

Radio fingerprint scanner NB870N with master radio keys

Installation and operation instructions



These instructions are to be passed on by the fitter to the user.

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Caption



Relevant for the
assembly operation



Relevant for the
end user



**Important information;
please note.**



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

Please pay attention to the colour and the lighting status of the LEDs during commissioning. These will guide you through the steps and tell you if a step was completed or cancelled.



White LEDs light up or flash.



Right green LED, lights up or
flashes



Left red LED, lights up or
flashes



Red and green LEDs
light up or flash.

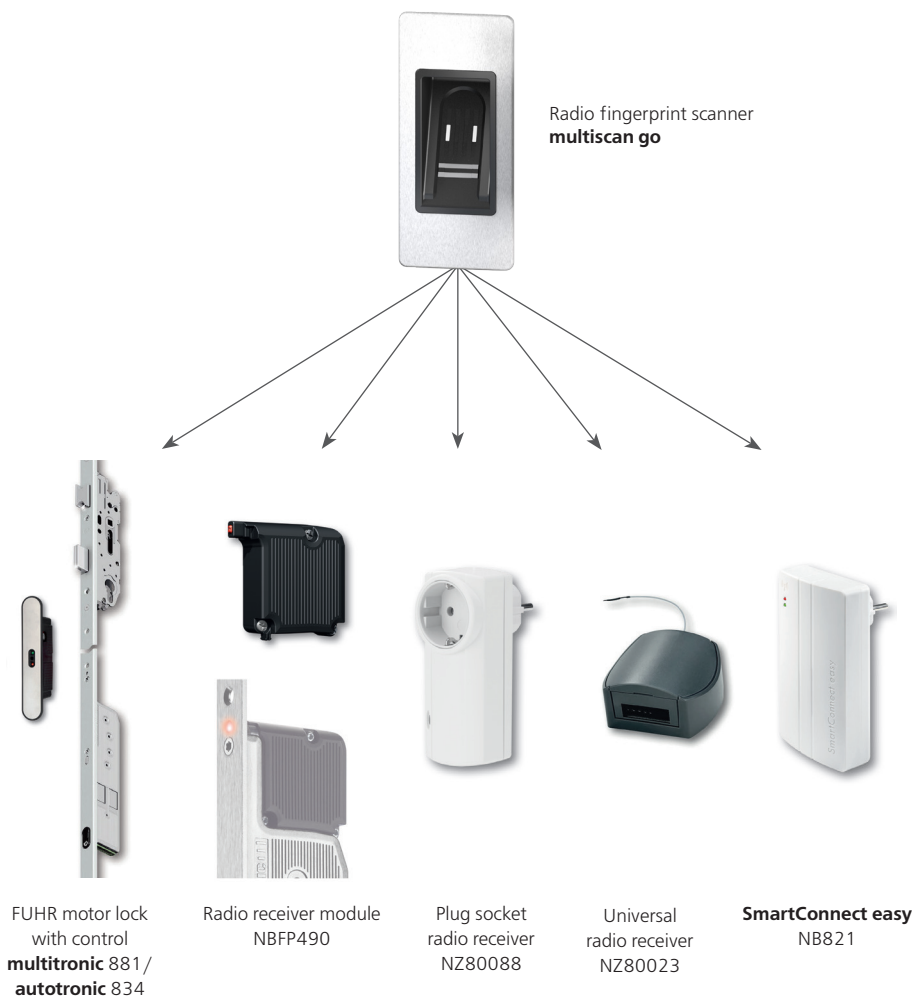


1 Applications

The communication between the radio fingerprint scanner **multiscan go** and the motor lock's control is wireless. Alternatively to the control, a radio receiver module can be fitted directly to the motor of the **multitronic/autotronic**.

If desired the radio fingerprint scanner can be used to control e.g. garage doors. We offer a mains-operated plug socket radio receiver and a universal radio receiver for this purpose.

In addition, management of the two radio channels of the **multiscan go** per app is possible when using the **SmartConnect easy**.





