

KESO KEK i-handle S

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1 Important Notes



KESO AG accepts no claims under warranty and no liability in cases where unauthorised modifications, or improper installation in contradiction to our assembly instructions is performed or brought about.

1.1 Conditions for use



This documentation was written for users with good mechanical and mechatronic knowledge. The explanations in this manual also assume that you are familiar with using Windows®. Important note: KESO partners must have completed training for the products in question.

1.2 Important notes on this documentation

This documentation is part of the KESO KEK i-handle S product. It contains important notices on commissioning and handling. For this reason, you should familiarise yourself with the content and, in particular, observe the notes on safe installation, handling and operations. Make sure that this is complied with when passing on this product to third parties. For this reason, you should keep this documentation in a safe place for future reference!

This documentation is based on information that was correct at time of printing. KESO AG accepts no liability for the correctness and completeness of the content of this documentation. The figures or graphics shown may differ from the supplied components.



We reserve the right to make changes to reflect technical advancements. The manual is not covered by our "Update Service".

1.3 Waste disposal



Articles listed in this documentation must not be disposed of as normal household waste. It is the consumer's responsibility to dispose of the product at a collection point for recycling of electrical and electronic waste. Separate disposal of this waste helps to optimise the recycling of all materials suitable for the recycling process, and to reduce health and environmental risks. For more information on the correct disposal of this product, please contact your dealer.

KESO KEK i-handle S

2 Introduction

The requirement for security, control and high levels of flexibility has increased considerably. This applies in particular to doors with many or frequently changing users such as: interior access doors, archives, senior residences, server rooms etc... An extension of the mechatronic systems is necessary to fulfill these requirements.

3 Product description

The KESO i-handle S (security) door fitting solution is a mechatronic door set for easy installation in indoor areas. It is compatible with the entire KEK range and requires the corresponding KEK identification media. Doors fitted with this system can be opened from the outside assuming the user presents an authorised access medium (keycard, tag or KEKcombi key). The handle on the outside engages electro-mechanically. Without authorisation, the external handle remains disengaged. Doors can be opened from the inside without access media at all times. The robust and attractive fitting, including handle, is typically used for rooms with a high level of trust, such as office and living accommodation and archives, and mainly with composite doors. Authorisation is managed using the KESO Management Software and transferred to the electronics by means of the KESO KEK Programmer PPG (V2 with KAPI BUS) or KESO KEK Programmer USB. This provides a variety of options for configuring access. The door can be programmed to stay unlocked during office hours, for instance, or for user groups who are restricted to a specific time slot. The fitting is available with cylinder perforation and an additional mechanical or mechatronic cylinder is fitted for emergency locking. The reader module supports emergency battery power at any time, even if the batteries are flat.



3.1 Short description/functional description

The KESO KEK i-handle S is a mechatronic door fitting with an integrated reader for interior use. The KESO i-handle S is independent of lock and cylinder and can thus be fitted to any popular door type. The electronics and batteries are located in the protected interior space below the internal shield. The reader unit and the programming and emergency opening interface (KAPI) are located above the handle on the external shield. The reader module is activated via a sensor on the external reader unit and the access medium is read. Door release or blocking is indicated by means of an optical signal and an acoustic signal. After access has been granted, the external handle is power engaged and the handle can be actuated. The release time for actuating the handle is set to 5 seconds by default. However, the configurable actuation time is between 5 and 30 seconds.

KESO i-handle S escutcheons and handles are made of stainless steel (Inox).

3.2 System benefits with KESO KEK i-handle S

- Fast and easy assembly
- Easy retrofitting as independent of lock
- Convenient operations
- Can be combined with mechanical and mechatronic cylinders
- Variable door width, spindle set can be replaced on site with very little effort
- All security-relevant, electronic units are located within the secure interior area
- Compatible with the entire KEK range
- Contactless entry using RFID access devices (keycard, tag, or KEK combi key)
- Extremely service-friendly
- Distinguishes between up to 8,000 access media
- Managed by KESO Management Software
- User-controllable function for keeping door unlocked (office function)
- Person-specific, time-limited access
- Scheduling for public holidays
- Adjustable optical and acoustic signals
- Adjustable timing for the opening signal
- Emergency power supply, emergency opening
- Available in all popular gap sizes and door thicknesses
- Available as blind version or with round cylinder profile, Europrofile and Euro-Swiss profile



4 Requirements

4.1 Hardware/software requirements

Management and programming of authorization by means of KESO Management Software (KESO K4 Software Version 4.0.40 or newer). Offline authorization transfer KESO KEK Programmer PPG V2 or KESO KEK Programmer USB.

No special requirements exist for the Home version. Programming of authorization is effected by means of master/ programmer/ and user keys or cards.

4.2 Battery requirements

The KESO KEK i-handle S is fully battery-operated. Note the signals in case of low battery power. In cold weather, or if fitted in cold rooms, please check the battery power several times per year. The electronically stored data is not lost when you replace the battery. However, please note that the time must be reset for the PC Time Version if the system is without power for 90 sec.

For more details refer to the maintenance information, item 15.3

Important note:



Do not touch electronic components while changing the battery. (Static discharge can damage or even destroy electronic components)



Observe correct polarity when inserting batteries. (Inserting the batteries incorrectly can damage or even destroy electronic components)



Do not use rechargeable batteries as they do not have sufficient capacity to match the power requirements.



As old batteries can leak, it is advisable to check the battery status at regular intervals. KESO AG is not liable for consequential damage caused by defective batteries. (we do not give any guarantee on batteries)



Batteries must be disposed of responsibly, see item 1.3

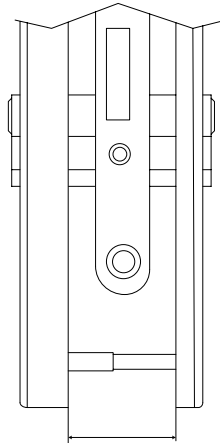


Frequent programming impacts the battery life

KESO KEK i-handle S

4.3 Door requirements

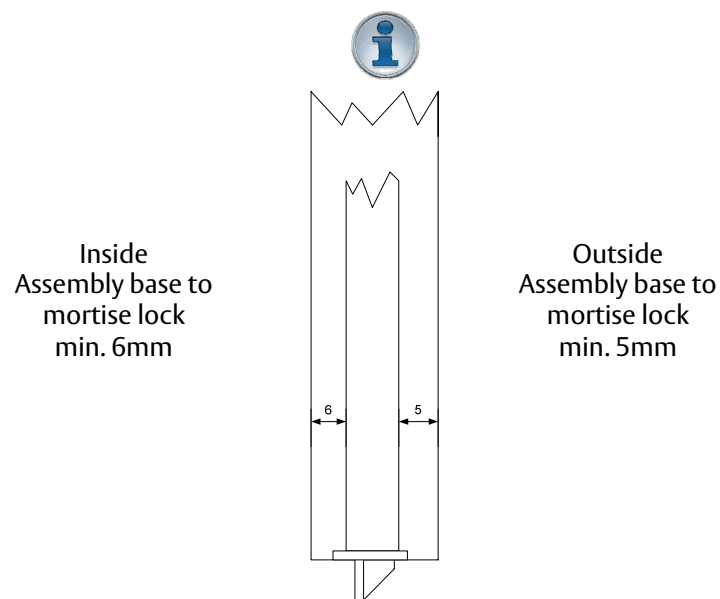
The door thickness must be at least 38 mm and may be at most 110 mm.



