of a drop-down menu
"Example"	Selection option in a drop-down menu
"Example"	Area
Example	Field
Example	Name of a (Windows) service
Example	Commands (e.g. Windows CMD commands)
`Example`	Database entry
[Example]	MobileKey type selection

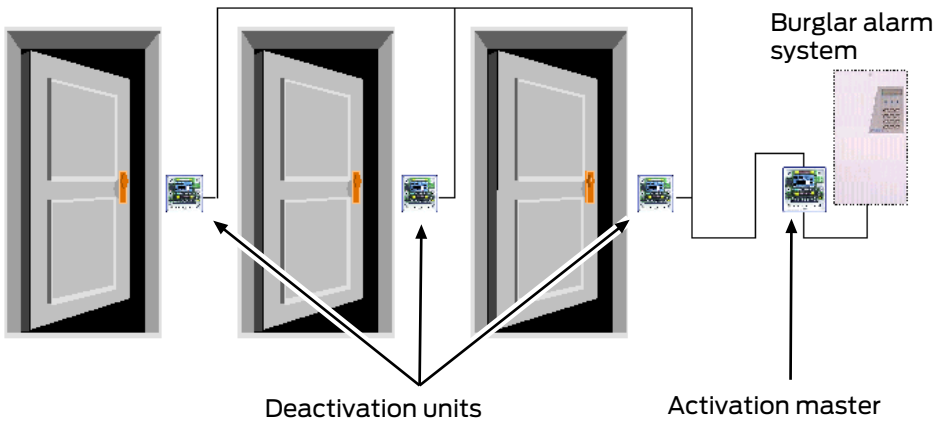
4. Description of functions

In alarm-secured objects, a false alarm is triggered if the alarm system has already been activated externally and someone inadvertently enters the secured area. An external activation takes place, for example, through burglar alarm systems (EMA).

The VdS block lock function 3066 (VdS number G 101 160) blocks the locks during activation and thus prevents false alarms. No extensive work on the door or door frame is required.

The block lock function always consists of at least two components:

Activation units	Deactivation units
Deactivation units are used to switch the alarm system. You require at least one activation unit for external activation and deactivation. If you want to activate or deactivate from several locations, you need one activation unit for each location. Transponders that are authorised on the activation unit in the locking plan can activation and deactivation. There are activation masters and activation slaves. The activation master can activate the alarm system with a potential-free contact. The activation slaves send a request for activation to the activation master, which then activates the alarm system. The activation slaves can activate the alarm system internally if they are connected separately to the internal activation connection of the burglar alarm panel.	Deactivation units prevent the doors from being opened accidentally. You need one deactivation unit for each door to the secured area. The deactivation units are installed next to the doors to the secured area. When the alarm system is activated, the doors cannot be opened inadvertently even with an authorised transponder.



4.1 Switching on the alarm system (burglar alarm system = EMA)

1. The person authorised to activate operates his transponder near an activation unit twice in quick succession (within two seconds). This sends a signal to all existing deactivation units.
2. If latch contacts are connected to the deactivation units, the deactivation units first check whether the doors are correctly locked. If this is the case, the digital locks are deactivated, making it impossible to enter the security area.

   Only after successful deactivation of all locks does the activation unit receive a positive acknowledgement and the activation master switches the alarm system on externally via a potential-free contact (principle of inevitability). When the alarm system has been activated, the LEDs of the activation units light up for 2.5 seconds. At the same time the test LEDs of the deactivation units go out.
3. The EMA itself indicates the successful activation acoustically (e.g. on the activation unit).

4.2 Testing the activation process

If the person authorised to activate the alarm has activated his transponder near an activation unit once, the activation unit signals the status of the alarm system with the LEDs:

- One short, long flash: Alarm system is deactivated.
- Flashing once long (2.5 seconds): Alarm is activated.

4.3 Switching off the alarm system

1. The person authorised to activate activates his transponder again twice in quick succession (within two seconds) near an activation unit. The activation unit deactivates the alarm system again and flashes once briefly and long.
2. The deactivation units activate the locks and the test LEDs light up again.
3. Authorised transponders now open every door again.

4.4 Activation transponder

In the LSM via | Programming | und Special functions - Activation transponder you can create an empty transponder as an activation transponder for emergencies. This can temporarily activate all locks in the locking system.

You can then open the locks with a normal, authorised transponder. The alarm system will still remain activated. When you enter the secured area, the alarm is triggered.

4.5 Time zone control and access logging

Access event logging	Time zone control
All activation units (master and slaves) log the activation and deactivation (access protocol). The last 128 activation and deactivation operations are stored with the following data: - Date - Time - Transponder ID The access protocol can be read out with the programming device or via the network (external LockNode).	You can also limit activation and deactivation to certain time periods (time zone control). The corresponding transponders can then only activate and deactivate during this period.

For further information, see the LSM manual.

4.6 Function of the deactivation unit

Deactivation request

1. A deactivation unit deactivates an adjacent cylinder when the deactivation request line (pin 13) is pulled to ground potential by the activation master or by the burglar alarm panel (EMZ).
2. A deactivation unit activates its adjacent cylinder if the deactivation request line (pin 13) is high impedance. The output of the activation master and the output of the burglar alarm system (EMA) must both be high-resistance at the same time.

Deactivation acknowledgement

1. A deactivation unit pulls the deactivation acknowledgement line (pin 14) to ground as long as its adjacent locking cylinder is activated.

   It also pulls the deactivation acknowledgement line (pin 14) to ground as long as the bolt monitoring input (pin 12) has ground potential. For this reason, use bolt contacts that disconnect the bolt monitoring input from ground potential as soon as the bolt is inserted (potential-free normally closed contact).
2. The deactivation acknowledgement line does not become highly resistive until all deactivation units have successfully deactivated their adjacent locking cylinder and all bolts have been advanced when evaluating the bolt contact.See LSM manual on how to programme.

4.7 Function of the activation master unit

1. The activation master pulls the deactivation request line (pin 14) to ground potential after the activation of a transponder authorised for activation.
2. This causes all deactivation units to start deactivating their locking cylinders.

   If the activation master recognises a positive deactivation acknowledgement within ten seconds (deactivation acknowledgement line becomes high-impedance), a potential-free contact between pin 5 and pin 7 is closed. A burglar alarm system connected to this can thus be signaled that it can activate.
3. The activation master immediately disconnects this potential-free contact between pin 5 and pin 7 after the renewed activation of a transponder authorised for activation. This can be used to signal to a connected burglar alarm system that it should deactivate.
4. The deactivation request line (pin 14) is then set high impedance again by the activation master.
5. The burglar alarm system also sets the deactivation request line to high impedance as soon as the alarm system is disarmed.
6. As soon as the deactivation request line is no longer highly resistive, the deactivation units reactivate their locking cylinders.

4.8 Function of the activation slave unit

If an authorised transponder is activated on an activation slave, the activation slaves send an impulse (high-impedance mass-high-impedance) to the activation request line (pin 14).

The activation master receives this pulse and informs the burglar alarm system via the switch contact (see *Switching contact [▸ 33]*) that the alarm system can be activated.

5. Initial operation

5.1 Programming

For the sake of simplicity, program all components before installation. Consider the following points:

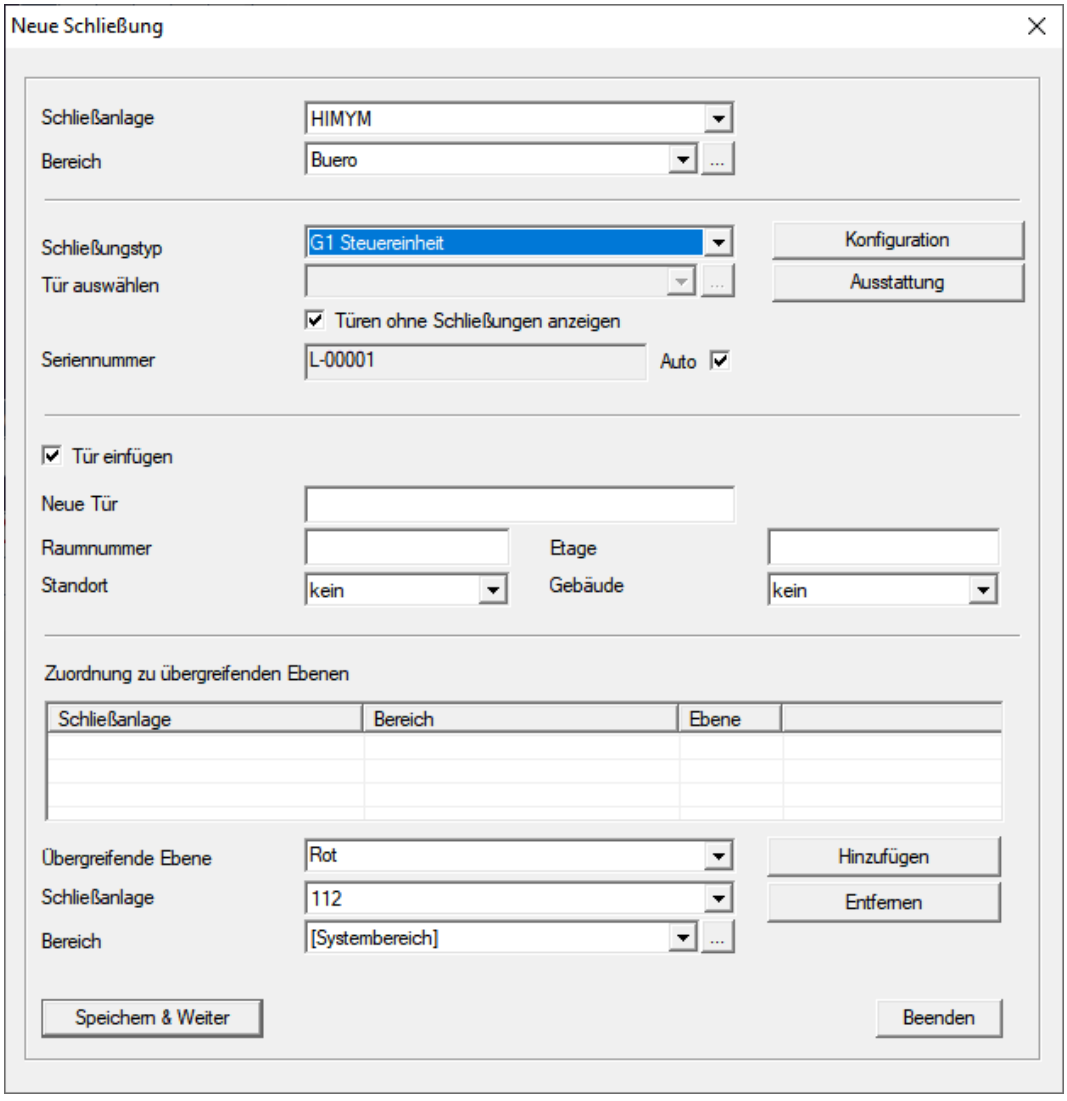
- Program activation units, deactivation units and the locking cylinders in the same locking plan.
- The overlay mode is not available.

