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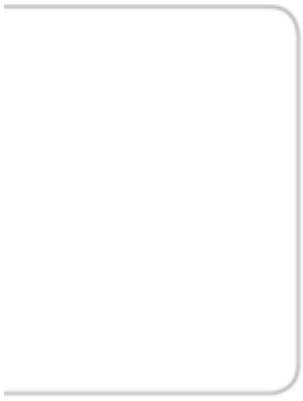

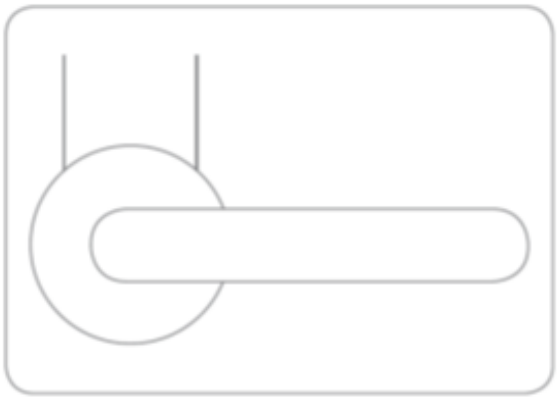

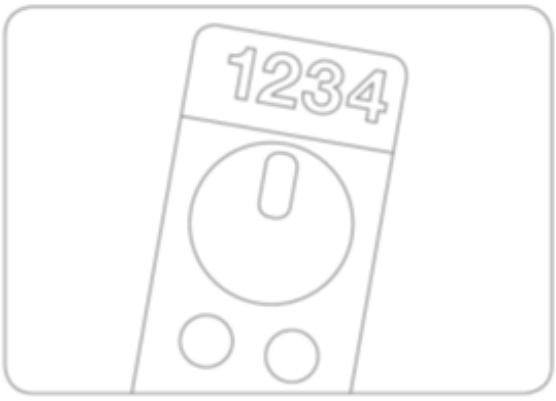

SAFE-O-TRONIC® *access*

english

Manual

SAFE-O-TRONIC® *access* LS 300 / LS400
Cabinet Lock

Notes on this manual

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This manual replaces all previous versions.
The details in this manual are subject to change without prior notification.

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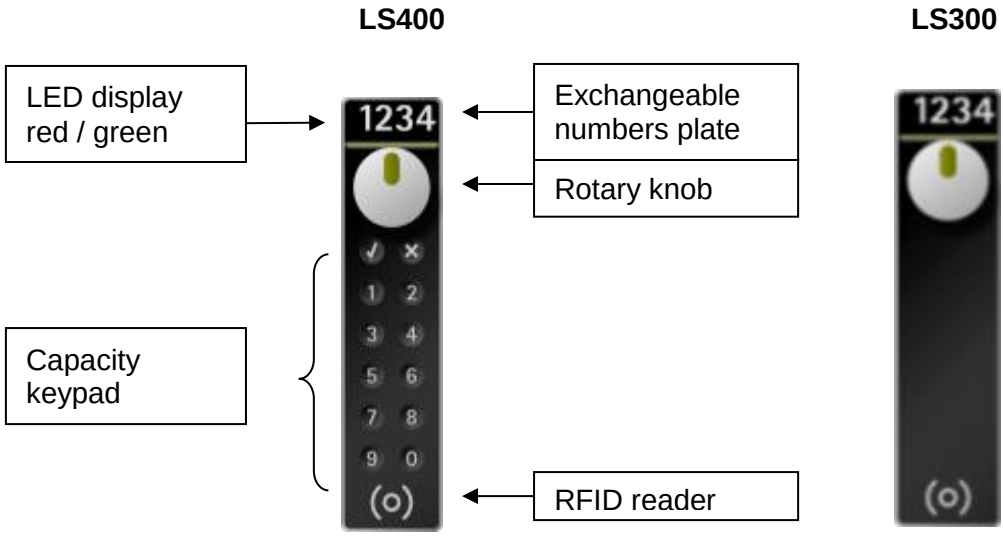
Safety and warning notes

- This manual describes the commissioning and operation of a SAFE-O-TRONIC® *access* LS300 or LS400.
- The equipment must only be used for the purpose intended by the manufacturer.
- Please keep the manual in an easily accessible place.
- Unauthorised amendments and the use of spare parts and auxiliary devices that are not sold or recommended by the manufacturer of the equipment can cause fires, electric shocks and injuries. Measures of this kind will lead to an exclusion of liability and the manufacturer will not provide a guarantee.
- Repair work must only be carried out by the manufacturer.
- The warranty provisions of the manufacturer as amended on the date of purchase shall apply to the equipment. Liability will not be assumed for unsuitable and automatic compilation of parameters for a device or unsuitable application of a device.
- The operating company shall bear the responsibility that the device is installed and connected according to recognised technical rules in the country of installation as well as other valid regulations.