Door leaf thickness
38 mm to 110 mm

Important facts:

The KESO KEK i-handle S is modular. The distance between the internal and external shield is defined by the spindle set. The spindle set can be replaced at any time. See item 5



4.3.1 Use with emergency exit doors

The system can be used with emergency exit doors under certain conditions.

4.4 Mortise lock requirements

The KESO KEK i-handle S can be used with most, commercially available door and mortise locks. Use only mortise locks by established lock manufacturers to guarantee standardised drilling patterns for KESO KEK i-handle S.



IMPORTANT:

Use only locks with transmission function in conjunction with locking cylinders. (Emergency opening)



IMPORTANT:

Do not use locks with split follower.

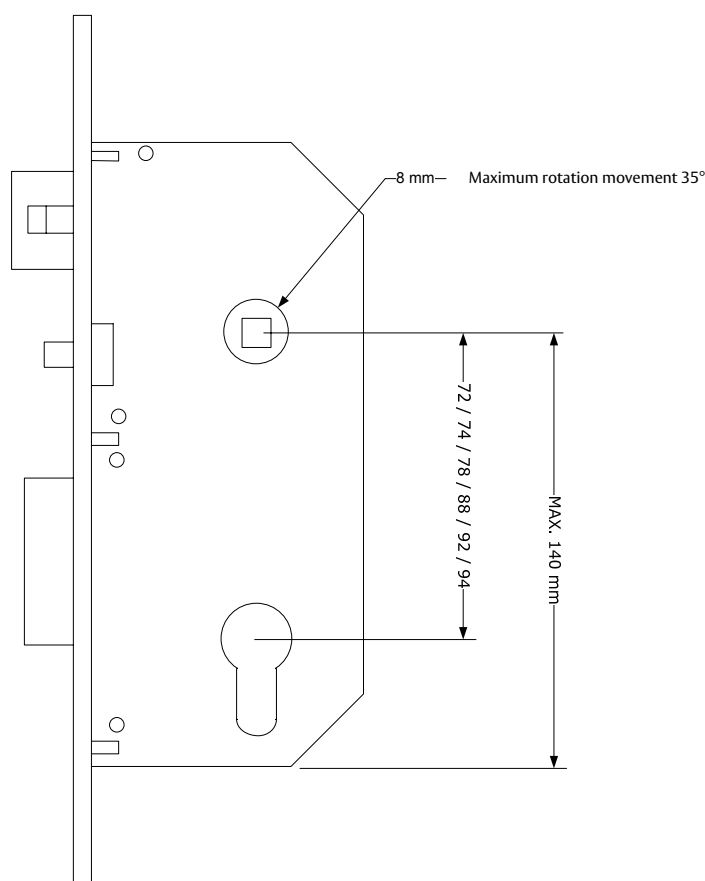


IMPORTANT:

For locks with a backset of less than 35mm you must use special handles (not included in the KESO range).

Important facts:

Use self-locking panic locks. This enhances security.



Ensure that the spring function of the handle nut is adequate. Worn handle nut springs can lead to problems.

4.5 Handle requirements

It is possible to deploy “third-party handles”. These handles are then retained by a special spring-loaded spindle. If the handle lock is active, the handle freewheels and is thus not engaged.



IMPORTANT:

The handle itself is held by a spring. This means that the maximum weight of the individual handle cannot exceed 157 grams.



IMPORTANT:

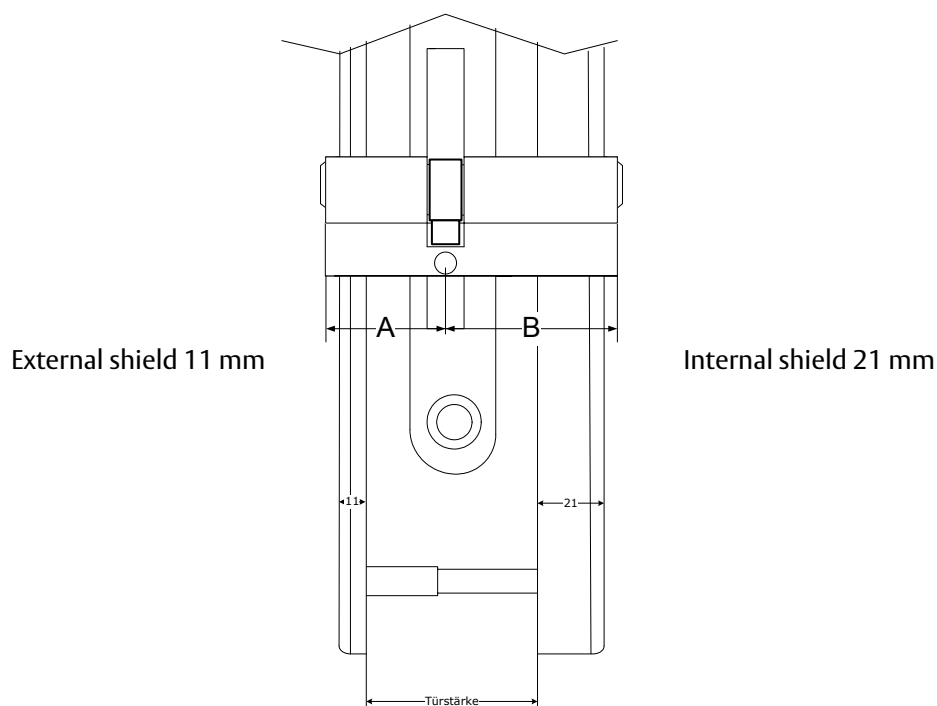
The handle itself is held by a spring. For this reason the maximum projection of the handle is not permitted to exceed 140mm.

4.6 Locking cylinder requirements

The KESO KEK i-handle S is designed for use with Euro profile cylinders, Euro-Swiss cylinders and Swiss round cylinders. The KESO KEK i-handle S can also be used without a locking cylinder. Please refer to the definition of article number (see item 5) for more details.



The cylinder projection from the assembly base is 21 mm on the interior and 11 mm on the exterior




For door thicknesses, see also spindle set below item 7.6

4.7 Fitting tool requirements

- Assembly instructions included in packaging
- Drilling template included in packaging
- Drill
- Drill tips 16mm and 25mm
- Various slotted and Phillips screwdrivers
- Multimetre to check the battery
- Set of Allen keys
- Set of torx screwdrivers
- Tweezers

