

INSTALLATION and OPERATING MANUAL



ekey® TOCAhome
ekey® TOCAhome 3
ekey® TOCAhome pc

Fingerscan Access System

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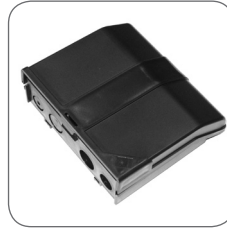
1. SCOPE OF DELIVERY



Scanner



Scanner
mounting plate



Control panel



Control panel
mounting plate



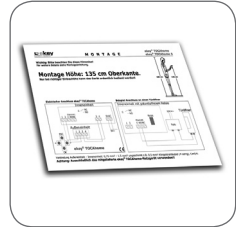
9V AC power supply



Screws and plugs



Installation and
operating manual



Quick user guide

ADDITIONAL PARTS PROVIDED WITH ekey® TOCAhome pc

TOCAhome pc can be connected to a personal computer via the supplied USB interface. The items listed below are the additional components that are included with TOCAhome pc.



USB cable

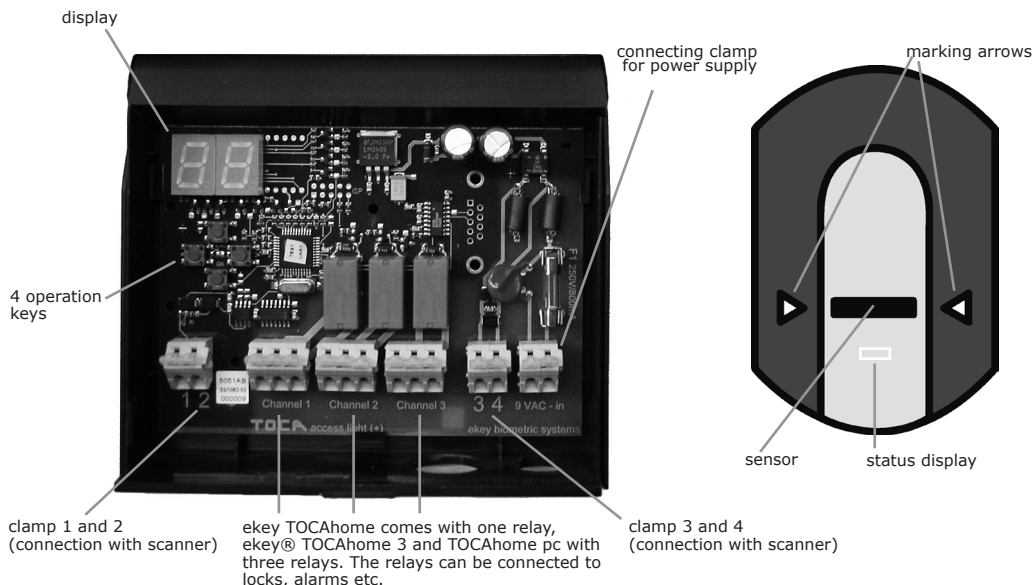


USB/RS-485 converter



CD-ROM

2. DEVICE OVERVIEW



Your product is operated with a finger. The scanner reads special characteristics of your finger and uses them for identification. Each of your fingers is unique and differs from the fingers of other persons.

Model ekey® TOCAhome

This model contains 1 relay.

Model ekey® TOCAhome 3

This model contains 3 relays. You can assign different fingers to each of these relays e.g. one finger to open a main door, a second finger to open the garage door and a third finger to operate an alarm.

Model ekey® TOCAhome pc

Like TOCAhome 3, this model contains 3 relays. In addition, you can connect the control panel to a personal computer using the USB cable and USB/RS-485 converter provided.

3. INSTALLATION

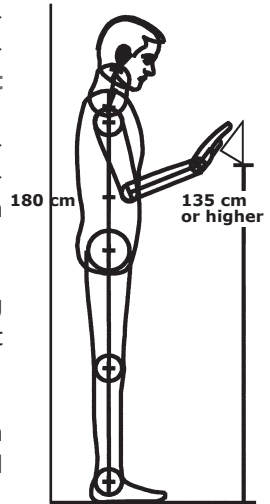
3.1. MOUNTING THE SCANNER

Fix the scanner mounting plate which can be found at the backside of the scanner directly on the wall (as shown in the illustration besides). The optimal **installation height is at least 135 cm (52 inches) to the lower edge of the scanner.**

At this height, the scanner is ergonomically positioned for optimum reading of the finger as it is being swiped over the scanner. An optional "in-wall mounting set" is available for flush mounting.

