Manual
Digital Locking Cylinder 3060

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SimonsVoss technologies

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1 Intended use

SimonsVoss digital Locking Cylinder are installed in designated door locks (such as DIN mortise locks) to integrate them into a digital locking system.

Digital Locking Cylinder may only be used for its intended purpose in a designated door. No other use is permitted.

Digital Locking Cylinder is available in various lengths. The selection of the proper size is of significance. The length of the locking cylinder is printed on the packaging and can be measured at any time. If the cylinder is too short, the handles cannot be fitted. If the cylinder is too long, it may be ripped out of the lock. The may not protrude more than 3 mm on each side of the door to ensure proper operation.

The product may not be changed in any way, other than in compliance with the changes described in the instructions.

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2 Safety instructions

Warning:

- Access through a door may be blocked due to incorrectly installed or incorrectly programmed Locking Cylinder. SimonsVoss Technologies GmbH is not liable for consequences of incorrect installation, such as blocked access to injured persons, physical damage or any other losses.
- The batteries used in the Locking Cylinder may pose a fire or burn hazard if handled incorrectly. Do not recharge, open, heat or burn these batteries. Do not short-circuit batteries.
- When used in combination with panic locks, after installation, you must ensure that all parts of the locking system are fully functional and the mortise lock panic function is guaranteed to work.
- The anti-panic cylinder may only be fitted into locks in which it is expressly approved for use. Please also refer to the lock manufacturer's information/documentation.
- If the anti-panic lock is used in non-approved locks, the escape door function may malfunction and no longer be triggered. Contact SimonsVoss Technologies GmbH for more information on use in anti-panic locks.
- Do not activate the anti-panic lock before it is fitted as there is a risk of injury from the cam springing back.
- As per European standard EN 179, Appendix C, all components in the anti-panic cylinder locking mechanism must be checked at intervals no greater than one month to ensure that all parts in the locking mechanism are in satisfactory working order as part of locking device maintenance.

Note:

- SimonsVoss Technologies GmbH accepts no liability for damage caused to doors or components due to incorrect fitting or installation.
- The SimonsVoss Locking Cylinder may only be used for its intended purpose: opening and locking doors. No other use is permitted.
- Only trained specialists may install the cylinder.
- Do not allow the cylinder to come into contact with oil, paint or acids.
- Use the .WP version when installing outdoors.
- The inside of the Locking Cylinder features a protection rating of IP40. This is why it is important to ensure that the inside thumb-turn does not come into contact with water.
- Both knobs are freely rotating in anti-panic cylinders and can only be engaged using an authorised ID medium.

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- When used outdoors, the anti-panic cylinder is no longer guaranteed to function at temperatures below - 20 °C or above + 50 °C.
- A functions test must be performed without fail after installing the anti-panic cylinder or replacing its batteries.
- The WP variant must be installed when an anti-panic cylinder is used outdoors.
- We reserve the right to make modifications or further technical developments.
- This documentation has been compiled in accordance with the best knowledge available to us. However, errors cannot be ruled out. No liability is accepted in such cases.
- Should there be differences in the content of other language versions of this documentation, the German version applies in cases of doubt.
- All instructions must be followed precisely during installation. The person installing the system should hand these instructions as well as any maintenance instructions over to the user.
- For security reasons, the locking system password must consist of at least 8 characters. The code length for digital locking cylinders in System 3060 is 2^{168} bit.

Instructions on battery replacement

- Only trained specialists may replace the battery.
- Damage may be caused to the Locking Cylinder if you reverse the polarity.
- Only use batteries which have been approved by SimonsVoss!
- The cylinder must always be operated with two batteries.
- Dispose of old and used batteries in the proper manner and store them out of children's reach.
- Always replace both batteries when changing batteries.
- Do not touch the contacts on the new batteries with your hands when replacing the old ones. Use clean gloves free of fat or grease to handle the battery.
- When replacing the batteries, make sure that the electronics are not subject to mechanical load and are not damaged in any other way.
- Only use the SimonsVoss installation/battery key (Z4.KEY) to replace the battery.

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3 General information on System 3060

3.1 Product description

The SimonsVoss Digital Locking System 3060 is an electronic version of a mechanical locking system with the functions of a typical access control system.

Digital Locking Cylinder 3061 and the digital half cylinder are a main component in the locking and access control system, where radio communication replaces the mechanical authentication of a conventional key.

This product description details both the locking cylinder and the half cylinder. The design and operating mode of the two products are comparable in many respects. Any differences between the two products and different versions are pointed out in the corresponding sections.

'Locking cylinder' is taken to mean both 'locking cylinder' and 'half cylinder' in this document unless explicitly stated otherwise or taken out of context.

Data are transmitted for authentication using a transponder (25kHz inductive) or a smart card featuring the RFID standard MIFARE© Classic or MIFARE© DESFire.

Refer to the respective manuals for details about smart card products (SC). This description mentions the smart card cylinder, but does not describe it in any detail.

The locking cylinder is supplied in different versions and meets different profile standards, such as DIN 18252/EN1303, so that almost any lock anywhere in the world can be retrofitted with this cylinder. Digital Locking Cylinder 3061 has much to offer – greater security, greater flexibility, lower costs, network-ready without any wiring on the door or frame and less time and effort required for installation.

Digital Locking Cylinder 3061 is powered by two batteries in a redundant system. Cylinders operate as stand-alone components thanks to this integrated power supply, which also means there is no need to wire doors. An intelligent battery warning system also increases reliability.

The SimonsVoss system elements are not configured before delivery from the factory. They are first assigned to a locking system during initial programming. This makes it easier for stock keeping and makes product management simpler.

Thanks to modularity, all locking cylinders are seamlessly integrated into the SimonsVoss System 3060 and, like all SimonsVoss components, they can be programmed using the locking plan software. Other authentication components, such as Pin Code Keypad 3068, Biometric Reader Q3008 or Compact Reader 3078, can be connected as a wireless element. If the system is extended at a later stage, cylinders can be networked without wiring and managed in an online interconnected system.

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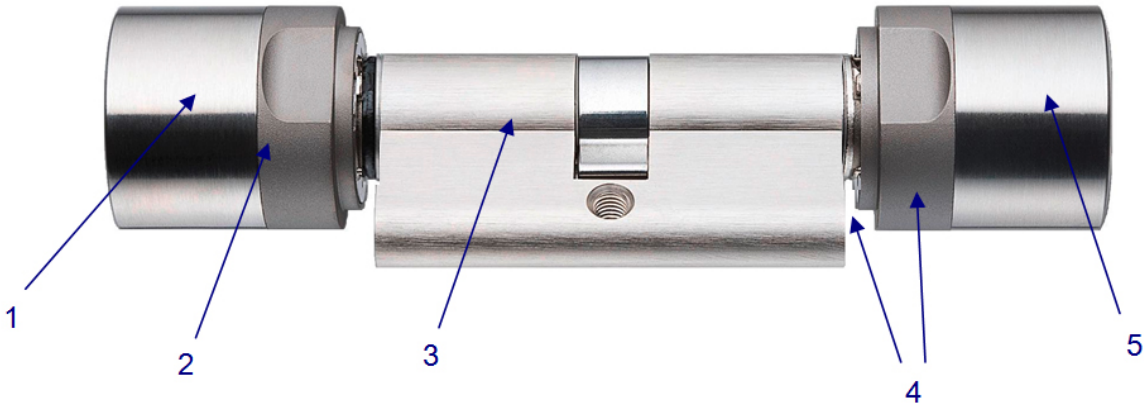
The locking cylinders are provided with two different firmware generations – G1 and G2. G2 features a more efficient communication protocol than G1. It will allow you to create larger, more efficient locking systems. Authorisations are written both on the locking cylinder and the transponder, thus delivering greater flexibility for programming. A G2 system can also form a virtual network, i.e. authorisations and blocking lists are written on the transponder and transmitted into the locking system. Refer to the G2 manual for more details.