5 Article No. Definition

5.1 KESO KEK i-handle S

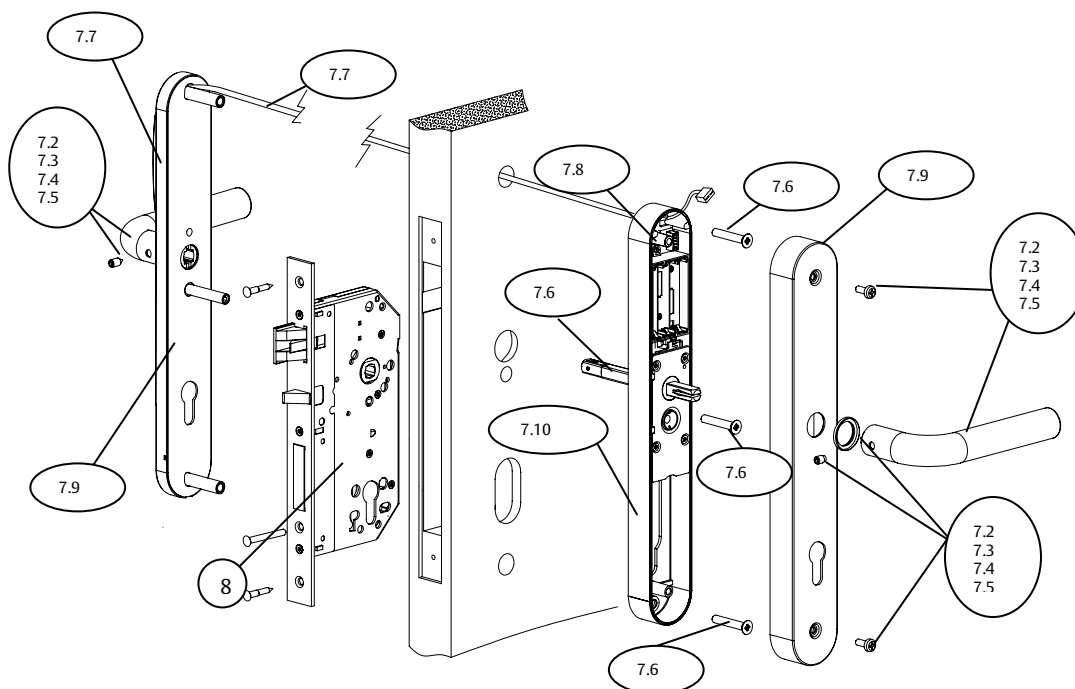
EG.711	--	--	I	--	-	80	---	1
	Handle set	Cylinder cut-out fitting	Colour fitting	Hole spacing distance	Door leaf thickness	Spindle	Electronics version	Moisture protection

Designs

Sena, Inox	SI							
Vector, Inox	VI							
Xara, Inox	XI							
Zafira, Inox	ZI							
EU Profile		01						
Euroswiss		04						
CH Profile		07						
Blind (internal, external)		10						
Surface Inox			I					
Hole spacing distance blind				00				
Hole spacing distance 72mm				72				
Hole spacing distance 74mm				74				
Hole spacing distance 78mm				78				
Hole spacing distance 88mm				88				
Hole spacing distance 92mm				92				
Hole spacing distance 94mm				94				
Door leaf thickness 38 – 43mm					1			
Door leaf thickness 44 – 49mm					2			
Door leaf thickness 50 – 55mm					3			
Door leaf thickness 56 – 61mm					4			
Door leaf thickness 62 – 67mm					5			
Door leaf thickness 68 – 74mm					6			
Door leaf thickness 80– 86mm					8			
Door leaf thickness 104–110mm					7			
Spindle 8 mm						80		
Home Battery							OHB	
PC Battery							OPB	
PC Time Battery							PTB	
Without moisture protection								1

6 Overview of fittings

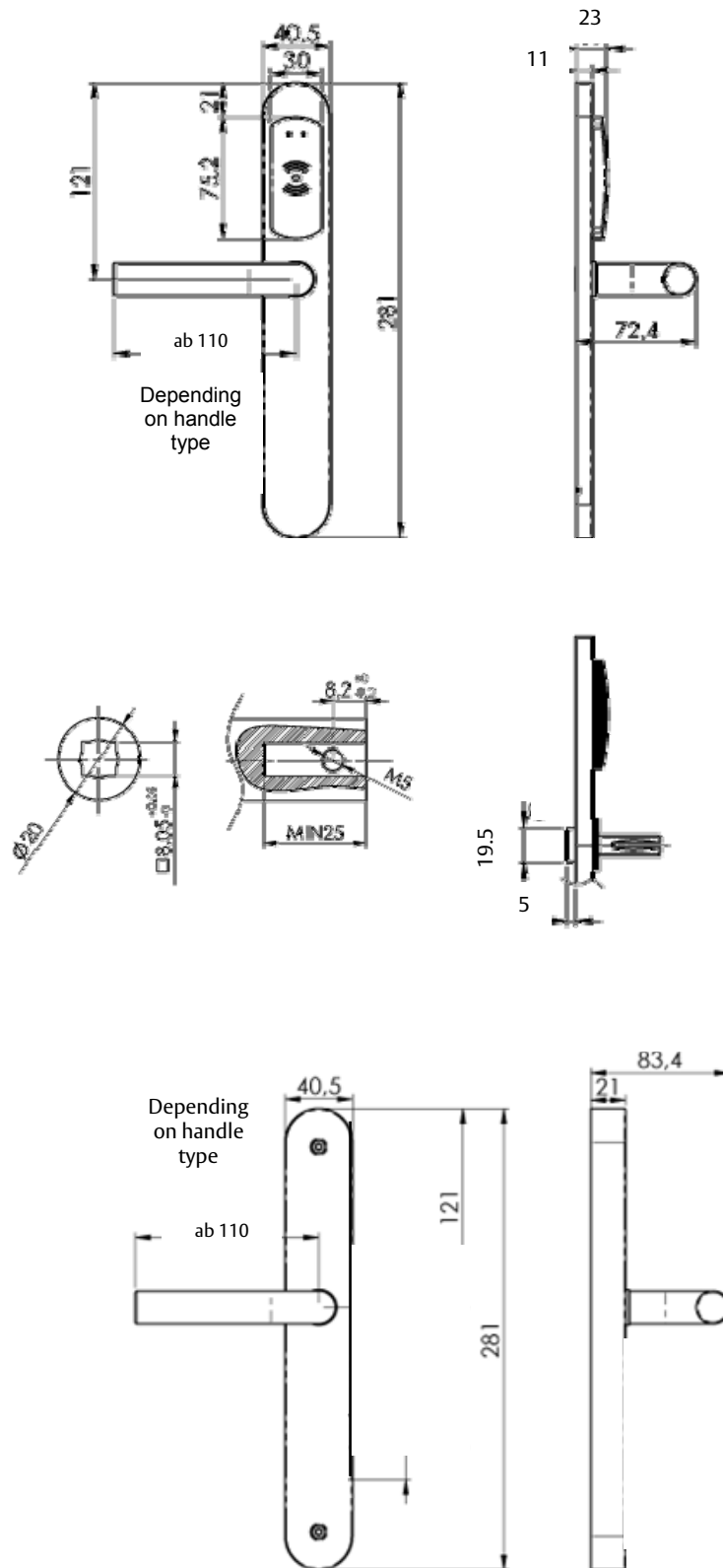
Please check scope of delivery before your start fitting. (lock and cylinder not included in scope of delivery)



Item	Description	Article SM Number
7.2	Handle set hole component Model Sena	G.380/SI
7.3	Handle set hole component Model Vector	G.308/VI
7.4	Handle set hole component Model Xara	G.380/XI
7.5	Handle set hole component Model Zafira	G.380/ZI
7.6	Spindle set and 3 pcs. screws	G.381/.. /80
7.7	Reader module with connecting cable	K.027/01
7.8	Batteries (set of 3)	V.000/21/20
7.9	Internal and external shield, stainless steel without reader module	G.713/....
7.10	Basic module with electronics	EK.028/...
8.	Mortise lock (not included)	----