Creating a block lock in the locking plan

Activation units

✓ Matrix screen open

1. Click on the button .
   ↳ Window "New lock" opens.



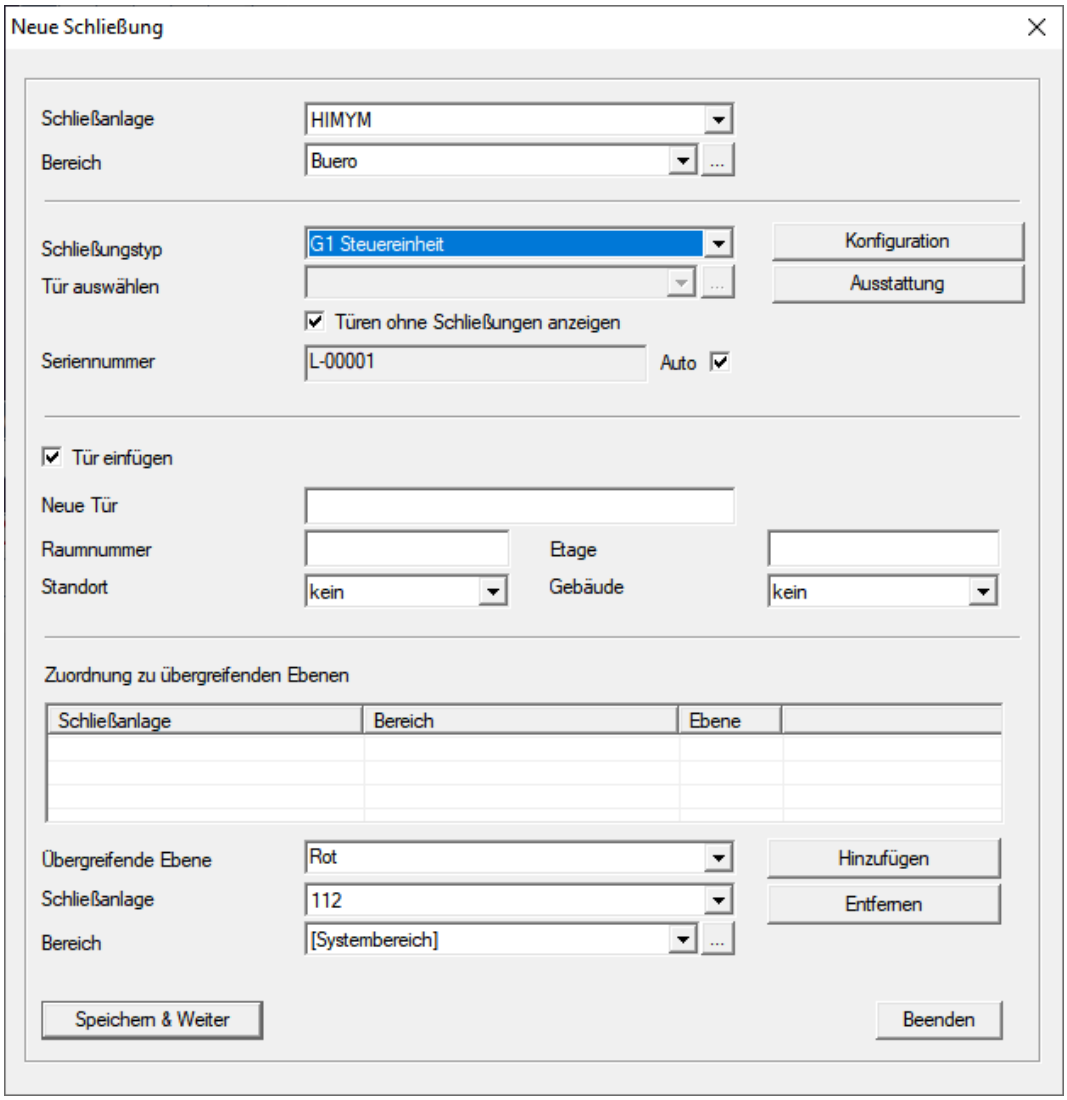
2. In the dropdown menu ▼ **Lock type** select the entry "G1 Control Unit".
3. Fill in the remaining fields.

4. Click on the button Save & next.
   ↳ The entry is created.
5. Create all activation units as "G1 Control Unit" in this way.
6. Assign the desired authorisations only to the activation units. (Deactivation units are created, but no transponders are authorised on them).

Deactivation units

✓ Matrix screen open

1. Click on the button .
   ↳ Window "New lock" opens.



2. In the dropdown menu ▼ **Lock type** select the entry "G1 Control Unit".
3. Give the deactivation unit a name similar to that of the associated cylinder to make the assignment easier to recognise.
4. Fill in the remaining fields.
5. Click on the button Save & next.
   ↳ The entry is created.
6. Create all deactivation units in this way as "G1 Control Unit".

Programming a block lock

NOTE

Auxiliary voltage for components

The components require a supply voltage during programming.

- Connect a power supply to the components (for example a 9 V_{DC} block battery), see *Connections of deactivation unit [▸ 27]* and *Connections of the activation master [▸ 31]* or *Connections of the activation slave [▸ 38]*).

✓ Do not connect components to each other with wires.

1. Only connect the component that you are about to program to the power supply.
2. Select the component in the locking plan.
3. Click on the button ⚡.
   ↳ Window "Programming Lock" opens.
4. Click on the button Programming.
   ↳ Window "Programming" opens.
   ↳ The programming procedure is executed.
   ↳ The window "Programming" closes.
5. After programming, via | Programming | select the entry Read highlighted locking device/set time.
   ↳ Window "Read lock" opens.
6. Click on the button Read.
   ↳ Window "Programming" opens.
   ↳ Readout is performed.
   ↳ Result is displayed.

↳ If the component was read out successfully, it is programmed.

Repeat the programming for all other components.

5.2 Test before assembly/installation

You can also read the block lock components like other locking devices. When reading out the devices are displayed as follows:

- Activation master as *activation master*
- Deactivation unit as *deactivation unit*
- Activation slave as *control unit*

5.2.1 Testing the deactivation unit

1. Connect the deactivation unit to a power supply (for example a 9V block battery, see *Connections of deactivation unit [▸ 27]*).
2. Position the deactivation unit next to the digital locking device (lock cylinder and SmartHandles max. 30 cm, SmartRelay 20 cm to 1 m).
3. Make sure that all components are correctly programmed (see *Programming [▸ 13]*).
4. Connect pins 13 and 15 (temporarily).
   ↳ Lock is deactivated (beep at lock if necessary).
   ↳ LED on deactivation unit goes out.
   ↳ Lock no longer reacts to identification media.
5. Disconnect pins 13 and 15 again.
   ↳ Locking device is activated (if necessary, signal tone on lock).
   ↳ LED on deactivation unit goes on.
   ↳ Lock reacts to identification media again.
6. Repeat the test several times.
7. Then carry out the installation as described (see *Installing the deactivation unit [▸ 19]* and *Connections of deactivation unit [▸ 27]*).

5.2.2 Testing the activation master

1. Connect the activation master to a power supply (for example a 9V block battery, see *Connections of the activation master [▸ 31]*).
2. Connect the external separate antenna if you want to use it later (see *Connections of the activation master [▸ 31]*).
3. Make sure that all components are correctly programmed (see *Programming [▸ 13]*).
4. Set jumper B1 to b/c (right).
5. Press the transponder authorised on the activation master twice briefly (0.5 s to 2 s) within range of the activation master (with external antenna: 1 cm to 3 cm).
   The range of the antenna is restricted in VdS-compliant operation by the aluminium sleeve.
   ↳ The relay switches and connects pins 5 and 7 (alarm system would now be activated).
   ↳ Activation master beeps for 2.5 s.
6. Check whether the relay has switched.
7. Press the transponder authorised on the activation master twice briefly again (0.5 s to 2 s) within range of the activation master (with external antenna: 1 cm to 3 cm).
   ↳ The relay switches and separates pins 5 and 7 (alarm system would now be deactivated).
   ↳ Activation master beeps twice (short-long).

8. Set jumper B1 to a/b (left).
9. Connect the switching contact and pin 29 to the burglar alarm system (see *Connections of the activation master [▸ 31]*).
10. Perform the activation test again. The acknowledgement of the activation comes from the burglar alarm system, but is output by the activation master.
11. Repeat the test several times.
12. Then carry out the installation as described (see *Installing the activation master [▸ 21]* and *Connections of the activation master [▸ 31]*).

5.2.3 Testing the activation slave

1. Connect the activation slave to a power supply (for example a 9V block battery, see *Connections of the activation slave [▸ 38]*).
2. Connect the external antenna if you want to use it later (see *Connections of the activation slave [▸ 38]*).
3. Make sure that all components are correctly programmed (see *Programming [▸ 13]*).
4. Set jumper B1 to b/c (right).
5. Press the transponder authorised on the activation slave twice briefly (0.5 s to 2 s) within range of the activation slave (with external antenna: 1 cm to 3 cm).
   The range of the antenna is restricted in VdS-compliant operation by the aluminium sleeve.
   ↳ Activation slave controls activation master.
   ↳ Activation slave receives deactivation acknowledgement and beeps for 2.5 s.
6. Press the transponder authorised on the activation slave again twice briefly (0.5 s to 2 s) within range of the activation slave (with external antenna: 1 cm to 3 cm).
7. Activation slave controls activation master.
8. Activation master no longer receives a deactivation acknowledgement and beeps twice (short-long).
9. Set jumper B1 to a/b (left).
10. Connect the switching contact and pin 29 to the burglar alarm system (see *Connections of the activation slave [▸ 38]*).
11. Perform the activation test again. The acknowledgement of the activation comes from the burglar alarm system, but is output by the activation slave.
12. Repeat the test several times.
13. Then carry out the installation as described (see *Installing the activation slave [▸ 21]* and *Connections of the activation slave [▸ 38]*).

5.3 Installing the components

5.3.1 Locking device

Install the locks as usual (see respective manual/brief instructions).
Observe the installation direction.

5.3.2 Install reliable wiring

1. Always use shielded, twisted cables (e.g. standard telecommunication cable YST-Y).
2. Reduce the clamping points to a minimum.
3. Use appropriate terminals for shared junction boxes.
   ↳ Accidental contact between current-carrying wires and signal-carrying wires is prevented.
4. Always connect a terminal to open wires to prevent short circuits.
   ↳ Accidental short circuits are prevented.
5. Preferably use terminals to connect wires.
   ↳ Clamps are more reliable than twisting.
6. Only remove the jacket and insulation from cables as far as necessary.
7. Fold back unused wires and insulate them with heat-shrink tubing or elastic insulation tape.
8. Connect the shielding to the earth solder terminals. Then connect the shield to a suitable earth potential on one side, e.g. a busbar or a ring earth electrode.
9. Label the cables.
   ↳ This will make maintenance easier at a later stage.

5.3.3 Block lock components

The block lock components are mounted in the protected area.

IMPORTANT

Electromagnetic interference

Digital components that are nearby can interfere with the activation units.

- Install the activation units at least 1.5 m away from other digital components.

1. Unscrew the slotted screws.
2. Remove the cover.
3. Secure the component with two countersunk screws (ø 3.5 mm x 30 mm) and two dowels (S5).
   The countersunk screws and the dowels are not included in the scope of delivery.

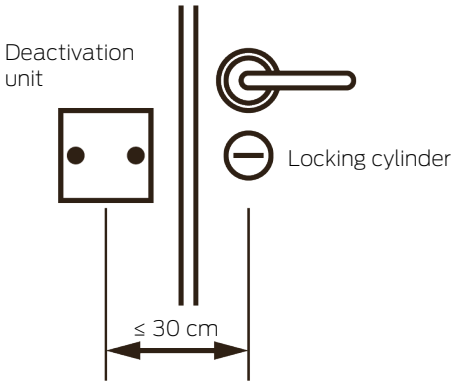
5.3.3.1 Installing the deactivation unit

Install the deactivation unit directly next to the lock. This ensures optimum radio communication.