Slide the scanner onto the hooks of the scanner mounting plate and fix the scanner onto the scanner mounting plate at the bottom of the scanner using the screw provided.

The scanner is splash water resistant but should be installed in a place where it is safe from the impact of heavy rain, snowfall or too strong an incident of solar radiation.



3.2. MOUNTING THE CONTROL PANEL

Fix the control panel mounting plate which can be found at the backside of the control panel. The control panel mounting plate also functions as a fastener for the control panel. Slide the control panel onto the control panel mounting plate.

The control panel can be opened by pushing up the lock clip with a flat screwdriver.

The control panel must be installed in a location that it is safe from third party access. **Security risk!**

ATTENTION:

Installation of the system should be exclusively carried out by qualified person, following the local regulations and requirements before installing and using ekey® products!

3.3. ELECTRICAL CONNECTION

The control panel has to be connected a 9V AC or 12V DC regulated power supply. We recommend that you use the 9V AC power supply provided. However, if you choose to use a third party power supply, please ensure that it provides 9V AC or 12 V DC regulated. Please note that the system needs 350 mA.

The scanner and control panel have to be connected with a 4-core wire using connection clamps 1-4. If the cable distance between the scanner and control panel is less than 20 metres (65.6 feet), use a minimum of 0,22mm² (gauge 24) un-screened/unshielded cable. If the cable distance between the scanner and control panel is greater than 20 metres (65.6 feet), use a minimum of 0,22mm² (gauge 24) screened/ shielded cable.

The relays are available for controlling external devices. The programming is carried out via the programming menu. The relay is equipped with a change-over contact, which is freely usable. The maximum switching power of the relay is 250V ~ 5A. It is recommended that the connection wires between scanner and control panel be kept as separate as possible from other electrical wiring in the building as they may interfere with the stable operation of the system.

It is recommended that you use a separate power supply for the system and a separate power supply for each external device that is being connected to the system. However, if you chose to use a single external power supply to handle both the system and the external devices, please ensure that the power supply being used can handle the peak power requirements for the system and all external devices connected to it.

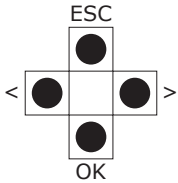
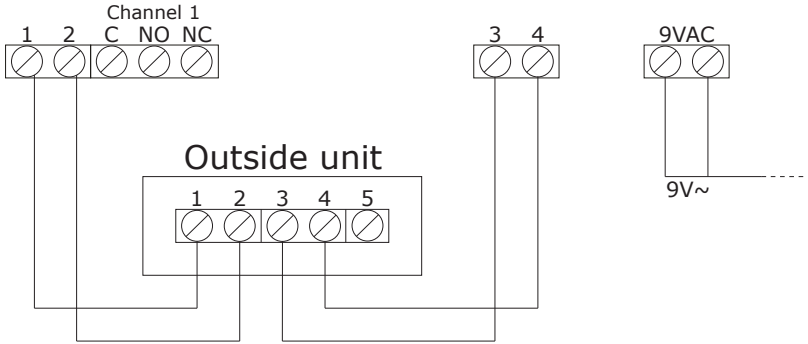
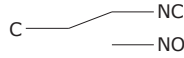
The cables are not protected against reversed polarity.

ATTENTION:

It is strongly recommended to have the electrical connection done by qualified person, following the local regulations and requirements before installing and using ekey® products!