3.2 Locking cylinder design



1. Inside thumb-turn
2. Batteries/electronics
3. Actuator
4. Drilling protection
5. Outside thumb-turn

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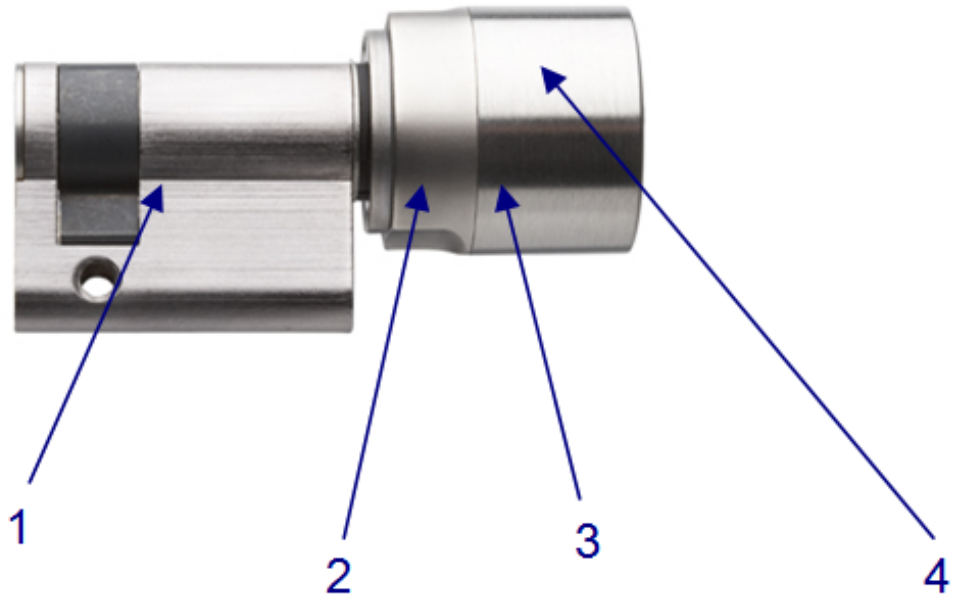
3.3 Half cylinder design



1. Actuator
2. Electronic systems
3. Batteries
4. Thumb-turn

3.4 Opening and locking from the outside

With freely rotating locking cylinders (FD)

The outer and inside thumb-turn rotate freely when not activated in the freely rotating Locking Cylinder, meaning it is not possible to open or lock the door without a valid ID medium. Identify yourself with your valid ID medium on the outer thumb-turn to activate the cylinder. If the ID medium is authorised, an audible signal will sound twice, the blue LED will flash twice and the locking cylinder will engage ready to open. Turn the outer thumb-turn in the direction of locking or opening. You have about five seconds to do so. The engage time can be configured. A single audible signal will then sound and the outer or inside thumb-turn will rotate freely again. Ensure that the outside or inside locking cylinder thumb-turn rotates freely again after the thumb-turn has been engaged ready for use.

NOTICE

If the user has an ID medium which is not authorised for use at that particular moment due to the time zone plan, a single audible signal will sound. The cylinder will not engage, so the outer or inside thumb-turn continues to rotate freely and the user cannot open the door. You need to configure this response separately in third-party systems.

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3.5 Opening and locking from the inside

With freely rotating locking cylinders (FD)

The outer and inside thumb-turn rotate freely when not activated in the freely rotating Locking Cylinder, Doors can also only be opened or locked on the outside using an ID medium.

With non-freely rotating locking cylinders (FD)

Locking Cylinder which are permanently engaged for use on the inside can be operated from the inside without a ID medium. In this case, the door can be opened and closed using the inside thumb-turn without an authorised ID medium.

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4 System 3060 designs

Different versions of the digital Locking Cylinder are offered to cover the different needs of the market. The different versions are indicated by a code. The different versions can be combined:

ABBREVIATION	DESIGNATION	LOCKING CYLINDER	HALF CYLINDER
FD	Standard (freely rotating)	X	
HZ	Half cylinder		X
Access control	Access Control	X	X
FH	Fire-retardant version	X	
TS	Button control	X	
MR	Multi-point	X	X
MS	Brass version	X	X
SKG	Class AZ VdS cylinder (basic protection against picking)	X	
VDS	Class BZ VdS cylinder (medium protection against picking)	X	
AP	Anti-panic function	X	
CO	Comfort cylinder	X	
WP	Waterproof - WP	X	X
SW	Seawater-proof	X	
WN	Network integrated	X	X
SC	SmartCard version	X	
VR	Shortened range		X
DK	Detachable knob		X
DM	Door Monitoring	X	

Refer to the current product catalogue to see which particular versions can be combined with one another. Locking cylinders are also supplied in different profiles to satisfy differences in different regions:

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PROFILE	LOCKING CYLINDER	HALF CYLINDER
Standard Euro profile cylinder as per DIN 18252/EN1303	X	X
Scandinavian Oval		X
British oval	X	
Swiss Round	X	X

Locking Cylinders are also offered in mortise and rim cylinder models for American door profiles.

4.1 FD version (Standard)

Freely rotating Locking Cylinder on both sides

The .FD double thumb-turn cylinder is available from a length of 30-30 mm.

4.2 HZ version (Standard)

The standard version of the half cylinder.

4.3 ZK version

Design is similar to standard version but with access logging and time zone control.

– Access event logging

  The locking cylinder logs up to 3,072 of the most recent access events with the date, time and transponder ID (TID). The data can be read via the network using the programming device.

– Time zone control

  TLocking Cylinder can be programmed in such a way that authorized transponders are only authorized for access at specific times. For G1, there are 5 (+1) time zone groups available per area (e.g. outer perimeter) within the different time zone schedules while G2 has 100 (+1) such groups.

4.4 version for steel and fire retardant doors

Design is similar to standard version but for doors with sturdy metal sections, such as fire doors, or doors with highly protective shielding. This version is recommended in areas with high interference fields, such as server rooms, and for all metal doors. The FH version cannot be retrofitted.

If wired networks are used, we recommend using this cylinder version due to its reduced projection.

Before a locking cylinder is installed into a fire/smoke retardant door, the fire certification has to be checked first to ensure that conformity is in place.

It must be ensured that any locking devices or sealing strips do not impede the orderly operation of the MC.

4.5 TS version

Design as for standard version, but with the additional option of allowing the cylinder to engage without an identification medium. This cylinder version can be engaged mechanically with the aid of two buttons on the inside knob. This means that no transponder is needed when the user is on the inside. The cylinder will then engage for five seconds (configurable) and the door can be opened or locked. Once this time interval expires, the cylinder rotates freely again on both sides.

The .TS version cannot be retrofit.

4.6 MR option

Design is similar to standard version but the locking cam features fixed points where it positions itself when disengaged. This version is particularly suitable for very smooth-running locks with multi-point locking systems.

Please observe the lock manufacturer's declaration of conformity when combining multi-point locks with a panic function.

4.7 MS version

The Locking Cylinder can be supplied with stainless steel or brass colour finish (highly glossy thumb-turn covers).

4.8 SKG or VdS versions (SZ)

The Locking Cylinder is also available in a VdS cylinder version as an option. The additional mechanical security features ensure that VdS Classes AZ and BZ or Class SKG*** are achieved. These versions cannot be combined with the brass, WP and anti-panic models. The VdS cylinder can only be supplied in combination with access control (ZK) functions.

NOTICE

Profile cylinders must be protected with VdS burglary-resistant door plates of class B or C in doors at risk from burglary. Such door plates conform to DIN 18257, Class ES 2 or ES 3. The cylinder may not protrude more than 3 mm above the door plate. The scope of burglary-resistant measures is based on the respective national provisions.

This version is available as .MS, .FH and WN versions.

