Operating Manual

7320.960

7320.961 /.962 /.963

RITTAL®

powered by

Simons Voss technologies

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Introduction

Rittal products represent highest quality standards and rich functionality. The systems are compatible with access systems from SimonsVoss Technologies AG.

This operating manual informs you about the characteristics and possible fields of application of the transponder system.
The manual also explains installation, operation, and programming of the products.

Safety Notes

- **Caution!!!** Install the handle with the enclosure door open!!!
  Check the functioning when the enclosure door is open!!!
  Do NOT close the enclosure door during installation and
  functional test!!!

- **Danger of injury to the hands!**
  Danger of contusion when operating the enclosure door handle.

- Always replace both batteries (backup battery)!!!
  When inserting the backup battery, there should be no main battery in
  the battery case!!!
- Caution: The battery of the transponder must not be removed
  as this may result in loss of data.

- The handle must not be used for other than Rittal enclosures.

- The electrical lines of the CMC-TC transponder sensor must always
  be installed in a manner separated from electrical lines to which mains
  voltage is applied.

- The systems must not be used in conditions other than those specified
  as environmental conditions.

- Safety systems must not be deactivated or by-passed.

- The handle must not come into direct contact with water (e. g. dew),
  oily dirt or aggressive substances.

- Operation in hazardous environments containing combustible gases or
  vapours is prohibited. Protection against water and dust must be
  ensured by installation into an enclosure/rack so that the rear part is
  located in the protected area in the enclosure/door frame.

- The handle must be installed according to the relevant rules described
  in the separate installation instructions.

Designated Use

The transponder series‘ design corresponds to the state-of-the-art in technology and complies with the relevant safety rules.
The handle only serves for opening and locking of non-walkable steel furniture and enclosures.

The manufacturer does not assume liability for damage resulting from any use not complying with the designated use. The user is responsible for complying with the designated use.

Complying with this operating manual is the prerequisite for the designated use of the equipment.

In addition to the operating manual, the relevant statutory and other binding regulations on prevention of accidents and on environmental protection must be observed.

The transponder series must not be installed and connected by other than a trained and qualified electrician according to the rules and regulations regarding electrical installations and the notes laid down in this manual.

Caution!!! Install the handle with the enclosure door open!!! Check the functioning when the enclosure door is open!!! Do NOT close the enclosure door during installation and functional test!!!

Danger of injury to the hands!
Danger of contusion when operating the enclosure door handle.

Note !!!

The handle series is shipped in the so-called ”zero mode”!
Zero mode means that the handle series
can be opened at any time by a third person,
using a zeroed transponder.

Neutralising the zero mode:

You must program the handle and transponder
so that no third person can open the enclosure.
By reprogramming the handle and the transponder,
you automatically neutralise
the zero mode (programming, see page 14 f.).
For this purpose, a Programming
Transponder 7320.963 is required.

Handle 7320.960 - Functional Description

The enclosure handle is used to lock enclosures in industrial environments (switchgear, control, machine enclosure). It is designed for indoor application.

The handle is a locking mechanism equipped with electronics and a solenoid instead of a cylinder lock. It was designed to meet the dimensions of standardised installation openings enabling retrofit in an existing enclosure without problems. Moreover, it can be fully integrated into an existing network of an IT security system or of an access control system (time zone control).

Main Advantages

- small design, no additional space or installation depth required in the enclosure
- no cabling (stand-alone solution)
- integration option for network systems
- transponder technology
- optimised haptics
- low-effort assembly
- tap-proof data transfer
- lost transponders are simply locked for the system
- BSI 7500-certified; locking and organisation program certified according to Bundesamt für Sicherheit und Informationstechnik (German authority for security and information technology)
- all access is logged for later evaluation (Plus version)
- freely programmable

Handle 7320.960 - Functional Description

The enclosure handle of the transponder series can be deployed in the following variants:

- **single unit**
  The enclosure has one door which is locked by the handle.

- **two enclosure handles in one enclosure**
  The enclosure has two doors (front and rear) which are locked by one enclosure handle each.

- **network** with many enclosure handles
  In this case, enclosure handles form a network (CMC-TC transponder transmitter 7320.962 required).

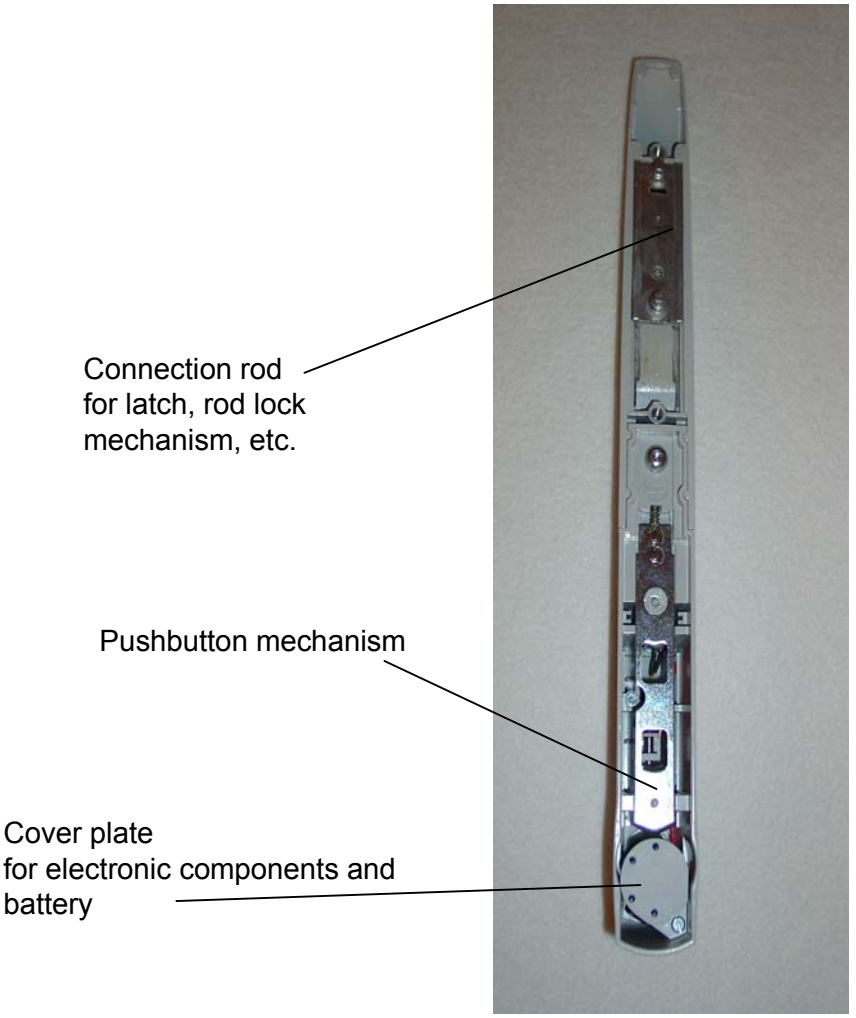
Handle 7320.960 - Functional Description

1. Lever = lever to open and lock the enclosure
2. Pushbutton = to release the lever after transponder operation

Sequence for opening an enclosure door:

- Operate transponder (press blue button).
- An acoustic signal is output.
- Press pushbutton (2) (within 6 seconds).
- Lever snaps out up from the locking mechanism.
- Push lever (2) upwards and pull.
- Door is unlocked and opened.

Handle 7320.960 - Functional Description



Handle 7320.960 - Installation

For installation you need a Torx 25 screw driver.

Caution!!! Install the handle with the enclosure door open!!! Check the functioning when the enclosure door is open!!! Do NOT close the enclosure door during installation and functional test!!!

Proceed as follows when installing the enclosure handle:

Place and hold the enclosure handle to the front of the door with the handle open. Insert the rod into the existing rod mechanism. Then you can turn in the two fastening screws. In case of glazed doors a bevel adapter is placed between handle and door.