3.4. CONNECTION DIAGRAM

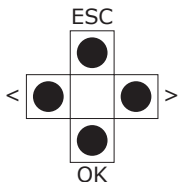
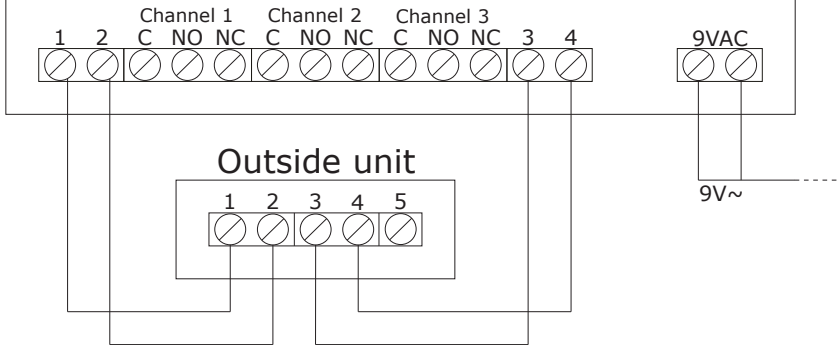
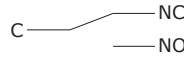
Inside unit



ekey® TOCAhome

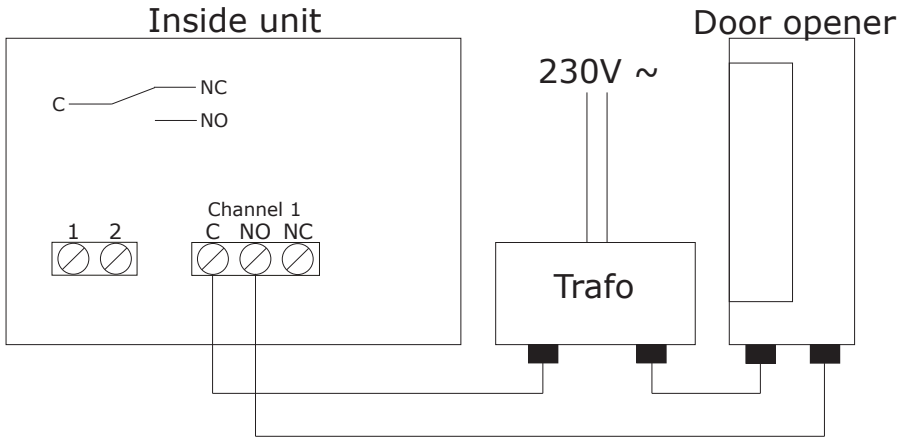
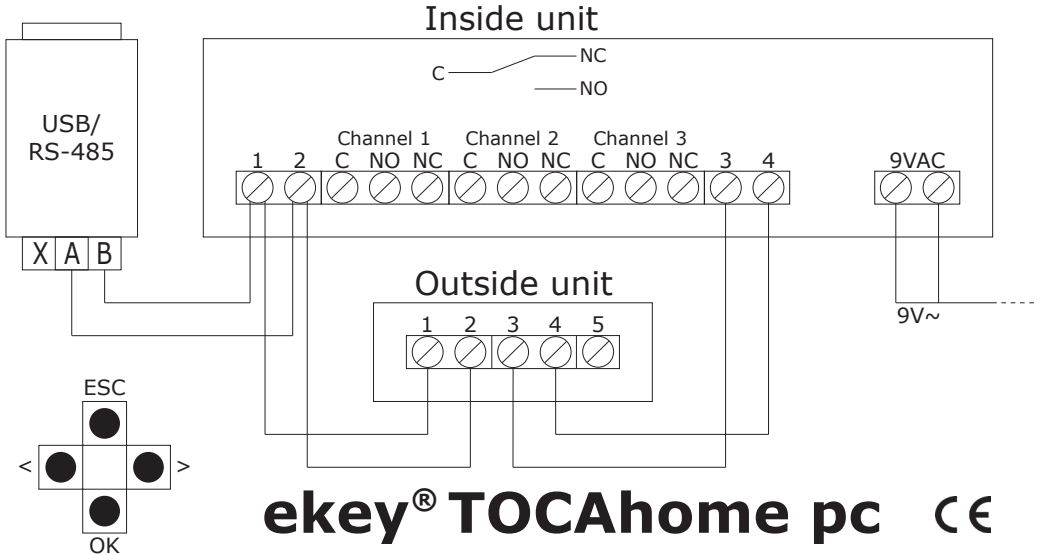


Inside unit



ekey® TOCAhome 3





4. OPERATION

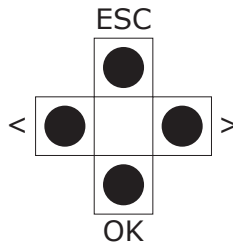
4.1. USING THE OPERATION KEYS OF CONTROL PANEL

Programming is carried out via the 4 keys: < > **OK ESC**

OK-key: to enter the menu and to confirm your input.