List of contents

Control elements



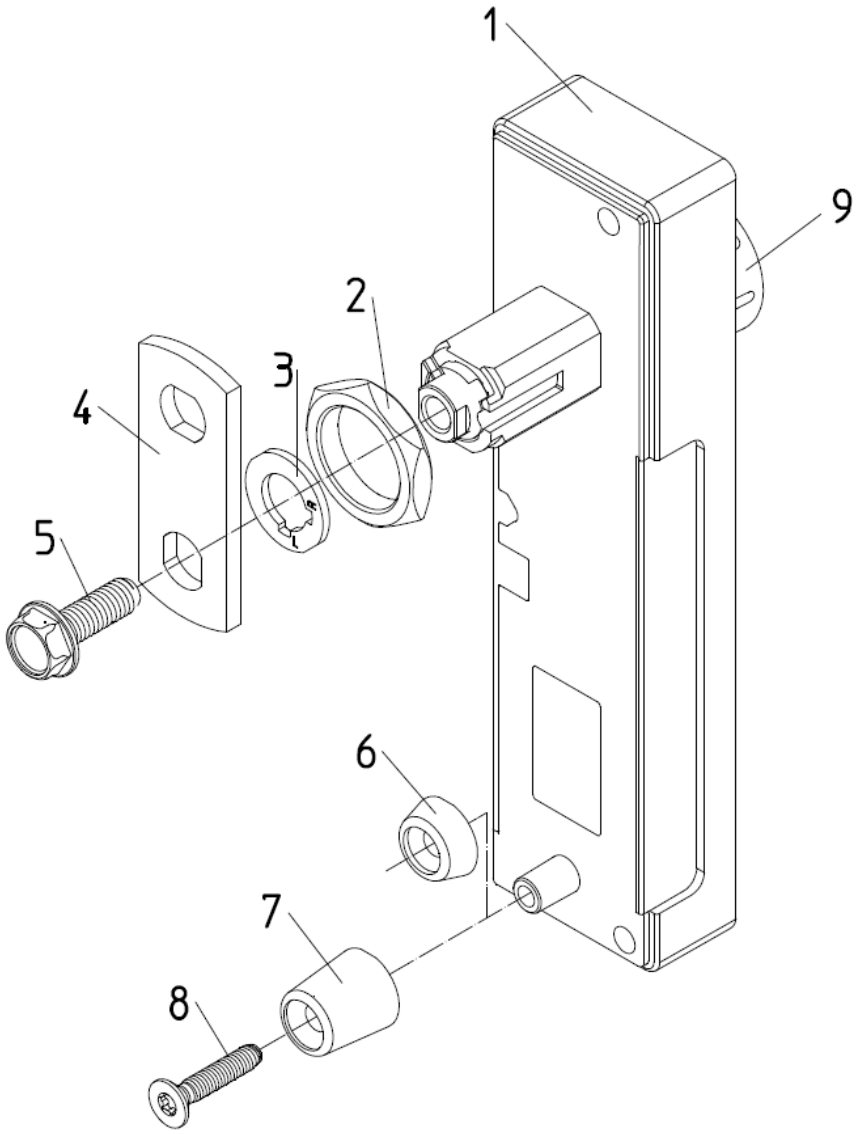
Capacity keypad only available on model LS400

√ **OK key:** Conclusion of Code entry

X **Abort key:** Code entries or programming operations can be deleted by pressing the abort key

1 2 3 4 5 6 7 8 9 0 **Keys 1, 2, 3, 4, 5, 6, 7, 8, 9, 0:** Number keys for Code entry

Fastening parts



1 Housing
2 Nut for fastening the LS300 or LS400 to the door
3 Grommet for setting the rotational direction of the rotary knob in order to lock
4 Locking lever* (a cropped or hook-shaped locking lever can also be used depending on the properties and condition of the cabinet.)
5 Fastening screw for locking lever
6 Bush for fastening the LS300 or LS400 to the door for door thicknesses of **10mm to 18mm**
7 Bush for fastening the LS300 or LS400 to the door for door thicknesses of **1mm to 9mm**
8 Screw for fastening the LS300 or LS400 to the door
9 Rotary knob

*** Important note:**
*The fixing screws (5 and 8) may be tightened to a maximum torque of **3 Nm**. The locking lever (4) must be held firmly while tightening the fixing screw (5). The coupling mechanism could be damaged by wrong installation.*

Installation information

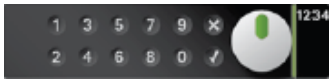
Direction of installation

Depending on the type of cabinet, SAFE-O-TRONIC® *access* LS300 and LS400 can be installed in four different directions of installation.

Direction of installation **A**,
Rotary knob at top

Direction of installation **B**,
Rotary knob at bottom

Direction of installation **C**,
Rotary knob on the left



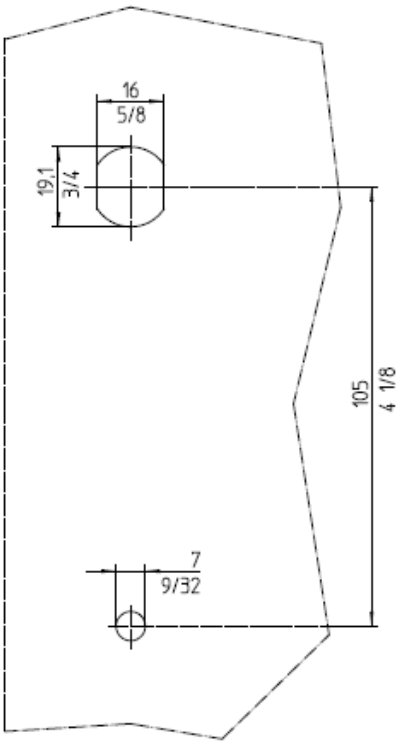
Direction of installation **D**,
Rotary knob on the right