Please refer to enclosed installation instructions.

Handle Electronics - Functional Description

Battery Warning

Warning Stage - Main Battery

If the main battery of the handle is about to be exhausted, multiple short acoustic signals will be output at short intervals after operating the transponder before the solenoid of the handle engages.
The battery then has to be replaced promptly.

Warning Stage - Backup Battery

Now, only the acoustic signals are output for approx. 30 seconds indicating the backup battery warning (without main battery warning). The handle will not engage until the end of the backup battery warning. The backup battery is now active. Both batteries must now be replaced as soon as possible.

If this warning is still ignored, the door can either be opened 50 more times, or, without further operation, the handle will shut down after 4-5 weeks. In both cases the door will only open if Config Device or PalmCD are used (SimonsVoss configuration products).

Handle Electronics - Functional Description

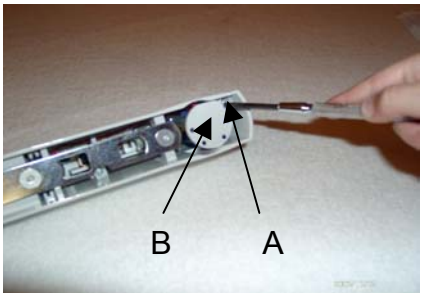
Replacing the Battery

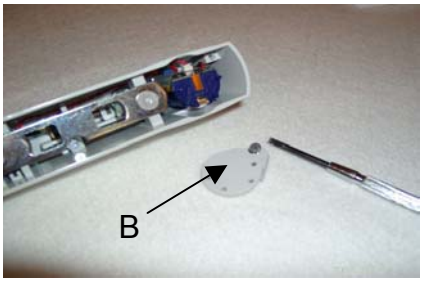
Replacing the battery must not be carried out by other than qualified authorised personnel. Only batteries supplied by SimonsVoss may be used.

Remove the handle from the enclosure door
(refer to Installation of the Handle).

The electronic components and the batteries are located in the lower part of the handle.

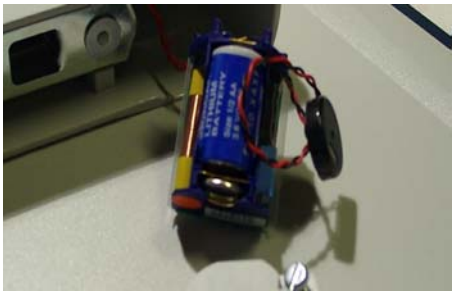
- Loosen screw A.
- Remove cover B.
- Carefully pull out the electronic assembly from the housing.





Always replace both batteries (backup battery)!!!

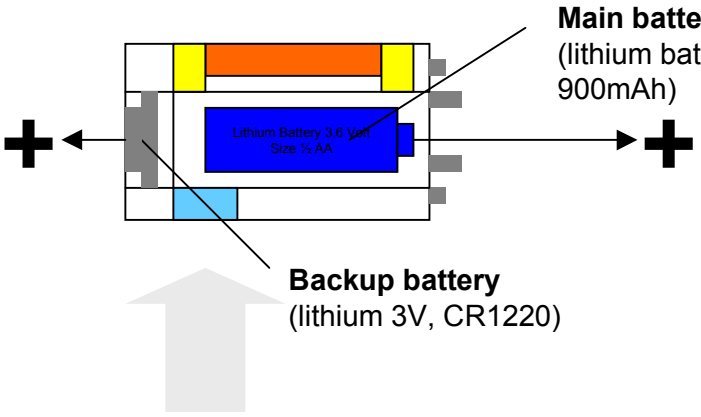
When inserting the backup battery, there should be no main battery in the battery case!!!



Handle Electronics - Functional Description

Replacing the Battery

- Now, carefully remove the batteries from the battery case.
- The main battery (large battery) is inserted with the positive pole having opposite orientation with respect to the positive pole of the backup battery (small battery).



Interchanging the polarity can result in damage to the handle. Inappropriate handling of the batteries used in this unit can result in fire hazard or personal injury (burns). Do not charge, open, or heat up to temperatures exceeding 100° C, or burn the batteries. Never use other batteries than original batteries supplied by SimonsVoss.

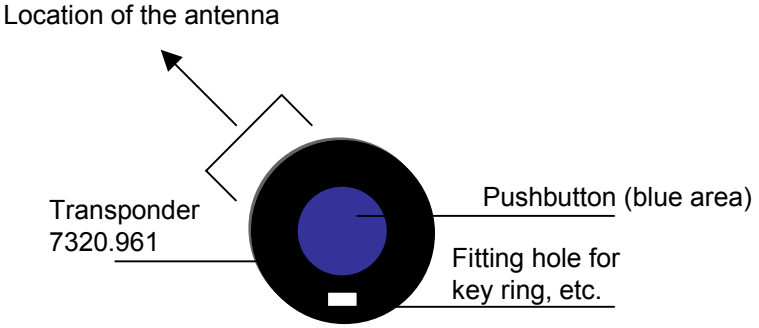
The handle must not be operated without main battery because otherwise, the backup battery has to provide the complete energy required by the handle.

Transponder 7320.961 / .962 – Functional Description

The 7320.961/.962 transponder is a digital key which is programmed using the 7320.963 programming transponder. The transponder provides contact-free operation and does not only replace the mechanical key but also provides the functions of an ID card. Encrypted communication between transponder and locking cylinder or lock is initiated by simply pressing a button.

All functions are released by pressing a button. The functions include opening and closing of doors, steel enclosures, etc., payment of canteen bills, as well as timekeeping of working times at the terminal, or access to PC networks and activation of alarm systems.

If a transponder is lost, it is simply locked without having to replace a single handle.



The 7320.962 transponder is equipped with two lines. These can be connected to a relay locking contact. Here, closing of the contact replaces the pressing of the blue pushbutton.
Using this transponder, the handles can be linked to the CMC TC. For that purpose, the CMC-TC room door output module 7320.740 is required. The transponder then has to be mounted on the internal frame of the enclosure behind the handle (see installation instructions).

Transponder 7320.961 / .962 – Functional Description

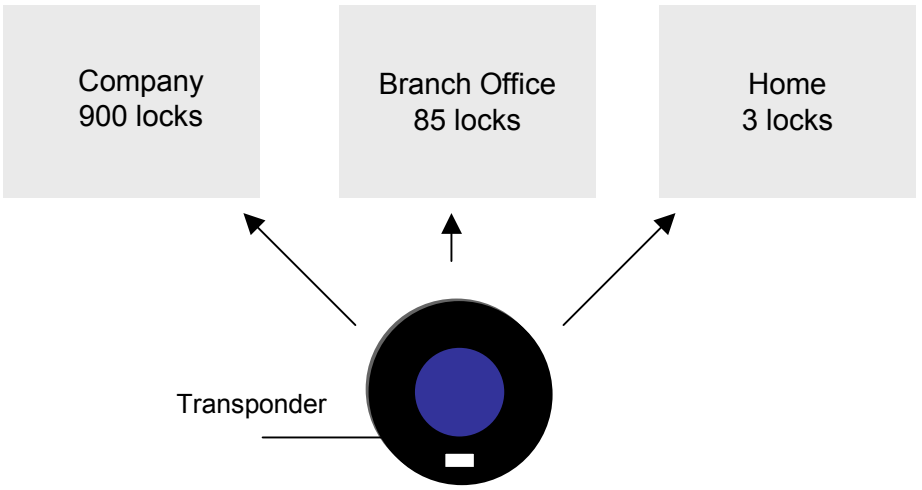
As the handle series works using active transponder technology, the 7320.961 transponder has a separate voltage supply (battery). The advantage with respect to passive technology lies in the lower energy consumption of the handle series and in increased transmission range.