< and > -keys: to change the values in the display and for navigating (refer to chapter 4.3).

ESC-key: to cancel the current selection.



PROGRAM, MENU FUNCTIONS AND DISPLAY

Normal operation	(blinking dot)	.
Enrol user		Eu
Delete user		du
Set security code		Sc
Reset to initial settings		rr
(deletes all user settings and data)		

4.2. INITIAL OPERATION:

COUPLING BETWEEN SCANNER AND CONTROL PANEL

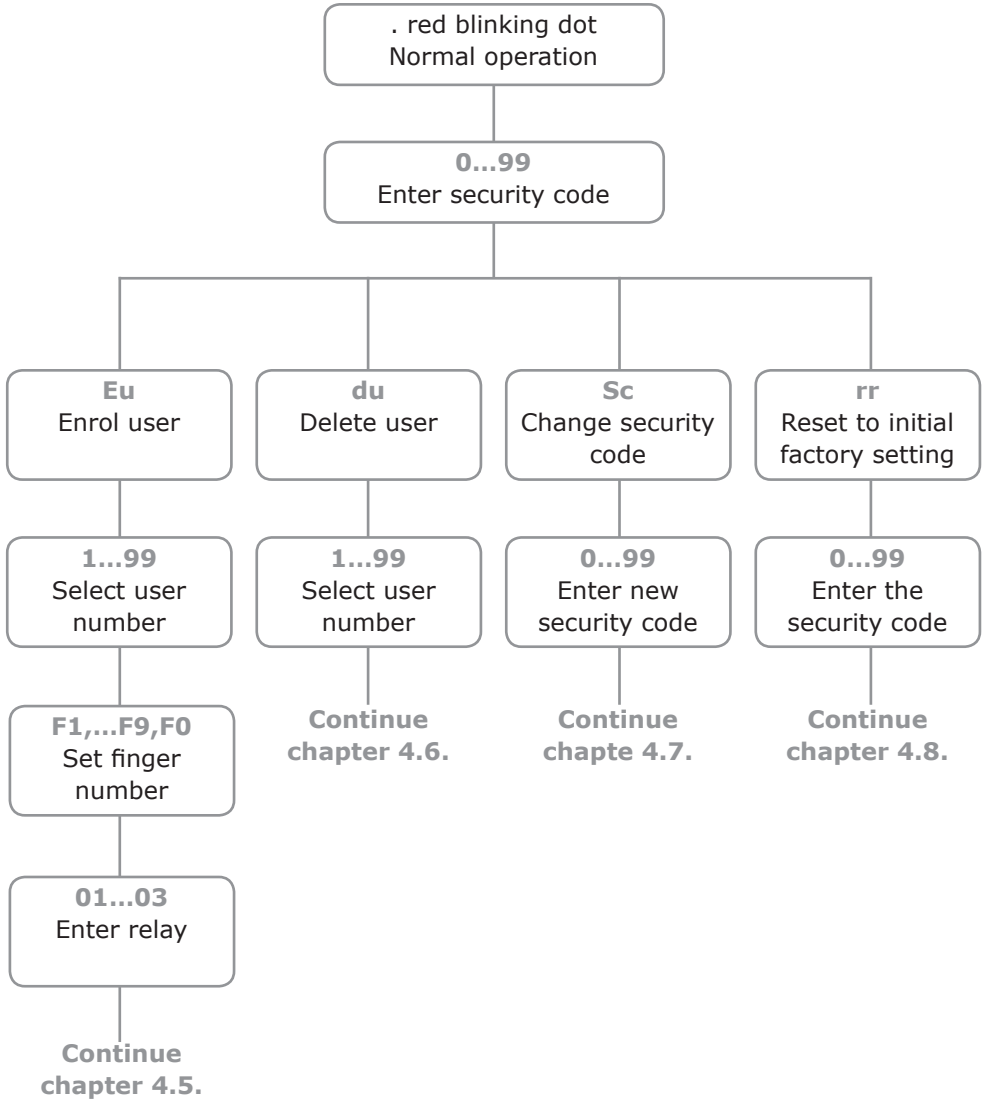
When starting the system for the first time, a count-down will be visible in the display of the control panel, starting from 45. Once connection between scanner and control panel has been established, two red dots appear in the display. The scanner needs approximately 40 seconds to initialise. During this time, the status display (LED) will show a red light. When the system is ready, the status display (LED) will blink orange. You can now start the initialization process.