KESO KEK i-handle S

6.1.1 Dimensions



7 Technical data

7.1 KESO KEK i-handle S

Article No.:	EG.711/...
Application type:	Stand alone
Material shield/handle:	Stainless steel
Surface shield/handle:	Satin Inox (others on request)
Arbour:	8 mm
Material reader module:	Polycarbonate RAL 9005
Electronics:	Electronics on interior of fitting, reader module in black plastic housing on exterior of fitting
Power supply:	3 alkali manganese cells Type LR03 (AAA), 1.5 Volt
Battery life:	approx. 40,000 actuations at room temperature or approx. 2 years in standby mode (without actuation)
Dimensions external shield:	281x40.5x11mm (LxWxH)
Dimensions internal shield:	281x40.5x21mm (LxWxH)
Protection type:	IP30
Operating temperature:	-10° C to +60° C
Storage temperature electronics:	-40 to +80° C (without batteries)
Storage temperature batteries:	-40 to +50° C
Air humidity:	10 - 95 % (non-condensing)
Climate :	Interior rooms, not suitable for highly corrosive atmosphere (chlorine, ammonia etc..).
ATEX:	Not suitable for potentially-explosive atmospheres
Standards:	. EN 61000-4-2 / EN 61000-4-3 EN 50364 / EN 50357 ETSI EN 300 330-1 / ETSI EN 301 489-3
Labels:	CE
Reader method:	contactless (RFID)
Reaction time:	0.5 sec. until handle engages
Data storage:	EEPROM / all data stored in non-volatile memory
Signalling:	LED red, green; acoustic signal can be enabled/disabled
Programming interface:	Interior side: serial Exterior side: KAPI (KESO Advanced Programming Interface) and KESO KEK Programmer PPG V2
Emergency power:	via KAPI and KESO KEK Programmer PPG V2

7.1.1 Home Version

Programming:	With programming/deteting key/cards
User keys:	Up to 256 per KESO KEK i-handle S
Programming keys:	Up to 32 per KESO KEK i-handle S
Deletion keys:	unrestricted

7.1.2 PC Version (until end of 2010)

Event logging:	500 events (Last in First out) with door designation, person, action
Management:	via KESO Management Software (see item 4)
Programming:	via KESO Management Software (see item 4) KESO KEK Programmer PPG V2 (KAPI)
User keys:	8,000 per KESO KEK i-handle S

7.1.3 PC Time Version

Event logging:	500 events (Last in First out) with date, time, door designation, person, action
Time slots:	Firmware until 3.1.99: 16 (24 hours plus 15 freely programmable) From Firmware 4.... onwards: 24 (24 hours plus 23 freely programmable) comprising 4 time blocks
Clock precision:	+/- 3 seconds/ day
Clock resolution:	1 second
Clock power reserve:	~ 90 seconds
Special days:	3 time blocks, such as works holidays, holidays, public holidays
Operating modes:	Always open in time slot User-controlled always open function (office function)
Management:	via KESO Management Software (see item 4)
Programming:	via KESO Management Software (see item 4) KESO KEK Programmer PPG V2 (KAPI)
User keys:	8,000 per KESO KEK i-handle S

7.2 Handle set type SENA

Article No.:

G.380/SI

Hole component:

Incl. mounting set (without shield)

Dimensions:

2 pcs. for 8mm arbour

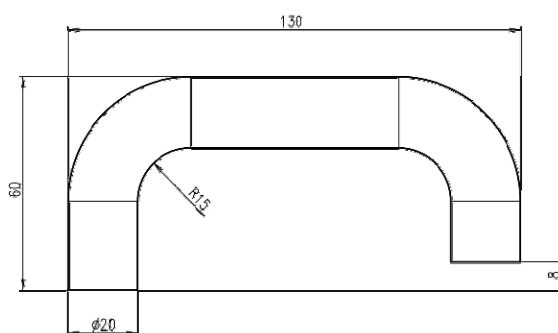
Material:

130 x 60mm

Inox



7.2.1 Dimensions



7.3 Handle set type VECTOR

Article No.:

G0.380/VI

Hole component:

Incl. mounting set (without shield)

Dimensions:

2 pcs. for 8mm arbour

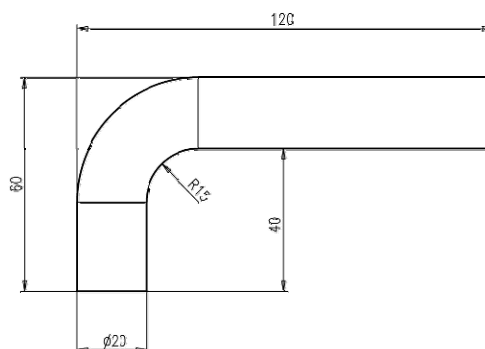
Material:

120 x 60mm

Inox



7.3.1 Dimensions



7.4 Handle set type XARA

Article No.:

G.380/XI

Hole component:

Incl. mounting set (without shield)

Dimensions:

2 pcs. for 8mm arbour

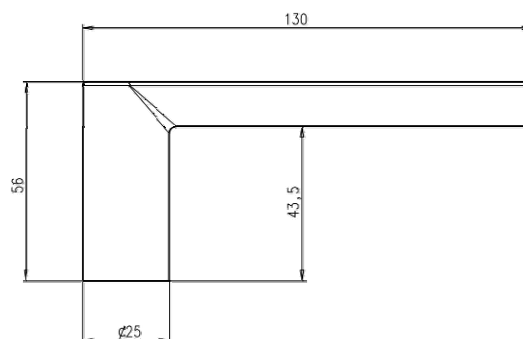
Material:

130 x 56mm

Inox



7.4.1 Dimensions



7.5 Handle set type ZAFIRA

Article No.:

G.380/ZI

Hole component:

Incl. mounting set (without shield)

Dimensions:

2 pcs. for 8mm arbour

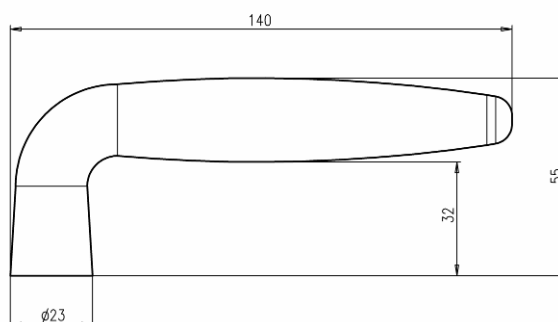
Material:

140 x 55mm

Inox



7.5.1 Dimensions



7.6 Spindle set and screws

Spindle with stopper ring: 8 mm arbour
 Screws: 2 pcs. M5 round headed screws
 1 pc. M5 countersunk screw