In order to release an action, hold the transponder near the handle, and press the transponder button.
If the transponder is authorised for digital locking of the handle, then the door can opened.

The housing is protected against dripping water. However, it is not waterproof.

Each transponder can be used in three different and independent locking systems. Each locking system will have its own password and will be administered separately.

Example:



Transponder 7320.961 / .962 – Functional Description

Replacing the Battery

If the battery voltage of the transponder tends to be low, eight short acoustic signals will be output at short intervals after operating the transponder at the handle after disengaging.

Caution: The battery of the transponder must not be removed as this may result in loss of data.

In case of a battery warning, please send the respective transponder to:

SimonsVoss
Technologies AG
Eichenweg 6
D-07616 Petersberg

for replacement of the battery, or contact your responsible SimonsVoss system support.

Programming Transponder 7320.963 - Functional Description

Just like common mechanical locking systems, digital locking systems consist of a key (transponder) and lock (handle). However, the locking authorisations (what key matches what lock?) can be individually defined and changed at all times (re-programming).

On initial programming, each key is provided with an individual ID number and a secret password so that the handle can differentiate different transponders.

This is done by the programming transponder (PT). It assigns a sequential ID to the transponders (keys). The ID starts with 1. The next transponder will have number 2, and so on. Using one programming transponder, a maximum of 99 transponders can be programmed.

During programming, the handles learn the secret password and they are informed about which transponders shall be authorised and which transponders shall not be authorised.

Security Card

The complete system is protected by a secret password which is stored (factory settings) on the 7320.963 programming transponder. For emergency cases, the so-called “Security Card” is enclosed on which the password is stored. Store the card in a safe place protected from access by third parties. A lost Security Card might result in replacement of the complete locking system.

Important Note Before Startup

- Protect the PT from contact with water or direct sunlight.
- When installing and programming the handles, make absolutely sure that the respective door is open!

Programming Transponder 7320.963 - Functional Description

In this section, you will learn everything you need for simple operation of a locking system.

- **Authorisation of Transponders for Locking Systems**

Hint: Please, first read the individual programming steps before starting work. Then start with item 1 and perform the respective steps in a continuous manner. This is required because the programming transponder will automatically shut down after a longer pause.
If programming fails, then wait until the programming transponder's LED extinguishes before you start to repeat the process.

For example, have the handle at hand for which you wish to authorise the transponder, or go to a place near the respective enclosure. Then proceed as described in the following, and for the first two steps keep a distance of approx. 1 m to the IE-G (handle).

1. Press the button of the PT for a short moment.
   The LED flashes (see page 16).

2. Hold the transponder to be authorised at a distance of 10 cm max. in front of the PT and press the button of the transponder, and wait until the
   LED lights up green for 3 seconds (see page 17)
   Then wait until the LED flashes green.

3. Hold the PT at a distance of 10 cm max. in front of the handle (hold PT without motion, otherwise the program will abort!!!) and press the button. Then wait for a while, still holding the PT without motion!
   Multiple beeps are output and a double beep with an additional click of the handle. Now, programming is completed. The handle can be opened now.

4. Test the authorised transponder on the handle.

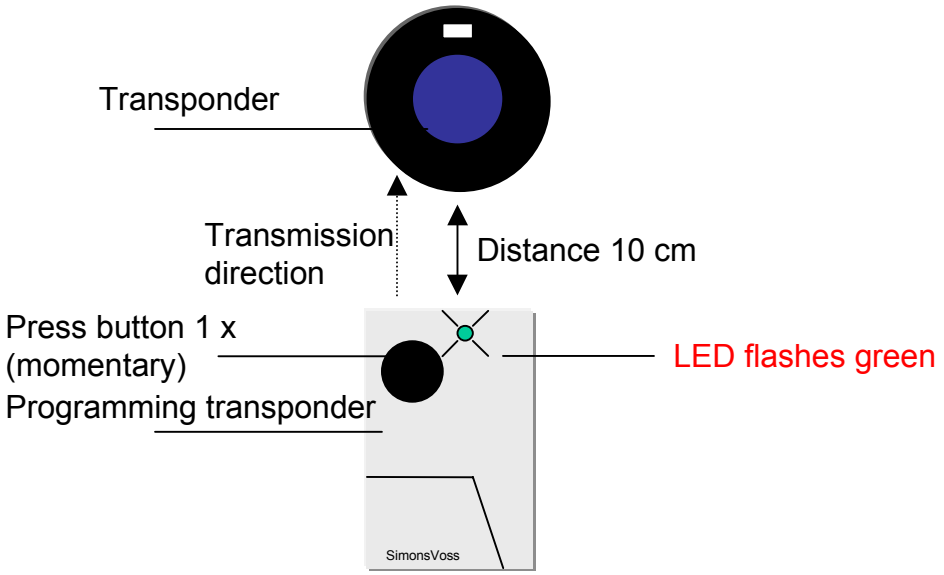
Programming Transponder 7320.963 - Functional Description

If you wish to program other transponders, repeat steps 1-4.

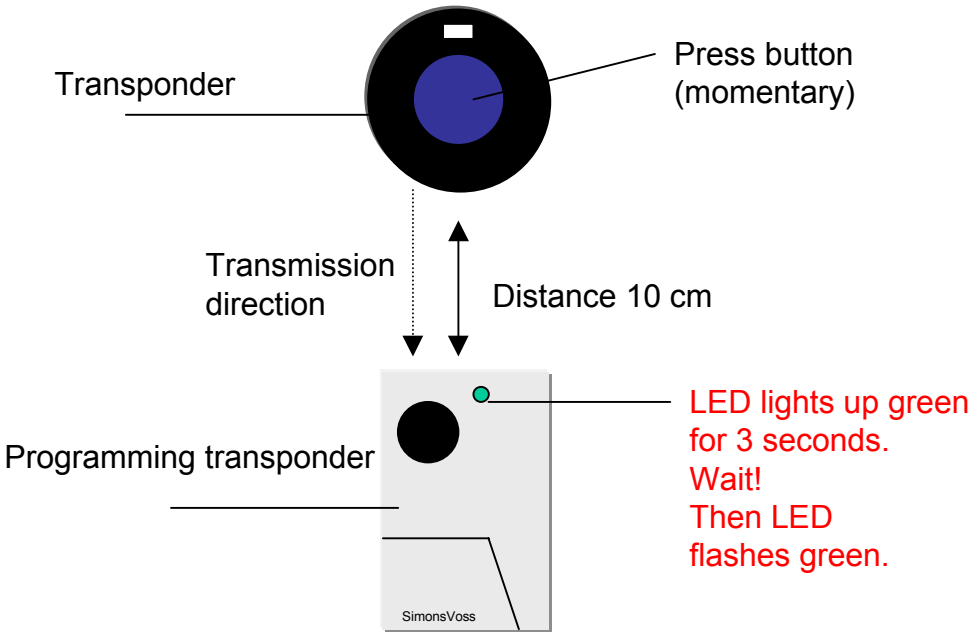
If multiple transponders are to be authorised for the same handle, follow the instructions in step 1. Then repeat step 2 for each additional transponder you wish to authorise and then perform steps 3 and 4. When testing multiple transponders, please note that each test will take approx. 8 seconds.

In case you have authorised a transponder for the wrong handle, repeat steps 1-4 in order to lock the transponder again.