Locking device	Distance
■ Locking cylinder ■ SmartHandles	max. 30 cm
SmartRelay	20 cm to 1 m

Use with locking cylinders

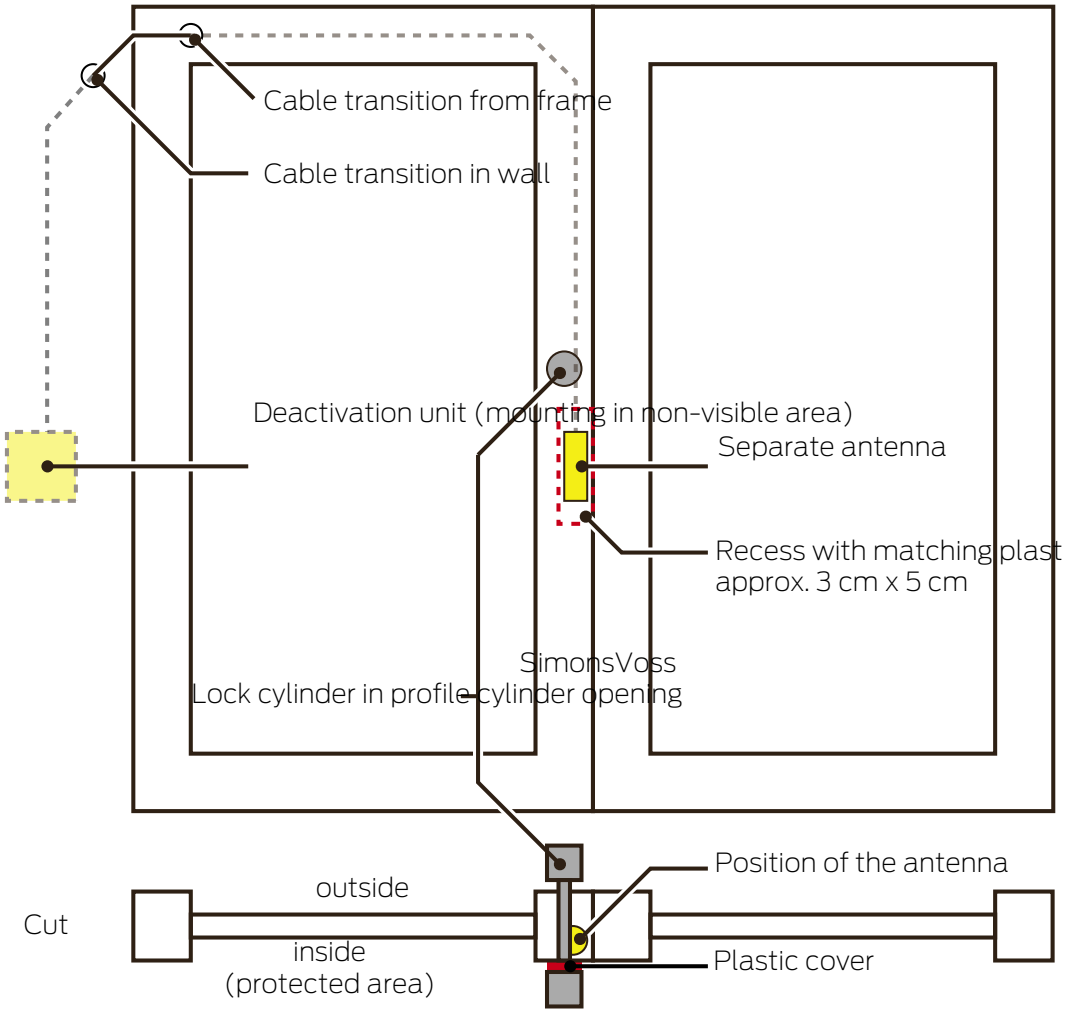
Align the deactivation unit so that the two fastening screws are in a horizontal line (see drawing). The antennas then point directly at the locking cylinder.



The range is generally reduced by metal surfaces. You will achieve a higher range if you use FH cylinders. Fire resistant doors are made out of metal and rather thick. Thus, the electronic thumb-turn of FH cylinders has a plastic grip element to optimize radio transmission. This also optimizes transmission from and to the block lock.

Deactivation unit for double-leaf door

The example shows the assembly of double-leaf framed doors:



If a double chamber profile is used, please coordinate the position of the outsourced antenna with your specialist dealer. Alternatively, you can also install the antenna in the active leaf.

The use of the recess for metal doors considerably improves the communication between antenna and lock. The function is likely to be perfect. Please coordinate the position of the recess (outside or inside) with your specialist trade partner.

The cable is led hanging from the door cable transition into the wall cable transition ("monkey swing"). This minimises the strain on the cable while the door is moving. From there the cable is routed to the deactivation unit in the outdoor area.

Equipment of the double-leaf door

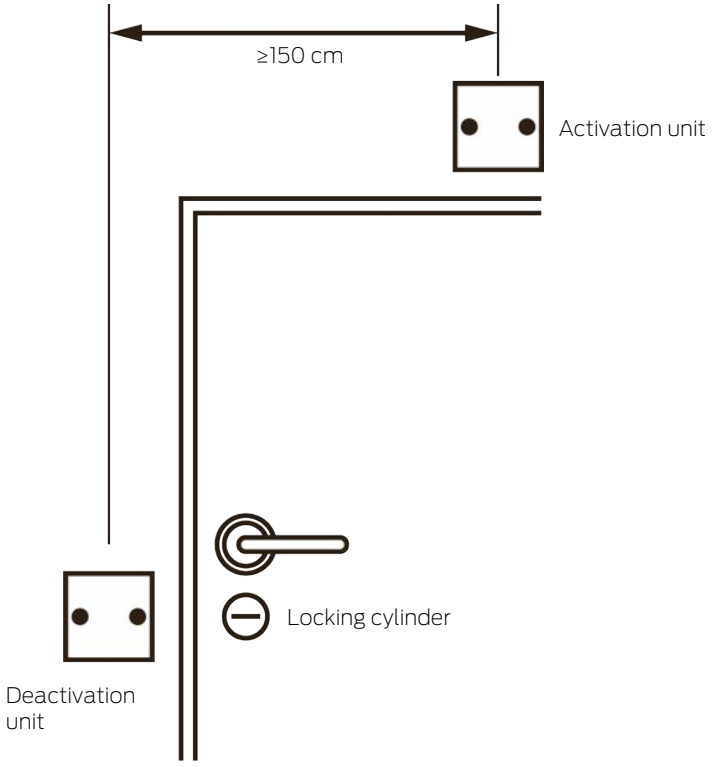
If the locking cylinder is to be deactivated by the block lock, the separate antenna must be mounted nearby. The separate antenna must therefore already be installed in the active leaf when the door is manufactured.

The outsourced antenna must therefore already be installed in the active leaf when the door is manufactured.

5.3.3.2 Installing the activation master

Mount the activation master above the door frame. Keep a distance of at least one and a half metres from other SimonsVoss components (see drawing) to prevent mutual interference.

Align the activation unit so that the fastening screws are in a horizontal line (see drawing) in order to rule out interference during normal door operation.



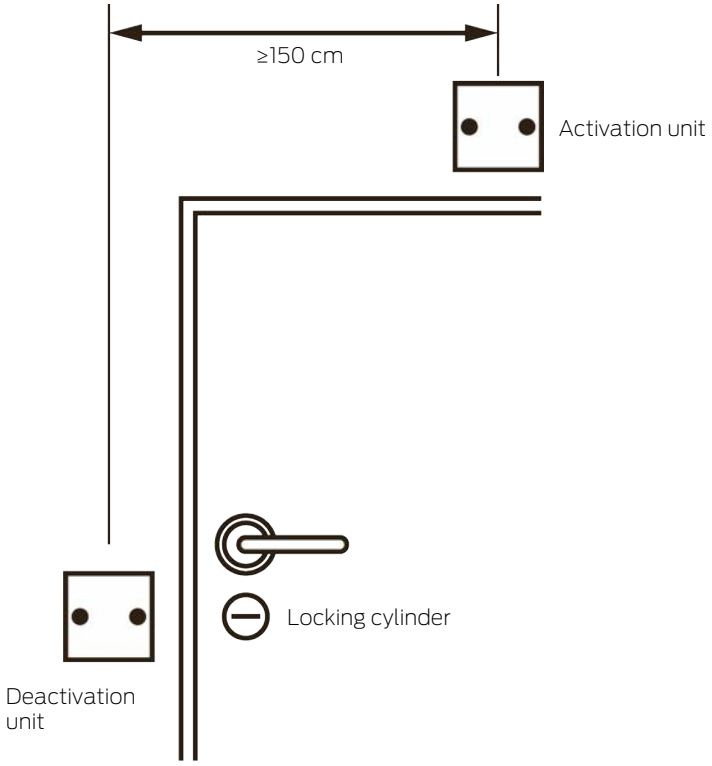
No separate antenna is used for this installation *Connection of the external antenna to the master (optional) [▸ 37]*). Therefore, plug jumper B2 to maximise the range (see also *Setting the jumpers at the master [▸ 32]*).

With this simple installation method, activation is possible both from inside and outside. According to VdS, activation must only be possible from the outside (see *VdS requirements [▸ 22]*). Therefore this installation without separate antenna is not VdS-compliant.

5.3.3.3 Installing the activation slave

Mount the activation slave above the door frame. Keep a distance of at least one and a half metres from other SimonsVoss components (see drawing) to prevent mutual interference.

Align the activation unit so that the fastening screws are in a horizontal line (see drawing) in order to rule out interference during normal door operation.



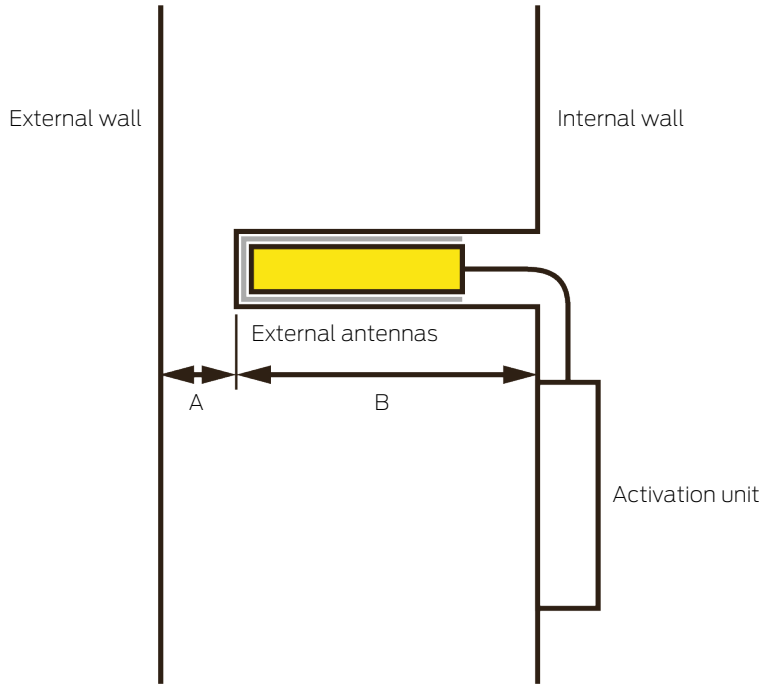
No separate antenna is used for this installation (see *Connection of the external antenna at the slave (optional) [▸ 44]*). Therefore, plug jumper B2 to maximise the range (see also *Setting the jumpers at the slave [▸ 39]*).