Article No.: G.381/38/80
 Door leaf thickness: 38-43 mm

Article No.: G.381/44/80
 Door leaf thickness: 44-49 mm

Article No.: G.381/50/80
 Door leaf thickness: 50-55 mm

Article No.: G.381/56/80
 Door leaf thickness: 56-61 mm

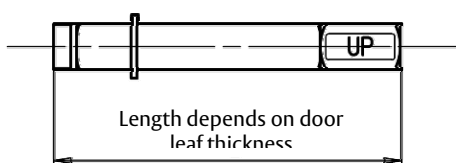
Article No.: G.381/62/80
 Door leaf thickness: 62-67 mm

Article No.: G.381/68/80
 Door leaf thickness: 68-74 mm

Article No.: G.381/80/80
 Door leaf thickness: 80-86 mm

Article No.: G.381/104/80
 Door leaf thickness: 104-110 mm

7.6.1 Sketch of spindle



7.7 Reader module with connecting cable

Article No.: K.027/01
 Material: Polycarbonate RAL 9005
 Dimensions: approx. 160 mm length
 approx. 5 mm diameter



7.8 Battery

Article No.: V.000/21/20
 Set: 3 pc. Alkali manganese cells
 Type: LR03 (AAA) 1.5 V



7.9 Internal and external shield without electronics

Material: Stainless steel
 Dimensions external shield: 281 x 40.5 x 11mm
 Dimensions internal shield: 281 x 40.5 x 21mm

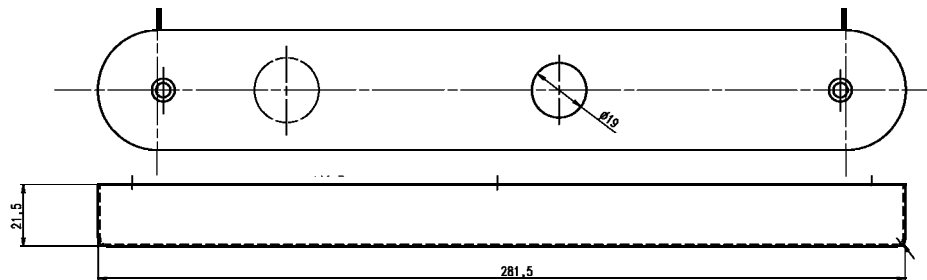
7.9.1 Matrix for Article Numbers

IMPORTANT: Articles not available from stock; delivery period approx. 3-4 weeks

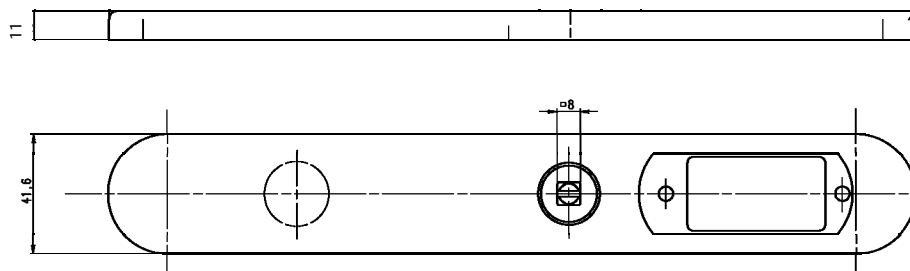
Distance	Blind	Euroswiss	CH Round cylinder	Europrofile
Blind	G.713/000/10			
72				G.713/072/01
74		G.713/074/04	G.713/074/07	
78		G.713/078/04	G.713/078/07	
88				G.713/088/01
92				G.713/092/01
94		G.713/094/04	G.713/094/07	

7.9.2 Dimensions

Internal shield



External shield



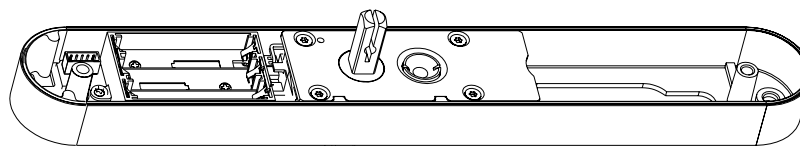
7.10 Basic module with electronics

Article No. Home Version: EK.028.OHB.2

Article No. PC Version: EK.028.OPB.2

Article No. PC - Time Version: EK.028.PTB.2

Note: Depending on system



8 Operations



The sensor element in the reader is located above the external handle. A contactless reader is integrated into the security fitting.

The reader is highly energy-efficient. This results in a long battery life. In standby operations the reader enters "sleep mode". You can wake the reader by moving the medium (key, tag, card) quickly in the direction of the reader field. Ideally you should keep your finger between the medium and the reader to accelerate the read operation.

9 Warning and Status Messages

Warning and status messages can be set or changed at any time with the KESO Management Software (see Item 4). The messages are set as follows as a factory default:

Function	Default status	Comment
Buzzer	ON	OFF Extends the battery life
LED Signaling	ON	OFF Extends the battery life
Flat battery signaling	ON	OFF Extends the battery life
Always open signaling	ON	OFF Extends the battery life
Indicate latch in place	ON	OFF Extends the battery life
Opening duration on access	5 sec	Range 5 to 30 seconds

9.1 Access permitted

Default setting:

- If access is permitted an audible signal is emitted and the green LED flashes



9.2 Access denied

Default setting:

- If access is denied an audible signal is emitted and the red LED flashes



9.3 Always open

Default setting:

- If always open is set (e.g. via a time slot for a PC Time Version) the green LED flashes periodically



9.4 Status change for office function

The switch from always open to always closed state is indicated by the red and green LEDs flashing twice simultaneously.



9.5 Low battery power

Low battery power is indicated by a multiple stage warning message (optical and acoustic).



KESO recommends checking the battery capacity once a year!



9.5.1 Prewarning threshold

If the battery capacity drops below the prewarning threshold, an audible warning signal is emitted when a KEK medium is presented (as a factory default) and the green/red LEDs flash alternately. The prewarning threshold has no influence on access privileges.



You should replace the batteries at your earliest convenience

9.5.2 Warning threshold

If the battery capacity drops below the warning threshold, an audible warning signal is emitted when a KEK medium is presented (as a factory default) and the green/red LEDs quickly flash alternately. Additionally, the red LED flashes every five seconds after this. The warning threshold has no influence on access privileges.

If the battery capacity drops to just above the works' minimum power definition, both LEDs flash every 5 seconds.



You must replace the batteries as soon as possible!

9.5.3 End of battery life

If you ignore the warning thresholds and the battery capacity drops to a level where operations are no longer supported, the electronics automatically switch to the predefined status. This status <<Status at end of battery life>> can be set/modified at any time using the KESO Management Software.

IMPORTANT:



At end of battery life neither an a visible nor an audible signal is issued. If you set the status to <<open>>, the handle is engaged at end of battery life, thus allowing access to anyone!

10 Emergency power / emergency opening

10.1 Electronic

Emergency power will only work in connection with the KESO KEK Programmer PPG V2 and the KAPI Bus interface at the reader module in the external shield.



Important note:

You must insert/place an authorized KESO medium in/on the KESO KEK Programmer PPG V2.

- 1.) Plug the KAPI Bus cable into the interface on the reader module at the external shield
- 2.) Connect the KAPI Bus cable to the KESO KEK Programmer PPG V2
- 3.) Place/insert an authorised KEK medium into/on the KESO KEK Programmer PPG V2
- 4.) Execute emergency opening




10.2 Mechanical

Mechanical emergency opening from the outside can only be performed in connection with a cylinder and a replacement lock. Mechanical emergency opening is not supported for shield without cylinder (blind).