Step 1: Authorise Transponder

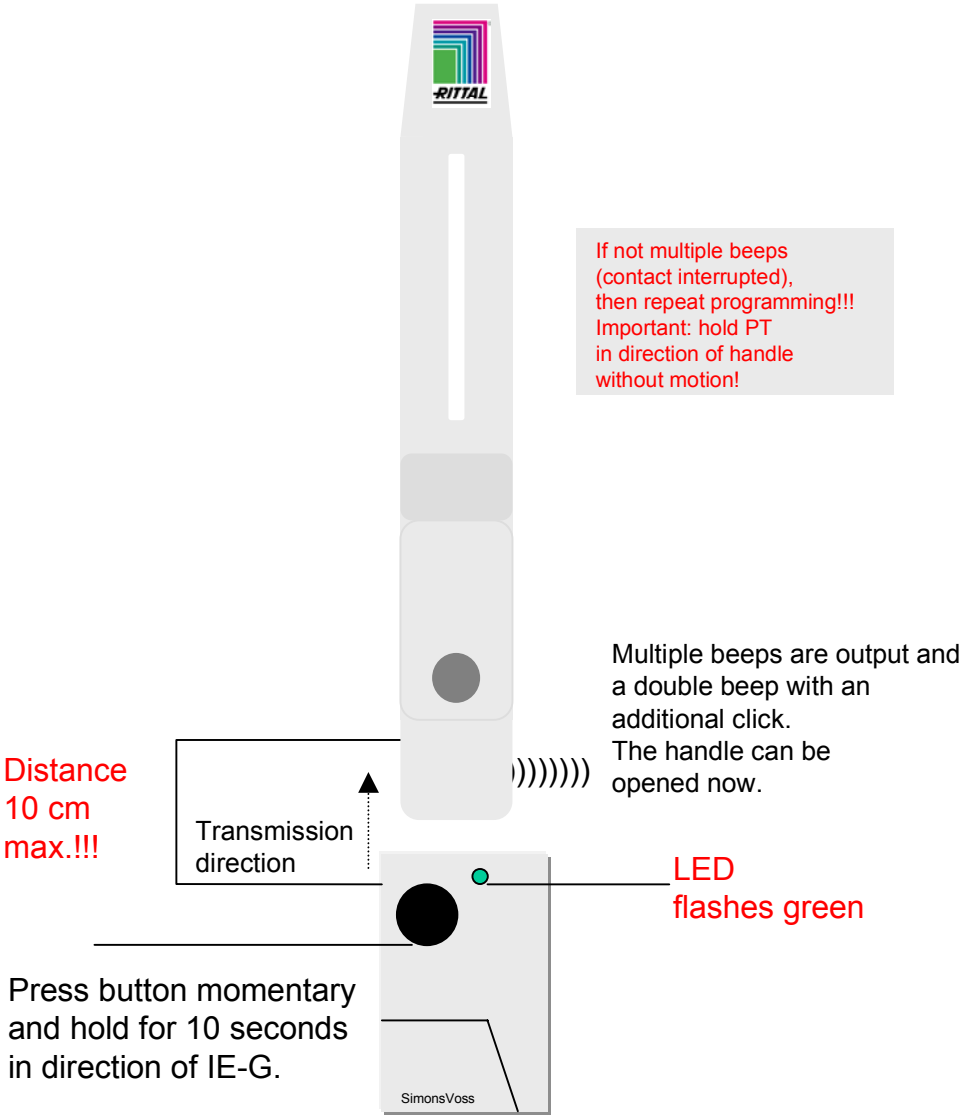


Step 2: Authorise Transponder



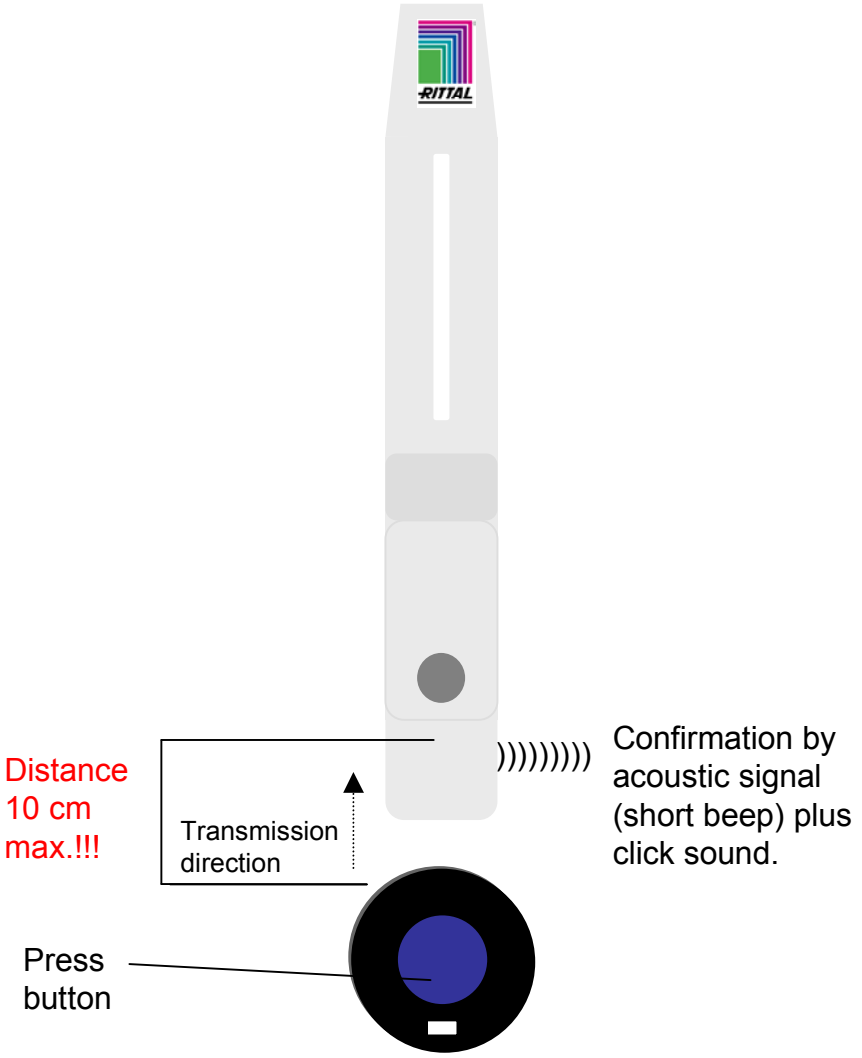
Programming Transponder 7320.963 - Functional Description

Step 3: Authorise Transponder



Programming Transponder 7320.963 - Functional Description

Step 4: Test



Programming Transponder 7320.963 - Functional Description

Locking **All** Transponders

In order to lock all transponders for one handle, please proceed as follows:

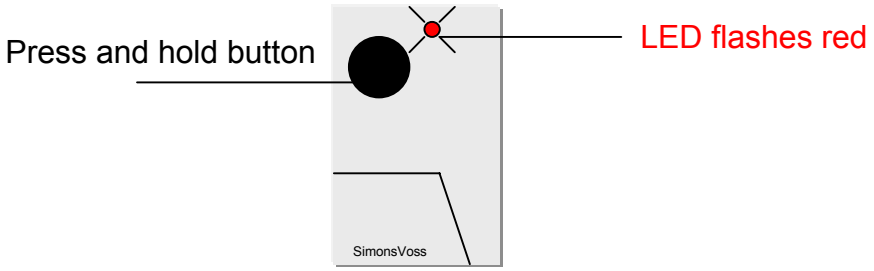
- Press the button of the PT until the LED flashes red.
- Hold the PT at a distance of approx. 10 cm in front of the handle and wait (Important: Do not press the button) until successful locking of all transponders is confirmed by beeps plus a double beep with a click of the handle.

Please note that all transponders that shall be authorised for this handle have to be re-programmed (see page 15 item 1).

If you have lost a transponder, it must be locked for all handles the transponder was authorised for. Hence, if the lost transponder was authorised for multiple handles, repeat the above steps for each of the relevant handles!