To initialize the scanner and control panel, please press the **OK**-key followed by the **ESC**-key. The display of the control panel will show "EF" (enrol finger). If a previously enrolled finger is swiped over the sensor, the system is initialized without deleting any data (sensible option if the control panel has been replaced). If no fingers have been previously enrolled, (new installation), continue the initialization by pressing **ESC** second time.

Initialization is carried out automatically and takes approximately 15 seconds. This coupling will protect your system from unauthorized tampering by replacing the scanner. Once the scanner has been linked to the control panel, "OK" will be visible in the display for a short moment. A blinking red dot will appear in the display. The factory set security code is 99. Please change this code immediately.

Every time the system is restarted (e.g. caused by an interruption of the power supply) the system needs 40 seconds to start up. During this time the message "E0" blinks in the display of the control panel.

4.3. OVERVIEW PROGRAMMING MENU:

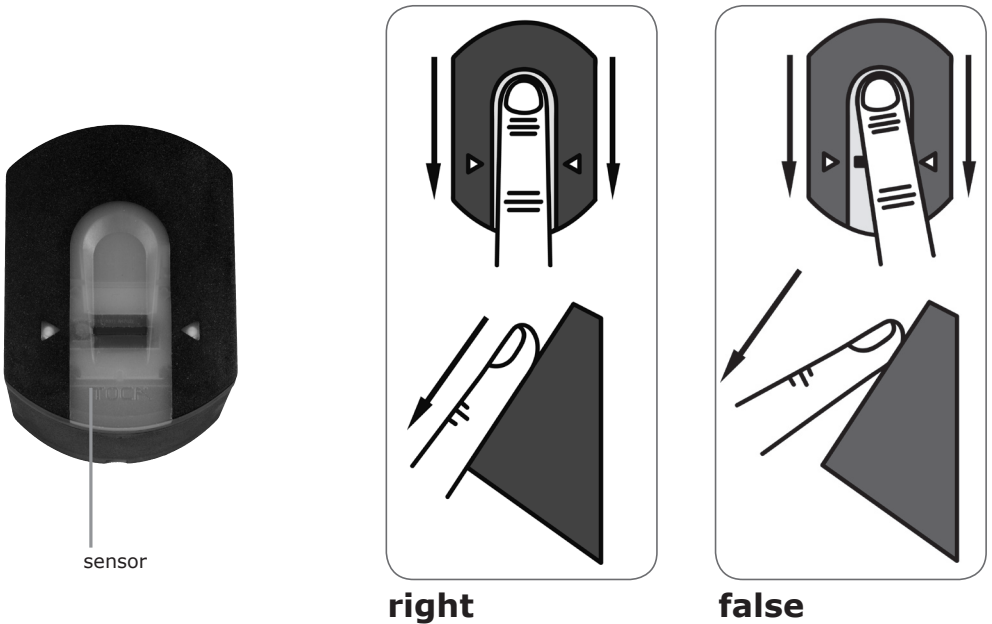


4.4. ENROLMENT OF A FINGER

It is important to swipe the finger properly over the sensor.

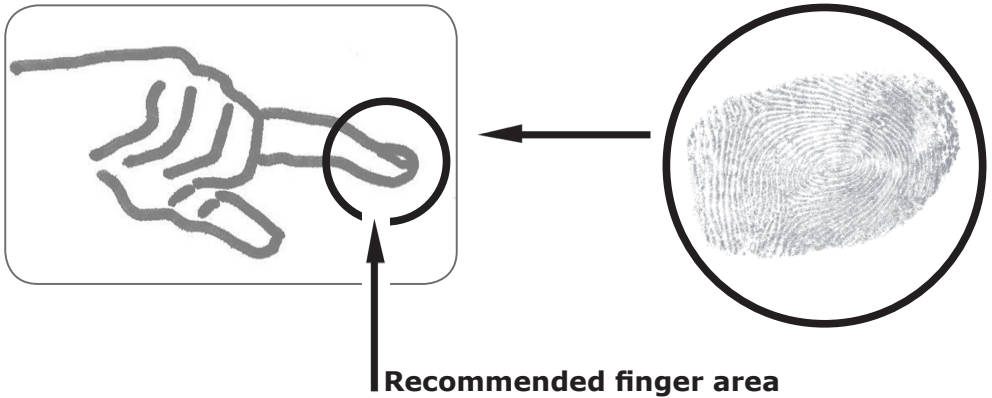
Starting from the first finger joint, place the selected finger in the mould and swipe it evenly over the sensor. The larger the scanned finger surface, the easier it will be for the finger to be recognised.