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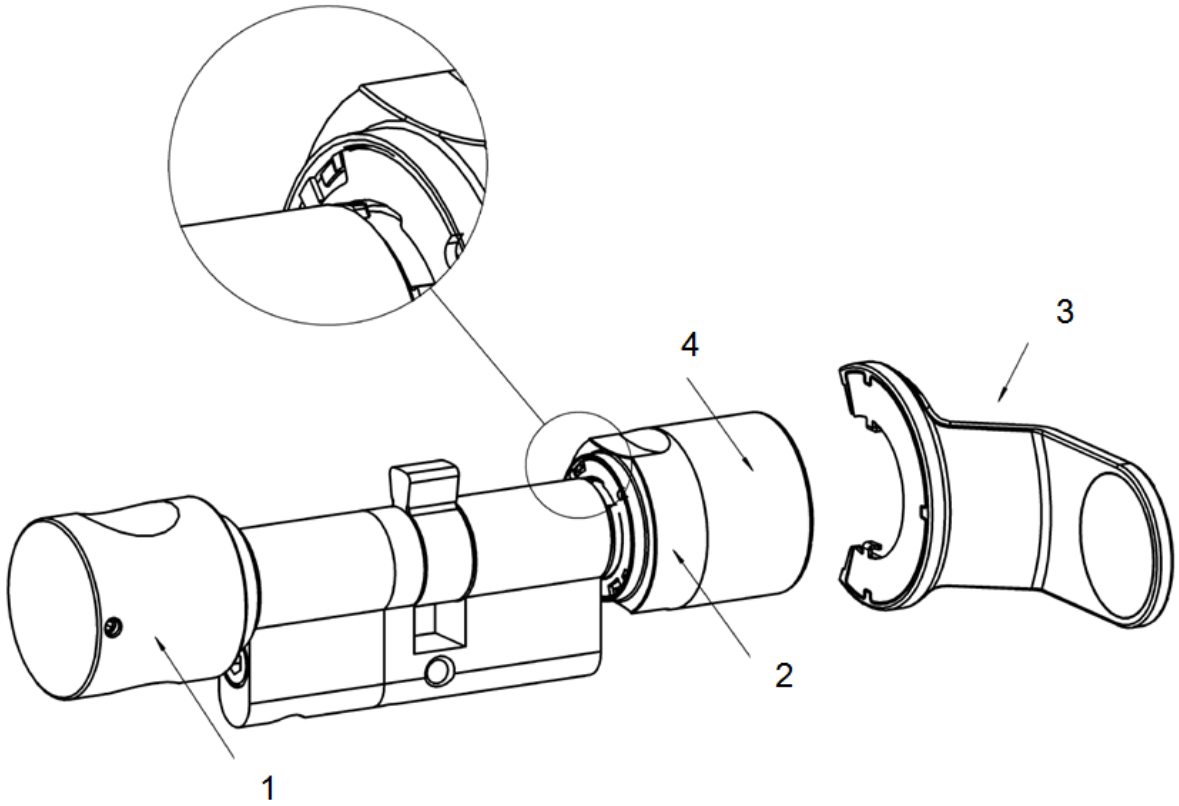
4.9 AP version

A cylinder with an anti-panic function must be fitted to all doors where the lock's panic function may be adversely affected by the position of the cam. This version contains an integrated spring mechanism which places the locking cam in a non-critical position, meaning a panic lock's panic function cannot be blocked.

In contrast to all other cylinders, the .AP type cylinder is fitted the other way round with the thumb-turn containing the battery and the electronics module installed on the outside (see diagram).

Unlike the standard anti-panic cylinder (AP), the inside thumb-turn of which is permanently engaged, the inside thumb-turn for the freely-rotating AP version (AP.FD) is disengaged mechanically and cannot be engaged with an identification medium.



1. Inside thumb-turn
2. Recessed grip ring
3. Battery replacement key
4. Outside thumb-turn

The following aspects should be taken into consideration for doors along rescue routes which have been installed after April 1, 2003 (exit devices as per DIN EN 179 or DIN EN 1125): All Locking Cylinder models may be used for all exit devices where their approval states that the Locking Cylinder has no impact on the lock's function. The Locking Cylinder type .AP (anti-panic cylinder) must be used for all exit devices where the Locking Cylinder cam position affects the lock's function. This must be stated in the lock manufacturer's approval.

⚠ DANGER Due to the structural design of panic locks, it is not permitted to turn the Locking Cylinder thumb-turn to the stop position when the door is locked since this may affect the lock's panic function.

4.10 AP2 Version

A cylinder with an anti-panic function must be fitted to all doors where the lock's panic function may be adversely affected by the position of the cam. This version contains an integrated spring mechanism which places the locking cam in a non-critical position, meaning a panic lock's panic function cannot be blocked.

You install this version in the same way as a normal Locking Cylinder.

The following aspects should be taken into consideration for doors along rescue routes which have been installed after April 1, 2003 (exit devices as per DIN EN 179 or DIN EN 1125): All Locking Cylinder models may be used for all exit devices where their approval states that the Locking Cylinder has no impact on the lock's function. The Locking Cylinder type .AP2 (anti-panic cylinder) must be used for all exit devices where the Locking Cylinder cam position affects the lock's function. This must be stated in the lock manufacturer's approval.

⚠ DANGER Due to the structural design of panic locks, it is not permitted to turn the Locking Cylinder thumb-turn to the stop position when the door is locked since this may affect the lock's panic function.

4.11 CO version

In the comfort cylinder (CO), the inside knob is permanently interconnected with the locking cam, so that doors can be opened and locked from the inside without needing to use a transponder.

4.12 WP Version (FD)

The protection rating is increased from IP 54 to IP 65 in the WP version (weatherproof) of the Locking Cylinder . This version is thus suitable for use outdoors or on external doors even if the cylinder is not exposed to direct splash water.

Anti-panic cylinder: The WP version is specifically designed for outdoor areas and should be fitted if the outside knob comes into contact with water (e.g. rainwater). The WP version features greater resistance to water, meaning the cam should not come into contact with water.

This version is available from a length of 30-35 mm and as .FD, .ZK, .MS and .FH models.

4.13 WP version (HZ/CO/AP)

The electronic knob is sealed in the WP version of the half, comfort and anti-panic cylinders, thus providing an increased protection rating of IP65. This version is thus suitable when the electronics side is outdoors, i.e. the electronic knob is exposed to rain, for example. Water must not enter through the door.

4.14 SW version (CO)

The SW (seawater) version of the comfort cylinder has been specially developed for use on ships or for direct use on the sea. A special, polished V4A knob and a coated handle component are used on the outside.

4.15 VR version (HZ)

This version features a shortened operating range. It is suitable for use in items such as locker doors and mail box systems when the distance to the next door is less than 40 cm.

4.16 DK version (HZ)

The knob can be detached and is ideal for installation behind cover plates on key switches, for example.

4.17 WN version (HZ)

The WN version is fitted with a network flap (LockNode Inside). This network cap enables the lock to be networked directly (networked connection between lock and the LSM).

This version is available for all models.

The network cover can be fitted to locking cylinder types manufactured after May 2008. This allows such cylinders to be retrofit with a network connection without a great deal of installation work.

4.18 DM version

The Door Monitoring Cylinder allows the Locking Cylinder to transmit door events to LSM in real time.

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4.19 Extra lengths

All double knob cylinders are available with an overall length of up to 140 mm or a maximum of 90 mm on one side. Longer lengths can be supplied on request. All half cylinders are available with an overall length of up to 100 mm or a maximum of 90 mm on the outside. Longer lengths can be supplied on request.

4.20 Examples of locking cylinder use

FD (ZK)	FH (ZK)	TS (ZK)	AP (ZK)
Entrance doors	Fire doors	Apartment entrance doors	Anti-panic doors*
Apartment entrance doors	Aluminium doors	Office doors	Emergency exits*
Office doors			
Connecting doors			
Self-locking doors			

*Comply with EN 179 and EN 1125 requirements and the lock manufacturer's data sheets.

The different versions can be combined as you wish. Exceptions are indicated in the individual model descriptions.

5 Installation instructions

5.1 General instructions

When installing the digital Locking Cylinder, ensure that there are no sources of low-frequency radio interference in the surrounding area.

The profile cylinder housing should be fitted flush in outside areas; it should project a maximum of 3 mm and a profile cylinder escutcheon or security fitting should be installed if necessary. It is also important to ensure that no water is able to penetrate the cylinder via the cam section.

You must not strike the thumb-turns when installing the cylinder.

All thumb-turns are locked into place with a bayonet mount (exception: anti-panic inside knob and SKG/VdS outside knob).

The inner side of the Locking Cylinder is laser-engraved with (the letters IL for inside length) on the profile cylinder housing; the electronics side is identifiable by the black plastic ring between the thumb-turn and the profile cylinder housing.

Batteries are already installed before delivery.

All the tasks listed in this section can also be carried out using the installation/battery key.

5.2 Programming the locking cylinder

Both the digital Locking Cylinder and the associated transponder must be programmed before installation. You can find more detailed information in the software operation instructions.