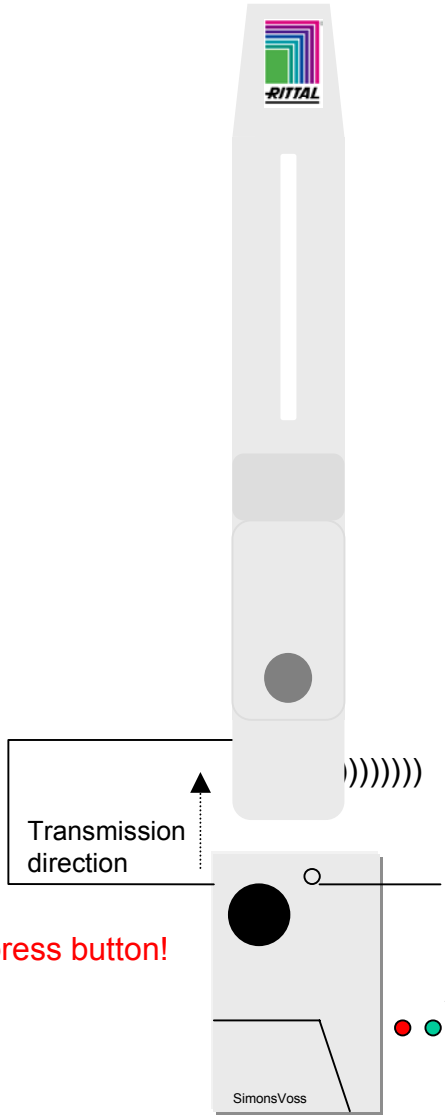
Programming Transponder 7320.963 - Functional Description

Step 1: Lock Transponder



Programming Transponder 7320.963 - Functional Description

Step 2: Lock Transponder



If not multiple beeps
(contact interrupted),
then repeat programming!!!
Important: hold PT
in direction of handle
without motion!

Confirmation by multiple acoustic signals (short beeps) plus double beep with click sound.

Distance
10 cm !!!

Do not press button!

During programming, the LED does not light up. After the click sound the LED will momentary light up red and then green!
(confirmation signal)

Example:

You have an enclosure (E) with the handle, and in the office door a digital locking cylinder (O). You wish to authorise your own transponder for the front door and the enclosure. However, the transponder for your employee shall only lock and unlock the office door.

Proceed as follows:

- Go to the enclosure (E) and there only authorise your own transponder.
- Then go to the office door (O). There, authorise your own transponder and then the one of your employee.

Now, using your own transponder you can operate the office door (O) and the enclosure (E). The transponder of your employee will only open the office door.

If, some days later, your employee loses the transponder, you can decide to lock that transponder for the office door for safety‘s sake. Also, you can authorise the replacement transponder for your employee you either had at hand or that you purchased from your supplier.

Locking all transponders for the enclosure:

- Take the PT to the enclosure.
- Lock all transponders as described on page 20.
- Re-authorise your own transponder for the enclosure.
- Authorise your employee‘s replacement transponder (see page15) for the enclosure.

As the transponder of the employee was not authorised for the enclosure door, no changes are required with respect to the enclosure door!

The “old” transponder of the employee is now locked for the enclosure.

Programming Transponder 7320.963 – Functional Description

Additional Functions

In the following, some additional functions are described that you can perform using the PT (programming transponder). However, these functions are not essential for operation of the overall system.

Specific locking of the ID number of a transponder.

In order specifically to lock a lost transponder for a handle, you require the ID number of the lost transponder.

Therefore, we recommend to maintain a list of the owners and the ID numbers of the respective transponders.

Reading data using the ID number of a transponder:

Start the reading process as follows:

- Momentary press the button of the PT.
  LED flashes green.

2. Hold the transponder, the ID of which you wish to read, near the PT. Momentary press the button of the transponder.
   LED lights up green for 3 seconds.

3. Again, momentary press the key of the transponder, the ID of which you wish to read.
   Yellow LED lights up for 2 seconds (confirmation signal)

Programming Transponder 7320.963 – Functional Description

- The ID number of the transponder is indicated by the LED flashing in varying colours.
  Flashing in red indicating the first digit.
  Flashing in green for the second digit (0-9).

- Then the LED lights up yellow for 2 seconds indicating that the reading process is completed (end signal).

Example:

The ID number "**25**" is indicated as follows:

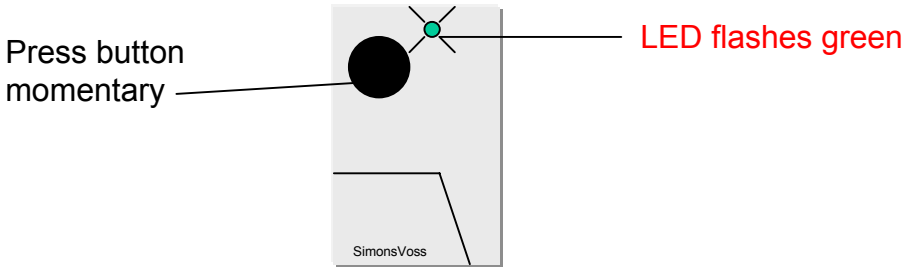
- confirmation signal = LED lights up yellow for 2 seconds
- LED flashes red 2 x (indicating 2 as first digit)
- LED flashes green 5 x (indicating 5 as second digit)
- end signal = LED lights up yellow for 2 seconds

The ID number "**10**" is indicated as follows:

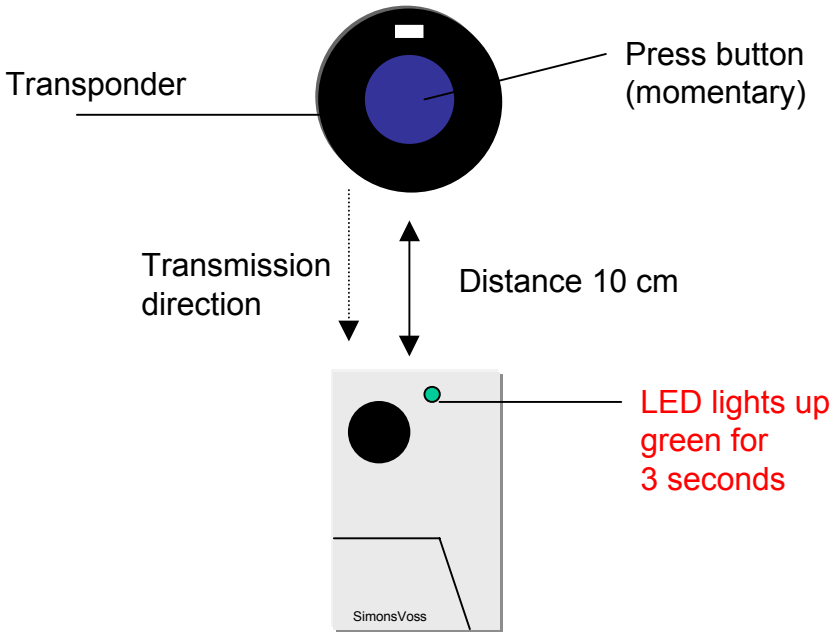
- confirmation signal = LED lights up yellow for 2 seconds
- LED flashes red 1 x (indicating 1 as first digit)
- LED does not flash green (as second digit is null)
- end signal = LED lights up yellow for 2 seconds

Programming Transponder 7320.963 - Functional Description

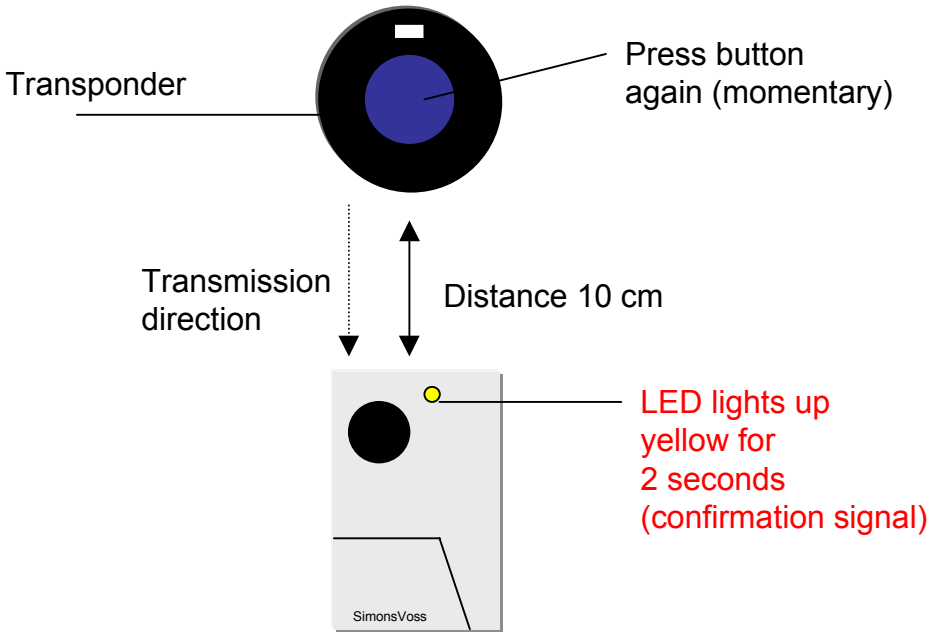
Step 1: Reading Transponder ID Number



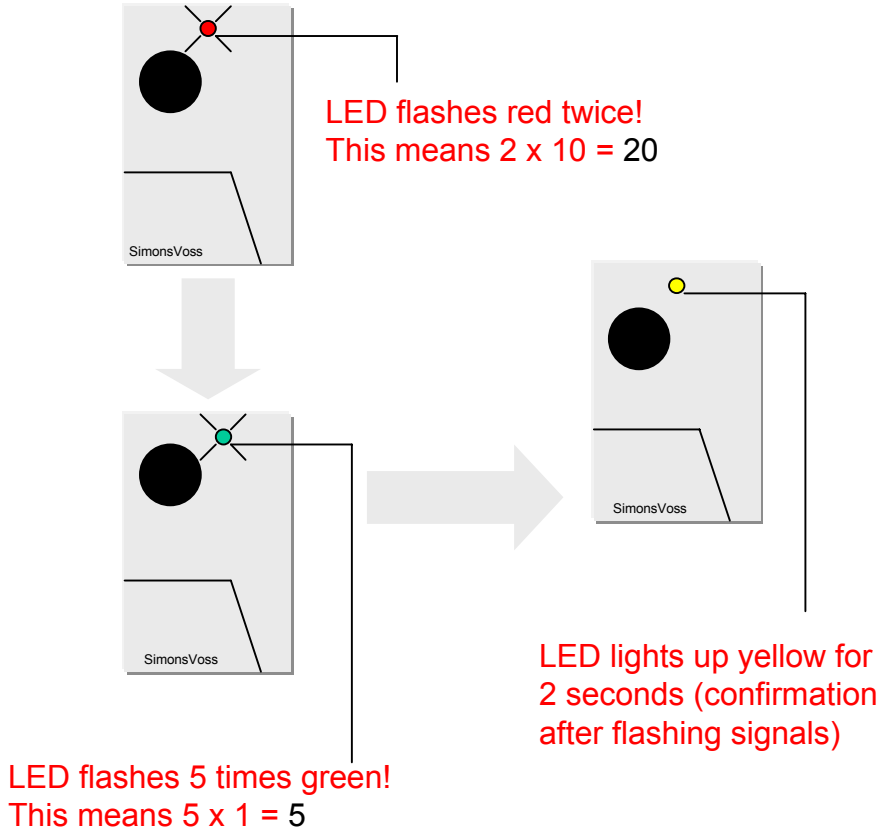
Step 2: Reading Transponder ID Number



Step 3: Reading Transponder ID Number



Step 4: Reading Transponder ID Number: Example



+

The ID number is 25 (20 + 5 = 25)

Programming Transponder 7320.963 – Functional Description

Specific deletion of lost transponders:

Now that you know the ID number of a lost transponder, you can lock that specific transponder accordingly. Proceed as follows:

- Take the PT to the handle for which you wish to lock the lost transponder (at first, please keep a minimum distance of at least 1 m!)
- Press the button of the PT until the LED flashes red – then release the button.
- Immediately press the button of the PT again until the LED flashes red, and release the button.
  Then the LED starts flashing red and then green, depending on the number of transponders programmed (less than 10 programmed transponders, then first green; 10 or more programmed transponders, then red at first).
  Important:
  While the LED lights up, red or green, start the input of the ID number (If the LED has extinguished, then you have waited too long. In such cases, please repeat the process starting from step 1).
- Proceed as follows to enter the ID number of the transponder to be locked:

  The LED of the PT starts to light up red (green): now, enter the number for the first digit (second digit) by pressing the button of the PT. Please wait for a moment.

  The LED of the PT starts to light up green: now, enter the number for the last digit by pressing the button of the PT. Please wait for a moment.

Programming Transponder 7320.963 – Functional Description

5. After input of the ID number, the PT will confirm your input.
   The LED will light up yellow for a short moment, the ID will be repeated in red (first digit) and green (last digit). Then the LED lights up yellow again. (Confirmation).
   After confirmation, the LED flashes green.

6. If the ID displayed is correct, then hold the PT at a short distance to the handle while the LED flashes green, and press the button of the PT.
   Important: Hold the PT in direction of the handle without motion!!!

   Wait until multiple beeps and a double beep with a click are output in order to confirm the programming.

   If the transponder has been successfully locked, then the handle releases.

Example:

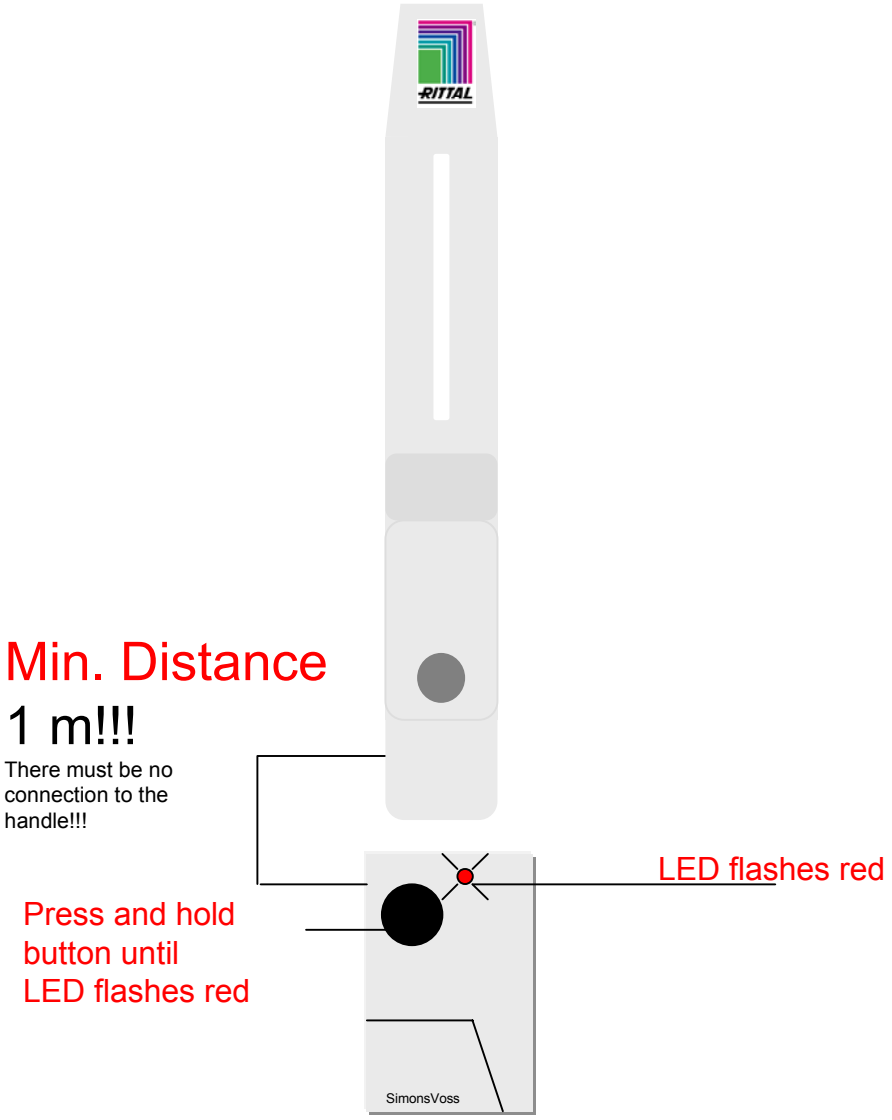
Proceed as follows to enter the ID number "**25**":

- Wait until the LED lights up red, then press the button of the PT twice (input for 2 as first digit).

- Wait until the LED lights up green, then press the button of the PT 5 times (input for 5 as last digit).

Programming Transponder 7320.963 - Functional Description

Step 1+2: Delete Specific Transponders

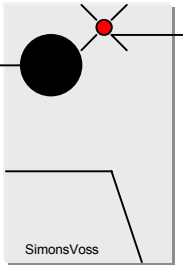


Step 3+4: Delete Specific Transponder
Example with ID 25

Input of, e. g. ID number 25

Red = first digit
Green = second digit

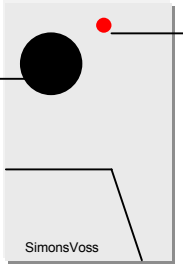
Press and hold
button again (once)
until LED flashes red



LED flashes red

Wait until LED lights up red (not flashing)!!!
Then (not earlier) start input of the first digit.

Press button twice
(= 20)



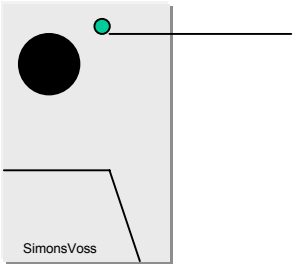
LED lights up red

Step 4: Delete Specific Transponder
Example with ID 25

Input of ID number 25

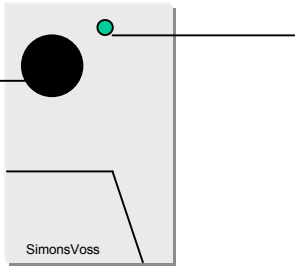
Red = first digit
Green = second digit

After input of the first digit, please wait for a short moment until the LED lights up green!!!

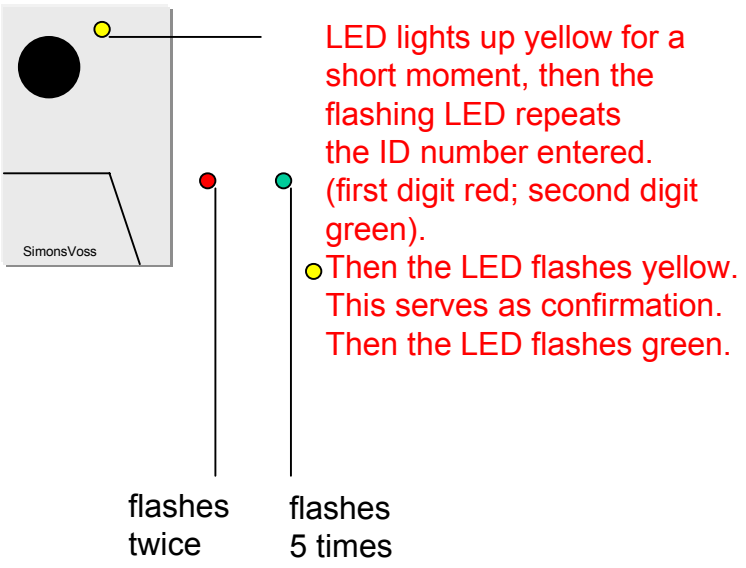


Now, start the input of the second digit.

Press button 5 x
(= 5)

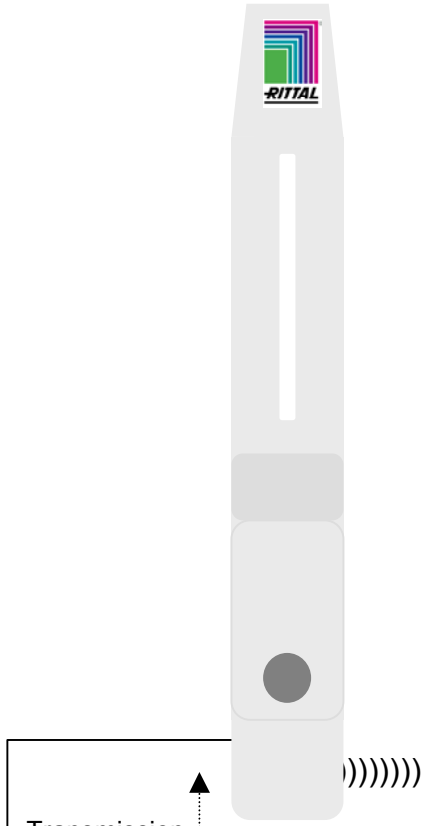


Step 5: Delete Specific Transponder



Programming Transponder 7320.963 - Functional Description

Step 6: Delete Specific Transponder



If not multiple beeps
(contact interrupted),
then repeat programming!!!
Important: hold PT
in direction of handle
without motion!

Multiple beeps are output
plus double beep with
click sound.
The handle can
now be opened.

Distance
10 cm !!!

Transmission
direction

LED lights up green for
3 seconds after the beeps.

Momentary press and
hold the button
to the handle
approx. 10 seconds
without motion.

If the transponder has
been successfully locked,
the handle will release.

Programming Transponder 7320.963 - Functional Description

If you do not know the ID number of a lost transponder,
then proceed as described on page 20 (Lock All Transponders)
!!!

Programming Transponder 7320.963 – Functional Description

Further Information

What to do in case of a lost programming transponder?

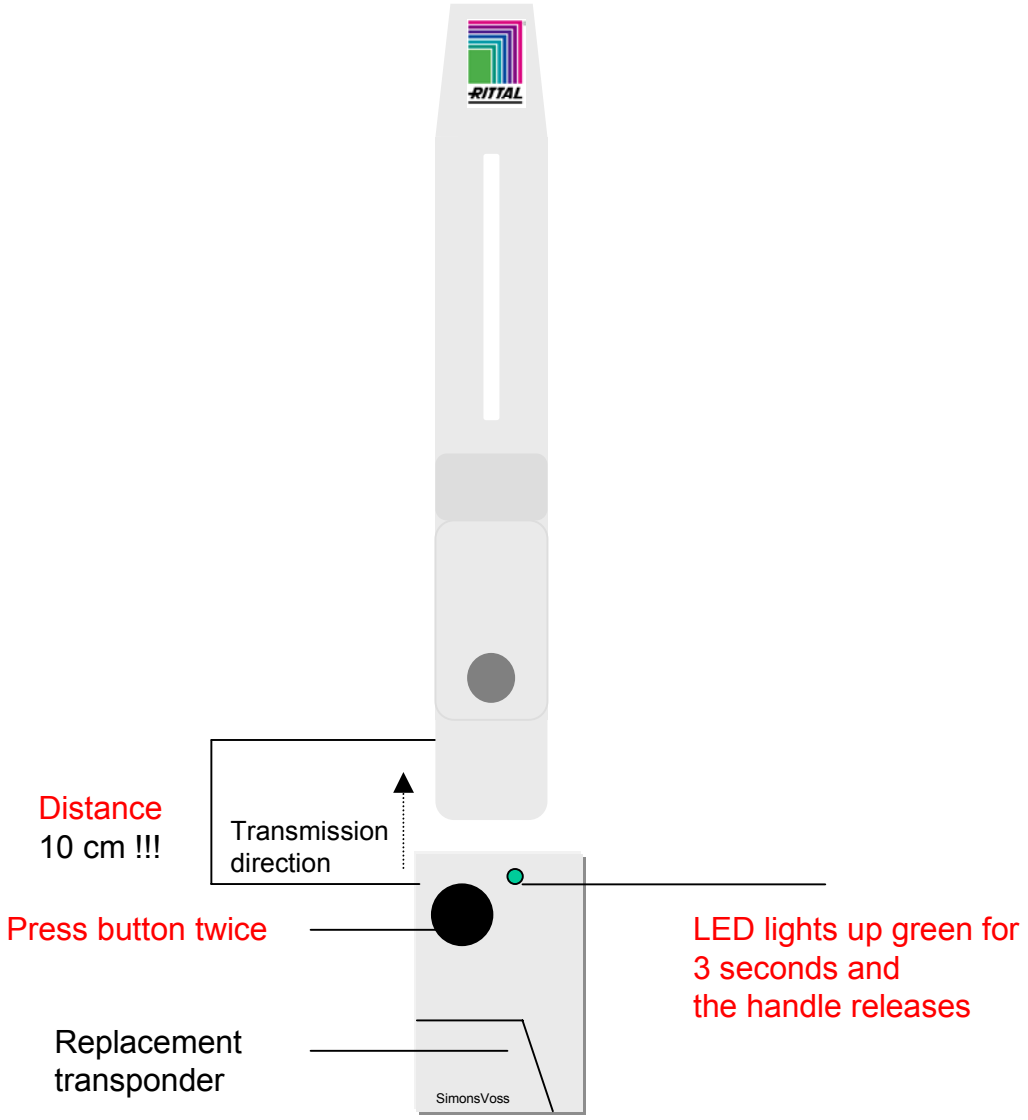
Using your Security Card, contact your responsible representative. Your representative will send your Security Card to SimonsVoss in order to manufacture a replacement programming transponder.

When you have received a replacement programming transponder (R-PT), you have to authorise it, e. g., for your handles. Proceed as follows:

- Hold the R-PT in front of a handle and press the button twice.
  The LED lights up green for 3 seconds.
- Again, hold the R-PT in front of the same handle and press the button once.
  LED flashes yellow and extinguishes.
  The LED lights up green for 3 seconds and the handle releases (success).
- Repeat step 2 for all other handles of your locking system.
  When you have “authorised” the R-PT for all handles, press the button of the R-PT until the LED stops flashing. The R-PT is now ready for operation!

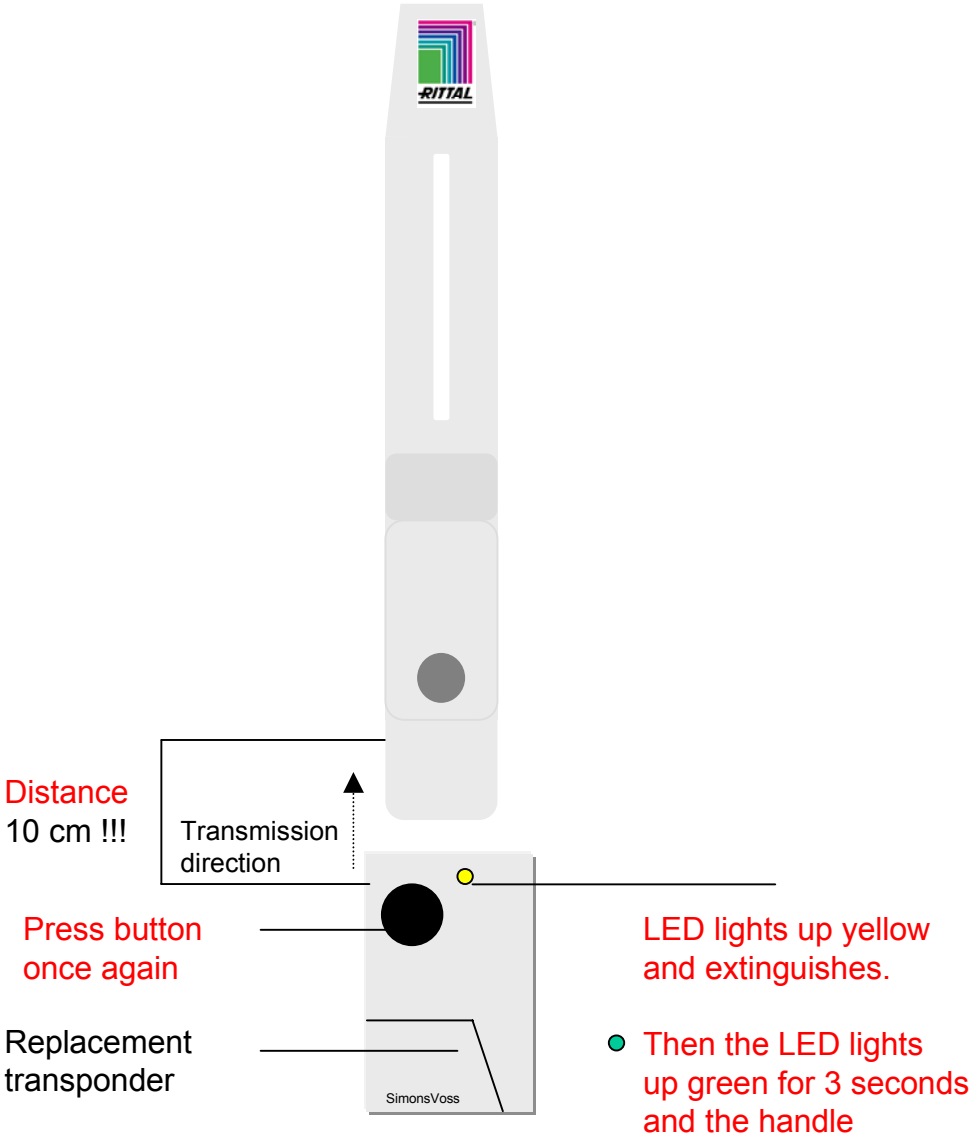
Programming Transponder 7320.963 - Functional Description

Step 1: Authorisation of Replacement Transponder (R-PT)



Programming Transponder 7320.963 - Functional Description

Step 2: Authorisation of Replacement Transponder (R-PT)



Programming Transponder 7320.963 - Functional Description

Error messages:

If during programming, one of the following signals is output, this serves to indicate errors:

LED lights up red once
Remedy: adjust distance to correct distance to handle or transponder and try again.

LED flickers and then flashes red twice
You have attempted to authorise a transponder in more than 3 different locking systems. (A transponder can only be authorised for a maximum of 3 different locking systems.)

LED flickers and then flashes red 3 times
You have attempted to program more than the maximum possible number of transponders or handles.

LED flickers and then flashes red 4 times
You have attempted to authorise a transponder for a handle that does not belong to your locking system!

Notes on Maintenance

Handle:	The contact surface of the push button lock lever must be greased at regular intervals of reasonable length (at least when tight and rough-running).

Technical Specifications Handle

Surface:	**varnished**
Material:	**zinc die-cast**
Key type:	**transponder**
Master key:	**yes**
Electronics:	**SimonsVoss lock electronics 3061**
Electrical power supply:	**SimonsVoss lithium battery 3.6 Volts ½ AA, 900 mAh lithium 3V, CR1220**
Battery life:	**approx. 20,000 – 25,000 locking cycles**
Retrofit:	**yes**
Network option:	**yes**
Time zone control/ access control:	**optional**
Ambient temperature	
Operating temperature range:	**+5°C to +45°C**
Storage temperature range:	**-10°C to +50°C**

EMERGENCY OPENING - Handle

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