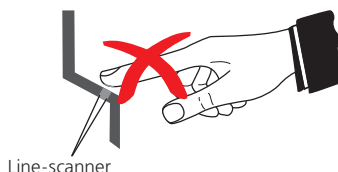
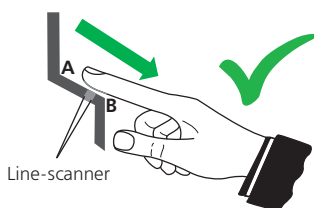
2 Important advice

2.1 The course of movement when swiping your finger over the line-scanner

Correct operation is compulsory so that the line-scanner can detect your fingerprint correctly. The following course of movement is to be carried out with continuous movement:



Place the surface of your finger (not just the fingertip) parallel to the sloped contact face at the very top point "A" and slightly press it. Swipe your finger completely over the line-scanner in a consistent manner with slight pressure in the direction of the arrow towards point "B".



2.2 General advice and possible difficulties with fingerprint detection

The FUHR radio fingerprint scanner has been equipped with the most modern and safest detection methods. Humans' fingerprints have by nature different distinct characteristic curves and it cannot be ruled out that some peoples' fingerprints cannot be tuned in. In particular indistinct characteristic curves (e.g. in the case of children) or characteristic curves that have been damaged by means of mechanical or chemical abrasion, may not be able to be read. This is not a device defect! For this reason we generally recommend to check the tune-in capability of the fingerprints in question before installing the system. To do so the scanner is simply connected up to the 12 V DC supply while not fitted. Afterwards the fingerprints in question are tuned in as per this manual.

It should also be noted that finger biometrics are subject to significant fluctuations. Dirt, humidity and different temperatures or temperature changes (summer = warm / winter = cold) can cause changes in the fingerprint structure. These fluctuations can affect both the tuning in process and the recognizability of the fingerprints. For these reasons, we recommend to perform the tuning in process under both temperature conditions and advise to provide an alternative opening option for the door. Preferably in the form of a profile cylinder key (house key) to be able to open the door mechanically at any time.

Tip: Despite the fact that childrens' fingers are generally difficult or perhaps even not at all possible to tune in, their thumbs can often be read relatively well. **By the same token, every person authorized to open the door should have a minimum of 1 different user-finger tuned in to the system, so that also in the case of injuries of a particular finger, an alternative finger can be used.**



2.3 Number of tuned in fingerprints

The memory has been designed for ca. 50 user and guest fingers (depending on the complexity of the fingerprints). As soon as the memory is full, the red LED flashes 5 times and the tuning in procedure is aborted!

2.4 Power failure

A power failure has no effect on the stored fingers; they remain stored. Opening the door automatically cannot be effected.

We generally recommend the installation of a mechanical cylinder in the main-lock casing in order to warrant the possibility of mechanical access at all times.

2.5 Technical specifications

Operating voltage:	12 V DC
Current consumption:	approx. 30 mA
Opening impulse:	868.3 MHz radio signal, encrypted as rolling-code
Transmitting channels:	2 pieces
Transmitter range:	approx. 100 m (free field)
Protection class:	IP 56
Housing dimensions:	55 x 36 x 32 mm (H x W x D)
Cover dimensions:	91 x 40 x 2.5 mm (H x W x D)
12 V DC cable length:	1,600 mm



3 Installation advice

3.1 Delivery scope

Standard delivery scope (NB870N):

- Radio fingerprint scanner **multiscan go** with flat stainless steel cover and connection cable (1600 mm)
- Master radio keys
- 4 fixing screws M3 x 8 mm for aluminium + steel
- 4 fixing screws 3 x 20 mm for timber + PVC
- QuickStartGuide



Other delivery variants:

In addition to the standard delivery:

Package 2 (NB870N1):

+ Radio receiver module



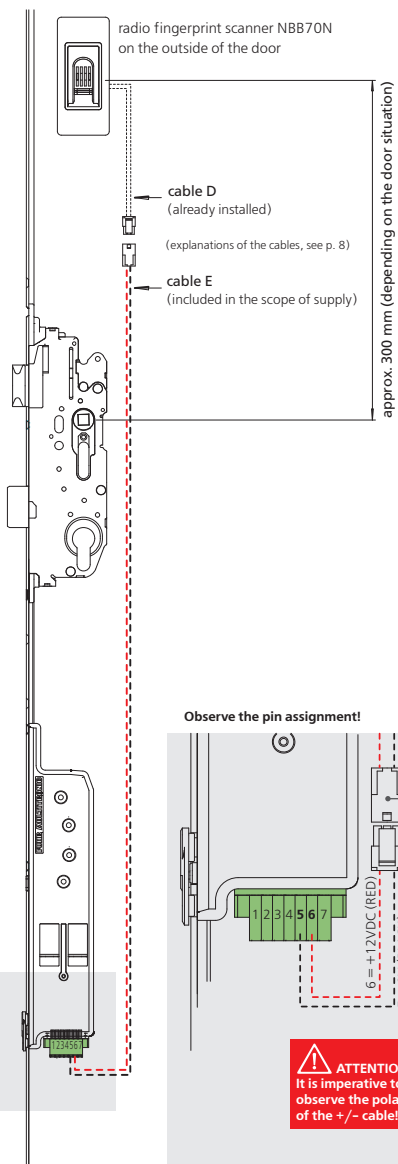
Package 3 (NB870N2):