⚠ ***Note: In this manual exemplary reference is made to direction of installation A.***

⚠ ***LS300 is all-purpose for every direction of installation.***

⚠ ***LS400 must be ordered for the correct direction of installation.***

Preparation of the door



The following punched holes must exist in the door corresponding to the drawing:

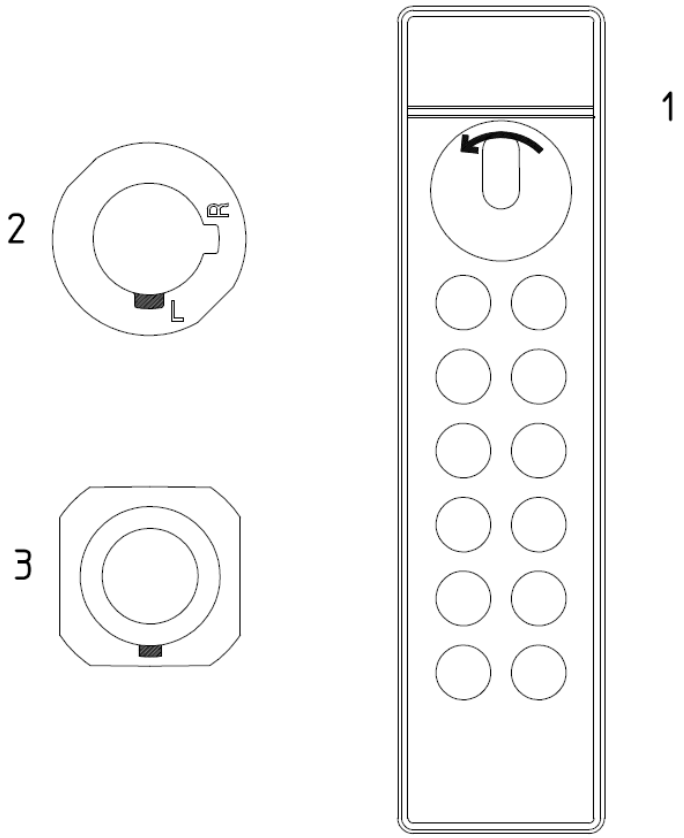
1. Punched hole, dimensions 19.1mm / 16mm. A round hole with a diameter of 19.1 mm can also be drilled at this position.
2. Round hole with a diameter of 7mm.

As soon as the punched hole as described in 1. exists, the 7mm round hole can be drilled using a drill template (e.g. the drill template at the end of this manual).

Installation

1. Insert the LS300 or LS400 into the two punched holes 19.1mm / 16mm and 7mm
2. Fasten the LS300 or LS400 using the nut (**2**)
3. Screw on the LS300 or LS400 using the screw (**8**) and the bush (6 or 7) depending on the thickness of the door
4. Fasten the grommet (**3**) for setting the rotational direction and the locking lever (**4**) using the screw (**5**)
5. Test the function of the LS300 or LS400 by means of the TestKey or TestCode when the door is open.
6. Test the function when the door is closed. Particular attention must be paid here to the free movement of the latch. Automatic opening can only be guaranteed if the latch can be moved freely when the door is closed.