KESO KEK i-handle S

11 Programming

The KESO Management Software (see also 4) is the basis for programming and management in the PC Version or PC Time Version


 **IMPORTANT:** Always perform programming and deletion with the door open to avoid the door accidentally closing.

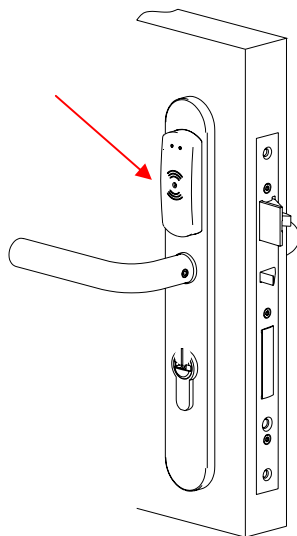
11.1 Minimum user training

Programming with the KESO Management Software is basically the same as programming KESO batchless electronics.

11.2 KAPI BUS programming interface


The KAPI BUS programming interface is located at the centre of the reader module on the external shield.

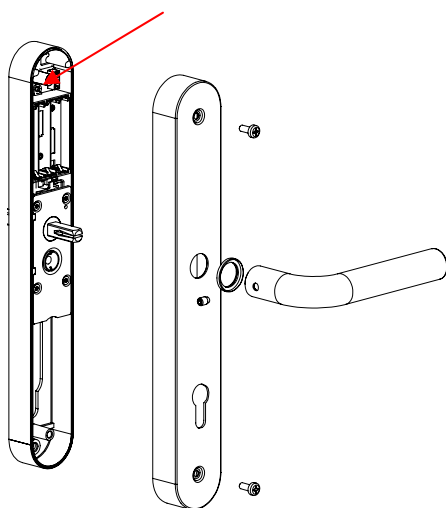
 **IMPORTANT:** this interface can only be used in combination with the KESO KEK Programmer PPG V2.




11.3 Serial programming interface

The serial programming interface (mini USB connector) is located above the batteries below the internal shield.

 **IMPORTANT:** this interface can only be used in combination with the KESO programmer USB.



12 Settings

 Please note that various settings can only be made with the PC Time Version.

12.1 KESO Management Software Settings

You can make settings for the KESO KEK i-handle S with the KESO Management Software.

Setting option	Comment
Handle operation time	Time for which the external handle remains engaged on authorised access
Buzzer active	Enable/disable acoustic
LED active	Enable/disable LED
Flat battery signal	Enable or disable
Keep unlocked signal	Enable or disable
Signal while unlocking	Enable or disable
Office/shop function	Enable or disable (see item 12.2)

12.2 Office Function

You can use the Office function to override the always open time slot. Individual media (keys, tags, cards) can additionally be authorised to execute the Office function.

12.2.1 Office/Load Function

The Office/Load function sets up the always open function not to start automatically in the assigned time slot. The always open time slot is not activated until a defined and authorised Office key (see 12.2.3) or Office master key (see 12.2.4) is held up to the reader module.

If the Office key or Office master key is again held up to the reader module before the end of the active time slot, always open is reset and the handle is disengaged.

<<Apply conscious action>> means that the office master key, or the office key, must be presented at the reader module for at least two seconds to start or stop the always open time slot.
→The time cannot be changed.

12.2.2 Decision logic of office function

Door		Key/ User		Officekey				Officemasterkey		
Permanent open time frame activ?	Permanent open time frame set?	Key in time frame?		Access?	Permanent open time frame set?	Permanent open time frame canceled?		Access?	Permanent open time frame set?	Permanent open time frame canceled?
No	No	No	→	No	No	-	→	No	No	-
No	No	Yes	→	Yes	No	-	→	Yes	Yes	-
No	Yes	No	→	Yes *	-	No	→	Yes *	-	Yes
No	Yes	Yes	→	Yes	-	No	→	Yes	-	Yes
Yes	No	No	→	No	No	-	→	No	No	-
Yes	No	Yes	→	Yes	Yes	-	→	Yes	Yes	-
Yes	Yes	No	→	Yes *	-	No	→	Yes *	-	Yes
Yes	Yes	Yes	→	Yes	-	Yes	→	Yes	-	Yes

* due to the fact that the door is open over the permanent opening time frame.

12.2.3 Office key function

The Office key can set and reset the always open function within an authorised (access) time slot.

Example 1

If a user of the office function is permitted for access, this user will always have the opportunity, during the permanent open timeframe, to set or cancel a permanent opening

Example 2:

If a user with an Office key assignment is only authorised for access in the morning, the user can only enable or disable the always open function in the morning, as long as the always open time slot permits this.

12.2.4 Office master key function

The Office master key can set and reset the always open function within an authorised (access) time slot and independently of the always open time slot.

Example 1:

If a user is assigned the Office master key function and access for 24 hours, this user is authorised to enable or disable the always open function at any time.

Example 2

If a user of the office masterkey function is permitted for access from 07:00 till 17:00, this user will be able to set or cancel a permanent opening during the mentioned timeframe. after 17:00 the user is no longer able to set an permanent open, however cancelling of the permanent opening is still possible.

13 Programming Home Version

As a user of a KESO HOME system you are responsible for managing your own keys. If you lose a master key belonging to a KESO HOME Version, the whole system has to be reprogrammed. Please consult your KESO Mechatronic dealer in this case.



IMPORTANT: Always perform programming and deletion with the door open to avoid the door accidentally closing.

13.1 Home programming operations

Home programming is effected by means of a medium (key, tag, card) on which the programming steps are stored. The medium must be held up to the reader module on the external shield.



Important note: All changes are acknowledged by means of an optical and acoustic signal.

13.2 Delete all authorisations

Master key – delete key – master key

13.3 Authorize programming keys

Master key – programming key 1 – master key – programming key 2 – master key – etc. up to a **max. of 32 programming keys**

13.4 Programming a single user key

Programming key – user key 1 – programming key – user key 2 – programming key – etc. up to a **max. of 8 use keys per group**