With this simple installation method, activation is possible both from inside and outside. According to VdS, activation must only be possible from the outside (see *VdS requirements [▸ 22]*). Therefore this installation without separate antenna is not VdS-compliant.

5.3.3.4 VdS requirements

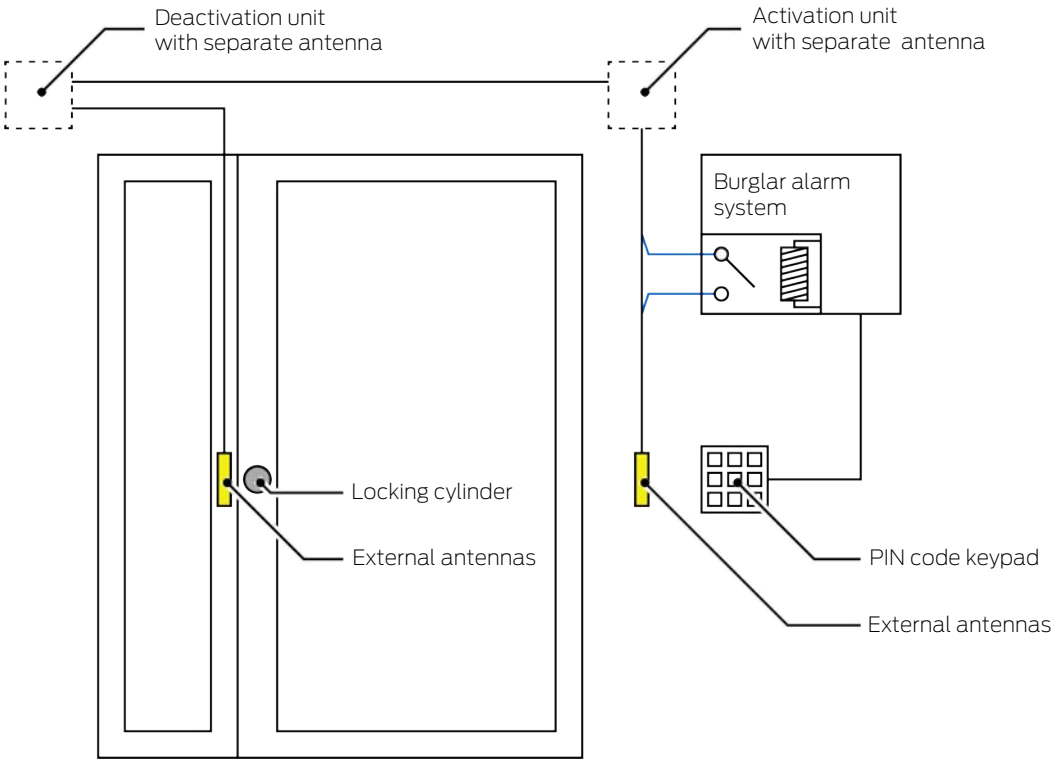
- Use of the bolt contact evaluation (see *Optional bolt contact evaluation (global activation suppression) [▸ 29]*). It must not be possible to switch the alarm system as long as all important doors are not locked.
- Acoustic acknowledgement after final activation by the burglar alarm system (see *Setting the jumpers at the master [▸ 32]*).
- Reduction of the range of the external antenna by aluminium sleeve (see *Setting the jumpers at the master [▸ 32]*).
- Activation only possible from outside: Use of external antennas (position see drawing, connection see *Connection of the external antenna to the master (optional) [▸ 37]* and *Connection of the external antenna at the slave (optional) [▸ 44]*).

Position of the external antenna (VdS)



1. Drill a blind hole (Ø 23 mm) from the inner wall.
   Distances: To the activation unit ≥ 30 cm and to the closing unit ≥ 1 m
   Drilling depth: A ≤ 2 cm and B ≥ 12 cm
2. Push the aluminium sleeve onto the separate antenna.
3. Insert the external antenna with the sleeve into the blind hole.
4. Fix the external antenna in the blind hole.
5. Mark the position of the external antenna on the outer wall if you are not using an external LED near the blind hole.
   You can also use an authorised transponder to identify the status of the alarm system (activated or deactivated) on the external LED.

5.3.3.5 Block lock with PinCode keypad (4-eye principle)



Structure

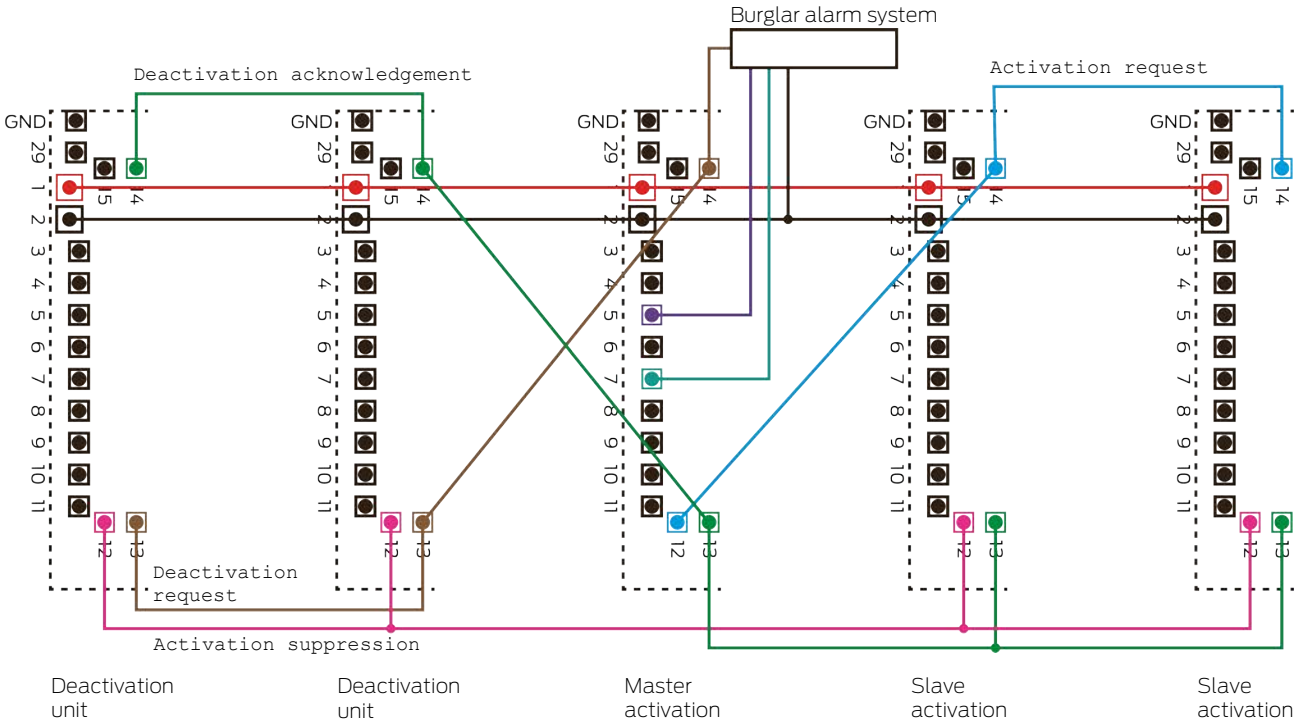
- The old block lock in the door is shut down.
- The existing PIN code keypad is retained.
- The PIN code keypad closes a potential-free contact in the burglar alarm system.
- The separate antenna of the activation unit is separated by this potential-free contact (blue wire) in the idle state.

Procedure

1. Employee 1 enters a valid PIN.
   ↳ Potential-free contact closes and separate antenna is "connected" to the activation unit.
2. Employee 2 switches on the alarm system with an authorised transponder.
   ↳ Activation unit sends deactivation command to deactivation units.
   ↳ Deactivation units deactivate locking devices. It is no longer possible to enter the secured area.
   ↳ Activation master receives deactivation acknowledgements and sends activation command to burglar alarm system.

↳ Burglar alarm system activates the alarm system and acknowledges activation.

5.4 Connecting the components



The scheme can be extended with further deactivation units and activation slaves.

	Deactivation unit	Activation master	Activation slave	Burglar alarm system
Deactivation request	Solder pin 13	Solder pin 14	-	Pin that is pulled to ground during the activation process.
Deactivation acknowledgement	Solder pin 14	Solder pin 13	Solder pin 13	-
Activation request	-	Solder pin 12	Solder pin 14	-
Activation suppression	Solder pin 12	-	Solder pin 12	-
Power supply (plus)	Solder pin 1	Solder pin 1	Solder pin 1	-
Power supply (ground)	Solder pin 2	Solder pin 2	Solder pin 2	Ground connection

	Deactivation unit	Activation master	Activation slave	Burglar alarm system
Command to burglar alarm system for activation	-	Solder pin 5	-	Connection 1 to burglar alarm system to enable activation
	-	Solder pin 7	-	Connection 2 to burglar alarm system to enable activation

- Pay attention to the polarity.
- After wiring, carry out several functional tests (see *Testing the block lock function [▸ 44]*).

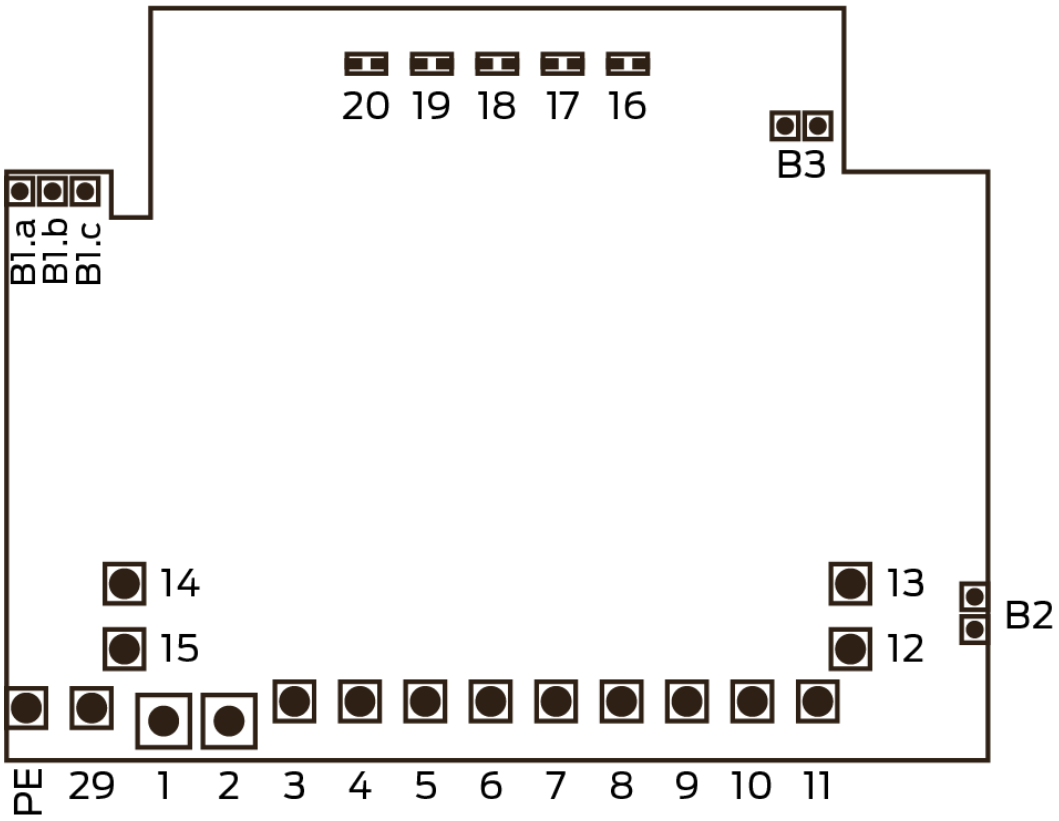
Cable

SimonsVoss recommends the following cable type: Cat 5.IY(ST)Y (8-pin). Longer cables require a shielding connected at one end.