Setting the rotational direction for locking



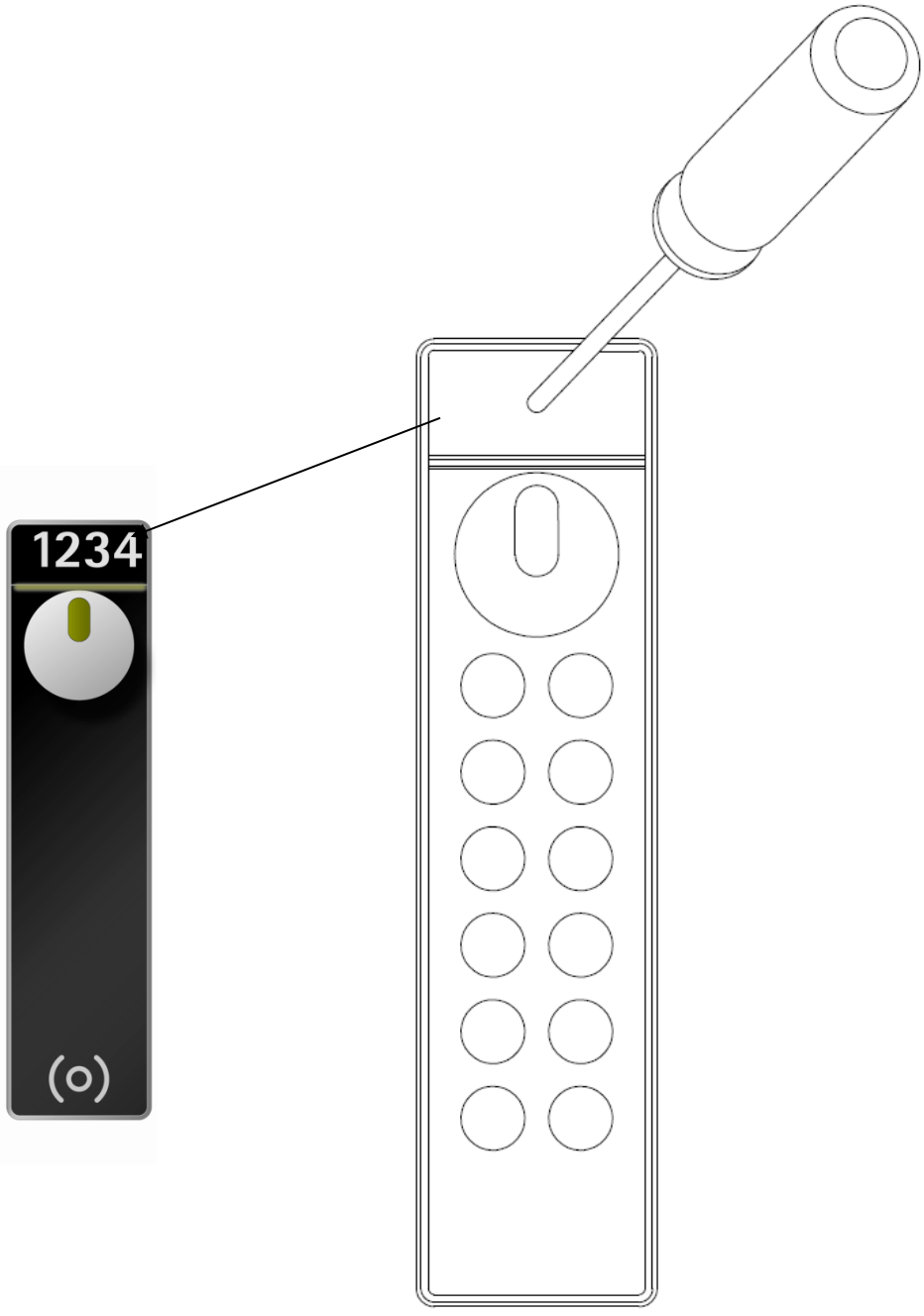
The setting of the rotational direction described here is for the LS300 and LS400 with a rotary knob that is turned to the **left** for locking.

1. The LS300 and LS400 marked with l.h. rotational direction for locking.
2. Grommet that is attached to the LS300 and LS400 on the inside of the door. The opening marked “L” points downward.
3. Rear side the LS300 and LS400 which the grommet is attached.

The grommet must be rotated correspondingly if the LS300 or LS400 is installed in a position where the rotary knob is not at the top (e.g. installation crosswise).

If the rotary knob is to be turned **to the right** for locking, the grommet must be attached to the LS300 and LS400 in such a way that the “R” opening points downward.

Exchanging the numbers plate



After inserting a small screwdriver into the centre of the numbers plate, the old numbers plate is levered out of the LS300 or LS400. A new numbers plate can then be clipped in.

⚠ ***Note: The old numbers plate will be damaged when exchanging.***

General information

Capacity keypad

The SAFE-O-TRONIC® *access* LS400 provides a capacity keypad for entering your PIN code.

⚠ **This capacity keypad cannot be operated if you are wearing gloves.**

Programming

The SystemKey set or Lock Manager 6 software can be used to carry out the programming for initial operation of the SAFE-O-TRONIC® *access* LS300 or LS400. Programming is described in a separate manual.

Operator guidance

Operation is supported by the red/green LED display and an acoustic acknowledgement by means of signal transmitters.

Information regarding keypad input on the LS400

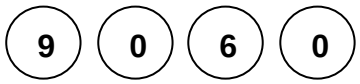
The entire input will be aborted if there is a pause of more than three seconds between operating the individual keys.

You have four attempts to enter the correct code. As protection against manipulation, all further entry is disabled for one minute after the fourth incorrect entry.

The LS400 is disabled after 100 incorrect entries. Blocking can only be cancelled out again using MasterCode2 or MasterKey II.

Locking and opening the LS 400 using the UserCode

In addition to using the UserKey, the user enters a UserCode (4 digits in this example) to lock and open the LS400.

► Enter the UserCode 

⚠ **Note: 9, 0, 6, 0 is only an example code**

► Then press the OK key 

► Turn the rotary knob 

Commissioning

All SAFE-O-TRONIC® *access* LS300 and LS400 devices are delivered with the same factory setting. This factory setting activates the TestKey on the LS300 and the TestKey and the TestCode on the LS400 for locking and opening.

TestKey

After installation the TestKey should be used to check the function of the SAFE-O-TRONIC® *access* LS300 or LS400. Particular attention should be paid to the free movement of the latch when locking. There can be malfunctions following distorted installation.
It will be necessary to programme the LS300 or LS400 after completion of the installation work and examination of all SAFE-O-TRONIC® *access* LS300 or LS400 using the TestKey.

⚠ **Note: The TestKey is retained until initial operation (programming of the LS300 or LS400).**

TestCode on the LS400

The TestCode can be used to carry out a simple SAFE-O-TRONIC® *access* LS400 function check.

