

TRANSPONDER 3064 PRODUCT MANUAL

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1 SAFETY INSTRUCTIONS

- The transponder casing is protected against splash water. However, it is not watertight!
- Only use batteries which have been approved by SimonsVoss (see Section 9)
- The batteries used in Digital Locking Cylinder 3061 may pose a fire or burn hazard if handled incorrectly. **Do not** recharge, open, heat or burn these batteries. **Do not** short-circuit.
- Dispose of old and used batteries in the proper manner and store them out of children's reach!
- **Damage** may be caused to the transponder **if you reverse the polarity**.
- Do not touch the contacts on the new battery with your hands when replacing the old one. We recommend using cotton gloves free of fat or grease.
- When replacing the batteries, make sure that the electronics are not subject to mechanical load and are not damaged in any other way.
- Access through a door may be blocked due to defective or incorrectly programmed products. SimonsVoss AG is not liable for consequences of incorrect installation, such as blocked access to injured persons or those at risk, physical damage or any other losses. SimonsVoss Technologies AG accepts no liability for damage caused by incorrect fitting or installation.
- SimonsVoss Technologies AG reserves the right to make changes to the product or implement technical further developments without prior notice.
- 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.

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2 GENERAL INFORMATION

Transponder 3064 is a digital 'key' which is programmed with locking plan software and functions using contactless, wireless communication. All functions are activated by pressing a button. These include authorisation identification and the opening and locking of doors, gates, barriers, furniture locks and similar elements. The transponder communicates with digital components - cylinders, Smart Relay and activation units - by sending and receiving continually changing crypto codes, which ensure that the system cannot be misused.

As System 3060 functions using active transponder technology, the transponder features its own power source, a battery. This offers an advantage over passive technologies thanks to the lower power requirements in the cylinder and the greater operating range.

SimonsVoss supplies different transponder models. These models are described in this document.

The transponders are provided with two different firmware generations – G1 and G2. G2 features a more efficient communication protocol than G1. This will allow you to create larger, more efficient locking systems. Authorisations are written both on the locking cylinder and the transponder. This delivers greater flexibility in 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. This manual looks at the specific differences between transponders. Refer to the G2 manual for more detail.

The G2 transponder features both the G1 and G2 protocols and can thus be programmed for both locking system generations.

2.1 Mode of operation

To carry out an action, the transponder is held close to the digital lock (up to 40 cm for locking cylinders and 120 cm for Smart Relay) and then the transponder button is pressed. The transponder and the lock exchange key and authorisation data. The required action, such as opening or locking the door, can be carried out if the transponder is authorised for the digital lock.

2.2 Incorporating the transponder in different locking systems

Each transponder can be used in three [G1] or four [G2] completely separate locking systems, providing that no areas of validity have been programmed. Each locking system receives its own password and is managed separately.

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Example:

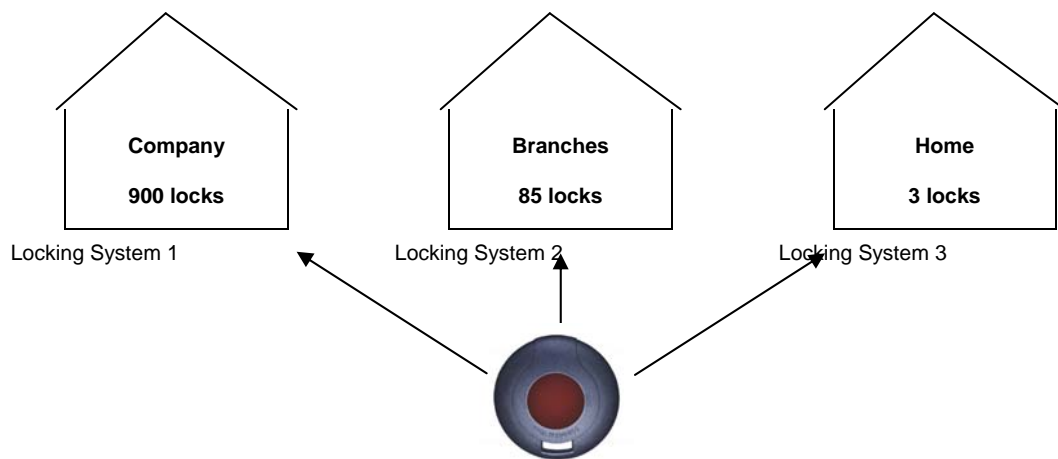


Figure 1: A transponder for several separate locking systems

2.3 Higher-ranking locking level

In order to create transponders which are to be authorised for more than three [G1] or four [G2] locking systems, higher-ranking locking levels need to be set up in such locking systems. A maximum of 3 higher-ranking levels can be created in a single locking system (green, blue and red).