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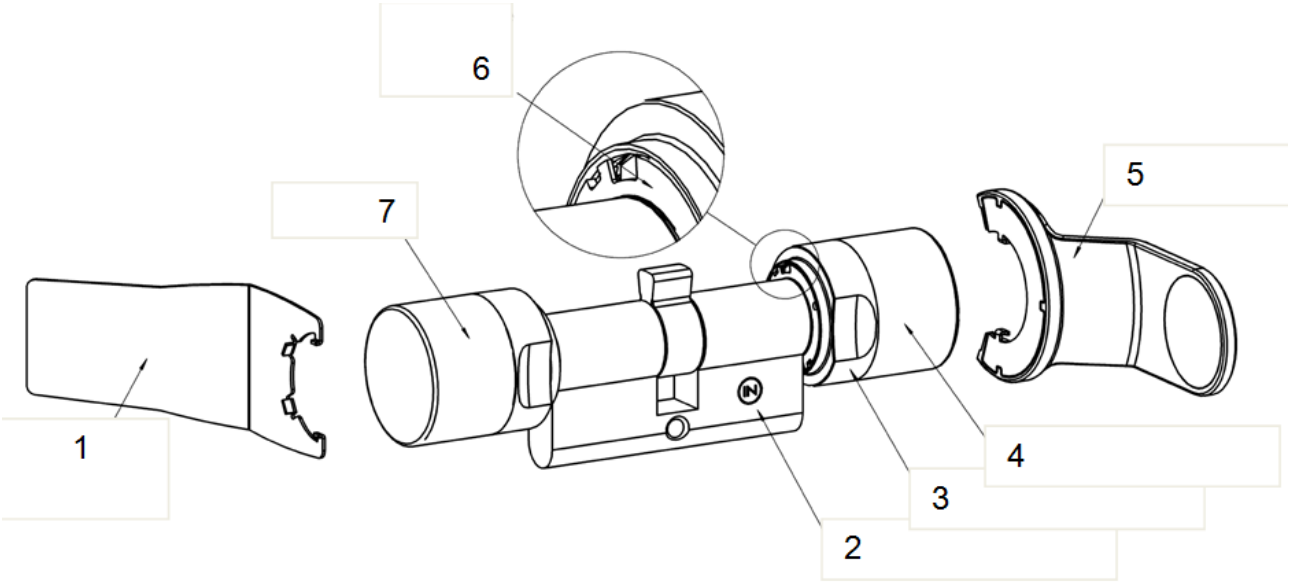
5.3 Installation variants

5.3.1 Installation of double thumb-turn cylinders (except types .AP/.SKG/.VdS)



1. Installation key
2. Side marking
3. Recessed grip ring
4. Inside thumb-turn
5. Battery replacement key
6. Locking disc with opening (identical on outside)
7. Outside thumb-turn

5.3.1.1 Removing the outside thumb-turn

Place the installation key on the outside thumb-turn in such a way that its two teeth engage into the outside thumb-turn; if necessary, turn the thumb-turn until both teeth lock into the locking disc.

NOTICE

The installation tool must be placed flat on the inside front surface of the thumb-turn to ensure that the tool can lock into the locking disc.

Hold the outside thumb-turn firmly and carefully turn the installation tool about 30° in a clockwise direction (until you hear a click). Detach door thumb-turn.

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5.3.1.2 Fastening the digital cylinder into the lock

Turn the cam until it is vertical and pointing downwards. Insert the digital locking cylinder through the lock in such a way that the inside thumb-turn (see diagram above) is facing the inner side of the door. Fasten the cylinder into the mortise lock with the fastening screw.

NOTICE

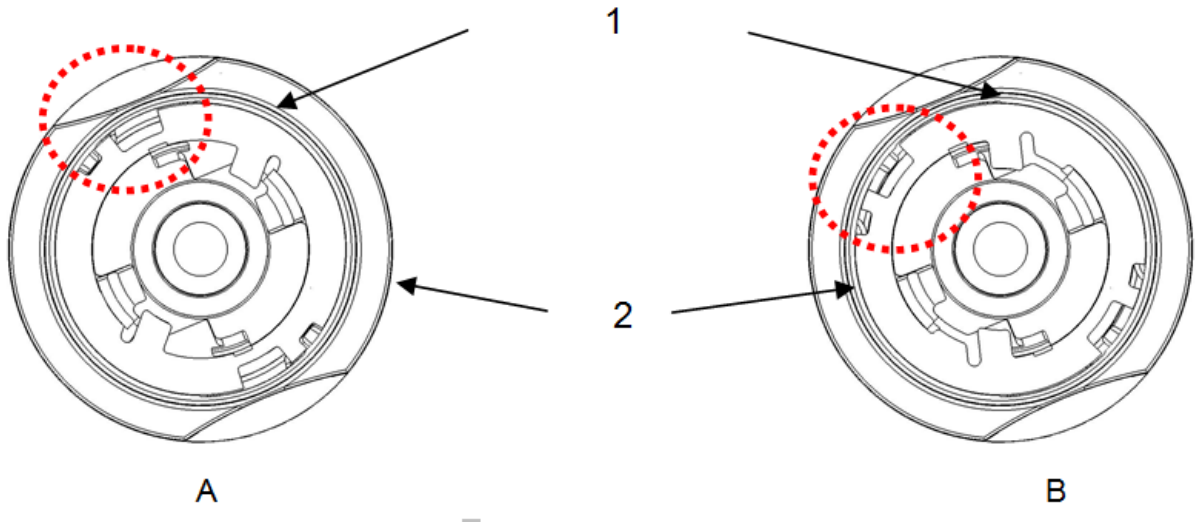
You must not strike the thumb-turns when installing the cylinder. Do not allow the cylinder to come into contact with oil, grease, paint or acids.

5.3.1.3 Fastening the outside thumb-turn

Replace the thumb-turn and turn in an anti-clockwise direction while applying slight pressure until the outer thumb-turn grips into the indents in the flange. Possibly place the thumb-turn in this position by pressing it towards the profile cylinder housing.

NOTICE

Turning the bayonet disc when not installed may prevent the thumb-turn from being fastened into position. In such a case, push the disc back into the original 'bayonet disc open' position using the installation tool. (see diagrams)



1. Bayonet disc
2. Thumb-turn
3. Bayonet disc closed
4. Bayonet disc open

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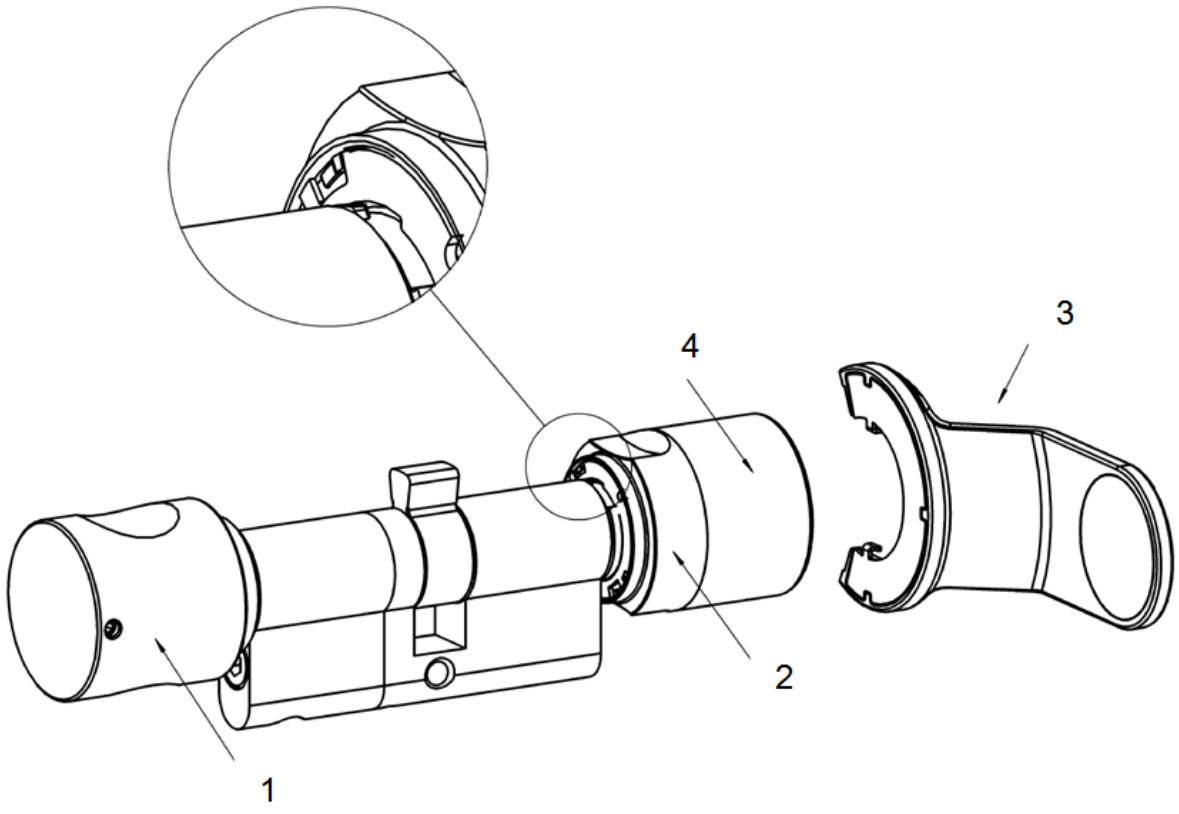
Place the installation key on the outside thumb-turn in such a way that its two teeth engage into the outside thumb-turn; if necessary, turn the thumb-turn until both teeth lock into the locking disc. Lock the thumb-turn into position again by rotating it 30° in a clockwise direction.