The sensor is located between the 2 green illuminated arrows. **Apply gentle pressure and swipe the finger at average and constant speed over the sensor.**



ATTENTION:

Please swipe the largest possible finger surface, starting from the first finger joint and applying gentle pressure. The larger the scanned finger surface, the easier it will be for the finger to be recognised.



4.5. HOW TO ENROL A FINGER

1. ENTERING THE SECURITY CODE

- 1.1. Press the **OK**-key in the control panel.
- 1.2. Enter the first digit of the security code using **<** and **>** (standard setting is 9)
- 1.3. Press the **OK**-key.
- 1.4. Enter the second digit of the security code using **<** and **>** (standard setting is 9)
- 1.5. Press the **OK**-key.
- 1.6. In the display "Eu" (enrol user) is visible.

2. SETTING ACCESS AUTHORITIES

- 2.1. If "Eu" is visible in the display of the control panel, press the **OK**-key.
- 2.2. Setting user number: The display shows "1". If the user ID is already taken, a red dot appears in the lower right hand corner of the display.
Example: "1." Select a user ID by using the **<** and **>** keys.
- 2.3. Press the **OK**-key.
- 2.4. Setting finger number: The display shows "F1". F1 stands for finger 1.
Start counting your fingers from the little finger of the left hand.
The little finger of your right hand would then be number 10 (setting "F0" in the display) e.g. "F7" would be the index finger of your right hand.
If a finger ID is already in use a red dot appears in the lower right hand corner of the display.
- 2.5. Press the **OK**-key.
- 2.6. For ekey® TOCAhome, the display shows "EF" (enrol finger), as the control panel is equipped with 1 relay.
- 2.7. For ekey® TOCAhome 3 and ekey® TOCAhome pc, you can now select the relay to be activated by the selected finger.
Entering relay: "o1" is visible in the display of the control panel.
Select the desired relay by using the keys **<** or **>** and press the OK key.
Now "EF" will appear in the display.

3. ENROLLING FINGER

- 3.1. Once "EF" (enrol finger) is visible in the display of the control panel, you have 60 seconds to swipe your finger over the sensor, starting from the first finger joint.
- 3.2. The enrolment should be done as described in chapter 4.4.
- 3.3. The scanner is equipped with a status display (LED), which indicates the operating mode:

*Red: The finger could not be scanned successfully ;
please try again!*

Orange: The device is waiting for a finger to be scanned.

Green: Successful scan

4.6. DELETING A USER FROM THE SYSTEM

1. ENTERING THE SECURITY CODE

- 1.1. Press the **OK**-key in the control panel.
- 1.2. Enter the first digit of the security code using < and > (standard setting is 9)
- 1.3. Press the **OK**-key.
- 1.4. Enter the second digit of the security code using < and > (standard setting is 9)
- 1.5. Press the **OK**-key.
- 1.6. In the display "Eu" (enrol user) is visible.

2. DELETING A USER

- 2.1. Press the >-key until "du" (delete user) is visible in the display of the control panel.
- 2.2. Press the **OK**-key.
- 2.3. Press the < or >-key to select the user ID to be deleted from the system.
- 2.4. Confirm the user ID to be deleted by pressing the **OK**-key.
- 2.5. In the display of the control panel, "OK" will be visible for a short moment and the system will return to the standard operating mode.

4.7. CHANGING THE SECURITY CODE

Please note that without the security code you are unable to operate the system. If the wrong security code is entered 3 times, the system will be disabled for 30 minutes.