Locking and opening using the TestCode

► Press the 0 key 

► Then press the OK key 

► Turn the rotary knob 

⚠ **Note: The TestCode is retained until initial operation (programming of the LS400).**

LS300 operating modes

On the LS300 the UserKey serves as a means of locking or opening by the user. To this end, the LS300 can be programmed for three different operating modes.

1. Free cabinet selection
2. Fixed cabinet allocation “All Open”
3. Fixed cabinet allocation “One Open”

Free cabinet selection

A LS300 in “free cabinet selection” operating mode can be used for locking by means of any UserKey that has been programmed for this system. Subsequent opening is only possible using this UserKey.

Fixed cabinet allocation

In the case of fixed cabinet allocation the LS300 must be programmed using the UserKey authorised for locking. There is a choice between the following two operating modes for fixed cabinet allocation.

All Open

The UserKeys must be programmed into the LS300 in this operating mode**.** Subsequently, every programmed UserKey is able to **lock and open** the LS300**.**

One Open

The UserKeys must be programmed into the LS300 in this operating mode. Subsequently, every programmed UserKey is able to lock the LS300. However, unlike the “all open” operating mode, only the UserKey used for locking is able to re-open the LS300.

LS400 operating modes

In the case of the LS400 the UserKey and the UserCode serve as a means of locking or opening by the user. To this end, the LS400 can be programmed for three different operating modes.

1. Free cabinet selection
2. Fixed cabinet allocation “All Open”
3. Fixed cabinet allocation “One Open”

A special feature on the LS400 is the optional use of the UserKey and the UserCode.
They can be used individually or in combination. There are, therefore, numerous combination possibilities that are described in the Lock Manager 6 manual.

The basic functions are identical to the functions on the LS300.

MasterKey I and MasterKey II

MasterKey I

MasterKey I only serves opening the LS300 or LS400 by the facility operator. It is intended for employees with restricted locking rights. Once it has been opened using MasterKey I the LS300 or LS400 is disabled for operation with a UserKey. This block must first be re-set with the MasterKey II.

MasterKey II

MasterKey II can be used at any time to open and close the LS300 or LS400 or to enable a LS300 or LS400 that has been disabled using MasterKey I

Programming before using the MasterKey

The MasterKeys must be programmed before use**.** It is possible to set the following parameters**.**

- Lock number or lock number rang
- Valid from, valid until

It is, therefore, possible to only activate the MasterKeys for a certain lock or lock range and in addition to this, also within a certain period of time.

The last ten times used are stored on the MasterKey and can be read out by means of the Lock Manager 6 software. It is, therefore, also possible to display the use of the MasterKey without any lock log readout.

⚠ **Note: Every time the MasterKey is used this is recorded in the lock log.**

⚠ **See the Lock Manager 6 manual for further information.**

MasterCodes LS400

MasterCode1

MasterCode1 only serves opening the LS400 by the facility operator/staff. It is intended for employees with restricted locking rights. Once it has been opened the LS400 is disabled for operation with a new UserKey. This block must first be re-set with the MasterKey2. A 5 to 10-digit code can be programmed as MasterCode1 via the Lock Manager 6 software.

⚠ **Note: MasterCode1 cannot be programmed with 0 as the first number.**

Opening using MasterCode1

If a MasterCode1 has been programmed via the Lock Manager 6 software, the facility operator can open the LS400 at any time by means of this code.

► Enter MasterCode1 **9** **0** **6** **0** **9**

⚠ **Note: 9, 0, 6, 0, 9 is only an example code**

► Then press the OK key √

Clearance using MasterCode2

If a SAFE-O-TRONIC® *access* LS400 was opened using MasterCode1, the LS400 is disabled for operation using a new UserCode. The LS400 then has to be enabled using MasterCode2.

► Entering MasterCode2 **3** **5** **1** **9** **7**

⚠ **Note: 3, 5, 1, 9, 7 is only an example code**

► Press the OK key √

The disabled LS400 is now enabled again for further operation with the UserCode.

⚠ **(*) Note: Once the LS400 has been opened using MasterCode1, it must be enabled by entering MasterCode2.**

MasterCode2

MasterCode2 can be used at any time by the facility operator to open and close or enable the LS400. A 5 to 10-digit code can be programmed as MasterCode2 via the Lock Manager 6 software.

⚠ **Note: MasterCode2 cannot be programmed with 0 as the first number.**

Locking and opening using MasterCode2

If a MasterCode2 has been programmed via the Lock Manager 6 software, the facility operator can open and lock the LS400 at any time by means of this code.

► Entering MasterCode2

⚠ **Note: 3, 5, 1, 9, 7 is only an example code**

► Then press the OK key

► Turn the rotary knob

Code overview

The following table contains an overview of the various codes.

	4 to 6-digit	5 to 10-digit	Open	Close
UserCode	**x**	**-**	**x**	**X**
MasterCode1	**-**	**x**	**x**(*)	**-**
MasterCode2	**-**	**x**	**x**	**x**

SystemKey Set

Using the SystemKey set the SAFE-O-TRONIC® *access* LS300 or LS400 is programmed by means of the Lock Manager 6 software and data read out of the LS300 or LS400. The SystemKey set consists of seven data carriers with a red inscription.

