OEM reading module VOXIO

VOXIO-A (Standard)

Interfaces: **RS485 or RS232**
or
"Magstripe" Clock/Data or "Wiegand" D0/D1

Versions:

Standard	RFID technology	Special Feature
VOXIO-A-1200-A	LEGIC® prime / advant (Basis LEGIC® 4200M) <u>Note:</u> LEGIC media cannot be initialized	Multi-ISO platform ■ LEGIC prime/advant ■ MIFARE Classic DESFire / EV1 / EV2 ■ ISO14443 A+B ■ ISO15693
VOXIO-A-2000-A	125kHz	
VOXIO-A-3100-A	MIFARE classic MIFARE DESFire / EV1 / EV2	

Wall-mounted / Flush-mounted / with- or without keyboard
Different standard colours

Flush-mounted
Colour: Light grey / RAL 7035

Wall-mounted
Colour: Light grey RAL 7035

Flush-mounted with keyboard
Colour: Iron grey / RAL 7011

Wall-mounted with keyboard
Colour: Iron grey / RAL 7011

OEM reading module VOXIO

General Data

Applications
- Access control
- Time and attendance
- Data collection
- Parking systems, alarm systems
- General user identification

Special features
- Compact design
- Easy to mount
  Flush-mounting:
  - fits in any device box which is designed for flush or hollow wall mounting, meets DIN requirements and has a distance of 60 mm between the screws
  Wall mounting:
  - with wall-mounted casing directly on the wall
  - cable can be introduced from above, below or rear
- Suitable for use outdoors and indoors
- Type of connection:
  - connection terminals (lift system)
- Separate construction (generally two modules)
  - **Front module** with integrated reading system
    - three LED fields
    - keyboard connection
    - sabotage detection
  - **Rear module** with integrated interface
    - DIP switches
    - piezo buzzer
    - switch controller (8 to 30 V / DC)
    - connection terminals

Technical data
- The front module, rear module and wall-mounted housing are made of plastic
- Temperature ranges:
  - storage temperature   -30 °C to +70 °C
  - operating temperature   -25 °C to +60 °C

Interfaces
- RS 485 (A, B) **not** electrically isolated,
  - address setting via DIP switch
  - connectable bus terminating resistor (also via DIP switch)
  or
  - RS232 **or**
  - "Magstripe" Clock/Data **or**
  - "Wiegand" D0/D1
- I^{2}C bus interface
  - Actuation of additional peripheral equip (e.g. I/O - Box)

Signal elements
- 3 LED fields / green, yellow, red
- 1 piezo buzzer

Power supply
- 8...30V DC
  (internal polarity reversal protection)
- Power input
  - LEGIC Basis 4200   2,00 W
  - 125kHz   2,00 W
  - mifare   3,50 W

Firmware / Software protocols
- phg_crypt
- active sending
- "Magstripe" Clock/Data, format track 1 or 2 (can be parameterized)
- "Wiegand" D0/D1, format 26 bit or 56 bit (can be parameterized)
- OSDP
- customer-specific

ℹ️ **The support and availability of the different software protocols depends on the current RFID-technology. Detailed information on request**

Dimensions and Weight
Flush-mounted	Surface mounted
- height 81 mm	- height 81 mm
- width 81 mm	- width 81 mm
- depth 33 mm	- depth 40 mm
Weight: 85 g	Weight: 130 g

ℹ️ **The surfacemounted housing is an accessory and <u>not</u> included in the reader's delivery.**

Protection class
- At the front (in assembled state) IP 54
- The maximum protection class IP 54 depends on the sealing against the mounting wall.
- If a wall-mounted casing is used, the cable entry from the wall must be sealed with sealants.
- If the cable grommet provided is used, make sure that the cut-out for the cable passage appropriate for the cable.
- If the area between the rear module and the wall must also be sealed, suitable sealants (e.g. silicone) must be selected by specialized staff according to the environmental conditions.

OEM reading module VOXIO

Supported transponder medias

ℹ️ **The support of the transponder media listed below is generally dependent on the respective variant reader technology (hardware platform) and on the respective reader firmware.**
The listing of the transponder media is without guarantee of completeness.
Further information can be received on request.

Transponder medias	Reader technology		
	LEGIC prime / advant	Mifare Classic / DESFire	125 kHz
LEGIC MIM 22 / MIM 256 / MIM 1024	X		
LEGIC ATC512-MP110 (ISO 14443A)	X	X (CSN/UID)	
LEGIC ATC2048-MP110 (ISO 14443A)	X	X (CSN/UID)	
LEGIC ATC4096-MP310 (ISO 14443A)	X	X (CSN/UID)	
LEGIC ATC4096-MP311 (ISO 14443A)	X	X (CSN/UID)	
LEGIC AFS4096-JP10/JP11 (ISO 14443A)	X	X (CSN/UID)	
LEGIC ATC128-MV210 (ISO 15693)	X		
LEGIC ATC256-MV210 (ISO 15693)	X		
LEGIC ATC1024-MV110 (ISO 15693)	X		
ISO 14443A-Transponder(UID/CSN)	X	X	
ISO 15693-Transponder(UID/CSN)	X		
SONY FeliCa subset	X		
INSIDE Secure (UID/CSN)	X		
Classic 1k / 4k	X	X	
DESFire 4k	X	X	
DESFire EV1 / EV2, 2k / 4k / 8k	X	X	
Transparent, ISO14443A		X	
Transparent, ISO14443A Layer 3	X		
Transparent, ISO14443A/B Layer 4 subset	X		
Transparent, ISO15693 Layer 3	X		
Transparent, NFC Forum Type 2 Tag	X		
Transparent, NFC Forum Type 3 Tag	X		
hitag 1			X
hitag 2			X
hitag S			X
µem 4102 (read only)			X
µem V4150			X

⚠️ **Attention:**

Recommendation at use of smart card chips for LEGIC "card in card"Solutions

An aptitude examination of the corresponding medium should be carried out before use or intended use.
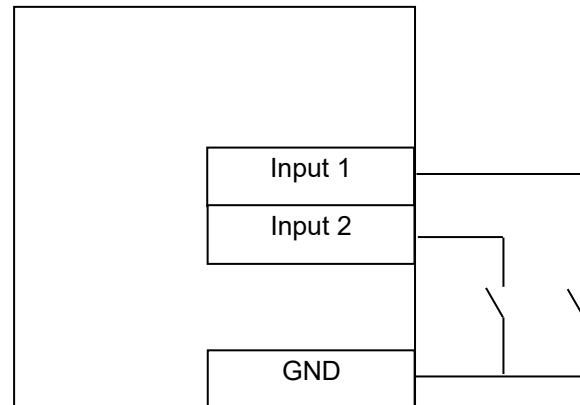
Detailed information about the procedure are available on request.

OEM reading module VOXIO

Pin allocation / Terminal specification / Hardware wiring
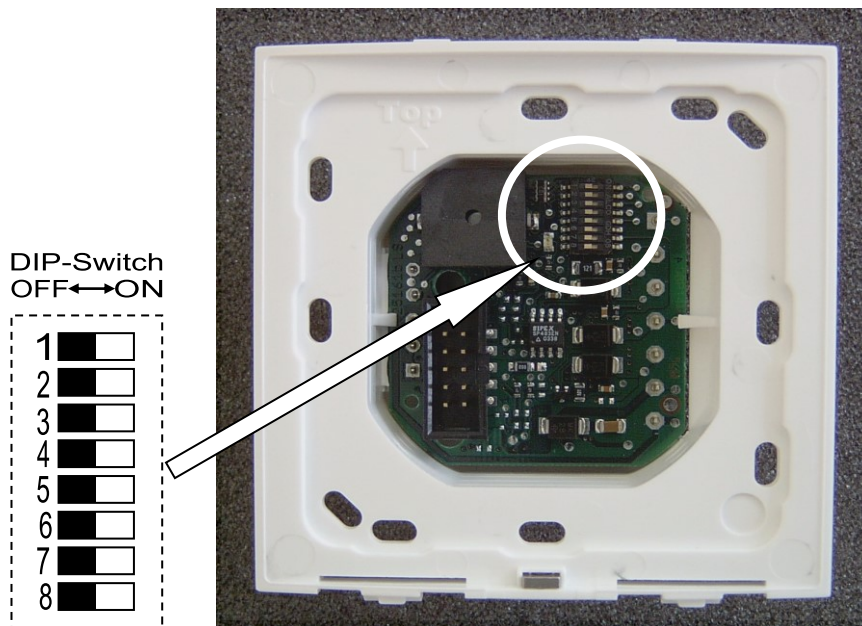

Rear module with interface (rear view)

General hardware wiring

ST1 connection terminal
(7-pin connection terminal)
power supply / interface / inputs/outputs