5.3.1.4 Carry out a function test

1. Engage cylinder using a valid ID medium and turn the thumb-turn in both the locking and opening direction with the door open. The thumb-turn must be able to rotate easily when you do so.
2. Close the door and repeat the process. If the locking cylinder should be stiff, you need to align the door or modify the strike plate.

5.3.2 Fitting an anti-panic cylinder



1. Inside thumb-turn
2. Recessed grip ring
3. Battery replacement key
4. Outside thumb-turn

The locking cam is always in a pre-defined position in the AP cylinder when disengaged. This prevents accidental blocking. Unlike other cylinder versions, the AP cylinder is installed the other way round (inserted into the lock from the inside to the outside).

5.3.2.1 Removing the inside thumb-turn

Loosen the inside thumb-turn's threaded pin (see diagram above) using an Allen key. Do not unscrew completely. Hold the cam firmly and then turn the inside thumb-turn anti-clockwise or, in the case of a freely rotating AP cylinder, remove the thumb-turn after loosening the threaded pin.

5.3.2.2 Fastening the digital cylinder into the lock

Turn the cam until it is vertical and pointing downwards. Insert the digital locking cylinder through the lock from the outside in such a way that the outside thumb-turn is facing the outer side of the door. Fasten the cylinder into the mortise lock with the fastening screw.

NOTICE

You must not strike the thumb-turns when installing the cylinder. Do not allow the cylinder to come into contact with oil, paint or acids.

5.3.2.3 Fastening the inside thumb-turn

Screw the inside thumb-turn onto the thread until it locks into place as it comes up against the cam in the lock. Pull on the inside thumb-turn, or push on the inside thumb-turn of a freely rotating AP cylinder, until it locks into position. Fasten the threaded pin tightly using the Allen key.

5.3.2.4 Functions test

- To verify that the AP2 cylinder functions correctly in an anti-panic lock, you must check that the cam moves easily and that the door opens correctly using the procedure described below.
- Carry out the functions test in the direction of escape.
- You must carry out a functions test whenever the cylinder or the fastening screw is repositioned.
- You will need an authorised identification medium to carry out the functions test.
- Withdraw the deadbolt before testing.

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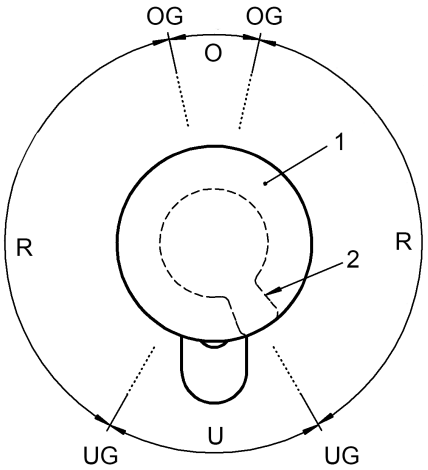

U section:	No restore force on the cam
R section:	Restore force section towards U section
O section:	Top dead point in deadbolt throw - no restore force on the cam
OG:	Top threshold section
UG:	Lower threshold section
1:	Thumb-turn
2:	Cam position (concealed)

1. With the cylinder engaged, first turn the thumb-turn in the direction of locking as far as the deadbolt throw in the 'R' section.
   ⇨ You will feel the restore force. When you release the thumb-turn in this position, it must turn back to the 'U' section of its own accord.
2. Lock the lock and check the restore force. To do so, turn the engaged thumb-turn in the direction of locking through the 'R' section and into the 'O' section.
   ⇨ The deadbolt extends. There is no restore force in the 'O' section.
3. Move the thumb-turn slightly over the threshold between the 'O' and 'R' section in the same direction of rotation.
   ⇨ The deadbolt will extend. The restore force must turn the thumb-turn automatically from this point as far as the 'U' section if it is released.
   ⇨ If the knob does not automatically rotate as far as the 'U' section, either the fastening screw has been tightened too firmly or the lock has been aligned incorrectly. The test is to be repeated after the fault has been eliminated. A fastening screw which has been tightened too firmly acts as a brake on the restoring force mechanism.

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4. Lock the door and check that the lock functions correctly by pressing the handle or panic bar in the direction of escape.
   ⇨ The deadbolt must spring back and it must be possible to open the door easily.
   ⇨ If the deadbolt does not draw back when the handle is turned or the handle catches, either the locking cylinder or the lock is incorrectly aligned or defective. The test is to be repeated after the fault has been eliminated as described above.

If you cannot ensure that the lock will function correctly after the functions test, please contact the SimonsVoss hotline.

5.3.3 Installation of SKG/VdS cylinders

Loosen the outside knob's threaded pin using an Allen key. Do not unscrew completely. Hold the inside knob firmly and then turn the outside knob anti-clockwise.

Turn the cam until it is vertical and pointing downwards. Insert the digital locking cylinder through the lock from the inner side. Fasten the cylinder into the mortise lock with the fastening screw. Then screw the outside knob back into position on the cylinder and tighten the threaded pin.

5.3.3.1 Installation of core extraction protection adapters (Z4.KA.SET)

The core extraction protection adapter (Z4.KA.SET) is compatible with all SKG/VdS cylinders manufactured up to 2010 and all .FD cylinders.

Instructions:

1. Disassemble the non-electronic knob.
2. Remove the rubber seal on the tip of the outside tube.
3. Place the core extraction protection adapter on the outside tube and turn while applying a little pressure, so that it grips into the indents on the flange (in a similar way to the knob when installed). The openings in the adapter and the outside tube web must align.
4. Insert the supplied screw through the lock and tighten carefully.
5. Replace the knob and turn in an anti-clockwise direction while applying slight pressure until the outer knob grips into the indents in the flange. Possibly place the knob in this position by pressing it gently towards the profile cylinder housing.

NOTICE

Turning the bayonet disc when not installed may prevent the thumb-turn from being fastened into position. In such a case, push the disc back into the original 'bayonet disc open' position using the installation tool.

6. Place the installation key on the outside thumb-turn in such a way that its two teeth engage into the outside thumb-turn (if necessary, turn the thumb-turn until both teeth lock into the locking disc). Lock the thumb-turn into position again by rotating it 30° in a clockwise direction.

5.3.3.2 Installation of core extraction protection adapters (Z4.KA.SET2)

The core extraction protection adapter (Z4.KA.SET2) is compatible with all SKG/VdS cylinders manufactured from 2011 onwards.