+ Radio receiver module

+ 4-channel user radio key

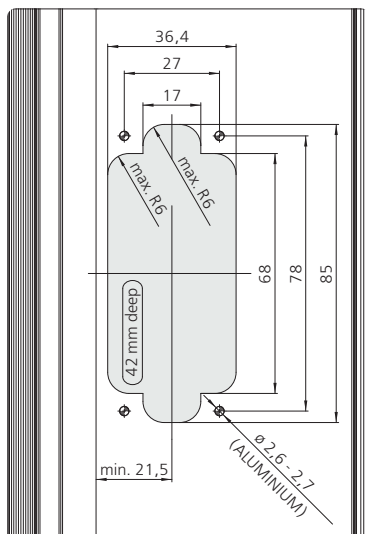


3.2 Terminal connection diagrams





3.3 Routing dimensions/drilling jig



3.4 Mounting the cover

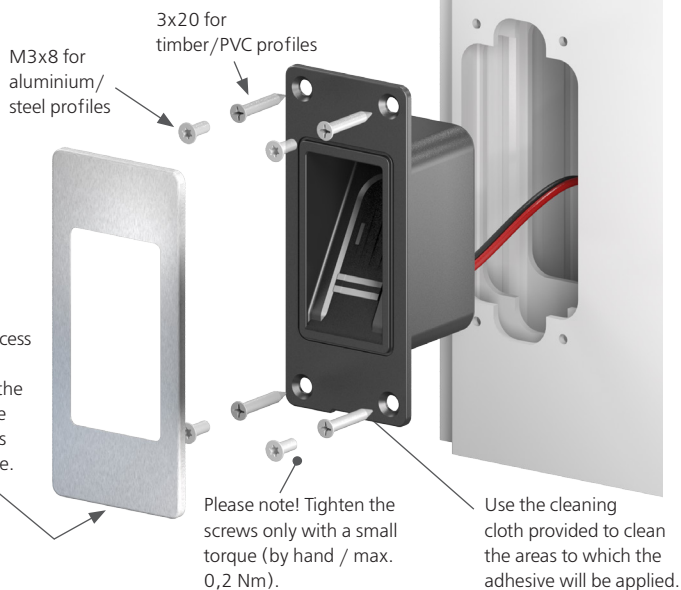
Please note: Read the following before fitting the cover:

The radio fingerprint scanner must be in the delivery status = red and green LEDs light up.

Do not affix the cover until all other installation steps are complete and the fingerprint scanner has been successfully paired with the radio receiver. Once the cover is in place, it may not be possible to remove without damaging it.

Replacement cover: Article no. NB28052N

Fit the cover with the recess pointing downwards. Before fitting, remove the protective film from the adhesive surfaces. Press the cover firmly in place.