Select the core cross-section so that the minimum voltage (8 V_{DC}) on the devices is never undercut (length- and current-dependent voltage drop on the line).

5.4.1 Deactivation unit

5.4.1.1 Connections of deactivation unit



Connection	Meaning
PE	Connection for cable shield
1	Supply voltage (+V)
2	Supply voltage (ground)
3	Not used
4	
5	
6	
7	
8	Sabotage contacts
9	
10	
11	
12	Bolt monitoring contact for activation suppression (optional)

Connection	Meaning
13	Deactivation request (input)
14	Deactivation acknowledgement (output)
15	Ground (identical with connection 2)
16	Connection for external antenna (green)
17	Connection for external antenna (blue)
18	Connection for external antenna (ground/shield)
19	Connection for external antenna (red)
20	Connection for external antenna (yellow)
29	Not used

5.4.1.2 Power supply

- Connect a suitable power supply (see *Technical specifications [▸ 48]*).

5.4.1.3 Setting the jumpers at the deactivation unit

Jumper B1

The deactivation unit ignores jumper B1. It doesn't matter how jumper B1 is inserted.

Jumper B2

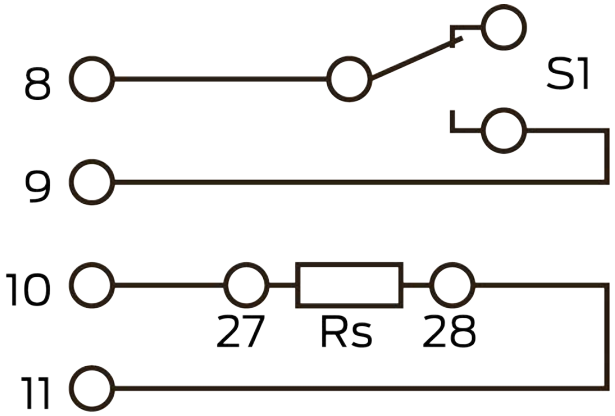
Insert jumper B2. This will maximise the range and improve the connection between the deactivation unit and its locking device.

Jumper B3

Do not plug in jumper B3.

5.4.1.4 Anti-tamper contact

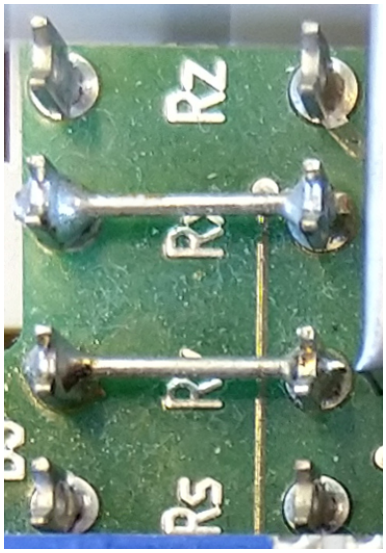
The device has a sabotage contact. In the normal state (cover closed) a microswitch is pressed down and connects the terminals 8 and 9.



Connect the contacts 8 and 9 with a suitable evaluation. If the cover is opened or the cable is cut, the contacts are open from the point of view of the evaluation and you can react to the sabotage attempt.

The contact bridges are equipped ex works as follows:

Contact bridge	Layout
Rs	Open
Ry	Wire jumper
Rx	Wire jumper
Rz	open, optional termination resistor



5.4.1.5 Optional bolt contact evaluation (global activation suppression)

The bolt contact evaluation prevents the alarm system from being activated if not all doors in the security area are locked.

Use a potential-free normally closed contact as a bolt contact.

To do this, connect the bolt contact to the bolt switch contacts (pin 12 and pin 15, see *Connections of deactivation unit [▸ 27]*). If you do not use a bolt contact evaluation (not VdS-compliant), pins 12 and 15 remain unconnected.

In normal case (idle state), the bolt contact is closed and pulls pin 12 to ground. This means that the deactivation unit cannot deactivate the locking device. Only when the bolt contact opens can the locking device be deactivated and then the deactivation acknowledgement line becomes highly resistive.

A deactivation unit can evaluate several bolt contacts. Connect the bolt contacts in parallel. Only when all bolts are closed and thus all bolt contacts are open, then pin 12 is no longer pulled to ground. Then the deactivation unit can deactivate the locking device and then set the deactivation acknowledgement line to high impedance. The activation is no longer suppressed.

Alternatively, you can also connect the bolt contacts directly to the burglar alarm system.

5.4.1.6 Connection of the external antenna (optional)

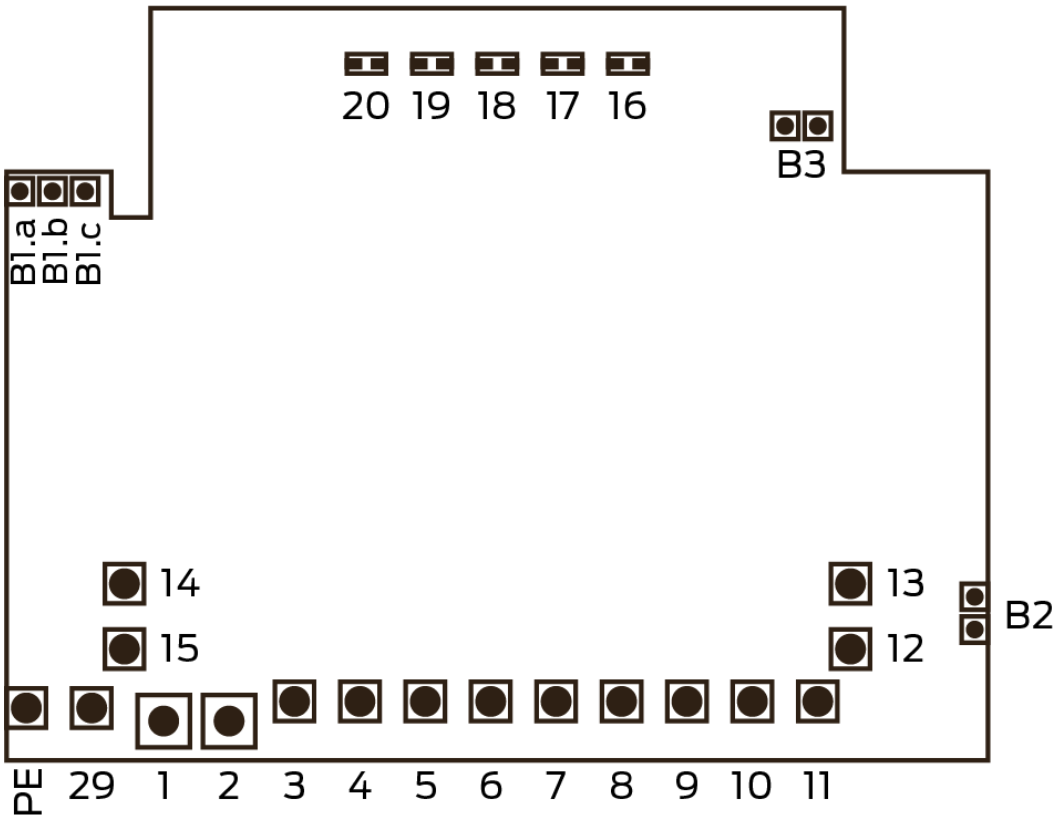
The external antenna cannot be retrofitted.

- ✓ System de-energised.
- ✓ Deactivation unit for external antenna prepared (.AV).

1. Shorten the cable of the external antenna to the desired length.
2. Strip the cable over a length of 5 cm.
3. Strip the individual wires.
4. Connect the colour-coded cable to the appropriate connectors (see *Connections of deactivation unit [▸ 27]*).

5.4.2 Activation master

5.4.2.1 Connections of the activation master



Connection	Meaning
PE	Connection for cable shield
1	Supply voltage (+V)
2	Supply voltage (ground)
3	Connection for external LED (+ anode, 5 V_{DC} with built-in 100 Ω resistor)
4	Connection for external LED (- cathode with built-in 100 Ω resistor)
5	Potential-free changeover contact for switching the system (C=Common)
6	Potential-free changeover contact for switching the system (NC=Normally closed)
7	Potential-free changeover contact for switching the system (NO=Normally open)

Connection	Meaning
8	Sabotage contacts
9	
10	
11	
12	Activation request line from activation slaves (optional)
13	■ Deactivation acknowledgement line (input) ■ If pulled to ground, then no activation (Global activation suppression, see *Global activation suppression (optional) [▸ 37]*). ■ Connection of a bolt contact evaluation (optional)
14	Deactivation request (output)
15	Ground (identical with connection 2)
16	Connection for external antenna (green)
17	Connection for external antenna (blue)
18	Connection for external antenna (ground/shield)
19	Connection for external antenna (red)
20	Connection for external antenna (yellow)
29	Acoustic activation acknowledgement by burglar alarm system (input)

5.4.2.2 Power supply

- Connect a suitable power supply (see *Technical specifications [▸ 48]*).

5.4.2.3 Setting the jumpers at the master

Jumper B1

- Jumper connects B1.b and B1.c: Activation master beeps after activation release (acknowledgement of activation request by activation master)
- Jumper connects B1.b and B1.a: Activation master beeps when burglar alarm system pulls pin 29 to ground (VdS-compliant: Acknowledgement of activation by burglar alarm system)

Jumper B2

If jumper B2 is inserted, the range of the internal antenna is maximised. The range of the optional external antenna remains unchanged.

You limit the range of the external antenna with an aluminium sleeve (see *Connection of the external antenna to the master (optional) [▸ 37]*). In this case, set the jumper.

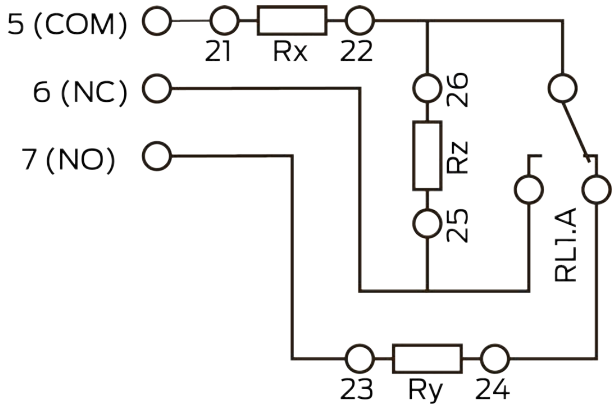
Using the external antenna without an aluminium sleeve is not VdS-compliant (see *VdS requirements [▸ 22]*).

Jumper B3

Do not plug in jumper B3.

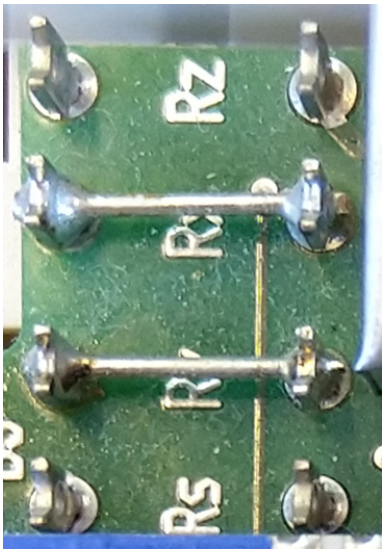
5.4.2.4 Switching contact

Connect the switching contact to the alarm system. The alarm system should activate when the relay is energised. Please refer to the documentation of the burglar alarm system for wiring and any terminating resistors.



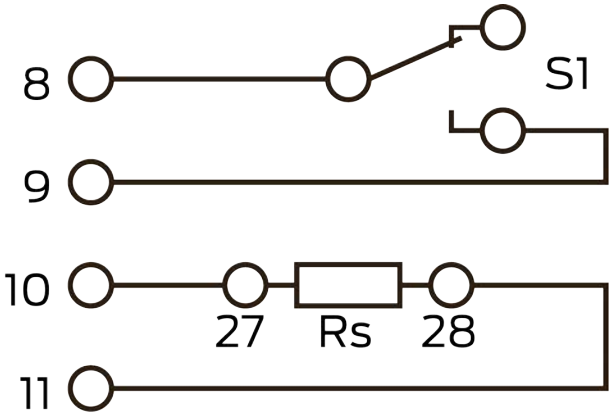
The contact bridges are equipped ex works as follows:

Contact bridge	Layout
Rs	Open
Ry	Wire jumper
Rx	Wire jumper
Rz	open, optional termination resistor



5.4.2.5 Anti-tamper contact

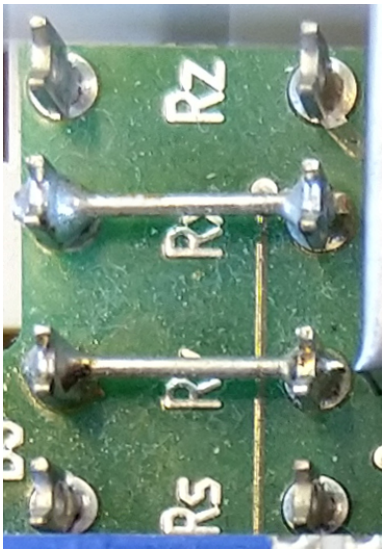
The device has a sabotage contact. In the normal state (cover closed) a microswitch is pressed down and connects the terminals 8 and 9.



Connect the contacts 8 and 9 with a suitable evaluation. If the cover is opened or the cable is cut, the contacts are open from the point of view of the evaluation and you can react to the sabotage attempt.

The contact bridges are equipped ex works as follows:

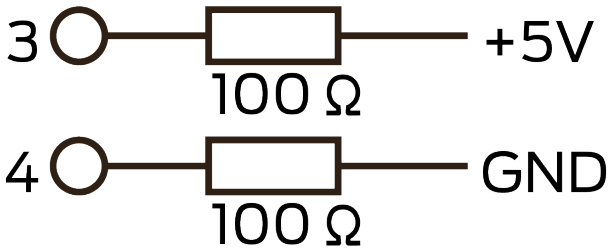
Contact bridge	Layout
Rs	Open
Ry	Wire jumper
Rx	Wire jumper
Rz	open, optional termination resistor

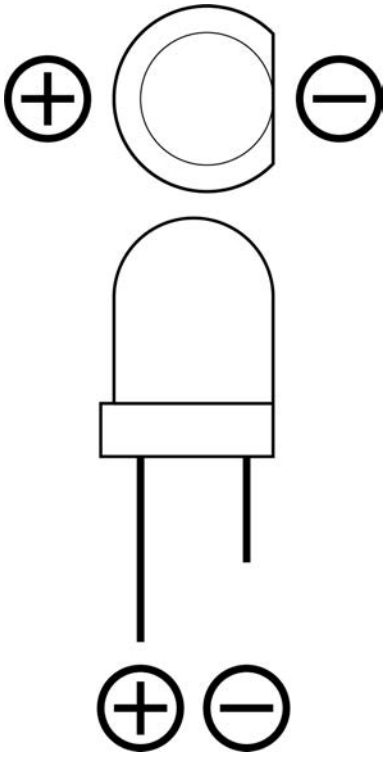


5.4.2.6 External LED

You can connect an external LED to contacts 3 and 4 (recommended). This gives you optical feedback from the block lock system and allows you to query the status of the alarm system, for example.

- Take into account the voltage drop on the line.
- Use an LED suitable for the built-in series resistors (e.g. standard 5 mm LED).





5.4.2.7 Acoustic acknowledgement

You have two options for the acoustic acknowledgement (selection via jumper):

Acknowledgement by activation unit	Acknowledgement by burglar alarm system
▪ After sending the request for activation to the burglar alarm system, the activation master and the activation slaves beep. ▪ This solution is not VdS-compliant.	▪ When activation is complete, the burglar alarm system switches an output to ground. ▪ Connect this output to pin 29 of the activation master (see *Connections of the activation master [▸ 31]*) and to pins 29 of any existing activation slaves (see *Connections of the activation slave [▸ 38]*). ▪ This output pulls pin 29 of the activation slaves and the activation master to ground. ▪ The activation master and the activation slaves then beep. ▪ This solution is VdS compliant.

5.4.2.8 Connection of the external antenna to the master (optional)

The external antenna cannot be retrofitted.

✓ System de-energised.
✓ Activation master prepared for external antenna (.AV).

1. Shorten the cable of the external antenna to the desired length.
2. Strip the cable over a length of 5 cm.
3. Strip the individual wires.
4. Connect the colour-coded cable to the appropriate connectors (see *Connections of the activation master [▸ 31]*).

For VdS-compliant installation, see *VdS requirements [▸ 22]*.

5.4.2.9 Global activation suppression (optional)

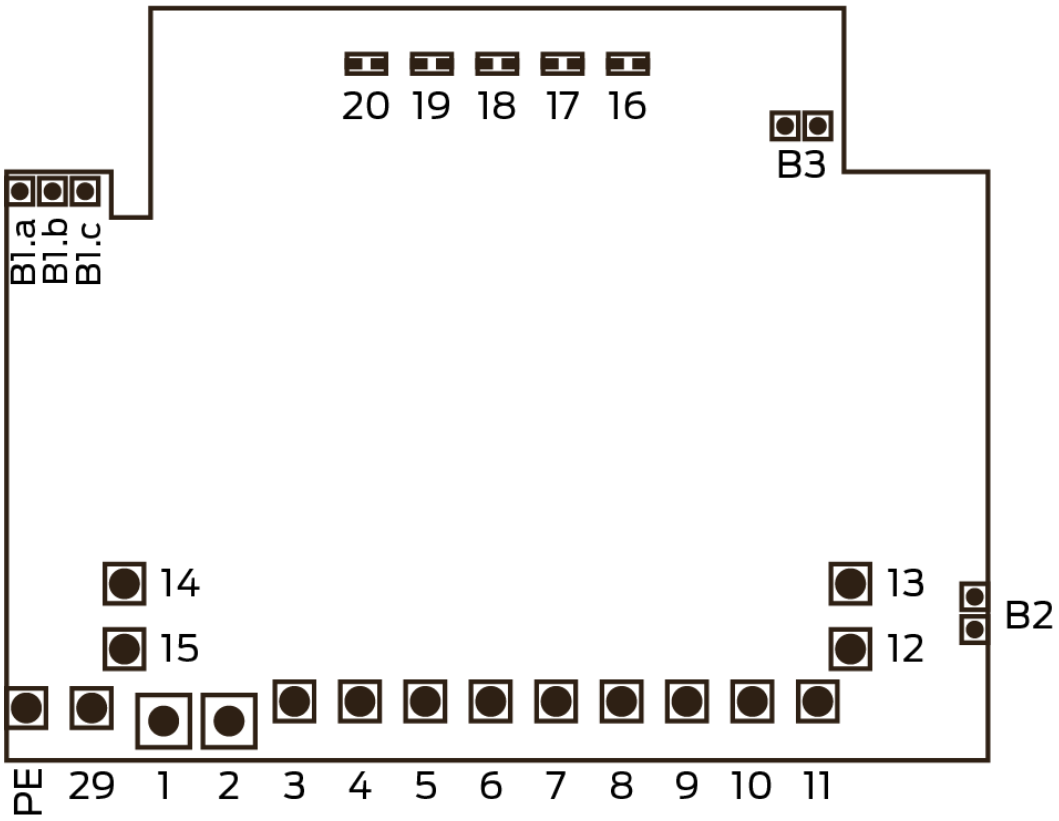
The deactivation units deactivate their locks and then no longer pull the deactivation acknowledgement line to ground. The deactivation acknowledgement line becomes highly resistive. This enables the activation master to recognise that all locks have been deactivated and informs the burglar alarm system that it can activate.

You suppress this activation by keeping the deactivation acknowledgement line at ground potential. To do this, connect a potential-free contact between pin 13 and a ground pin (GND, pin 2 or pin 15). As long as the potential-free contact keeps the deactivation acknowledgement line at ground potential, the activation master cannot detect that all of the locks have been deactivated and does not inform the burglar alarm system that it should activate.

You can use this behaviour to ensure that a activation of the alarm system is only possible from the outside even without separate antenna (see *Activation units with button, without separate antenna [▸ 46]*).

5.4.3 Activation slave

5.4.3.1 Connections of the activation slave



Connection	Meaning
PE	Connection for cable shield
1	Supply voltage (+V)
2	Supply voltage (ground)
3	Connection for external LED (+ anode, 5 V_{DC} with built-in 100Ω resistor)
4	Connection for external LED (- cathode with built-in 100 Ω resistor)
5	Not used
6	
7	
8	Sabotage contacts
9	
10	
11	

Connection	Meaning
12	■ Activation suppression (optional, e.g. bolt contact evaluation) ■ If pulled to ground, then no activation (activation suppression).
13	Deactivation acknowledgement line (input)
14	Activation request to the activation master (output)
15	Ground (identical with connection 2)
16	Connection for external antenna (green)
17	Connection for external antenna (blue)
18	Connection for external antenna (ground/shield)
19	Connection for external antenna (red)
20	Connection for external antenna (yellow)
29	Acoustic activation acknowledgement by burglar alarm system (input)

5.4.3.2 Power supply

- Connect a suitable power supply (see *Technical specifications [▸ 48]*).

5.4.3.3 Setting the jumpers at the slave

Jumper B1

- Jumper connects B1.b and B1.c: Activation slave beeps after activation release (acknowledgement of activation request by activation master)
- Jumper connects B1.b and B1.a: Activation slave beeps when burglar alarm system pulls pin 29 on the activation master to ground (VdS-compliant: Acknowledgement of activation by burglar alarm system)

Jumper B2

If jumper B2 is inserted, the range of the internal antenna is maximised. The range of the optional external antenna remains unchanged.

You limit the range of the external antenna with an aluminium sleeve (see *Connection of the external antenna at the slave (optional) [▸ 44]*). In this case, set the jumper.

Using the external antenna without an aluminium sleeve is not VdS-compliant (see *VdS requirements [▸ 22]*).

Jumper B3

Do not plug in jumper B3.

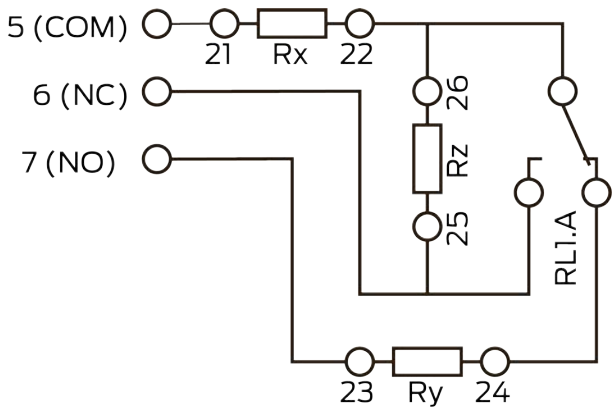
5.4.3.4 Switching contact

You only need pins 5 to 7 (see *Connections of the activation slave [▸ 38]*) of the activation slave if the burglar alarm system is to activate internally.

In case of internal activation, the burglar alarm system only evaluates the detectors of a partial area.

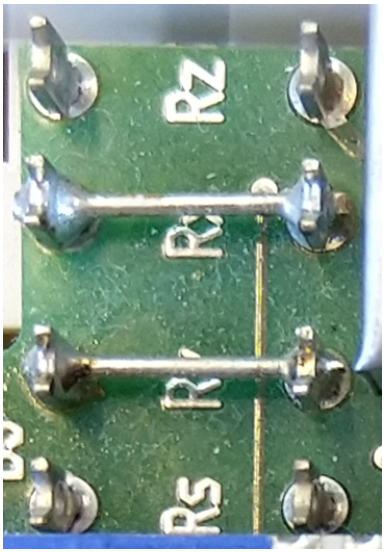
Wire the corresponding activation slave separately from other activation units and connect pins 5 to 7 to the internal activation connection of the burglar alarm system. The relay contact is not static, but acts for 1.2 s on the internal activation connection of the burglar alarm system.

Connect the switching contact to the alarm system. The alarm system should internally activate the corresponding section when the relay is energised. Please refer to the documentation of the burglar alarm system for wiring and any terminating resistors.



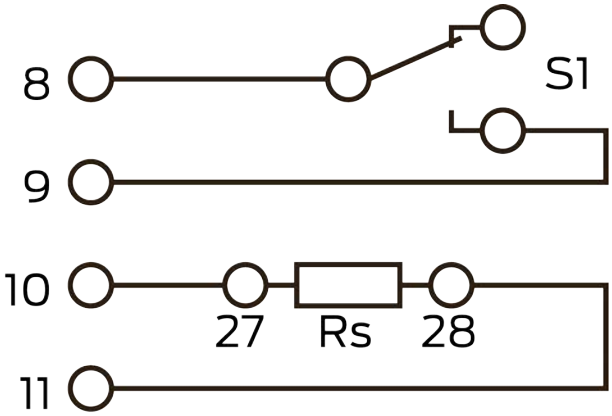
The contact bridges are equipped ex works as follows:

Contact bridge	Layout
Rs	Open
Ry	Wire jumper
Rx	Wire jumper
Rz	open, optional termination resistor



5.4.3.5 Anti-tamper contact

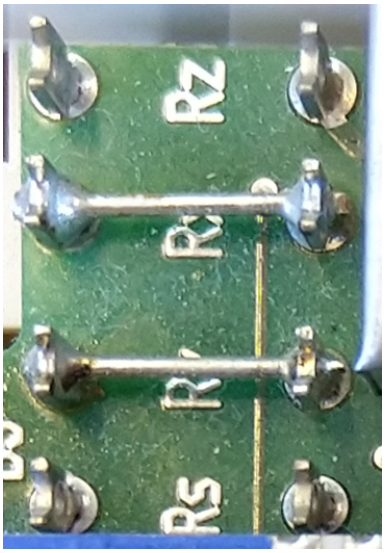
The device has a sabotage contact. In the normal state (cover closed) a microswitch is pressed down and connects the terminals 8 and 9.



Connect the contacts 8 and 9 with a suitable evaluation. If the cover is opened or the cable is cut, the contacts are open from the point of view of the evaluation and you can react to the sabotage attempt.

The contact bridges are equipped ex works as follows:

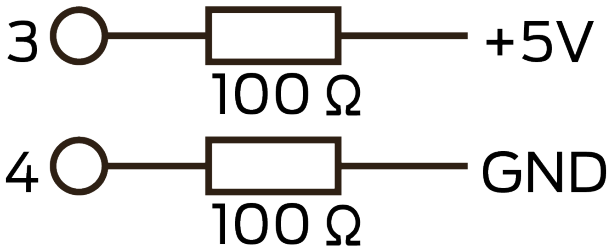
Contact bridge	Layout
Rs	Open
Ry	Wire jumper
Rx	Wire jumper
Rz	open, optional termination resistor

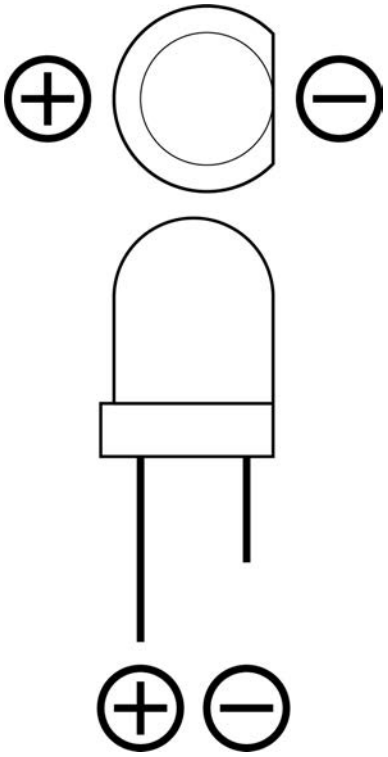


5.4.3.6 External LED

You can connect an external LED to contacts 3 and 4 (recommended). This gives you optical feedback from the block lock system and allows you to query the status of the alarm system, for example.

- Take into account the voltage drop on the line.
- Use an LED suitable for the built-in series resistors (e.g. standard 5 mm LED).





5.4.3.7 Acoustic acknowledgement

You have two options for the acoustic acknowledgement (selection via jumper):

Acknowledgement by activation unit	Acknowledgement by burglar alarm system
▪ After sending the request for activation to the burglar alarm system, the activation master and the activation slaves beep. ▪ This solution is not VdS-compliant.	▪ When activation is complete, the burglar alarm system switches an output to ground. ▪ Connect this output to pin 29 of the activation master (see *Connections of the activation master [▸ 31]*) and to pins 29 of any existing activation slaves (see *Connections of the activation slave [▸ 38]*). ▪ This output pulls pin 29 of the activation slaves and the activation master to ground. ▪ The activation master and the activation slaves then beep. ▪ This solution is VdS compliant.

5.4.3.8 Connection of the external antenna at the slave (optional)

The external antenna cannot be retrofitted.

- ✓ System de-energised.
- ✓ Activation slave prepared for external antenna (.AV).

1. Shorten the cable of the external antenna to the desired length.
2. Strip the cable over a length of 5 cm.
3. Strip the individual wires.
4. Connect the colour-coded cable to the appropriate connectors (see *Connections of the activation slave [▸ 38]*).

For VdS-compliant installation, see *VdS requirements [▸ 22]*.

5.4.3.9 Local activation suppression (optional)

You can prevent activation of an activation slave by switching a potential-free contact between pin 12 and pin15. If the contact is closed, activation cannot be performed locally (from this activation slave). The activation behaviour of other activation units remains unchanged.

You can use this behaviour to ensure that a activation of the alarm system is only possible from the outside even without separate antenna (see *Activation units with button, without separate antenna [▸ 46]*).

5.5 Testing the block lock function

1. Press an authorised transponder on an activation unit twice in quick succession (0.5 s to 2 s).
   - ↳ LEDs on deactivation units go out.
   - ↳ Acoustic acknowledgement of the activation request sounds: Acknowledgement by activation master (jumper B1 on b/c): 2.5 s or acknowledgement by burglar alarm system (jumper B1 on a/b): Dependent on burglar alarm system
   - ↳ Locking devices are deactivated.
   - ↳ Alarm is activated.
2. Check that the locking devices are deactivated.
3. Press an authorised transponder on an activation unit twice again in quick succession (0.5 s to 2 s).
   - ↳ Locking devices are activated.
   - ↳ Activation unit signals that the locking devices have been activated: Acknowledgement by activation master (jumper B1 on b/c): Single short-long flashes or
     acknowledgement by burglar alarm system (jumper B1 on a/b): Double signal tone on activation unit
   - ↳ LEDs of the deactivation units light up again.
   - ↳ Alarm system is deactivated.

   ↳ Locking devices are activated and can be switched again.
4. Check that the locking devices are activated.
5. Repeat this function test several times.
6. Set jumper B1 to a/b, if not already done (VdS-compliant acknowledgement by burglar alarm system).
7. Close the housing with the cover.
8. Stick the supplied VdS stickers onto the slotted screws.
   ↳ Components can no longer be tampered with undetected (sealing of the screws).

↳ Block lock function is set up.

6. Special cases

6.1 Deactivation aster without deactivation unit

If only the burglar alarm system is to be activated and deactivated externally with the transponder instead of with a key, only an activation master unit (SSM) is required. In this case, however, the actual purpose of the block lock function is dispensed with (accidental access by locks is not prevented by activation).

1. Connect the power supply to the activation master.
2. Connect the switching contact.
3. Connect the sabotage contact. The other pins are not used.

6.2 Deactivation unit without activation unit

If the alarm system continues to be operated using a conventional key, no activation units are required. A relay contact is required on the burglar alarm system, which is closed when the alarm system is activated.

1. Connect the power supply to the deactivation unit.
2. Connect pins 13 and a ground connection (e.g. pin 15) to the relay contact of the alarm system (potential-free closing contact).
3. Connect any existing bolt switch contact to pins 12 and 15 (see also *Optional bolt contact evaluation (global activation suppression) [▸ 29]*).

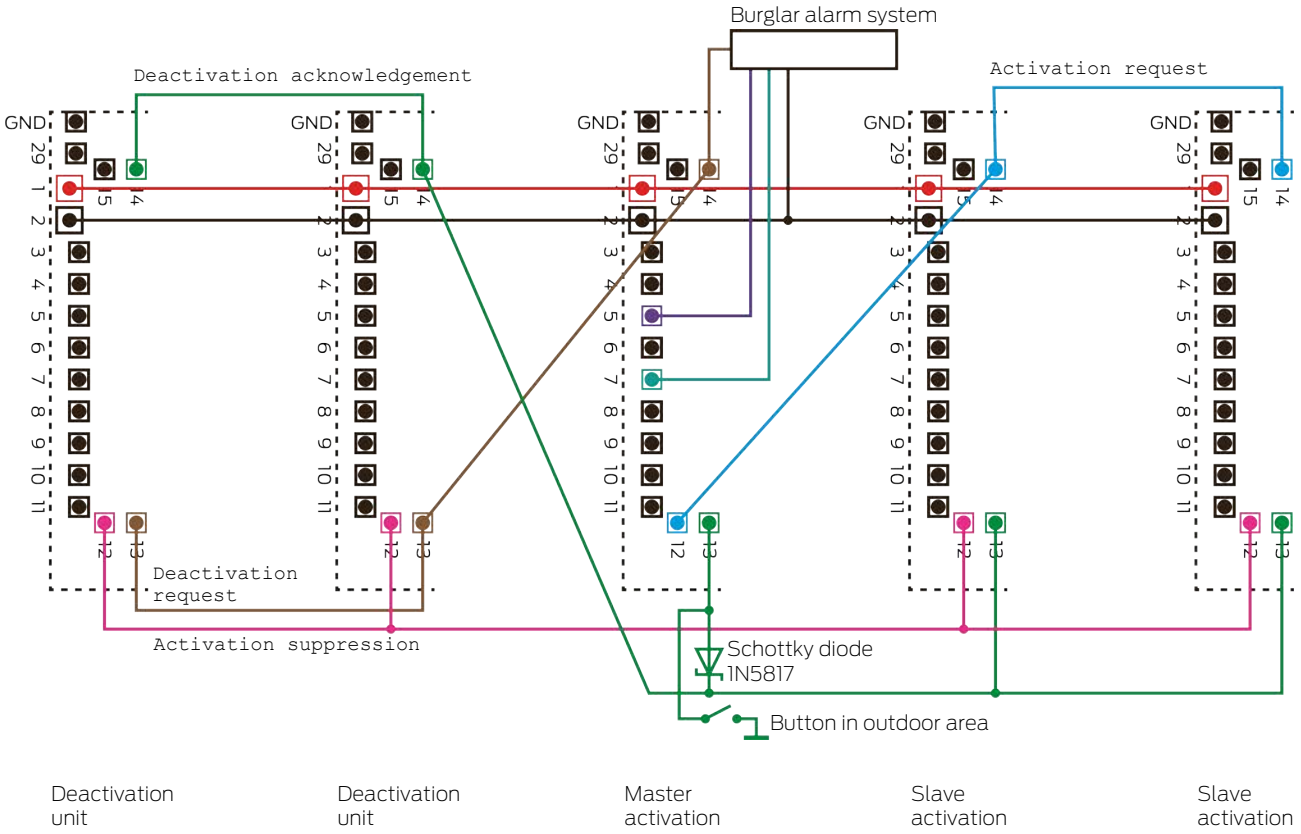
↳ If the alarm system is activated, pin 13 is pulled to ground. The reaction is the same as a deactivation request from an activation unit: The deactivation unit deactivates its locking device.

↳ It is no longer possible to operate the locking device when the alarm is activated.

6.3 Activation units with button, without separate antenna

The combination with a button allows operation without separate antenna, where activation is only possible from the outside. For each activation unit there is one opening button on the outside and connects pin 13 (activation master) or pin 12 (activation slaves) with ground potential, thus preventing activation.

Activation is only possible if the button on the outside is pressed and the user simultaneously activates his transponder. Since the button is located on the outside, it is ensured that the user is no longer in the secured area.



Activation master

With activation masters, the deactivation acknowledgement is suppressed as long as pin 13 is connected to ground (see also *Global activation suppression (optional) [▸ 37]* and *Connections of the activation master [▸ 31]*).

Use an opening button to connect pin 13 to ground potential. Also do not plug jumper B2 to maximise the range.

A Schottky diode decouples the deactivation line. It is only required if activation slaves are used.

Activation slaves

For activation slaves, connect pin 12 to ground to prevent activation on this activation master (see also *Local activation suppression (optional) [▸ 44]* und *Connections of the activation slave [▸ 38]*).

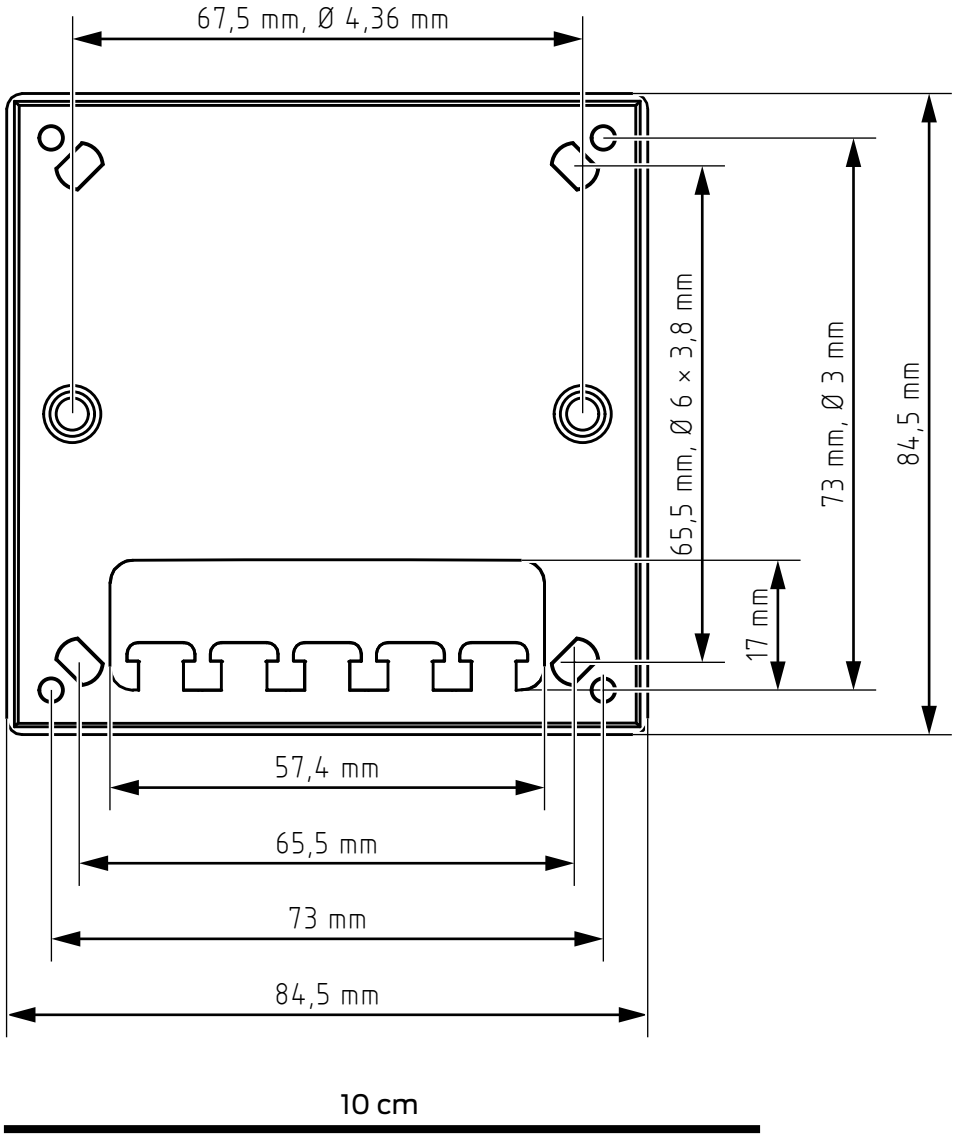
Use an opening button to connect pin 12 to ground potential. Also do not plug jumper B2 to maximise the range.

7. Technical specifications

VdS approval numbers

- Activation unit - G101160 - Class C
- Deactivation unit - G101161 - Class C
- Block lock function - G102014 - Class C

Activation and deactivation units



You can print out the drawing and use it as a drilling template.

NOTE

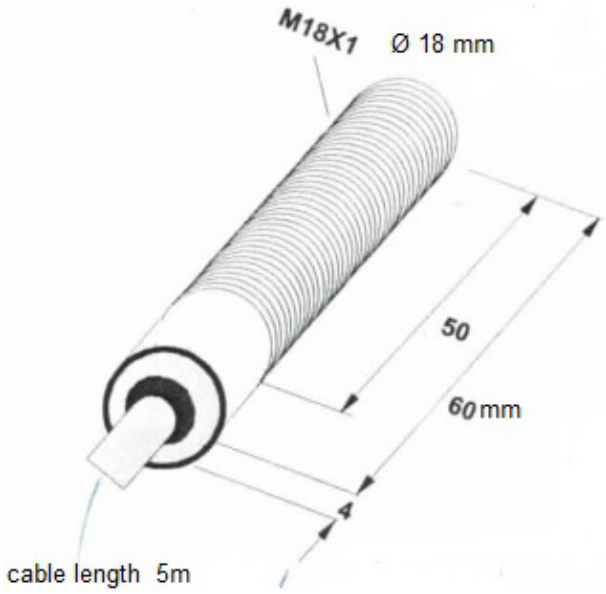
Ensure that the print settings are not set to reduce or enlarge. Use the lines under the drawings to check scale is correct.

Housing	Dimensions	84.5 mm × 84.5 mm × 26 mm
	Colour	White
	Material	S-B or ABS
Ambient conditions	Temperature range	-10 °C to +55 °C
	Standard protection rating	VdS environmental class II
Power supply	Operating voltage	8 V_{DC} to 16 V_{DC}
	Power consumption per unit	max. 30 mA
Connections	Relay for switching output	Continuous current < 1 A
		Inrush current < 1 A
		Switching voltage < 40 V_{AC}
		Switching capacity < 30 W / 60 VA
	Cover contact (normally open contact)	≤ 100 mA
		< 30 V_{DC}
Range of the transponder	With external antenna	1 cm to 3 cm

Radio emissions

23.5 kHz - 26.5 kHz	≤ 18 dbµA / m (10 m distance)

External antennas



8. Declaration of conformity

The company SimonsVoss Technologies GmbH hereby declares that the articles (BS.SCHALT.VDS.M*, BS.SCHALT.VDS.S*, BS.DEAK.VDS*) comply with the following guidelines:

- 2014/53/EU -RED-
  or for the UK: UK statutory 2017 No. 1206 -Radio equipment-
- 2011/65/EU -RoHS-
  or for the UK: UK statutory 2012 No. 3032 -RoHS-

The full text of the EU Declaration of conformity is available at the following internet address: *www.simons-voss.com/en/certificates.html*.
The full text of the UK Declaration of conformity is available at the following internet address: *www.simons-voss.com/en/certificates.html*.

9. Help and other information

Information material/documents

You will find detailed information on operation and configuration and other documents on the website:

https://www.simons-voss.com/en/documents.html

Declarations of conformity

You will find declarations of conformity and other certificates on the website:

https://www.simons-voss.com/en/certificates.html

Information on disposal

- Do not dispose the device (BS.SCHALT.VDS.M*, BS.SCHALT.VDS.S*, BS.DEAK.VDS*) in the household waste. Dispose of it at a collection point for electronic waste as per European Directive 2012/19/EU.
- Take the packaging to an environmentally responsible recycling point.

Technical support

Our technical support will be happy to help you (landline, costs depend on provider):

+49 (0) 89 / 99 228 333

Email

You may prefer to send us an email.

support-simonsvoss@allegion.com

FAQs

You will find information and help in the FAQ section:

https://faq.simons-voss.com/otrs/public.pl

Address

SimonsVoss Technologies GmbH
Feringastr. 4
D-85774 Unterfoehring
Germany

This is SimonsVoss

SimonsVoss, the pioneer in remote-controlled, cable-free locking technology provides system solutions with a wide range of products for SOHOs, SMEs, major companies and public institutions. SimonsVoss locking systems combine intelligent functionality, high quality and award-winning design Made in Germany.

As an innovative system provider, SimonsVoss focuses on scalable systems, high security, reliable components, powerful software and simple operation. As such, SimonsVoss is regarded as a technology leader in digital locking systems.

Our commercial success lies in the courage to innovate, sustainable thinking and action, and heartfelt appreciation of employees and partners.

SimonsVoss is a company in the ALLEGION Group, a globally active network in the security sector. Allegion is represented in around 130 countries worldwide (www.allegion.com).

Made in Germany

SimonsVoss is truly committed to Germany as a manufacturing location: all products are developed and produced exclusively in Germany.

SimonsVoss technologies

Made in Germany

A BRAND OF ALLEGION