13.5 Deleting an individual user key

Programming key – user key – delete key

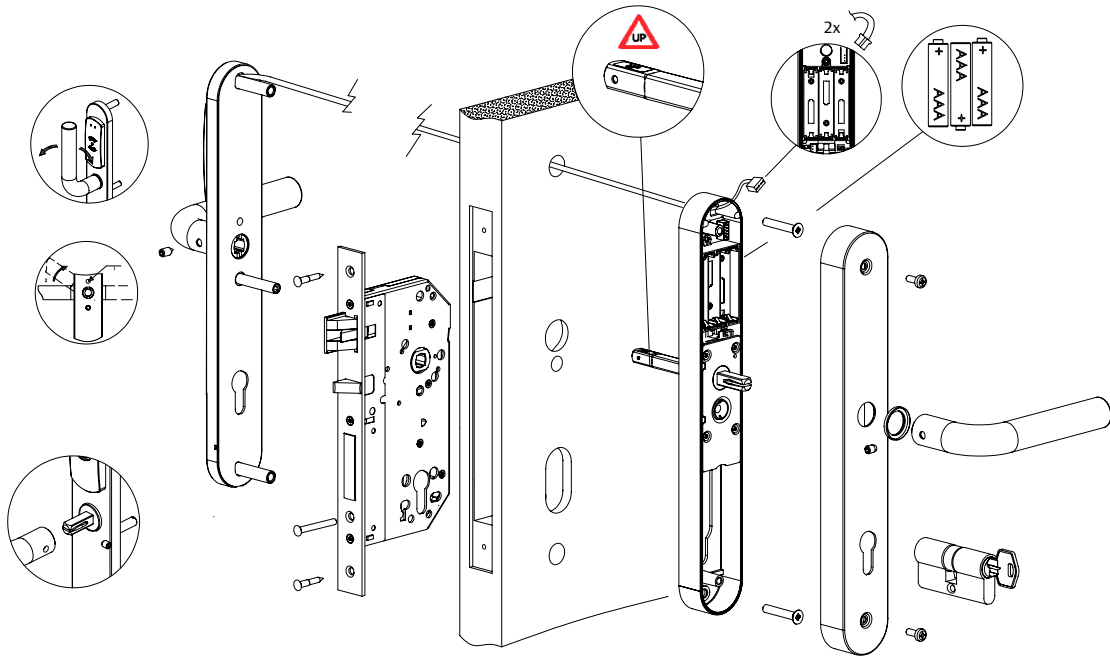
13.6 Deleting all user keys in a group

Programming key – delete key – programming key

KESO KEK i-handle S

14 Installation

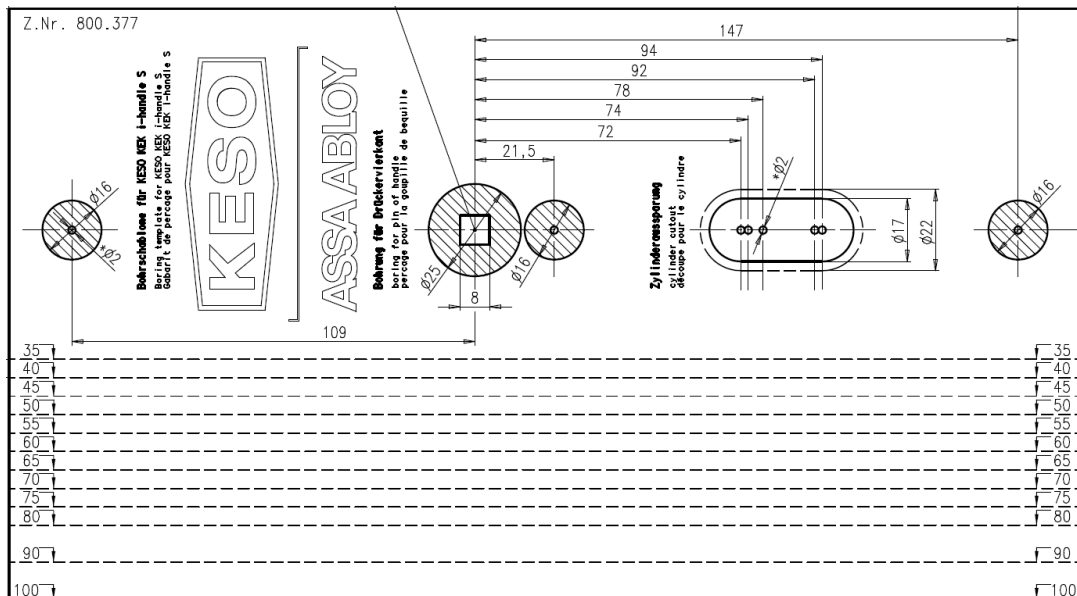
14.1 Engineering drawing



14.2 Drilling template

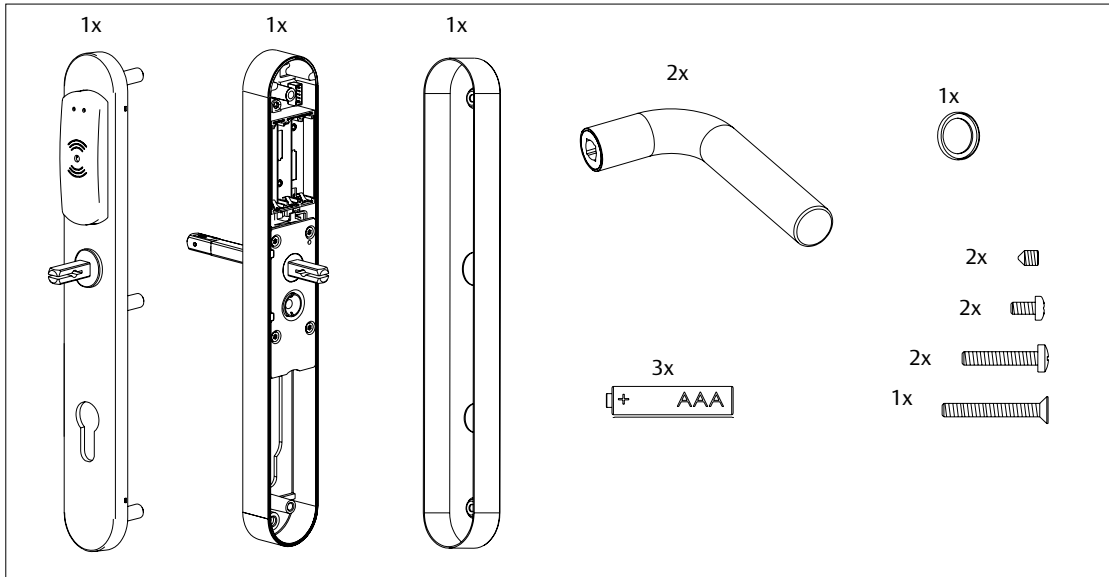
Drawing No.

