[• SmartTouch

NB506N **SmartTouch** comfort access system
featuring long-range transponder technology

Installation, operating and maintenance manual

Installers: please give this
manual to the customer

www.fuhr.de

For this manual in other languages, see www.fuhr.de

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Contents

[• SmartTouch

1 General information/important notes

SmartTouch is a cutting-edge access control system featuring long-range transponder technology. It makes it extremely easy to open doors fitted with FUHR's **multitronic** 881 and **autotronic** 834 motorised locking systems.

1.1 SmartTouch function

The system's **SmartTouch** function allows you to open a door fitted with a motorised lock with outstanding ease. All you need is a paired **SmartTouch** transponder in your pocket. You can then open the door just by moving your hand near the **SmartTouch** sensor on the outside of the door. When the sensor is triggered, the **SmartTouch** receiver concealed in the door leaf checks whether there are any paired **SmartTouch** transponders within range. If this is the case, it will open the motorised lock.

Note that the receiver will also respond to a **SmartTouch** transponder located within range *inside* the building. For security reasons, reduce the range of the receiver to the lowest level that still meets your needs. Please also follow the additional operating and safety instructions in sections 7 and 8 of this manual.

If the **SmartTouch** function is not wanted, it can be disabled for any or all of the transponders. In this case the door can no longer be opened via the sensor. See section 8.1 for more information.

1.2 Detection range of SmartTouch transponders

The detection range of the system depends on the door material, and the location and position of the **SmartTouch** transponder. An unobstructed transponder will have a bigger detection range than a transponder kept in a pocket or on a bunch of keys. Receivers in timber doors have a considerably larger detection range than those in metal doors.

The detection range of the **SmartTouch** receiver is easy to change (see section 6). Users can adjust the range to suit the circumstances in which the system will be used. Please note that the detection range is set relatively high at the factory. For security reasons, it should generally be lowered using the system's range adjustment function.

1.3 Integrated transmit button

In addition to their long-range transponder technology, all transponders also have a transmit button. This can be used to open the door's motorised lock at any time, irrespective of whether **Smart-Touch** is currently enabled. Under echo-free conditions, the range of this transmit button is around 50 m.

Transmit button

2   Scope of delivery

SmartTouch set (Article No. NB506N),
consisting of:

- 1 x receiver module with connecting cable
- 1 x sensor with stainless steel cover and connecting cable
- 1 x master transponder
- 1 x cleaning cloth

SmartTouch user transponders
(Article No. NZ80178)

➢ Please **order the required quantity separately**

3   SmartTouch transponders

SmartTouch transponders are battery-powered electronic keys.
There are two different kinds of **SmartTouch** transponder: **master transponders** and **user transponders**.

3.1   Master transponder (blue band)

The **master transponder** supplied with your **SmartTouch** set is unique. At the factory it has been specially paired with the receiver, and cannot be unpaired, substituted or modified. It can be used to pair and unpair user transponders with the receiver. It can also be used for opening the door, either with **SmartTouch** or by pressing the transmit button. The master transponder can be identified by a blue band around its perimeter.

⚠ **Keep the master transponder in a safe place.** It is vital that you do not lose it!

Blue band

3.2   User transponders (grey band)

You can pair up to **200 user transponders** with the **SmartTouch** receiver. User transponders are used for opening the door, either with **SmartTouch** (i.e. by triggering the sensor) or by pressing the transmit button.

User transponders do not have the right to pair or unpair other transponders, and cannot be used to change the detection range. User transponders can be identified by the grey band around their perimeter.

[•SmartTouch

4   Fitting the SmartTouch components
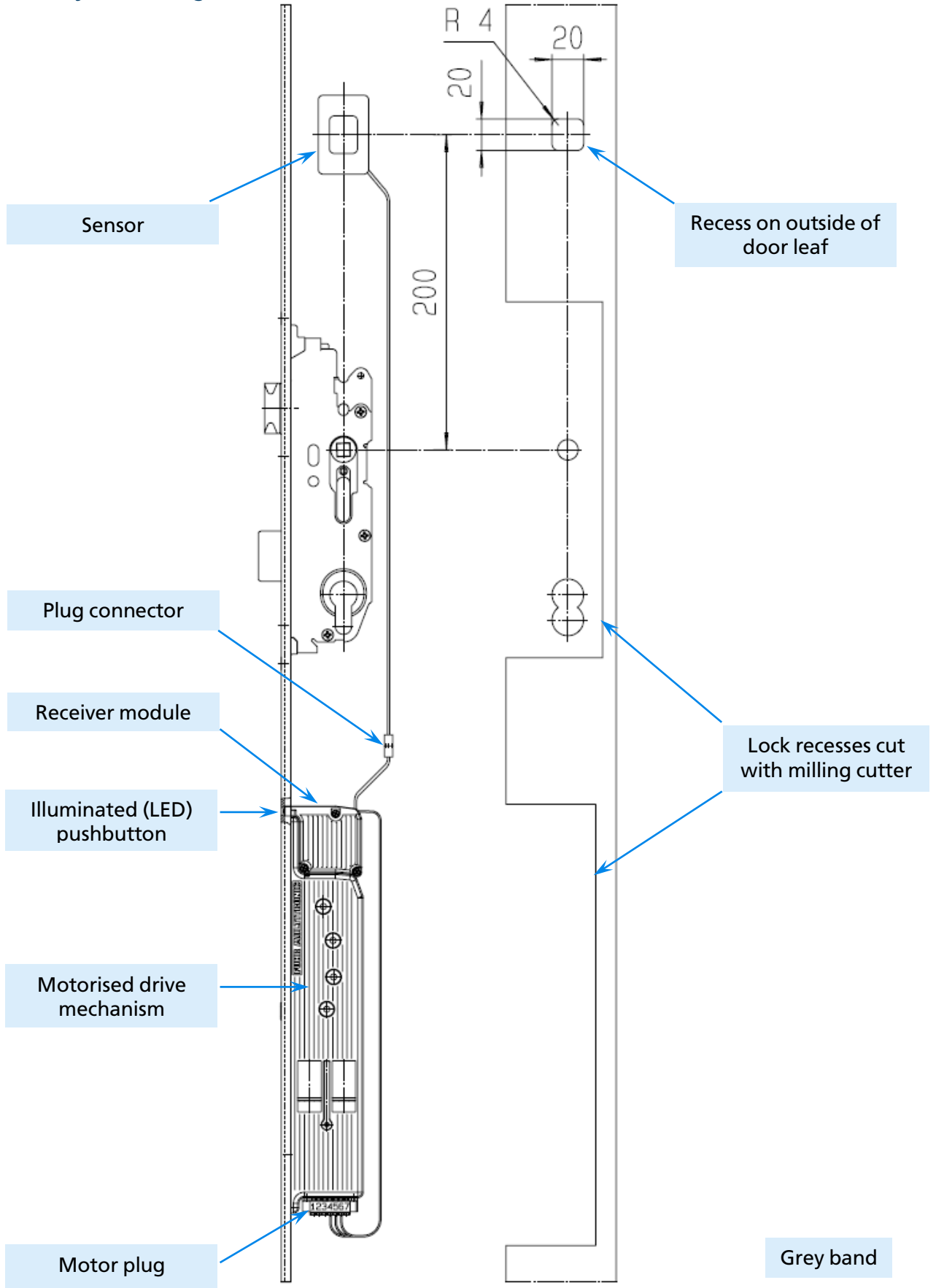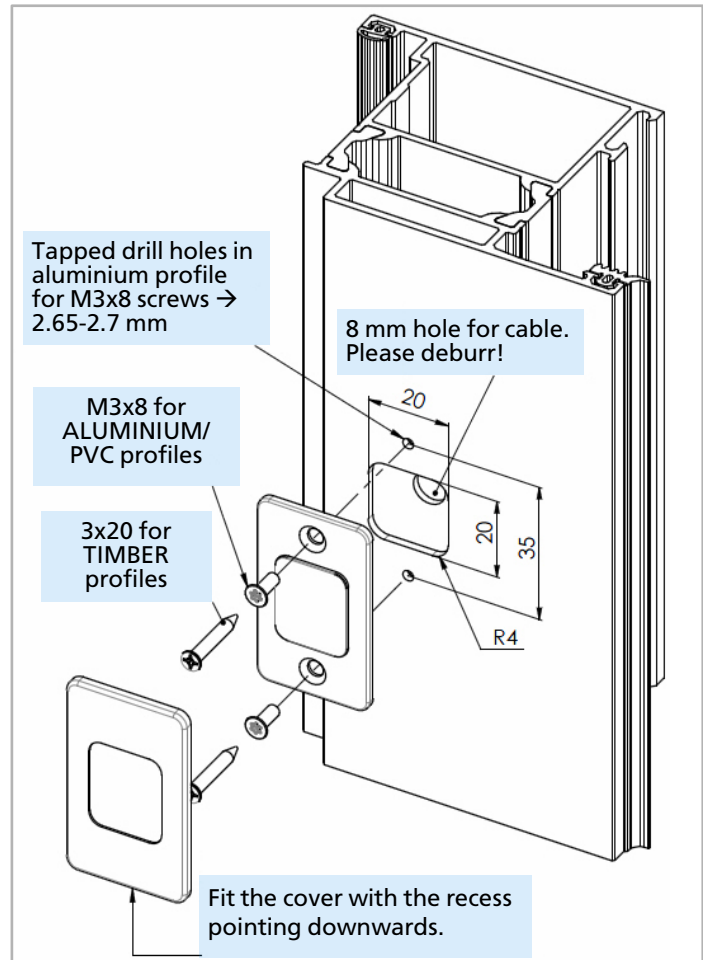
4.1   General layout drawing

Sensor

Recess on outside of door leaf

Plug connector

Receiver module

Lock recesses cut with milling cutter

Illuminated (LED) pushbutton

Motorised drive mechanism

Motor plug

Grey band

4.2 Fitting the SmartTouch sensor

The sensor is housed in a black plastic casing and includes a connecting cable, plug connector, and adhesive stainless steel cover. Fit the sensor to the outside of the door leaf using the screws supplied, selecting the screws according to the door material.

1. About 200 mm above the profile cylinder, cut an opening of exactly 20 x 20 mm in the door leaf **and carefully deburr it.**

2. Feed the sensor plug and cable through this opening and down to the recess for the motorised drive mechanism.

3. Before affixing the stainless steel cover, **clean the plastic casing very thoroughly at the points to which the adhesive will be applied**, using the cleaning cloth supplied.

4. Now remove both strips of protective film from the back of the stainless steel cover.

5. Press the cover firmly onto the plastic casing. You have now finished installing the sensor.

Tapped drill holes in aluminium profile for M3x8 screws → 2.65-2.7 mm

8 mm hole for cable. Please deburr!

M3x8 for ALUMINIUM/ PVC profiles

3x20 for TIMBER profiles

Fit the cover with the recess pointing downwards.

4.3 Fitting the SmartTouch receiver module

Place the receiver module on top of the motorised drive mechanism and push it down until it clicks in place.

There are two cables at the back of the receiver module.

Cable A: The shorter of the two cables ends in a socket. Insert the plug from the sensor that you fitted before into this socket.

Cable B: Guide the longer cable downwards behind the motorised drive mechanism and connect it to the screw terminals on the green motor plug as follows:

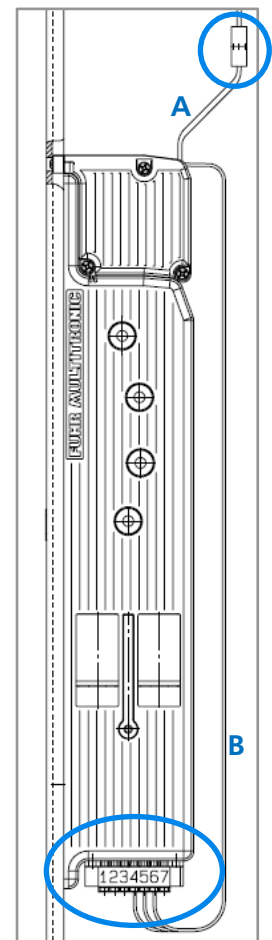Terminal 4 → White cable

Terminal 5 → Brown cable

Terminal 6 → Green cable

You can now insert the motorised lock in the profile of the door leaf.

⚠️ **Please ensure that there are no kinks in the cables and that they are not squeezed or pulled.**

5 Pairing and unpairing user transponders

Transponders are managed from the **SmartTouch** receiver module. You can switch between pairing, unpairing and range adjustment mode by pressing the illuminated (LED) pushbutton on the receiver module. The receiver module stores the identities of paired transponders and the current detection range in a non-volatile memory, i.e. one that is not dependent on a power supply.

Illuminated (LED) pushbutton

When the **SmartTouch** receiver is placed into operation (i.e. supplied with power) for the first time, its electronic components need around 20 seconds to become charged with electrical energy. During these 20 seconds it is not possible to open the door using the system's **SmartTouch** function.

5.1 Pairing new user transponders with the receiver (max. 200)

1. **Briefly (<1 second)** press the illuminated pushbutton on the receiver module.	➢ The LED will start to flash slowly.
2. Within 20 seconds, press the transmit button on the **master transponder once**.	➢ The LED will light for approximately 2 seconds and then flash slowly again.
3. Now, within 20 seconds, press the transmit button on the **user transponder that you want to pair, twice**.	➢ The LED will light for 4 seconds and then automatically go out.
4. This user transponder has now been paired and can be used for opening the door. Pairing mode is automatically deactivated at the end of this process. If you do not take the required steps in time, i.e. within 20 seconds, or if you use the wrong master key, pairing mode will be deactivated.	

5.2 Unpairing individual user transponders

If you would like to prevent a specific paired user transponder from being able to open the door, you can remove it from the memory of the **SmartTouch** receiver:

1. Press the illuminated pushbutton on the receiver module **for longer than 3 seconds**.	➢ As soon as the pushbutton is released, its LED will start flashing rapidly.
2. Within 20 seconds, press the transmit button on **the master transponder once**.	➢ The LED will light for approximately 2 seconds and then flash rapidly again.
3. Within 20 seconds, press the transmit button on the **user transponder that you want to unpair, once**.	➢ The LED will light for 4 seconds and then automatically go out.
4. Check that you have successfully unpaired the user transponder, by pressing its transmit button.	

5.3   Unpairing all user transponders

If you would like to prevent **all** paired user transponders from being able to open the door, you can do so by deleting all contents from the memory of the **SmartTouch** receiver. This will unpair all transponders except for the master transponder.

1. Press the illuminated pushbutton on the receiver module **for longer than 3 seconds**.	➢ As soon as the pushbutton is released, its LED will start flashing rapidly.
2. Within 20 seconds, press the transmit button on the **master transponder once**.	➢ The LED will light for approximately 2 seconds and then flash rapidly again.
3. Now press the illuminated pushbutton on the receiver module **for longer than 3 seconds** once again.	➢ As soon as the pushbutton is released, the LED will light for 4 seconds and then automatically go out.
4. You have now removed all user transponders from the memory.	

> ⚠️ For security reasons, we recommend that all end customers **first remove all user transpond–ers from the memory** when first placing the system into operation (immediately after receiving the master key). This rules out the possibility of the door being opened by an unauthorised transponder.

6   Adjusting the range

The **SmartTouch** receiver module and the master transponder can be used to determine the detection range of all transponders when using the **SmartTouch** function, and to adjust it according to your specific situation. Factory detection range setting = level 7. This is the default setting that applies automatically for all transponders added to the memory. To change the detection range, you must first determine the current setting.

6.1   Determining the current range setting

1. Hold the illuminated pushbutton on the receiver module down **for longer than 10 seconds** with the door slightly open. The LED will start to flash.

    You can determine the current range setting from the number of periodic flashes of the LED:
    - **1x** flash   =   range level 1 (smallest detection range)
    - **2x** flashes =   range level 2
    - **3x** flashes =   range level 3, and so on.
    - **9x** flashes =   range level 9 (maximum detection range)
    - **10x** flashes =   **SmartTouch** mode disabled for all transponders.
        In this case the door can still be opened using the transmit button.

2. Move the master transponder closer to and further away from the door to determine the distance to which the current range setting corresponds. If the master transponder is within the detection range of the receiver, the master transponder will beep at one-second intervals. If the range is set too low (or the master transponder is too far away), the transponder will not beep.

> ⚠️ **Please check the range from both outside and inside the building.**
> Range adjustment mode is not cancelled automatically, to give you time to see the effect of different transponder positions and locations. For example, the transponder's range will vary depending on whether it is kept on a bunch of keys in a trouser pocket, or in a handbag. The range setting is only approximate and its effect is influenced by the environment in which the system is being used, for example the material from which the door is made.

6.2 Adjusting the range

1. Determine the current range setting as described in section 6.1.

2. Now you can use the illuminated pushbutton to set the range to your desired level. The factory range setting is level 7. It will increase by 1 with each press of the illuminated pushbutton. Once you have reached level 10, pressing the pushbutton again will take you back to level 1. Use the feedback signal from the master transponder to determine the right range for your situation.

3. Once you have set the range as required, you now need to leave the mode for determining the current range setting. This is done either by pressing the transmit button on the master transponder for 3 seconds, or by holding down the illuminated pushbutton on the receiver module for 10 seconds. The master transponder will then stop beeping.

The **SmartTouch** detection range setting does not affect the range of the transmit button, which is always set to the maximum possible level.

7 Using the SmartTouch function

To open the motorised lock, go up to the door with a paired user transponder in e.g. your coat pocket, and hold the palm of your hand in front of the sensor. The receiver module will check whether you have the right to open the door and, if so, will automatically unlock the motorised lock.

8 Security functions

8.1 Disabling SmartTouch for individual transponders

You can switch the **SmartTouch** function – in other words the option of opening the door by touching the sensor on the outside of the leaf – on or off for each transponder separately. To enable or disable this function, simply press the transmit button on the respective transponder for more than 3 seconds. The receiver module uses acoustic signals to indicate a change of mode:

Disabled = 2 long beeps; enabled = 2 short beeps.

If **SmartTouch** is disabled, you can still open the door using the transmit button on the transponder.

8.2 Automatic switch–off of SmartTouch transponders

All transponders are fitted with a motion sensor. If a transponder does not move for 8 seconds, it automatically switches off. This saves battery power but also prevents unauthorised persons from opening the door if a transponder has been left inside the building within detection range. To enable you to open the door using the sensor again, move the transponder.

We recommend always putting the transponder down when you are inside the building, to prevent unauthorised persons from opening the door by activating the sensor on the outside.

8.3 Automatic disabling of sensor for 10 seconds

After the motorised lock has been opened using **SmartTouch,** the sensor on the outside of the door is always automatically disabled for 10 seconds. Please do not try to open the door again using **SmartTouch** until this 10-second period is over. You can always use the transmit button on the transponder, as this is permanently enabled.

9 Rectifying errors and faults

9.1 Checking whether any security functions are active

If the motorised lock does not open when you move your hand in front of the sensor, please first check that none of the security functions described in section 8 are active.

9.2 Charge level of the transponder battery

If transponder batteries are low, this will reduce the detection range. Transponders measure the amount of charge remaining in their batteries when their transmit button is pressed. If the transponder battery is too low, the transponder will beep 3 times when its transmit button is pressed. If this happens, please replace the battery promptly – see section 10.3. The transponder's security data will not be lost as a result of its battery being changed.

Please replace batteries promptly, because you will no longer be able to use the transponder to open the door if its battery runs out entirely.

9.3 Troubleshooting

If the motorised lock cannot be opened using the **SmartTouch** function (i.e. when you move your hand in front of the sensor) and instead the receiver module concealed in the door leaf beeps rapidly 5 times after a 5-second delay, please work through the following steps:

First, attempt to open the motorised lock electrically by briefly pressing the **transmit button on the master transponder**.

➢ If the motorised lock opens, work through steps 1 to 5 in the table below.

➢ If the motorised lock does **not** open, please check the following:

    – Is the receiver module correctly connected to the motor plug?

    – Were any cables damaged when the system was installed in the door leaf?

    – Is the door in which the motorised lock is fitted connected to the power?

    – Is the transponder battery flat? (If there is still charge in the battery, the transponder will beep once when the transmit button is briefly pressed.)

Problem	Solution
1. The transponder being used to open the door has not yet been paired with the receiver.	Pair the transponder – see section 5.1.
2. The transponder being used to open the door has been switched off, either manually or auto-matically.	Press the transmit button on the transponder for 3 seconds to enable the **SmartTouch** function again for that transponder – see sections 8.1 and 8.2.
3. The transponder is in an unfavourable location (e.g. in a bag or on a bunch of keys), so the receiver module cannot detect it.	Move the transponder to a position/location where the receiver can detect it, e.g. hold it in your hand. If necessary increase the detection range as well – see section 6.
4. The transponder battery is too low.	Change the battery – see section 10.3.
5. If no transponders are detected in any position/location, this is generally because the detection range of the receiver has been set too low; alternatively it may be that the **SmartTouch** function has been entirely disabled.	Increase the detection range – see section 6. Check the connecting cables on the motorised drive mechanism, and the plug connector between the receiver module and the sensor – see section 4.

[• SmartTouch

10 Technical specifications

10.1 SmartTouch receiver

Frequency:	868.92 MHz
Modulation:	FSK
Security:	AES 128-bit/master key principle
Anti-collision check:	Yes
Antenna:	Onboard
Power supply:	12 V DC
Current consumption:	15 mA
Activity indicator:	Green light-emitting diode
Temperature range:	-10 °C to +50 °C
Dimensions:	43 x 40 x 15 mm
Connecting cable:	3-core, approx. 320 mm long
Weight:	approx. 60 g
Protection rating:	IP 20
Switching impulse:	Potential-free

10.2 Master/user transponders

The transponders conform to the R&TTE Directive (1999/5/EC).

Frequency:	868.92 MHz
Modulation:	FSK
Security:	AES 128-bit
Channels:	2
Power supply:	1x CR2450 3-volt battery
Temperature range:	-10 °C to +50 °C
Dimensions:	54 x 33 x 17 mm
Weight	approx. 19 g

10.3 Changing the battery of user/ master transponders

1. Open and remove the rear casing by pushing it in the direction of the keyring hole

2. Swivel the spring clip to the side

3. Remove the spring clip

4. Change the battery → Type: **CR2450**

5. Replace the spring clip

6. Replace the rear casing
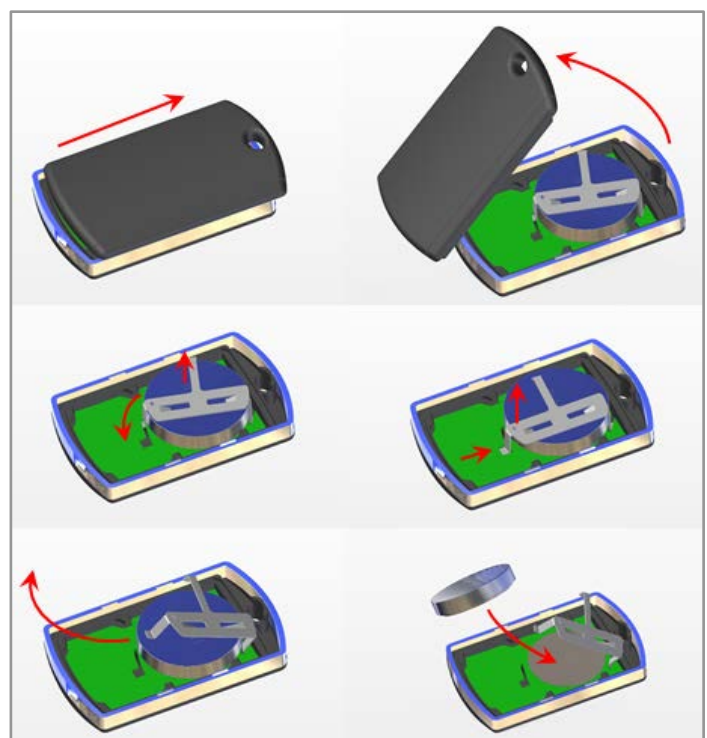
11 Interpreting the illuminated pushbutton on the SmartTouch receiver in operation mode

LED lights for 2 seconds	➢ The code of a paired transponder has been detected and the lock will be opened by the motor.
LED lights for 0.5 seconds	➢ The code of a transponder which has not yet been paired has been detected; the lock will not open.
LED does not light at all	➢ In its standard, untriggered state, and during the 10 seconds for which it is automatically disabled (see section 8.3), the LED does not light because the receiver cannot detect any transmitted signal. However, if the LED does not light even though an opening signal has been sent, this is because the radio receiver or the motorised lock are not connected to the 12 V DC power supply, or the cables have been connected wrongly to the motor plug.
LED lights permanently	➢ The master transponder has not yet been paired with the receiver. Important: the first **SmartTouch** transponder to be paired with the receiver will become the master transponder!
LED flashes rapidly for 5 seconds	➢ The sensor has been triggered but no "open" command has been sent to the lock. Reason: there are no transponders within range, or the **SmartTouch** function has been disabled on the transponder. After flashing, the **SmartTouch** receiver will beep 5 times.

12 Safety, maintenance and care instructions

- The **SmartTouch** receiver module is maintenance-free.
- If the transmission range of a **SmartTouch** transponder deteriorates, please change its battery.
- All components must be protected against moisture. They are not suitable for use in areas with high humidity or for exposure to chemical substances.
- Only genuine FUHR accessories may be used.
- No liability will be accepted in case of incorrect installation or operation.
- Casings and cables must be protected against mechanical damage.
- Damaged or defective components must be taken out of operation and replaced.