PIN No.	Interface version		
	RS485	**RS232 asynchronous**	
1	Input 1 (Active Low)	Input 1 (Active Low)	
2	Input 2 (Active Low)	Input 2 (Active Low)	
3	"B" Data	RTS	
4	"A" Data	RxD	
5	Internally connected	TxD	
6	GND		
7	+Ub (8 to 30 V / DC)		

PIN No.	Interface version					
	"Magstripe" Clock/Data			**"Wiegand" D0/D1**		
1	Input 1 (Active Low)			Input 1 (Active Low)		
2	Input 2 (Active Low)			Input 2 (Active Low)		
3	Clock	Open collector "Active low"	maximum 10 mA	D0	Open collector "Active low"	maximum 10 mA
4	Data			D1		
5	CLS			Internally connected		
6	GND					
7	+Ub (8 to 30 V / DC)					

Terminal specification: Lift system / connection diameter 0.3 – 1.5 mm / stripping length 6 mm

ST3 connection terminal
(5-pin connection terminal)
I²C bus, power supply for external devices (e.g. I/O - Box)

PIN No.	Function	Meaning
1	GND_{out}	Power supply for external devices e.g. I/O - Box
2		
3	$+Ub_{out}$	
4	SCL	I²C bus interface
5	SDA	"Master" function depends on the firmware

Terminal specification: Lift system / connection diameter 0.4 – 1.4 mm / stripping length 5 mm
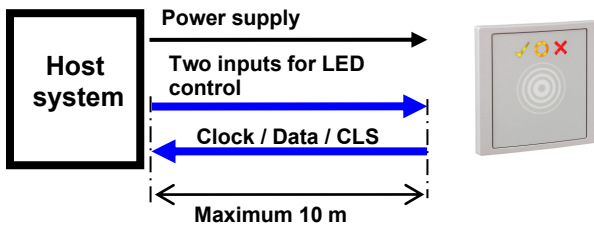
OEM reading module VOXIO

DIP Switch

DIP-Switch OFF ◄—► ON

Rear module with interface (front view)

DIP switches (8 Switches, S1 to S8)					
Device address, mode					
	Function				
DIP switch	**RS485**	**RS232**		**"Magstripe" Clock/Data**	**"Wiegand" D0 / D1**
S1	Depends on the firmware, e.g. setting of the reader address	Depends on the firmware, e.g. operating mode, LED functions			
S2					
S3					
S4					
S5					
S6	OFF	must be fixed set to OFF (internal function)			
S7	OFF	no bus terminating resistor	no function		
	ON	120 Ohm bus terminating resistor			
S8	OFF	Normal operation			
	ON	Voltage for reader board (front module) switched off, for pulling out / inserting the connecting cable when operating voltage is applied to the interface			

OEM reading module VOXIO

Configuration Possibilities

"Magstripe" Clock/Data

Power supply

Two inputs for LED control

Clock / Data / CLS

Maximum 10 m

Host system

"Wiegand" D0/D1

Power supply

Two inputs for LED control

D0 / D1

Maximum 10 m

Host system

RS232 Asynchronous

Power supply

Two inputs for LED control

RxD / TxD / RTS

Maximum 10 m

Host system
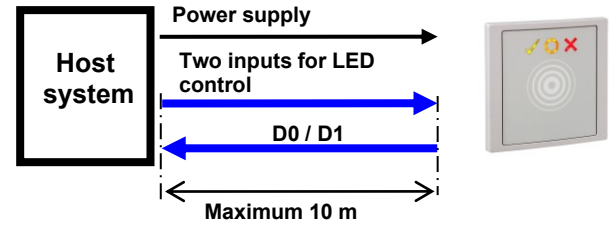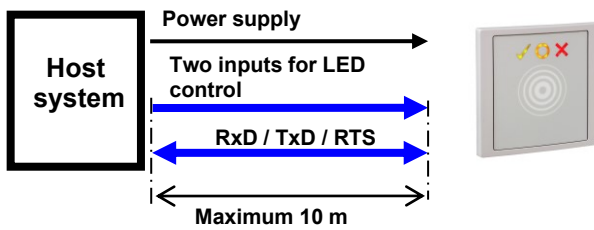
RS485 Bus (2 - wire)
With 2 inputs
(e.g. door monitoring)