800.377

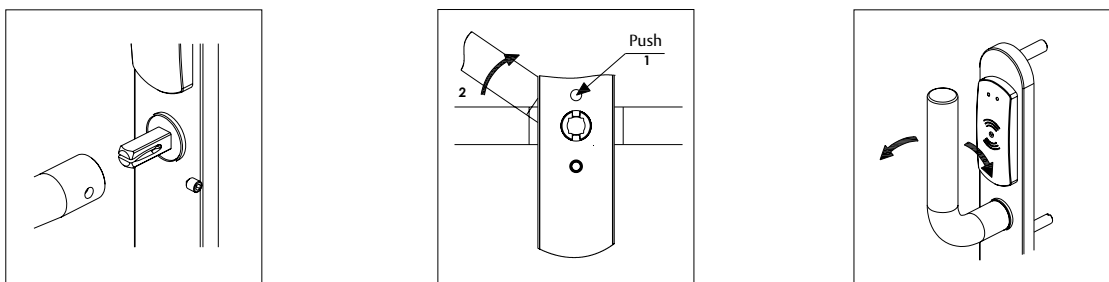


IMPORTANT:
Figure not 1:1 scale

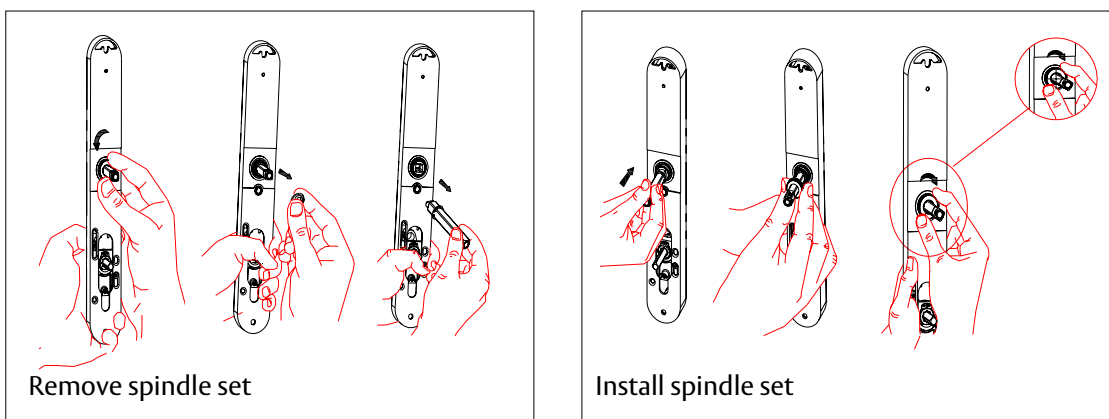
14.3 Components



14.4 Changing the handle side

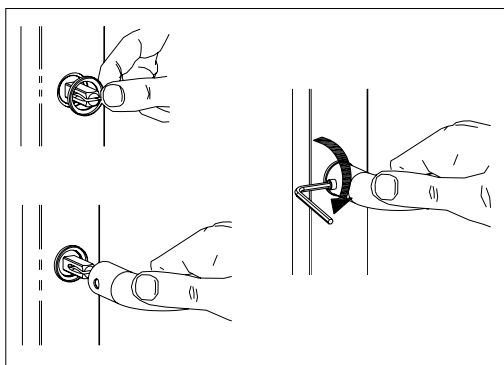
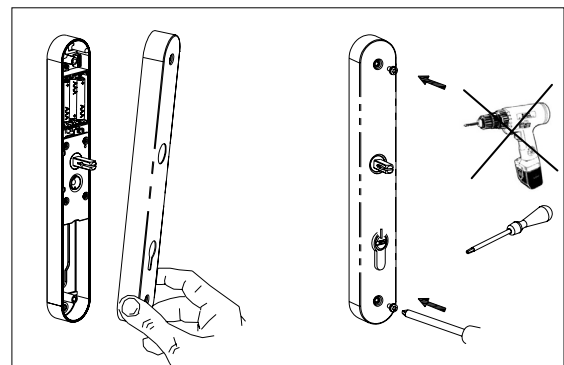
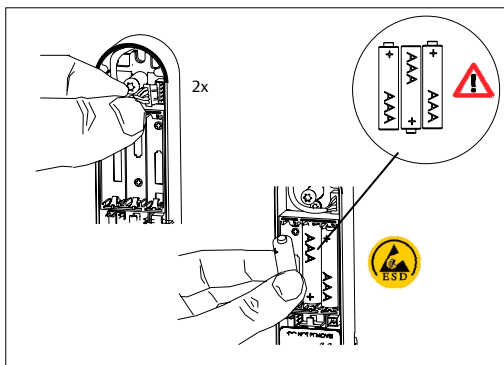
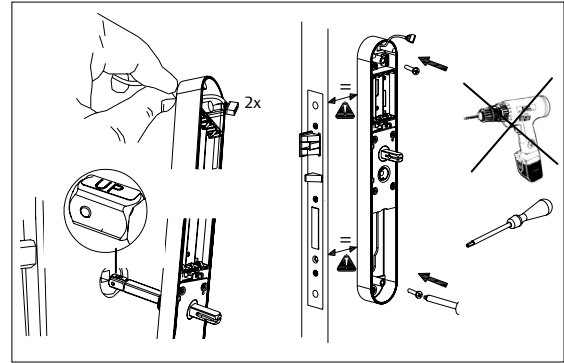
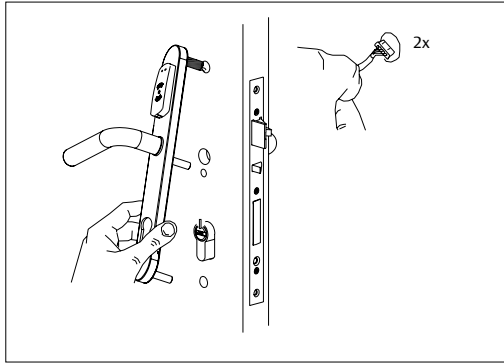


14.5 Changing the spindle set



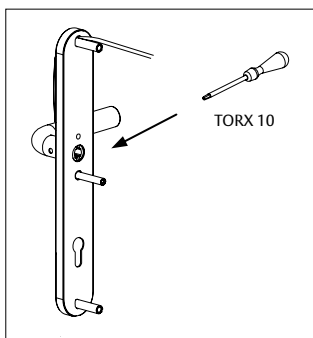
KESO KEK i-handle S

14.6 Installation



i When fitting the handle, it is important to make sure that the outside handle is not pressed too firmly against the plate.

14.7 Remove the central stud bolt



Use a torx screwdriver (TX10) to remove the central stud bolt

i If the middle screw is used, it is imperative that it is not over-tightened.

15 Maintenance information

15.1 Mechanical parts

The mechanical parts are maintenance-free to a great extent. Check that screws are tight at regular intervals.



IMPORTANT:

Opening the coupling mechanism (below the protective foil on the inside) voids your KESO AG warranty.

15.2 Electronics

The electronic components are maintenance free.

15.3 Batteries

See also Item 0 battery operations

KESO AG recommends the following batteries for trouble-free operations. Other models may have insufficient capacity or damage the fittings due to leaks.

Battery type	Voltage	Type	Brand	KESO Article No.
LR03	1.5V	Alkali manganese cells	Energizer	V.000/21/20

The batteries must be replaced after 40,000 actuations or after one year. It may be necessary to replace earlier in cold environments. You should check the battery status regularly for this reason (see item 0)

16 Troubleshooting

Possible faults

Symptoms	Possible cause	Remedy	Item
Handle fails to engage despite valid access	Spindle position has not been taken into consideration	Set the spindle correctly. UP= top	14.6
Handle fails to engage despite valid access	Spindle position has not been taken into consideration	Check that the knurled nut on the backset is fitted properly	14.6
Handle jams or remains locked	Spindle position too long	Check that the door leaf width and spindle set match / replace if needed	7.6
Handle jams or remains locked	Fixing screws overtightened	Slightly release the fixing screws or remove the central fixing screw	14.6
Handle jams or remains locked	Too much tension on the plastic casing for the outside handle	Do not fix the outside handle when there is a pre-load on the plastic casing	14.6
After inserting the batteries the reader module does not react to a medium	Batteries inserted incorrectly	Check polarity; insert new batteries if needed	14.6
After inserting the batteries the reader module does not react to a medium	Connecting cable jammed or damaged	Check cable for pressure points or signs of damage	14.6
After inserting the batteries the reader module does not react to a medium	Connecting cable not plugged in	Check the connecting cable. Both plugs on the connecting cable must be inserted	14.6

17 Product services

In as far as product specifications are not explicitly defined in our catalogues, leaflets, performance sheets etc., individual KESO system requirements must be agreed with us.

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