4 Commissioning

4.1 Power supply connection

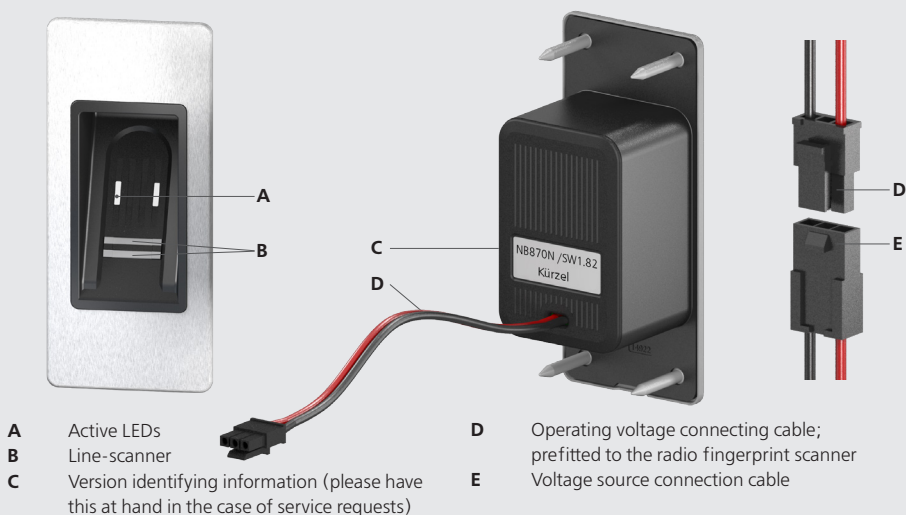
The radio fingerprint scanner requires 12 V DC (direct current) operating voltage, collected directly from the **multitronic/autotronic** motor lock's drive unit.

Also see page 6, chapter 3.2.



Please note!

Please observe the correct polarity (+/-) to the power source!



4.2 Delivery status

Upon connecting it up to the 12 V direct current, both LED's (red and green) light up permanently, that is to say; no user or guest fingers have been stored in the memory. The master radio key has already been tuned in to the finger scanner.

4.3 Different radio channels

The transmitter module transmits two different rolling-code encrypted telegrams/channels on 868.3 MHz. As a result you have the possibility of controlling two different devices:

Channel 1 e.g. for **multitronic/autotronic** main entrance door

Channel 2 e.g. for another **multitronic/autotronic** door or in conjunction with the FUHR radio receiver for a motorised garage door drive unit

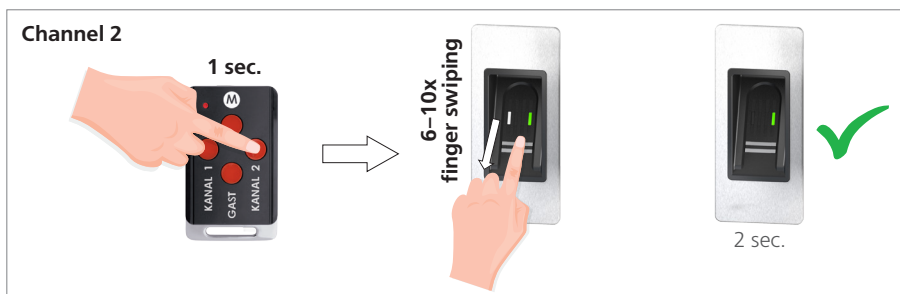
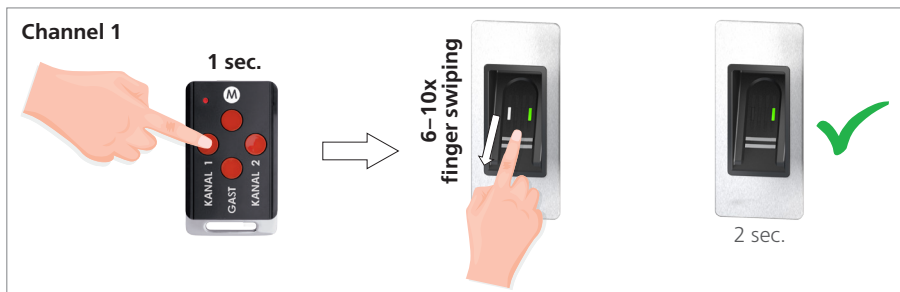


5 Tuning in and deleting

5.1 Tuning in user fingers



Please note: Please check before tuning in whether the radio fingerprint scanner is in the delivery status (= red and green LEDs light up). If this is not the case, please first delete all fingers as described in chapter 5.5 and then start with tuning-in.



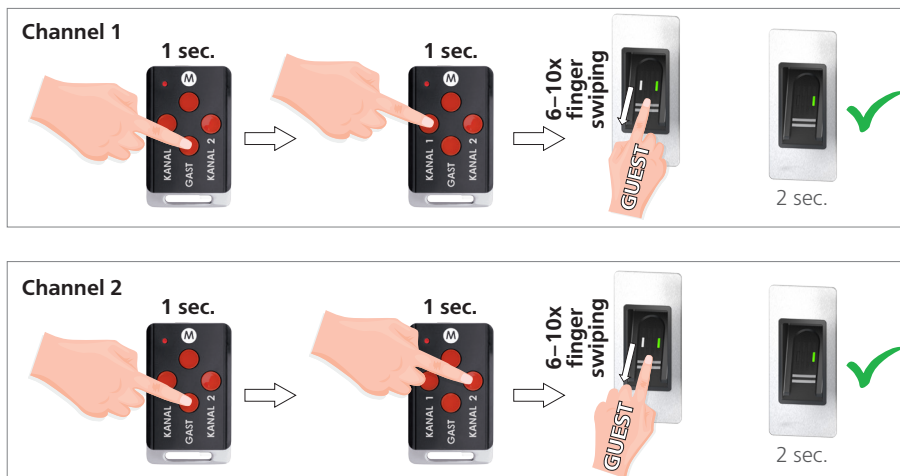
1. Press the button of the desired channel (channel 1 or channel 2) on the master radio key for ca. 1 second. Both LEDs now light up red and green at the same time. After that the green LED flashes for ca. 10 seconds.
2. Swipe the same user finger to be tuned in 6-10x over the scanner within these 10 seconds. The green LED will start flashing faster and faster. If this lights up permanently for 2 seconds, the tuning-in procedure is completed. Please make a note of the user-finger page 15, chapter 8.
3. If the red LED lights up 5 times, the finger can not be read. Please repeat the steps 1 and 2. Check the correct movement sequence (see page 4, chapter 2.1) or use another finger.
4. If user-fingers are to be tuned-in for channel 2 as well, repeat steps 1 to 3.



Advice: If the confirmation time of 10 sec. is exceeded during tuning-in procedure, the previously read user-fingers are not stored in the memory.



5.2 Tuning in guest fingers



1. Press the GUEST button for approx. 1 sec. on the master radio key. Both LEDs now turn alternately white.
2. Press the button of the desired channel (channel 1 or 2) for approx. 1 sec. within 10 sec. As soon as the LED flashes green, swipe the same guest finger 6-10x over the scanner. The green LED will start flashing faster and faster. They light up for 2 sec. after successful tuning-in procedure.
3. If the red LED lights up 5 times, the finger can not be read. Repeat steps 1 and 2. Check the correct movement sequence (see page 4, chapter 2.1) or use another finger.

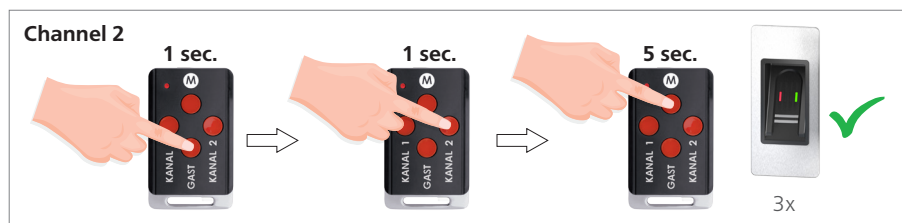
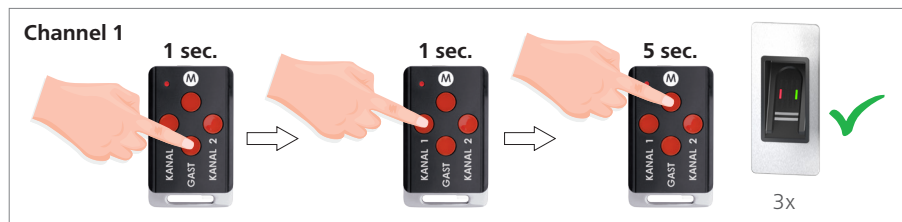
5.3 Temporarily lock all guest fingers of both channels and unlock them again



1. Keep the GUEST button pressed for ca. 3 seconds.
 2. As soon as the left LED lights up **light red**, release the GUEST button.
 3. All guest fingers are locked now. The red LED lights up every 5 seconds during the locking phase.
1. Keep the GUEST key pressed for ca. 3 seconds.
 2. As soon as the right LED lights up **light green**, release the GUEST button.
 3. All guest fingers are unlocked again now.