Host system

Power supply

RS 485 Bus

Two inputs

1

16

Two inputs
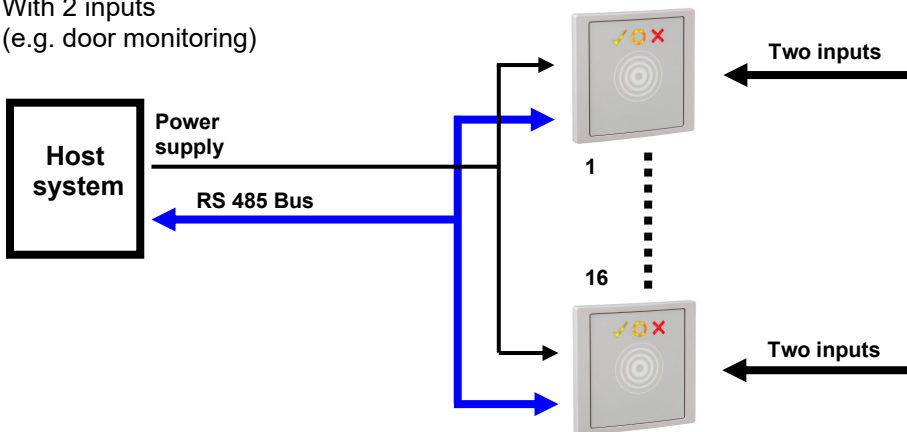
RS485-Bus (2 - Wire)
With external I/O - Box with 2 relay outputs and 2 inputs
(e.g. for alarm, door monitoring and actuation of the door opener)

Host system

Power supply

RS 485 Bus

1

16

I/O - Box
(Accessories)

Power supply

I^2C Bus

Maximum 5 m

Two inputs

Two outputs (potential-free relay contacts)

I/O - Box
(Accessories)

Power supply

I^2C Bus

Maximum 5 m

Two inputs

Two outputs (potential-free relay contacts)
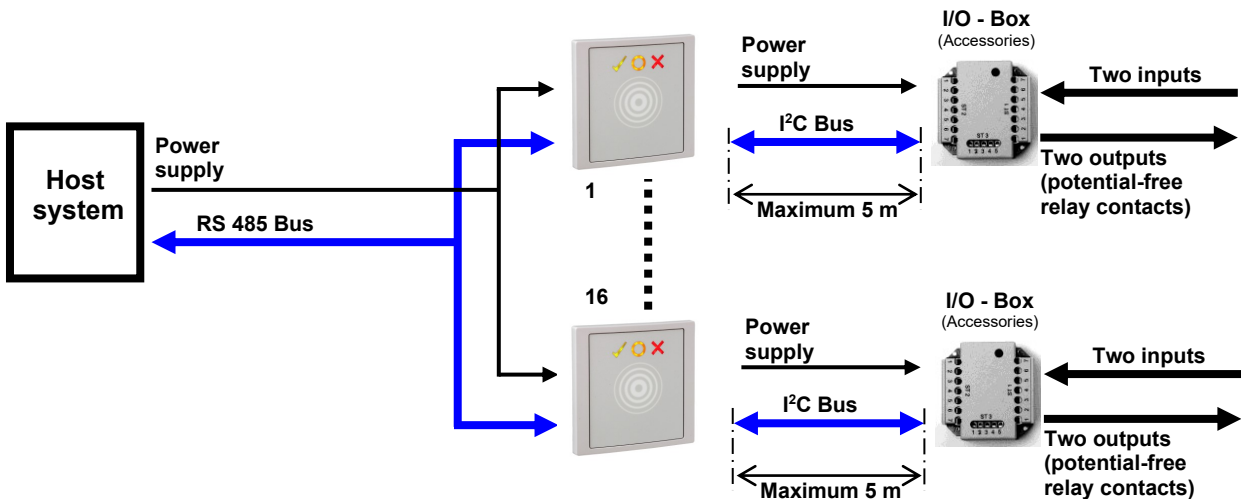
OEM reading module VOXIO