1. ENTERING THE CURRENT SECURITY CODE

- 1.1. Press the **OK**-key in the control panel.
- 1.2. Enter the first digit of the security code using < and > (standard setting is 9)
- 1.3. Press the **OK**-key.
- 1.4. Enter the second digit of the security code using < and > (standard setting is 9)
- 1.5. Press the **OK**-key.
- 1.6. In the display "Eu" (enrol user) is visible.

2. DEFINING A NEW SECURITY CODE

- 2.1. Press the >-key until "sc" is visible in the display of the control panel.
- 2.2. Press the **OK**-key.
- 2.3. Enter the new first digit of the security code using < and >.
- 2.4. Press the **OK**-key.
- 2.5. Enter the second digit of the security code using < and >
- 2.6. Press the **OK**-key.
- 2.7. In the display of the control panel, "OK" will be visible for a short moment and the system will return to the standard operating mode.

4.8. RESETTING TO FACTORY SETTINGS

When resetting the system to the initial factory settings, all data from the system is deleted. The security code is reset to the factory default "99" and the scanner and control panel lose their coupling.

1. ENTERING THE CURRENT SECURITY CODE

- 1.1. Press the **OK**-key in the control panel.
- 1.2. Enter the first digit of the security code using < and > (standard setting is 9)
- 1.3. Press the **OK**-key.
- 1.4. Enter the second digit of the security code using < and > (standard setting is 9)
- 1.5. Press the **OK**-key.
- 1.6. In the display "Eu" (enrol user) is visible.

2. RESETTING TO INITIAL STANDARD SETTING

- 2.1. Press the >-key until "sc" is visible in the display of the control panel.
- 2.2. Press the **OK**-key.
- 2.3. Enter the first digit of the security code using < and > (standard setting is 9)
- 2.4. Press the **OK**-key.
- 2.5. Enter the second digit of the security code using < and > (standard setting is 9)
- 2.6. Press the **OK**-key.
- 2.7. In the display of the control panel, "OK" will be visible for a short moment and two red dots will appear. The system has been reset to initial standard setting.

5. 5. TROUBLE SHOOTING

Problem	Cause	Solution
I am unable to enrol a finger.	<ol style="list-style-type: none"> 1. The finger has not been swiped consistently over the sensor, starting from the first finger joint. 2. The finger has been swiped too softly or too strongly over the sensor. 3. The finger has been swiped too fast or too slowly over the sensor. 	<ol style="list-style-type: none"> 1. Swipe the finger consistently over the sensor starting from the first finger joint. 2. Swipe the finger gently, but not too softly over the sensor. 3. Swipe the finger with moderate speed over the sensor.
An enrolled finger cannot be identified.	<ol style="list-style-type: none"> 1. During enrolment, a different area of the finger was scanned. 2. The enrolment has not been carried out correctly. 	<ol style="list-style-type: none"> 1. The finger has to be enrolled again by swiping it consistently over the sensor. 2. See "I am unable to enrol a finger" – perfect enrolment ensures high identification rates.
Status point of the control panel is not blinking.	System not connected to the power supply.	Connect the system to the power supply.
Error code "E0" visible in the display followed by the count-down starting from 45.	<ol style="list-style-type: none"> 1. Connection between the scanner and control panel is not correct. 2. The power supply has been interrupted > the system is starting again. 	<ol style="list-style-type: none"> 1. Check the "4-line" connection wire. 2. Wait until the system has initialised again (about 40 seconds).
Error code "E1" visible in the display.	99 fingers have already been enrolled. It is not possible to enrol more fingers.	Erase some fingers in order to enrol new ones.
Error code "E2" visible in the display	Incorrect security code has been entered three times.	Wait for 30 min, enter the correct security code.
The LED on the scanner is signalling a positive identification, however the relay is not released	Wrong unit coupling. The finger is not accepted, as a device has been swapped	After swapping scanner or control panel, a reset has to be carried out.