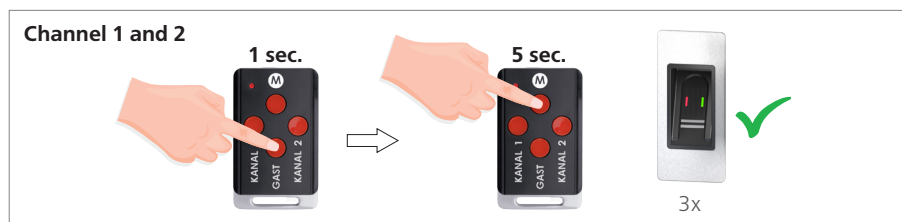


5.4 Deleting guest fingers



All guest fingers of channel 1 or channel 2:

1. Press the GUEST button for approx. 1 second on the master radio key. Both LEDs now turn alternately white.
2. Press the key of the desired channel (channel 1 or channel 2) for approx. 1 second during this time. As a detection signal, the LED flashes green.
3. While flashing, press the M button for ca. 5 seconds. As soon as all guest fingers are deleted, the green and the red LEDs light up together 3 times.
4. Release the M button.

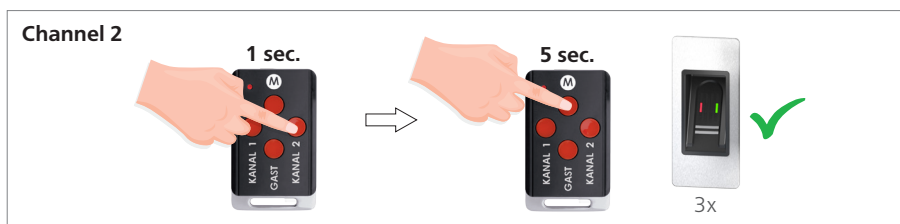
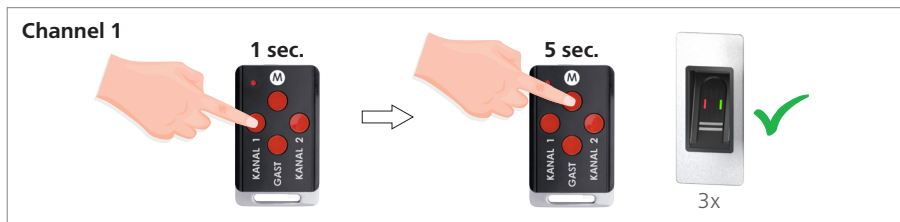


All guest fingers of both channels:

1. Press the GUEST button for approx. 1 second on the master radio key. Both LEDs now turn alternately white.
2. While flashing, press the M button for ca. 5 seconds. As soon as all guest fingers are deleted, the green and the red LEDs light up together 3 times.
3. Release the M button.

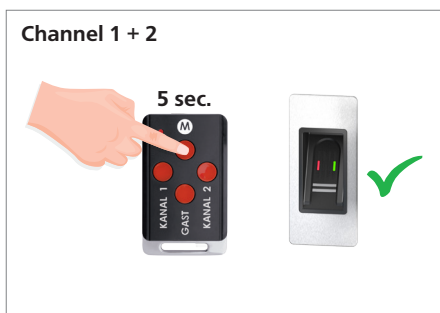


5.5 Deleting user and guest fingers



All user and guest fingers of channel 1 or channel 2:

1. Press the key of the desired channel on the master radio key for ca. 1 second. As a detection signal, the LED flashes green.
2. While flashing, press the M button for ca. 5 seconds. As soon as all user and guest fingers are deleted, the green and the red LEDs light up together 3 times.
3. Release the M button.



All user and guest fingers of both channels:

1. Press M button on the master radio key for ca. 5 seconds. As a detection signal, the red LED lights up for a short time.
 2. During the deletion process, the red and green LEDs flash alternately.
 3. As soon as both LEDs light up simultaneously, all user and guest fingers are deleted.
- The **multiscan go** is in delivery status now.



5.6 Tuning in the radio fingerprint scanner to a control/radio receiver module

After the user fingers have been saved, the radio fingerprint scanner must be tuned in to **multitronic/autotronic** control. The control is located inside the building. The radio fingerprint scanner is tuned in like a new radio key (see the installation and operation instructions of **multitronic** 881/**autotronic** 834). When using the radio receiver module NBFP490 mounted on the motor drive, the tuning-in process is identical.

During the tuning-in process, make sure that the doors' tappet contacts always touch the surface-contact in the door frame. To tune in, proceed as follows:

1. Take the master radio key (**D**) of your **multitronic/autotronic** locking system or, if you have purchased package 2 or 3 (see page 6, chapter 3), the master radio key of the **multiscan go** (**E**).
2. Press the programming button (**A**) of your **multitronic/autotronic** control or your radio receiver module for ca. 1 second. The green LED (**B**) of the control or the red LED of the radio receiver module will start to flash.
3. Now switch to your radio fingerprint scanner **multiscan go** on the outside of the building. Press the middle button of the master radio key as described in point 1 (**D**) or (**E**) for ca. 1 sec. Once the master radio key has been accepted, the green LED (**B**) of the control or the red LED of the radio receiver module lights up for ca. 2 sec. and afterwards starts to flash.
4. Swipe any of your previously tuned in user fingers of the corresponding channel over the **multiscan go** for the desired channel. The green LED of the radio fingerprint scanner lights up for a short time. Afterwards swipe again the same finger over the scanner surface. The green LED lights up for a short time.
5. If the tuning-in process was successful, the motor lock door can be opened with the user fingers of the tuned-in channel.



Advice: Steps 3 and 4 must be done within 20 seconds. If the time frame is exceeded, the tuning-in procedure is aborted. Start with step 1 in that case.

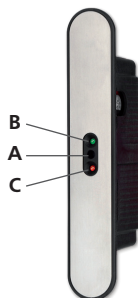
multitronic/autotronic
control with radio receiver

Radio receiver module

Master radio key
for control or
radio receiver module
NBFP490

Master radio keys
for **multiscan go**
(package 2 and 3)

- A** Programming button
B Green LED
C Red LED





6 Tamper protection

6.1 Blocking times as tamper protection

If 5 non tuned in fingerprints/fingerprints from unauthorized people are read by the line-scanner, the radio fingerprint scanner is blocked for 30 seconds (the red LED flashes for the duration of the blocking time). In the case of five further non tuned in fingerprints, the blocking times are increased to 1, then to 2, to 5 and after that always to 30 minutes. An incoming power failure does not cancel the blocking.

6.2 Disabling the blocking times

While the radio fingerprint scanner is still locked in this blocking time, you nevertheless have the possibility of disabling the blocking time ahead of schedule. Swipe an authorized tuned in fingerprint once over the line-scanner. As soon as the green LED lights up, the blocking is aborted. To open the door now, the user finger must be swiped over the fingerprint scanner again. Guest fingers are not allowed to abort the blocking times.

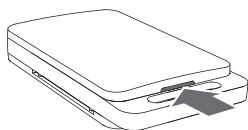
7 Battery replacement

The master radio key is operated by means of a button cell battery CR2032. The master radio key is ready for use again immediately after the replacement.

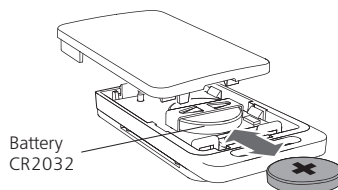
Proceed as follows during replacement:

1. Insert a narrow object (such as a flat-head screwdriver) into the slot on the back of the master radio key and gently push the cover upwards.
2. When replacing the battery, pay attention to the correct polarity (the positive pole must be visible).
3. Close the housing.

1.























2.





8 Fingerprint allocation for user and guest fingers

Name of the user	User/guest	Channel	Finger
	User <input type="checkbox"/> Guest <input type="checkbox"/>	Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/>	 
	User <input type="checkbox"/> Guest <input type="checkbox"/>	Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/>	 
	User <input type="checkbox"/> Guest <input type="checkbox"/>	Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/>	 
	User <input type="checkbox"/> Guest <input type="checkbox"/>	Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/>	 
	User <input type="checkbox"/> Guest <input type="checkbox"/>	Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/>	 
	User <input type="checkbox"/> Guest <input type="checkbox"/>	Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/>	 
	User <input type="checkbox"/> Guest <input type="checkbox"/>	Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/>	 
	User <input type="checkbox"/> Guest <input type="checkbox"/>	Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/>	 
	User <input type="checkbox"/> Guest <input type="checkbox"/>	Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/>	 
	User <input type="checkbox"/> Guest <input type="checkbox"/>	Channel 1 <input type="checkbox"/> Channel 2 <input type="checkbox"/>	 

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