Construction

Flush mounted version
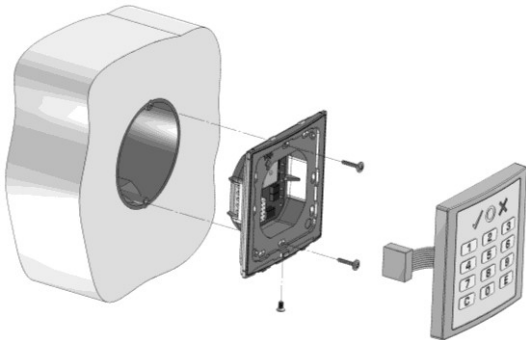
**Wall mounted version
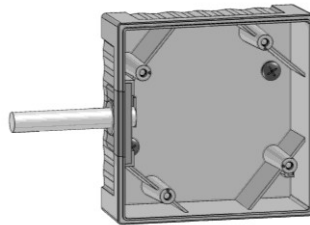(cable entry through the wall-mounted housing)**
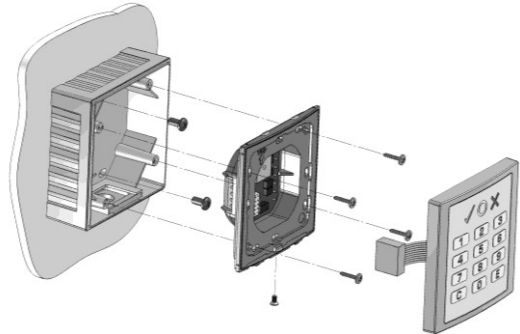
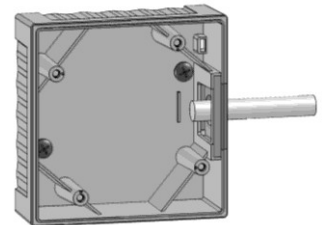**Other cable entry options in case of wall mounting**
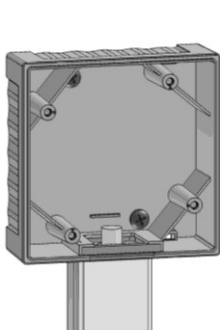
With cable duct
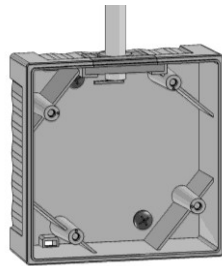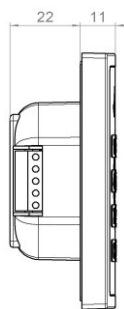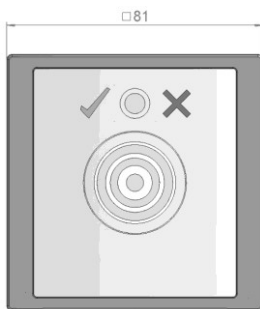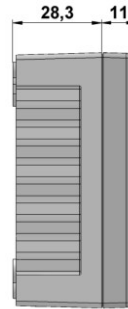

Cable from above

Cable from the left

Cable from the right

Dimensions

Standard

Flush mounted version

Surface mounted version

OEM reading module VOXIO

Mounting

Mounting preparations: **Install the connection cables for the interface, power supply and, if necessary, for the separate I/O - Box and prepare to connect them.**
In order to install the reader, first the front module must be detached from the rear module.

(1) If necessary, remove the securing screw

(2) Insert any cylindrical object with a maximum diameter of 3 mm vertically from below into the openings and push it upwards as far it will go in order to unlock the front module.

(3) Fold away the lower part of the unlocked front module approx. 1 cm to the front.

(4) Slightly push the front module upwards until it is released from the upper securing brackets.

(5) Open the front module to the front.

(6) Remove the plug-and-socket connection on the pillar connector in the rear module

**Attention!!!
Don't pull on the red plug on the cover !**
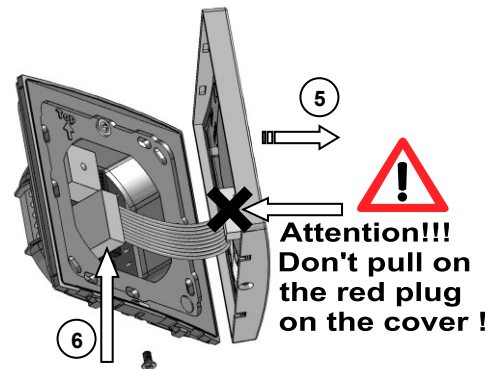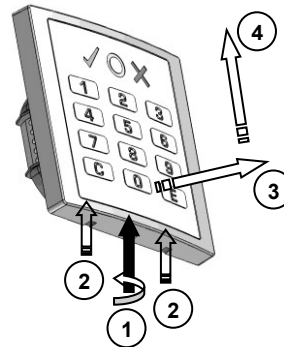
Mounting the rear module: **Before the rear module with the integrated interface is mounted, it must be wired according to the pin allocation.**
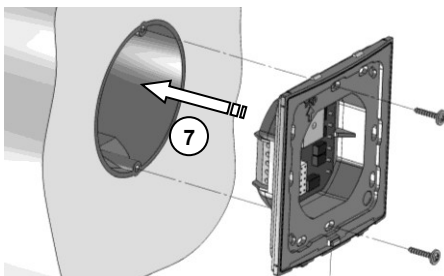
ℹ️   **The suitable connection plan is enclosed to the reader**
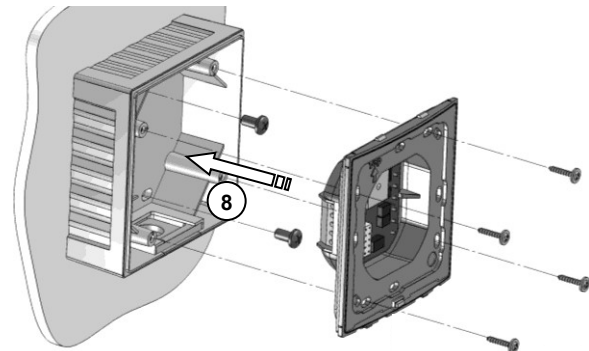
⚠️ **Attention !**   **The wiring of the rear module must be done under no-voltage conditions. The operating voltage may only be turned on after the reader has been completely installed.**