- ! The red level is designed for security and safety services such as the fire service as these transponders can also open locks deactivated by a Block Lock function.
- ! A higher-ranking level is always reprogrammed at doors.

200 transponder IDs (TIDs) [G1] or 1024 [G2] are reserved per level in the LSM. Authorisations for different transponders in the higher-ranking locking levels may be different.

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Example:

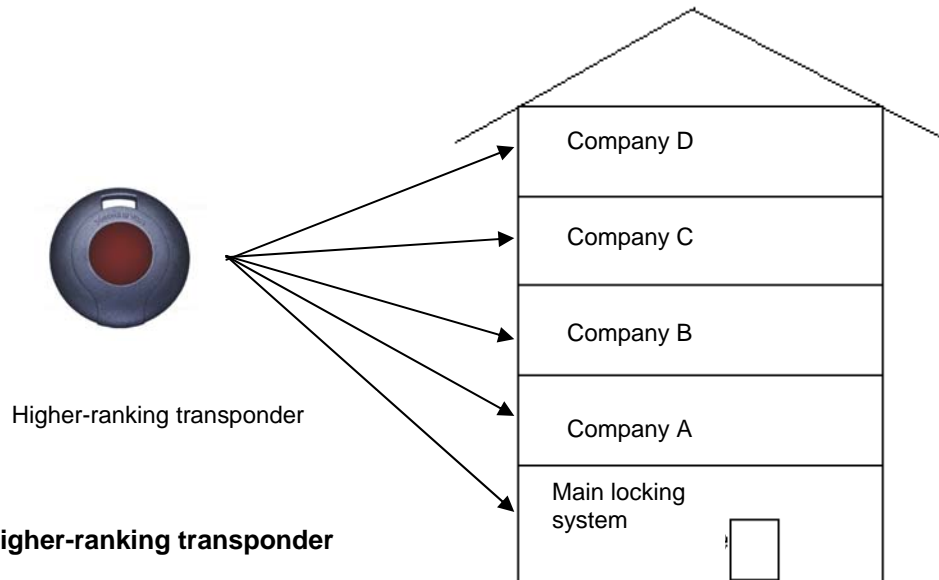


Figure 2: Higher-ranking transponder

Four companies are based in an office building with a main lock which is used by all the companies. Each company manages its own locking system with its own password. Each employee receives a transponder which is authorised for two locking systems, the main lock and their company's own system.

The building management or on-site technicians and cleaning staff require access to all levels. The fire service, for example, requires a transponder which is authorised for all five locking systems in the building and also provides access if the alarm system is activated and the locking cylinders are deactivated by a Block Lock function.

Higher-ranking locking levels are created in each of the five locking systems to provide access to all five locking systems. Each level receives the same password for all locking systems.

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3 SPECIAL DESIGNS

3.1 Password transponder

Instead of being entered manually, the locking system password can be transmitted by radio using a special transponder. Standard transponders cannot be used as a password transponder.

3.2 Switch transponder

For this type of transponder, a two-wire cable (about 1 m) is connected to the switch contacts on the button and fed to the outside. The transponder interconnects when the two wires are connected.

Examples of use:

- Linking third-party systems
- Remote activation of a digital locking cylinder or Smart Relay

3.3 Explosion protection transponder (EX protection)

This transponder features the same functions as Transponder 3064, but is also approved for use in Explosion Protection Zone 1 areas (please refer to Section 3 for further information).

3.4 Smart Clip

Thanks to its special shape, the Smart Clip is suitable for holding ISO7816-compliant cards.

3.5 Bonded transponder

Bonded transponder

This is a standard transponder as described above, but with a casing bonded to the transponder. This prevents the end user from misusing the transponder electronics or opening the casing.

3.6 Numbered transponders

Transponders can be acquired with sequential numbers as an option.

3.7 Transponder with integrated RFID chip

Transponders can be supplied with different integrated RFID chips as an option. These RFID Chips do not necessarily need to be programmed using the LSM programme. There is no logical connection between the active transponder and the passive RFID component.

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The following different technologies are offered:

- EM® 4102
- HITAG® 1
- HITAG® 2
- MIFARE® Classic
- MIFARE® DESFire
- LEGIC® MIM256
- LEGIC® ADVANT 128

3.8 Fire service key tube transponder

This transponder features a narrower casing (33 mm), so that it can be stored in a standardised fire service key tube safe.

3.9 G2 battery replacement transponder

A G2 battery replacement transponder can be created in the LSM programme for G2 locking systems. This transponder can be used to deactivate freeze mode by activating it on the cylinder. The door can then be opened with an authorised transponder. This means there is no need to take the programming device to the lock concerned.

! In the case of an active battery warning, batteries are still used each time the door is opened. This may lead to the batteries being **fully discharged** if the transponder is not used for its **intended purpose**. The batteries must be replaced immediately in such cases.

4 EXPLOSION PROTECTION TRANSPONDER

4.1 General information

This transponder is a special product which can be carried and used in Zone 1 potentially explosive areas. Zone 1 refers to an area where a potentially explosive atmosphere sometimes occurs during day-to-day operations. The following aspects must be taken into account:

- The casing must not be opened.
- Only SimonsVoss Technologies AG may change the battery, unlike Standard Transponder 3064.
- As a general rule, users must comply with explosion protection regulations, such as the German Operating Regulations BGR132, when using the device.

4.2 Industrial standards

This transponder has been tested in accordance with applicable explosion protection standards. Refer to the following for further information:

- Directive 94/9/EC
- DIN EN 50014 (Electrical equipment for potentially explosive atmospheres)

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- DIN EN 50020 (Intrinsic safety 'i')

4.3 Classification

The transponder is classified as follows:

- Explosion Protection Zone 1
- Intrinsic safety ib
- Explosion Group IIC
- Temperature class T3
- Equipment Group II2 G

This applies to areas where a potentially explosive atmosphere may occur due to gases, vapours or mist. The information given refers to an ambient temperature between -20°C and +40°C in the area of use.

5 ADDITIONAL FUNCTIONS

The following functions can be activated in the locking plan software:

5.1 Time zone control

ZK transponder models can be programmed for digital locks, so that the transponders are only authorised for access at specific times. Such time zones are added to the locking plan software and the transponders are then allocated to the relevant time zone group.

Example:	Mr Smith is issued the following authorisation:
	Monday to Friday 9 a.m.-6.30 p.m.
	Saturday 9 a.m.-12.45 p.m.
	Sunday No authorisation

5.2 Date of validity

Transponders can be programmed which feature a validity date for authorisation (also possible with a non-access-control model!):

- Transponders which are valid **from** a specific point in time (e.g. as from 8 a.m. on July 12, 2013)
- Transponders which are valid **until** a specific point in time (e.g. until 5 p.m. on July 12, 2013)
- Transponders which are valid **for** a specific time period (e.g. between July 1, 2012 until July 31, 2014)

! A data set is created **each time** for the activation or expiry date.

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5.3 Activation transponder

As the result of a Block Lock function, all authorised transponders are blocked for digital locks in a safety area when the alarm system is activated to prevent false alarms. Transponders can be programmed which eliminate this blocking mode and can thus be used in an emergency by the fire service, for example. The door can then only be opened using an authorised transponder.

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6 BATTERY REPLACEMENT

6.1 Battery Replacement 3064

The transponder battery can be replaced at any time when the battery warning is active (see Locking Cylinder 3061 Manual – Battery warning). Open the casing carefully, so that you can find the battery easily. Open the battery holder and remove the battery. Insert new battery and close battery holder. Press the casing back together again.

When changing the battery, you must ensure that you do not take more than two minutes, that you do not press the transponder button during this time and that you do not cause a short circuit, otherwise you may cause data to be lost.

6.2 Battery replacement for explosion protection transponder

! **Only** SimonsVoss Technologies AG may replace the battery in this transponder.

7 LOSS OF THE TRANSPONDER

7.1 Emergency opening

An emergency opening may be carried out with the Smart CD and PDA and by entering the locking system password.

7.2 Replacement transponder [G1]

If a transponder is lost, it can be blocked in the locking plan and a replacement transponder added. If the locking system is operated in overlay mode [G1], the lost transponder is blocked automatically as soon as the replacement transponder is activated at the digital lock (see Software Operating Instructions for programming and procedure).

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8 OVERVIEW OF DIFFERENCES BETWEEN G1 AND G2 PROTOCOLS

	G1	G2
Locks per locking cylinder on a transponder	16,000	64,000
Number of locking systems	3	4 [G2] + 3 [G1]
Max. number of TIDs per higher-ranking locking level	200	1024
Time zone groups	5 + 1	100 + 1
Physical access lists storable	n/a	1000
Locking plan information	Locks	Transponders or locks

Table 1. Transponder differences between G1 and G2

9 DATABASE TRANSPONDER

Casing	Material Polyamide Colours Diameter Height	Weatherproof plastic Black casing, button in different colours 42.0 mm 13.7 mm
Ambient conditions	Temperature range: -20°C to +60°C Protection rating: IP65 IP66 (.SPEZ version) Environmental Class III	
Batteries	Type Manufacturer Quantity Voltage Battery life	CR 2032 Varta, (Panasonic, Sony) 1 unit 3 volts G1: up to 100,000 operations or up to 10 years on standby G2: up to 400,000 operations or up to 10 years on standby