Instructions:

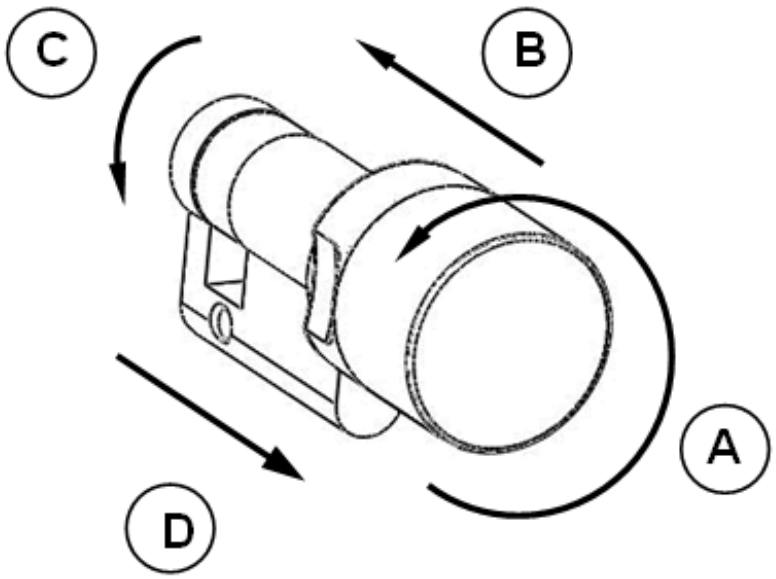
1. Disassemble the non-electronic knob.
2. Then screw the core extraction protection adapter into position on the cylinder and lock into place using the threaded pins.
3. Install the non-electronic knob on the core extraction protection adapter.

An elongated version of the adapter is available for the Italian market. (Z4.KA.SET2.IT).

5.3.4 Half Cylinder DK/MR

The thumb-turn, including the inside tube, can be removed from the cylinder housing to install the DK and MR versions. The procedure is described below. It is only necessary for key switches, for example, if the half cylinder cannot be installed using the fastening screw.

5.3.4.1 Disassembly



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If you need to disassemble the half cylinder, please proceed as follows:

1. Using a tool such as a screwdriver, grip into the two slots in the plastic disc between the thumb-turn and the profile cylinder housing and turn the tool while applying a little pressure. This breaks the disc.
2. Remove the remains of the plastic disc.
3. Engage the half cylinder using an authorised ID medium.
4. While the thumb-turn is engaged, turn it anti-clockwise until it will turn no more (e.g. towards the lock when installed or holding the cam with your hand when not installed; see Step A in the diagram).
5. Press thumb-turn towards profile cylinder housing until it stops (you will hear it click. If necessary, move thumb-turn backwards and forwards several times until you hear a click; see Step B and D in the diagram).
6. If needed, engage the half cylinder once more using an authorised ID medium.
7. While the thumb-turn is engaged, turn it anti-clockwise and apply pressure against the stop position (see Step B and D in the diagram).
8. While applying pressure, pull the thumb-turn (including inside tube) from the profile cylinder (see Step D in the diagram).

NOTICE

You must not strike the thumb-turn during installation. Do not allow the cylinder to come into contact with oil, paint or acids.

5.3.4.2 Installation

1. Remove the metal discs on the inside tube and push a plastic disc onto it instead. You will find the plastic disc in the supplied package.
2. Push the removed metal discs onto the inside tube, so that a plastic disc and a varying number of metal discs, depending on the half cylinder type, are on the inner tube.
3. Push the inner tube thumb-turn into the profile cylinder housing until it stops.
4. Engage cylinder using an authorised ID medium.
5. While the thumb-turn is engaged, press it gently against the profile cylinder housing while turning clockwise at the same time until the inside tube clicks into place in the profile cylinder housing.

NOTICE

Check that it has locked into position correctly by pulling the thumb-turn gently while turning it backwards and forwards.

NOTICE

You will find the required plastic discs in the supplied package.

When installing, ensure that only one plastic disc and the same number of metal discs are on the inner tube as when you took it apart. The plastic disc must be placed directly on the thumb-turn.

5.3.4.3 Functions test

1. Engage half cylinder using a valid ID medium and turn the thumb-turn in the locking and opening direction with the door open. The thumb-turn must be able to rotate easily when you do so.
2. Close the door and repeat the process. If the half cylinder should be stiff, you need to align the door or modify the strike plate.

This generally also applies when installing the cylinder in a key switch, for example.

5.3.5 Installing Swiss Round

Both cylinders and a fitting need to be removed from doors when installing a Swiss round cylinder.

The inside thumb-turn is removed and re-fitted in the same way as Half Cylinder DK / MR.

The outside knob is removed and re-fitted in the same way as the outside knob on a VdS cylinder.

1. Disassemble inside thumb-turn and outside thumb-turn. Remove a fitting from the door.
2. Push cylinder into the profile and fasten with the fastening screw.
3. Fit inside thumb-turn and outside thumb-turn. Mount fitting again.

6 System 3060 audible signals

The Locking Cylinder emits an audible signal to indicate its status and an authorisation. The table below lists what the audible signals mean.

2 short audible signals before engaging and a short tone after disengaging.	Normal activation	None
1 short audible signal: cylinder does not engage.	Attempted entry with a transponder listed in the locking system, but: – used outside time zone. – Activated alarm system while using the SimonsVoss Block Lock.	None
Battery Warning Level 1: 8 short audible signals before engaging.	Batteries are low.	Replace batteries in the cylinder.
Battery Warning Level 2: 8 short audible signals 30 seconds long with one second pause each time before engaging.	Batteries are almost completely empty.	Replace batteries in the cylinder immediately.
Freeze mode (G2 only): 6 audible signals (long – pause – short).	Battery empty. Cylinder can no longer be opened using an authorised transponder. Cylinder can only be engaged using a battery replacement transponder.	Replace batteries and reset with a battery replacement transponder.
8 short audible signals after disengaging.	Transponder battery is low.	Have transponder battery replaced.

6.1 Battery warnings

A battery management system has been implemented in locking cylinders and transponders which warns the user in good time that the battery capacity is diminished. This prevents the batteries from becoming fully discharged. The individual battery warning levels are described below.

The locking cylinder batteries feature a redundant system. If one of the batteries fails or its capacity falls below a certain level, the system emits a battery warning.

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The battery warning levels between G1 and G2 differ after Battery Warning Level 2 if the battery capacity falls under the emergency battery warning threshold values.

– Warning Level 1: Low batteries

  If the charged capacity falls below 25% in one of the batteries, Battery Warning Level 1 is activated. After you activate the transponder, you will hear eight brief audible signals in rapid succession before the cylinder engages. You must replace the batteries.

– Warning Level 2: Extremely low batteries

  If the locking cylinder batteries discharge even further, short audible signals are heard in rapid succession for about 30 seconds before the cylinder engages after the transponder is activated. The cylinder does not engage until the audible signals have finished. The batteries should be replaced as quickly as possible.

  If this warning level is ignored, the locking cylinder switches to what is known as storage or freeze mode.

– Emergency battery – Storage mode (G1 cylinders):

  In storage mode, the cylinder can only be opened with the aid of a programming device (Smart CD).

– Emergency battery – Freeze mode (G2 cylinders):

  In freeze mode, an audible signal will sound if an attempt is made to open using an authorised transponder (Section), but the cylinder will not engage.

  The G2 cylinder can now only be opened using a battery replacement transponder or programming device.

  – Active locking devices: The system administrator can use a G2 battery replacement transponder (freeze mode transponder) for about 30 seconds to eliminate freeze mode and open the door with a user transponder to replace the batteries.
  – SmartCard locking devices: The system administrator can use a G2 battery replacement transponder (freeze mode transponder) to permanently eliminate freeze mode (including warning levels) and open the door with a user transponder to replace the batteries.

NOTICE

After using the "2 battery replacement transponder"on SC locks, you must change the batteries immediately; if not, the batteries may discharge completely without any further warnings.

	WARNING LEVEL 1	WARNING LEVEL 2	FREEZE MODE
Active cylinder:	8 short audible signals before engaging	30 seconds long with one second pause each time before engaging	6 audible signals (long – pause – short)
	Up to 15,000 access events or up to 9 months on standby	Up to 50 access events or up to 30 days	Battery change: activate with battery replacement transponder
Cylinder SC (transponder use):	8 short audible signals before engaging	30 seconds long with one second pause each time before engaging	6 audible signals (long – pause – short)
Cylinder SC (SmartCard use):	LED flashes red briefly 8 times before engaging	LED flashes red briefly twice for 30 seconds before engaging	LED flashes red once and blue once
	Up to 300 access events or up to 30 days	Up to 200 access events or up to 20 days	Battery change: activate with battery replacement transponder

6.2 Battery warning for transponders

When the transponder battery is low, short audible signals are heard in rapid succession on the locking cylinder (not the transponder) after the locking cylinder disengages each time the transponder is used.