(7) Flush-mounted model
After wiring the rear module, screw it on a DIN installation socket with a distance of 60 mm between the screws. Use the provided screws.

(8) Wall mounted model
Mount the wall mount housing on the wall. After wiring the rear module, screw it on the wall-mounted housing. Use the provided screws.

OEM reading module VOXIO

DIP switches configuration: **The DIP switches must be set according to the version of interface and the firmware function**.

| ℹ️ | **The suitable connection plan is enclosed to the reader and also includes the DIP switch configuration** |

(9) Set DIP switches 1 to 7 according to the interface used and the firmware function.

DIP switch 8
If operating voltage is applied to the rear module while it is open, then DIP switch 8 must be switched ON before sticking on the front module, i.e., the power supply for the reader electronics in the front module is deactivated.
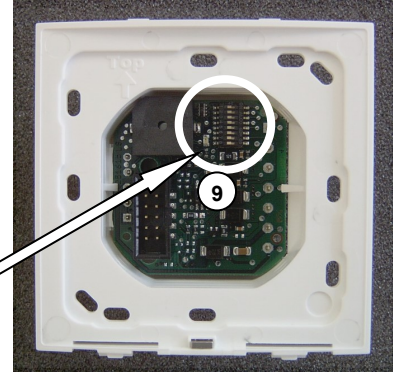
(10) Stick on the front module.
After the front module is plugged in the rear module and before the front module snaps onto the rear module, DIP switch 8 must be switched OFF again (power supply is activated for the reader electronics in the front module).

(11) Fix the front module on the rear module and hang it at the top in the two securing brackets

(12) Press the lower part of the front module towards the rear module until the locks on the left and right are completely engaged.
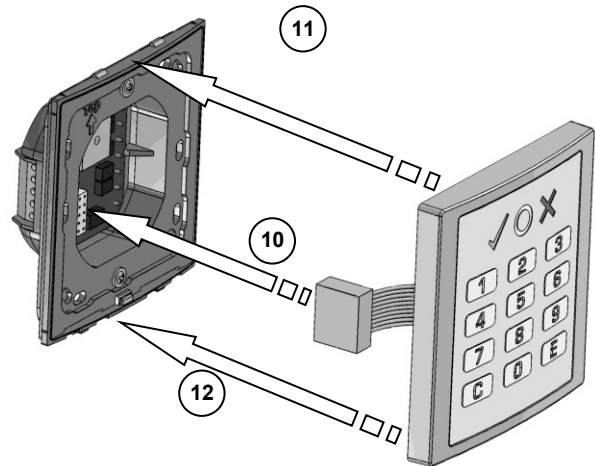
| ℹ️ | **You will hear - or also feel - a clear click when the lock is engaged properly.** |

(13) After the lock is properly engaged, screw in the securing screw again if necessary
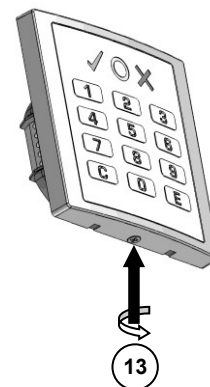
EG Conformity
The device complies with the essential legal requirements, if used for its intended use.
The EG-Declaration of Conformity can be received on request.

Care and cleaning instruction
The use of hard or sharp objects (rings, fingernails etc.) can cause scratches and damage the device.
Wipe the device with a soft lint-free cloth, or one that has been lightly dampened with water.
The use of caustic liquids such as benzene, thinners, alcohol, solvents, or any kind of abrasive cleaners will lead to surface deterioration and damage.