Designations and functions:

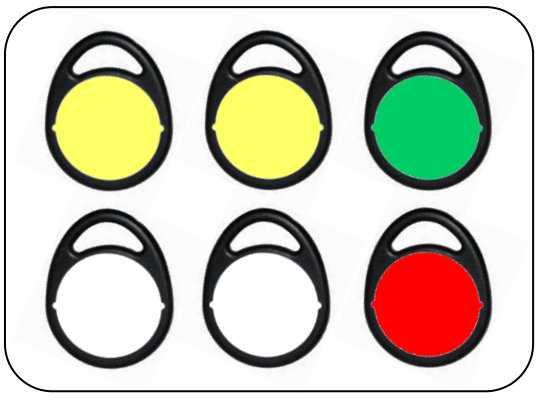
SysDataKey	Configure LS300 or LS400
DataKey	Programme UserCode
MasterKey I	Open only
MasterKey II	Open and lock
ServiceKey	Service functions, read out log
ResetKey	Reset LS300 or LS400 factory default settings. The locking log is retained.
TestKey	Function check of the LS300 or LS400 with factory default settings

Further information on the use of the individual SystemKeys is provided in a separate manual.

Programming Set LS300

LS300 devices can be operated with pre-defined functions without Lock Manager 6 software using the LS300 programming set for SAFE-O-TRONIC® *access*. This programming set dispenses with time-related functions such as automatic disabling or opening, begin/end of validity and logging. However, the full range of functions can be achieved at any time following the subsequent use of the SystemKey set and Lock Manager 6 software.

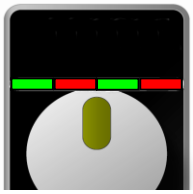
Further information on the use of the individual SystemKeys is provided in a separate programming set manual.



Information

LED display

All important actions and operating conditions are indicated by the LED display and are intended to contribute to finding the causes of failures and operating errors. The following table lists the meaning of the individual signals.



Status messages

green	red	green	red	Display	Action
				Flashing rapidly	Programming mode
				Every 3 seconds	Disabling time (one minute) is active. Wrong Code entered four times.
				1 second	Key entry
				1 second	Abort key (“X”) pressed
				LEDs flash in turn three times	Handling error, the rotary knob was not operated within the clearance period
				Alternating	Waiting for rotary knob to be operated
				1 second	LS300 or LS400 has been locked / programming successful
				2 seconds	LS300 or LS400 has been unlocked
				½ second	Code accepted
				3 seconds	Internal malfunction / LS300 or LS400 must be replaced where necessary
				Red LEDs light up first, then the green LEDs, for ½ a second in each case	Disabling triggered by MasterCode1 / MasterKey I has been cancelled out by MasterCode2 / MasterKey II
				LEDs flash fast together three times	Code entry rejected, as lock-out by MasterCode 1 / MasterKey I active
				LEDs flash together three times	Warning: Short-term battery replacement required
				LEDs flash in turn five times	Battery must be replaced urgently. LS300 or LS400 can no longer be locked
				LEDs flash three times	Reset has been carried out

Troubleshooting / operating errors

You are able to see errors and operating errors in the status messages of the LED display and then correct them accordingly.
Please contact customer support in the event that undefined conditions arise and the LS300 or LS400 does not function efficiently in spite of replacing the battery and carrying out a reset by means of the ResetKey and reprogramming.

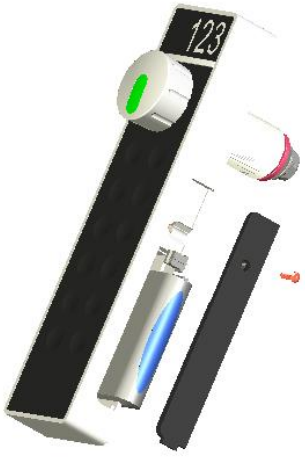
Replacing the battery

1. Remove the screw on the side of the cover using a TG 6 screwdriver.

2. Open the battery compartment and remove the battery pack. Disconnect the two-pole plug-in connector from the battery pack.

3. Connect the new battery pack using the plug-in connection and insert the battery in the LS300 or LS400.

4. Close the battery compartment and screw down.



Codes are not deleted when a battery is replaced.
As a precaution the time should be set again after replacing the battery.

⚠ **Note: Please dispose of the empty battery pack properly in accordance with the valid environmental regulations.**

Battery monitoring / battery alarm

Automatic battery monitoring on the SAFE-O-TRONIC® *access* LS300 and LS400 ensures that a LS300 or LS400 cannot be locked if the battery voltage is too low.

There is an advance warning when all the LEDs flash twice. It is then advisable to replace the battery.

An alarm is triggered after a while if the battery is not replaced. This is indicated when the red and green LEDs light up in turn three times. The battery must now be replaced. The LS300 or LS400 can only be opened in this condition but no longer locked.

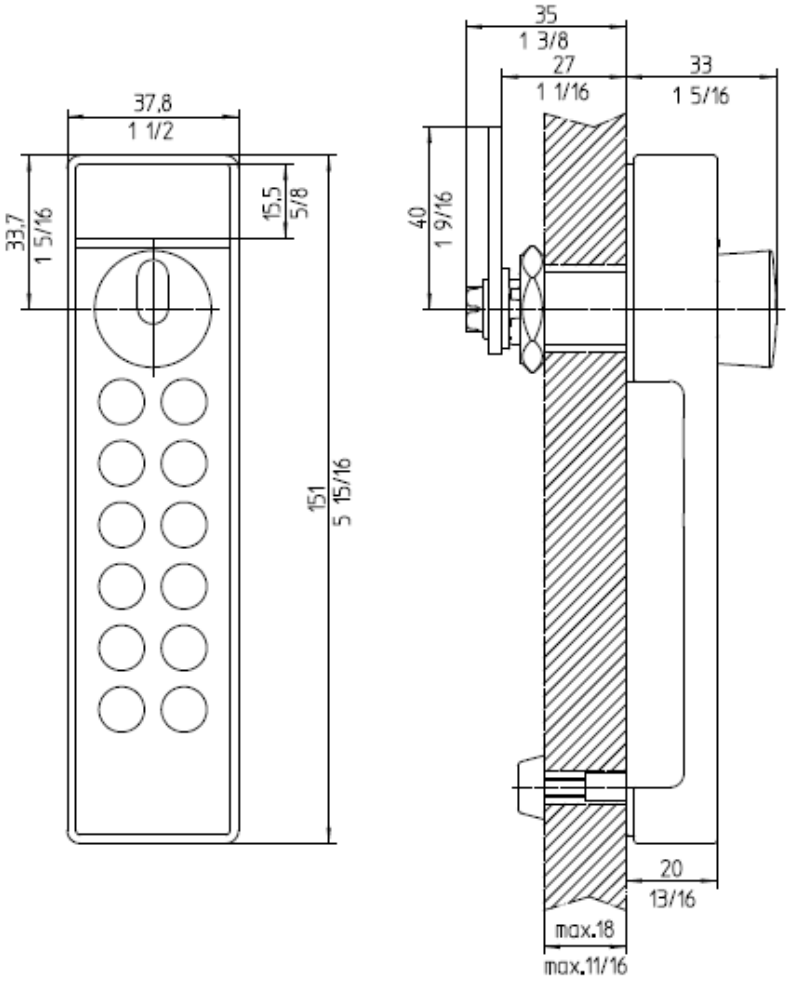
The LS300 and LS400 must only be operated using batteries approved by Schulte-Schlagbaum AG. Use of unauthorised batteries can lead to malfunctions and damage to the LS300 and LS400.

Maintenance and care

SAFE-O-TRONIC® *access* LS300 and LS400 are maintenance free. Under no circumstances are the LS300 and LS400 to be oiled or greased with lubricants containing mineral oil.

Only use non-stick, residue-free cleaning agents and disinfectants for cleaning purposes. Do not use any harsh cleaning agents, acids or lyes when caring for the product. Also do not use a pressure cleaner.
It is also not permissible to hose down the LS300 and LS400, e.g. using a hose, and this can lead to destruction and exclusion of liability.

Technical Data



Indicators:	2 x LED green 2 x LED red
Acoustic signal:	Signal transmitter
Battery:	Battery pack: 3 x alkaline cells (AAA)
Battery life cycle*:	Approx. 3 years or approx. 30.000 operations
Temperature ranges	
Function:	0 to +60˚C
Storage:	-15 to +70˚C
Relative humidity:	10 – 90% non-condensing
Protection class according to DIN EN 60529:	IP
Weight:	Approx. 300g
Housing dimensions incl. rotary knob (H x W x D):	151mm x 38mm x 33mm
Colour of housing frame:	Similar to RAL 9006 (white aluminium)
Colour of the control panel:	Black or white
Door thickness:	1 to 18mm

Approval

Caution to Users

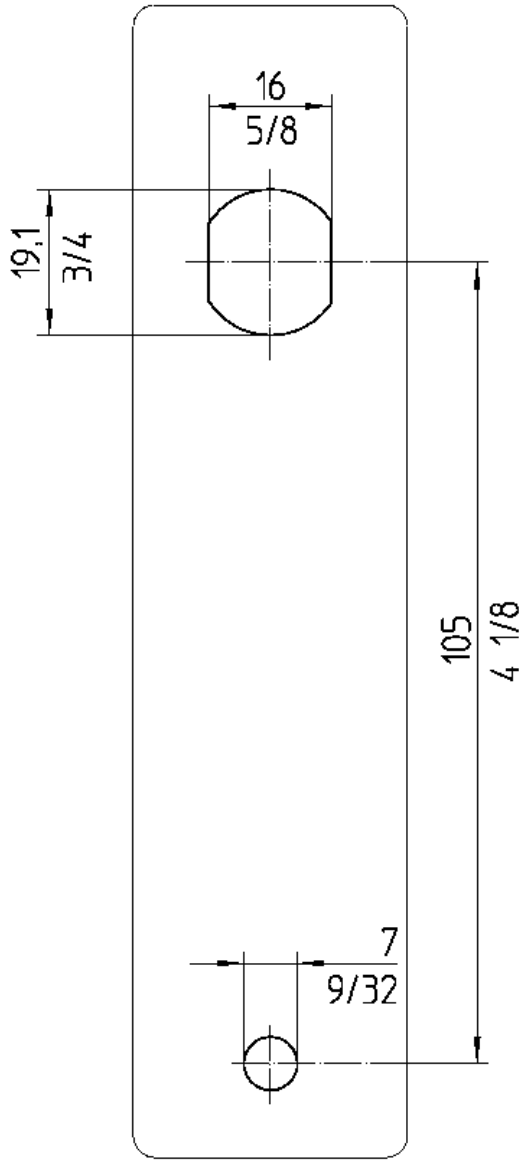
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Declaration of EU Confirmity

Schulte-Schlagbaum AG declares herewith that the device is compliant with the basic requirements and the relevantrules in directives 2014/53/EU and 2011/65/EU. The long version of the declaration of CE confirmity is available at:
www.sag-schlagbaum.com/news/eu-konformitaet/

FCC IDENTIFIER: Q3ISOTA

Drill template the LS300 and LS400



⚠ **Note: Depending on the printer there can be dimensional deviations when printing this drill template. Therefore, please remeasure the drill template before use.**

***Technical data and information on battery packs and batteries for SAFE-O-TRONIC® *access* locking systems**

Overview of SAFE-O-TRONIC® *access* locking systems:

Furniture locking system:	LS100, **LS**200, **LS**300. **LS**400
	LSW200. **LSW**300. **LSW**400
Door locking system:	**DS**200, **DS3**00, **DS4**00
Cylinder locking system:	**CS**300

The following battery packs are used in these locking systems:

Range: LS and DS

Standard battery pack: Alkaline manganese 3xLR03 (AAA)	**Article number: # 38400200**
*Battery life**	*approx. 3 years or approx. 30,000 activations*
Special battery pack: Lithium 3xLR03 (AAA)	**Article number: # 38400200L**
*Battery life**	*approx. 5 years or approx. 50,000 activations*

Range: LSW

Standard battery pack: Alkaline manganese 3xLR06 (AAA)	**Article number: # 38450901**
Battery life offline*	*approx. 4 years or approx. 55,000 activations*
Battery life online (mobile)*	*approx. 3 years or approx. 30,000 activations*
Battery holder: for 3xLR06 (AA)	**Article number: # 38450902**

Batteries for the battery holder must be provided on site. Claims concerning the battery life can therefore not be made. Battery recommendation: Alkaline manganese, Panasonic Powerline

Range: CS

Standard battery: 2x lithium manganese dioxide CR-2L (3V)	**Article number: # 50203EK-B**
*Battery life:**	*approx. 3 years or approx. 30,000 activations*

The following temperature ranges must be observed:

Function with alkaline batteries:	0 to +60°C
Function with lithium batteries:	-15°C to +65˚C
Storage:	-15°C to +70˚C

Temperatures below 0°C lead to a limited life of the batteries.

* Information on the battery life:

The battery life was determined under practice-oriented laboratory conditions. Positive or negative deviations from these indications are consequently highly likely in practice. The following list includes a number of characteristics and measures that can impact on the battery life indicated.

Locking system variants

The individual locking systems in the SAFE-O-TRONIC® *access* range vary in their functionality and features. The locking systems come with PIN functionality (100 and 200), with RFID functionality (300) or with a combination of PIN and RFID functionality (400). The energy requirement of these locking systems varies and also influences the battery life. For example, the energy requirement of a 400 model is approx. 1.4 x higher than of a 300 model. The battery life indicated refers to an average value that was determined using the 300 model.

Transponders

The energy requirement of the locking systems depends on the transponder type used. The DesFire transponder in the Mifare transponder range requires most energy for read and write access.

Configuration and user behaviour

The configuration (release time, status display etc.) and the user behaviour impact on the battery life of the locking system. Refer to the relevant sections of the manuals for information on this.

Battery management

The electronic locking systems in the SAFE-O-TRONIC® *access* range are fitted with integrated battery management with an optical low-battery signal to indicate that the battery requires replacement. Refer to the relevant manuals for detailed information on this.

Information on battery replacement

- The point in time as to when the SAFE-O-TRONIC® *access* battery pack must be replaced depends on how often the locking system was activated, or how long the battery pack has been installed, and on the ambient temperature in which the locking system is operated.
- Due to slight, yet unavoidable, self-discharge of the batteries, it may be necessary to replace the battery pack before the number of activations indicated has been reached.
- There is a risk of injury through improper handling of the batteries
- Only replace batteries with the door open. A function check after replacing a battery should always be performed with the door open.
- Installation and battery replacement must only be performed by trained specialists in accordance with these operating and installation instructions.
- Check the time after each battery replacement, and reset the current time where necessary.
- Only use battery packs acquired from Schulte-Schlagbaum.
- Do not allow the battery to reach temperatures in excess of the recommended storage temperature.
- Battery replacement CS300: Avoid damage to the seal ring through improper handling. Do not use sharp objects and do not stretch the seal ring more than necessary when sliding it on.
- Ensure that the polarities are correct when inserting the batteries.
- Always replace discharged batteries with new batteries.
- Battery packs may not be charged.

Disposal

Recycle defective or used battery packs according to European Directive 2006/66/EC.
Observe local regulations concerning the disposal of batteries.