7 System 3060 battery replacement

7.1 General instructions

Only trained personnel may replace batteries.

You must wear clean gloves made of cloth and free of fat or grease when replacing the batteries to prevent the batteries being contaminated by fingerprints. Fingerprints on batteries may reduce battery life considerably.

Only use batteries which have been approved by SimonsVoss.

NOTICE

Damage may be caused to the Locking Cylinder if you reverse the polarity. The batteries used in this device may pose a fire or burn hazard if handled incorrectly. Do not recharge, open or burn batteries, or heat them to over 100° C.

NOTICE

Dispose of lithium batteries properly immediately after they have discharged. Store them out of children's reach; do not open and do not throw into a fire. Always replace both batteries when changing batteries. Please note safety instructions.

The locking cylinder retains its status, programming and saved protocols even without power supply.

7.2 Battery life

Battery life is different for each locking cylinder version as power consumption varies when the cylinder is activated or a data connection is established.

VERSION	BATTERY LIFE	NUMBER OF ACTIVATIONS	NUMBER OF BATTERIES
Standard cylinder and versions	Up to 10 years	Up to 300,000	2
WN	Up to 5 years	Up to 150,000	2

The specified battery life is for guidance only. A battery warning is not emitted when the aforementioned battery life expires, but is based on the measured battery status instead.

7.3 Emergency battery procedure

As stated above, a locking cylinder changes to storage mode (G1) or freeze mode (G2) if Battery Warning Level 2 is ignored. A different procedure is used each for G1 and G2 to eliminate this mode.

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7.3.1 Storage mode (G1)

If the locking cylinder is in emergency battery storage mode, proceed as follows to open the door to change the battery and reset the cylinder.

1. Take notebook or PDA (import locking plan beforehand) and programming device to the door in question.
2. Select the corresponding lock from the locking plan.
3. Re-programme locking cylinder without making any modifications. This eliminates the battery warning and storage mode.
4. Engage the locking cylinder using an authorised transponder and open the door. The cylinder will immediately revert to storage mode, as both batteries are almost empty.
5. Renew batteries (see below).
6. Re-programme locking cylinder without making any modifications. This eliminates the battery warning check marks and storage mode.
7. Engage the locking cylinder using an authorised transponder.

After battery replacement, the locking cylinder signals Warning Level 2 again. The locking cylinder's electronics then detect that the batteries are fully charged or have been replaced and the cylinder is available for normal use again.

7.3.2 Freeze mode (G2)

Emergency opening of the door and elimination of emergency retention mode in G2 is easier than G1 generation systems.

1. Programme the G2 battery replacement transponder if necessary.
2. Deactivate freeze mode using the G2 battery replacement transponder.
3. Use an authorised transponder to engage the locking cylinder and open the door.
4. Replace the battery.
5. Deactivate freeze mode using the G2 battery replacement transponder.
6. Use an authorised transponder to open the locking cylinder to test the function.

NOTICE

Only use the G2 battery replacement transponder to deactivate freeze mode and then immediately replace the cylinder batteries. Misuse may lead to complete battery discharge and, consequently, a complete failure of the cylinder.

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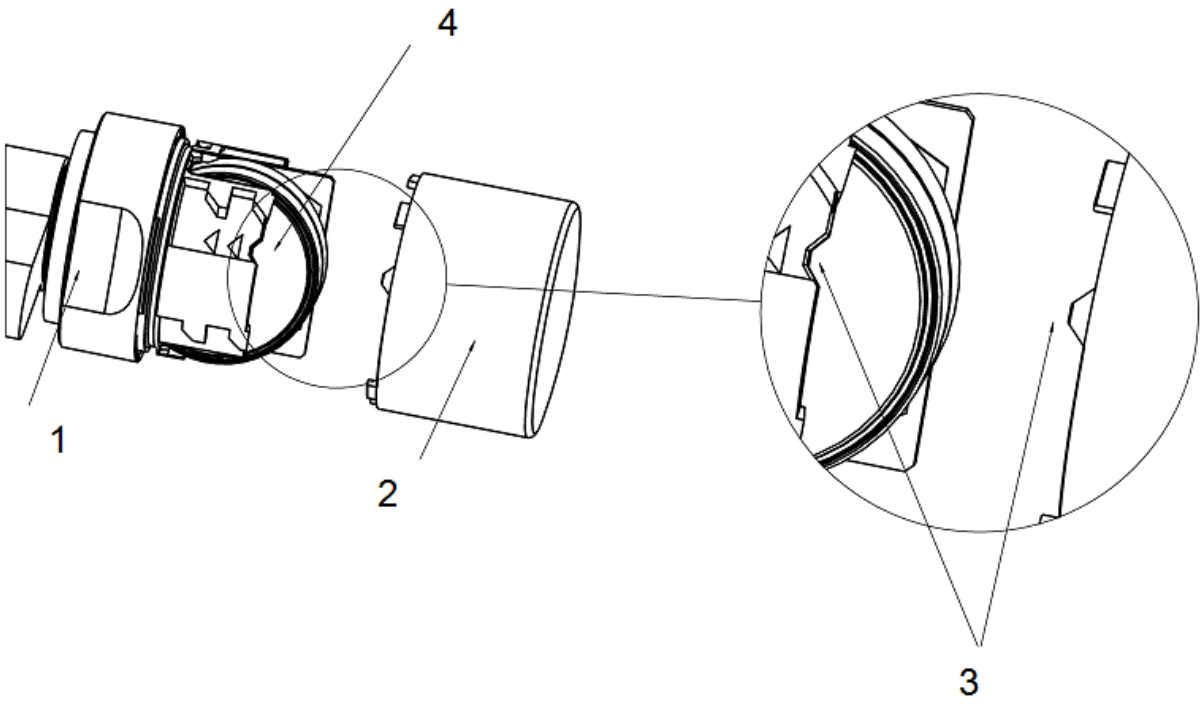
7.4 Procedure

1. Place the installation/battery key on the inside thumb-turn in such a way that the two teeth lock into the openings in the locking disc; if necessary, turn the thumb-turn until both teeth engage into the locking disc.

NOTICE

The tool must be placed flat on the inside front surface of the recessed grip ring to ensure that the installation/battery key can engage into the locking disc.

2. Hold the inside thumb-turn firmly and carefully turn the installation/ battery key about 30° in a clockwise direction (until you hear a click).
3. Remove installation/battery key from the thumb-turn.
4. Push recessed grip ring backwards towards the door, so that it comes away from the thumb-turn.
5. Hold recessed grip ring firmly and turn thumb-turn about 10° in an anti-clockwise direction and remove.
6. Carefully remove both batteries from the holder.
7. Insert the new batteries into the holder at the same time with the positive poles next to each other; change the batteries as quickly as possible. Use clean gloves free of fat or grease to handle new batteries.



8. Replace the thumb-turn (align the triangle mark as in the diagram), hold the recessed grip firmly and fasten the inside thumb-turn by turning in a clockwise direction (about 10°). (Diagram may differ slightly from the purchased product)
9. Push recessed grip ring back onto the thumb-turn, so that the thumb-turn and ring close together in a flush fit.
10. Place the installation/battery key on the inside thumb-turn in such a way that the two teeth lock into the openings in the locking disc; if necessary, turn the thumb-turn until both teeth engage into the locking disc.
11. Close the thumb-turn again by turning it about 30° in a clockwise direction (until you hear a click).

Then activate an authorised ID medium and check that it functions.

7.5 Procedure for outer thumb turn (MH cylinder)

4 batteries are built into the MH cylinder: 2 in the inside thumb-turn, 2 in the outer thumb-turn.

Proceed as follows to replace the two batteries:

1. Use the battery replacement key to detach the outer thumb-turn. To do so, face the outer thumb-turn and place the battery replacement key on the bayonet mount and turn in a clockwise direction until you can remove the thumb-turn easily.
   ⇨ The outer thumb-turn is now fully detached.
2. Place the battery replacement key on the detached thumb-turn again and open the bayonet mount completely *(turn in an anti-clockwise direction as you face the mount)*. You may be able to skip this step.
   ⇨ The lid springs open by itself as the bayonet mount is unscrewed.
3. Carefully lift off the lid.
   ⇨ The lid is attached to the thumb-turn with a small securing strap and a ribbon cable; the batteries are now exposed.
4. Insert new batteries in such a way that the two plus poles lie flat on one another and then position in the thumb-turn.

NOTICE You should always replace both batteries with new ones when changing the batteries.

NOTICE You must place the ribbon cable loop crossways directly under the thumb-turn lid.

5. Reattach lid to the outer thumb-turn and press gently.
   ⇨ The lid is now flush against the outer thumb-turn.

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6. Use the battery replacement key to lock the bayonet mount to a minimum extent until the lid locks into the outer lid of its own accord. (about 1° in a clockwise direction)
7. Re-attach outer thumb-turn onto the locking cylinder.
   ⇨ The outer thumb-turn is now flush against the locking cylinder.
8. Now use the battery replacement key to lock the bayonet mount completely. To do so, face the outer thumb-turn and place the battery replacement key on the bayonet mount and turn in an anti-clockwise direction until the thumb-turn is firmly in position.
9. Check that the outer thumb-turn is firmly attached again and test the locking cylinder function to ensure that it works.

8 Maintenance, cleaning and disinfection

NOTICE

Digital locking cylinders MUST not come into contact with oil, grease, paint or acids.

NOTICE

The use of unsuitable or aggressive disinfectants can damage the locking cylinder.

Clean the locking cylinder if necessary with a soft, moist cloth.

Only use disinfectants explicitly suitable for the disinfection of sensitive metal surfaces and plastic.

Empty batteries always must be replaced by new ones approved for use by SimonsVoss. Dispose of old batteries in the proper manner.

Carry out a new functions test after changing the batteries in anti-panic cylinders.

9 Areas of use

9.1 General information

The digital locking cylinder is compatible with locks for Euro profile cylinder as per DIN 18252 and EN1303.

9.2 Fire doors

As a general rule, this cylinder can be fitted into fire doors. However, you must check that it is actually approved for use in fire doors.

9.3 Doors along rescue routes

Type .AP should be installed for use in doors with an anti-panic function in which the position of the cam may have an effect on the lock's functioning. This must be specified in the lock manufacturer's approval. Also see industrial standards EN 179 and EN 1125 and the individual lock manufacturers' data sheets.

9.4 Installation outdoors

If you are unable to ensure that no water will come through the door, we recommend using the respective .WP versions. The outside knob is completely sealed in the anti-panic cylinder model and the whole cylinder is sealed in the double cylinder model.

10 Accessories

10.1 Knobs

The following special knobs are available as accessories:

- Outside knob in a TN4 design
- Outside knob, 42 mm in diameter with recessed grips
- Inside knob, 36 mm in diameter for a .TS cylinder
- Outside knob, shortened
- Brass knob, matt (inside and outside knob)

These knobs can replace the original locking cylinder knobs at any time. See Installation instructions or Battery replacement for knob installation.

10.2 Core extraction protection adapter (Z4.KA.SET)

This adapter is compatible with all SKG/VdS cylinders manufactured up to 2010 and all .FD cylinders.

There is a mechanical extension for core extraction protection fittings as the profile cylinder profile is not cut out of these fittings. The extension is 8 mm long and can be retrofitted at any time.

10.3 Core extraction protection extension for SKG/VdS cylinders (Z4.KA.SET2)

This adapter is compatible with all SKG/VdS cylinders manufactured in 2011 and onwards.

There is a mechanical extension for core extraction protection fittings as the profile cylinder profile is not cut out of these fittings. The extension is 8 mm long and can be retrofitted at any time.

10.4 Core extraction protection extension for SKG/VdS cylinders (Z4.KA.SET2.IT)

This adapter is compatible with all SKG/VdS cylinders manufactured in 2011 and onwards.

There is a mechanical extension for core extraction protection fittings as the profile cylinder profile is not cut out of these fittings. The extension length is 16 mm for special Italian escutcheons and can be retrofitted at any time.

10.5 Tool

In addition to the installation tool, a battery replacement key is also included in the supply package. You can use this tool to install or remove outside thumb-turns and replace batteries.

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10.6 Battery set

A new set of batteries can be ordered, which contains ten CR2450 batteries. Only ever use batteries approved by SimonsVoss.

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11 Data sheets

11.1 Locking cylinder

Profile cylinder

Basic length:	Outside 30 mm, inside 30 mm (AP/WP 35mm)

Installation lengths in 5 mm increments, overall length up to 140 mm (max. 90 mm on one side); special lengths on request.

Batteries

Type:	CR, 2450, 3 V
Manufacturer:	Sony, Panasonic, Varta
Quantity:	2 pc.
Battery life:	up to 300,000 lock operations or up to 10 years on standby

Ambient conditions

Operating temperature:	-25°C to +65°C
Storage temperature:	-35°C to +65°C
Protection class:	IP54 (when installed); .WP variant: IP 65

Features

- 3,000 access events can be logged (ZK)
- Network-ready with integrated LockNode (WN)
- LockNode can be retrofitted
- Time zone groups: G1: 5 / G2: 100
- Max. number of transponders per G1 Cylinder: 8000 / G2: 64,000
- Different permanent/open modes

Knobs

Material:	Stainless steel
Colours:	Brushed stainless steel
Diameter:	30 mm
Length:	37 mm (from front surface of profile)

FH cylinder knobs

Material:	Inside thumb-turn: stainless steel cover; recessed grip: plastic; outer thumb-turn: identical to standard cylinders
Colours:	Cover: brushed stainless steel; recessed grip: black; outside thumb-turn identical to standard cylinders
Diameter:	30 mm
Length:	37 mm (from front surface of profile)

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AP cylinder knobs

Material:	Outside thumb-turn: identical to standard cylinders: Aluminium
Colours:	Outside thumb-turn: Brushed stainless steel; inside thumb-turn: Nickel-coated aluminium
Diameter:	30 mm
Length:	Outside: 37 mm (from front surface of profile); inside: about 36 mm (from front surface of profile)

MS cylinder knobs

Material:	Outside thumb-turn: identical to standard cylinders; inside thumb-turn: identical to standard cylinders
Colours:	Outside thumb-turn: Cover made of high-gloss brass; recessed grip: matt brass: inside thumb-turn: Cover made of high-gloss brass; recessed grip: Matt brass
Diameter:	30 mm
Length:	Outside: 37 mm (from front surface of profile)

11.2 Half cylinder

Knobs

Material:	Stainless steel
Colours:	Brushed stainless steel
Diameter:	30 mm
Length:	37 mm (from front surface of profile)

Profile cylinder

Basic length:	outside 30 mm, inside 10 mm

Installation lengths in 5 mm increments (no installation kit) an overall length of up to 100 mm with a maximum length of 90 mm on the outer side of the cylinder. Greater lengths on request.

Batteries

Type:	CR, 2450, 3 V
Manufacturer:	Sony, Panasonic, Varta
Quantity:	2 pc.
Battery life:	up to 300,000 lock operations or up to 10 years on standby

Features

- 3,000 access events can be logged (ZK)
- Network-ready with integrated LockNode (WN)

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- LockNode can be retrofitted
- Time zone groups: G1: 5 / G2: 100
- Max. number of transponders per G1 Cylinder: 8000 / G2: 64,000
- Different permanent/open modes

Ambient conditions

Operating temperature:	-25°C to +65°C
Storage temperature:	-35°C to +65°C
Protection class:	IP54 (when installed); .WP variant: IP 65 (thumb-turn)

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12 Declaration of Conformity

You can access documents such as declarations of conformity and other certificates online at www.simons-voss.com.

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13 Help & Contact

Instruction manuals

You will find detailed information on operation and configuration online under INFOCENTER > DOWNLOADS on our homepage at www.simons-voss.de

Hotline

If you have any questions, the SimonsVoss Service Hotline will be happy to help you on +49 (0)89 99 228 333 (German fixed network; call charges vary, depending on the operator)

Email

Would you prefer to send us an email?

hotline@simons-voss.com

FAQs

You will find information and help for SimonsVoss products in the FAQ section
www.simons-voss.de
in INFO CENTRE > FAQ SECTION

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