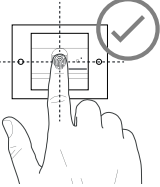


Operation

To operate the fingerprint reader, only the one-time laying on of the previously taught-in finger is necessary.

**360° contact surface for finger**

Taught-in fingers are detected in any position (360° contact surface). The optimum positioning of the finger (see graphic) is preferable.



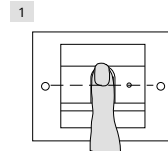
The LED lights up red when the finger is laid on. During this time the fingerprint is read. After the short acknowledgement tone, the finger can be removed. While the fingerprint is being compared to saved fingerprints, the LED lights up orange. If the finger is recognised the LED lights up green and a long acknowledgement tone is heard (positive acknowledgement signal). At the same time the previously specified switching action is executed. An unauthorised or unassigned finger is indicated with a red LED and 3 short acknowledgement tones (negative acknowledgement signal).

Teaching-in finger

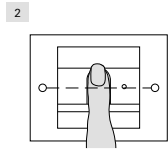
For the teaching-in of a user finger, the finger to be taught-in (admin, programming or user finger) is repeatedly laid on. It is important to vary the position of the finger by a few millimetres each time when laying on repeatedly, so that the fingerprint reader can register the largest possible finger area.

Important: Do not rotate the finger during teaching-in.

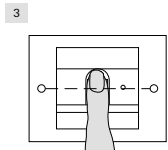
1. Lay on the finger to be taught-in centrally until an acknowledgement tone is heard.



2. Lay on the finger shifted slightly upwards.



3. Lay on the finger shifted slightly downwards.



4. Repeat steps 1 – 3 until 2 long acknowledgement tones are heard and the LED lights up green

Information for teaching-in:

Users with very dry, greasy or moist skin may need to place the finger they wish to teach in up to 15 times. A negative signal (3 short tones) will be heard immediately if a finger has already been recognised or a fingerprint has insufficient features (or features that have already been recognised). If a negative signal (3 short tones) is heard after the 15th attempt, the finger has not been successfully taught in. If this happens, place the finger again (step 1) or use another finger. Follow the instructions above for this.

Tip with very dry or cold skin:

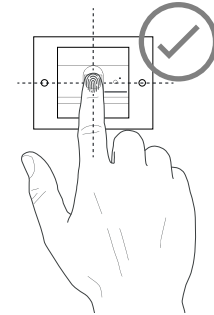
Press the finger down more firmly.

Tip with sweaty skin:

Wipe the finger dry before teaching-in and press down less firmly.

Optimal positioning of finger

To ensure the fingerprint module functions properly, fingers must be placed correctly during both the teaching-in process and subsequent operation. It is important that the finger area with the most prominent fingerprint swirls (centre of fingertip) is detected by the fingerprint sensor. For this reason, place fingers as shown.

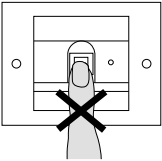


Note:

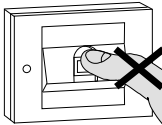
Humidity (formation of drops) on the scanner surface can negatively affect the detection of the user finger. In this case, wipe the scanner surface (and the damp finger) dry before laying on the finger.

The operating instructions with further information on start-up and administration can be found on the internet at www.download.gira.de.

Frequent errors when laying on a finger



During later operation, users are inclined to lay the finger on shifted more and more downwards.



In extreme cases, only the tip of the finger pad might be laid on. Reading processes such as these must inevitably lead to refusal for reasons of security:



The sensor only then scans the fingerprint in the upper section of the finger pad, far above the fingerprint swirl. Here are significantly less curved skin lines, meaning that the system cannot recognise sufficient significant features.



Laying the finger on optimally:
It is important that the finger area with the greatest fingerprint swirls (middle of finger pad) is registered by the fingerprint sensor.

Table for start-up documentation

In the following tables the fingers of the administrators or users can be marked as references.
The example administrator selects the thumb of the left hand as the admin finger, and the index finger of the right hand as programming finger.

Administrator	Admin finger	Programming finger
Example administrator		

User / Function	User finger

Operating information for users

Fingerprint reader
2617 ..

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