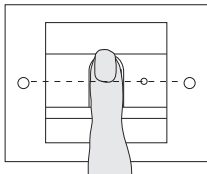## Operation

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

> **i** **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).
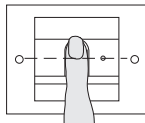
Teaching-in finger

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.

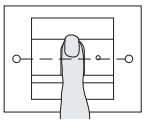**Important: Do not rotate the finger during teaching-in.**

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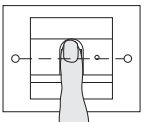

2. Lay on the finger shifted slightly upwards.

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:

With "difficult" fingers (e.g. those of small children or those with very dry or sweaty skin) it may be necessary to lay on the finger to be taught-in up to 7 times.

If a negative acknowledgement is heard after the seventh attempt (3 short tones), the teach-in of the finger was not successful. In this case lay the finger on again (step 1) or use another finger.

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.

Fingers already taught-in after the third or fourth time are usually optimally taught-in.

For this reason it makes sense to delete a finger taught-in after the 5th, 6th or 7th time and to teach it in again.

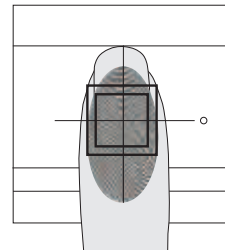With an optimally taught-in finger, reading success during later operation will also be optimal.

Optimal positioning of finger

In order to ensure proper functioning of the fingerprint reader, the finger must be correctly laid on during both teaching-in and subsequent operation.

It is important that the finger area with the greatest fingerprint swirls (middle of finger pad) is registered by the fingerprint sensor.
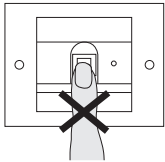
Note:
Humidity (formation of drops) on the scanner surface can negatively affect the detection of the user finger. In this case, wipe the scanner surface (and the damp finger) dry before laying on the finger.
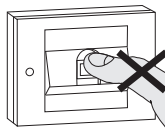
The operating instructions with further information on start-up and administration can be found on the internet at **www.download.gira.de**.

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

Fingerprint reader
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