6. TECHNICAL SPECIFICATIONS

- CONNECTIONS

- o 4 connectors between scanner and control panel
- o 1x Relay 250VAC 5A (3x ekey® TOCAhome 3 and PC model)
- o 2 connectors for power (9V AC or 12V DC regulated)

- MEMORY

- o 99 fingers possible
- o No loss of data after power failure

- SECURITY

- o Coupling between scanner and control panel
- o Extremely low rate of false identification

- POWER CONSUMPTION

- o ~ 1W

- SPEED

- o Recognition time 1s to 4s (depending on amount of stored fingers)
- o Enrolment time ~4s per finger

RECOMMENDED DIAMETERS OF THE WIRES:

(Please see chapter 3.3, electrical connection)

6. Further information

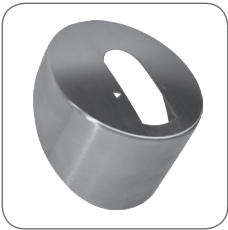
Please visit ekey biometrics systems at **www.ekey.net**
You will find up-to-date hints and FAQ's.

We wish you a great deal of satisfaction with the innovative quality products from ekey!

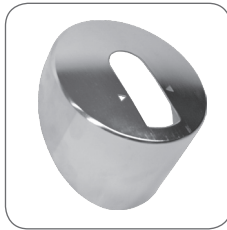
7. ACCESSORIES



Plastic round cover anthracite and white



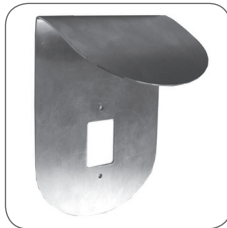
Stainless steel round cover



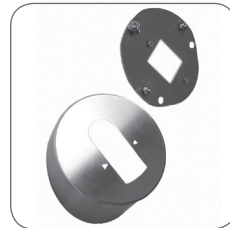
Gold plated round cover



Stainless steel
in-wall mounting set
(anti-vandalism)



Stainless steel
weather protection



Stainless steel round
cover sec (anti-vandalism)

8. MANUFACTURER'S GUARANTEE

ekey guarantees the quality of the materials and product processing under the following conditions for a period of **24 months from the date of purchase**.

The guarantee shall remain exclusively valid in the country in which the product was sold to you.

The power cell and the LCD display (where included) are expendable parts and are thus limited in their warranty. From the date of purchase, the power cell is guaranteed for a period of six months and the LCD display for a period of twelve months.

In the event of a valid guarantee claim, a defective unit will be repaired or substituted to restore full operability. Claims asserted by the customer of indirect and/or consequential damages shall be excluded. Liability for loss of business, loss of data or programs and loss of earnings by a contractual partner shall also be excluded.

In the event of repair or replacement of a unit, the manufacturer's guarantee shall not be extended for a longer period of time and the guarantee for the repaired/replaced part shall not begin anew.

A guarantee claim shall be accompanied by the invoice number and date of the invoice, including a description of the defect, and shall be submitted to ekey/the service partner or distributor in the respective country (see www.ekey.net).

The party submitting a claim shall bear the costs for shipping to ekey/the service partner as well as the risk of loss or delayed delivery. For this reason it is recommended that the submitter of the claim sufficiently insure the shipment/transport of the goods. ekey shall assume no liability for transport damage resulting from improper handling or insufficient packing.

The guarantee specifically does not include the following:

- 1) Any product used for any purpose other than its intended use or any product in combination with other devices or programs that have not been specifically approved in written form by ekey,
- 2) Any product that is altered in any way,
- 3) Any product repaired or attempted to be repaired by anyone other than ekey or an authorized ekey service partner,
- 4) Any product improperly transported or packaged for return to ekey or an ekey service partner,
- 5) Any product improperly handled or subjected to mechanical stress (such as a product that has been dropped, subjected to blows, high pressures or similar treatment),
- 6) Any improperly installed product, any product damaged or made inoperable by a third party, as well as any product procured by ekey from a presupplier against whom official insolvency proceedings had been opened at the time the claim is submitted or such proceedings were to be imminently opened.

Scratches, dents, small tears, etc., arising from regular use are not included in the guarantee. Warning: Any damage to the seal applied by the manufacturer shall automatically render any guarantee claim null and void. The product may not be altered or repaired, except by officially authorized persons under anti-static conditions. In the event you find a defect in the device, further use will nullify the guarantee for any further or more serious defects incurred during continued use of the product.

After the costs for a repair have been ascertained and the customer requests that the product be returned in unrepaired condition, a processing fee shall become due.

Please also refer to Items 5 and 6 of the General Terms and Conditions of ekey.

Model:

Serial number:

Name and address of the buyer:

Invoice number:

Date of invoice:

Dealer's stamp:

