ASSEMBLY INSTRUCTIONS

SIEGENIA®
brings spaces to life

DRIVE

GENIUS 2.2

Electromechanical multi-point lock

Window systems

Door systems

Comfort systems

Content

1 About this documentation

1.1 Target group

This information is intended for fabricators, fitters and retrofitters.

The target group "fabricators" comprises all persons who carry out the following activities:

- purchase products from KFV or from retailers and fabricate them in door elements.

The target group "fitters and retrofitters" comprises all persons who carry out the following activities:

- install and repair KFV products in a building project
- install and repair door element that are equipped with KFV products in a building project
- retrofit door elements with KFV products

1.2 Product description

The GENIUS 2.2 is an electromechanical multi-point lock for the motorised locking and unlocking of doors.

These operating instructions are an integral part of the GENIUS 2.2 and must be accessible to the target group all the time.

1.3 Producer

KFV Karl Fliether GmbH & Co. KG
A company of the SIEGENIA GROUP
Siemensstraße 10
42551 Velbert

1.4 Dimensions

All dimensions are given in millimetres (mm).

1.5 Applicable documents

The following applicable documents about the GENIUS 2.2 must be observed:

- Quick info:

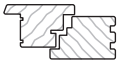
  https://www.siegenia.com/qr/service/genius2-2-b

- Operating instructions:

  https://www.siegenia.com/qr/service/genius2-2-b

1.6 Symbols used

The following icons are used in this document:

	general warning symbol
	useful information or advice
	Refer to the corresponding point
	Elementary material PVC
	Elementary material Timber
	Elementary material Aluminium

The following symbols for the LEDs are used in this document:

	LED off
	LED lights up
	LED flashes
	LED flashes alternatively in the indicated colours

2 Safety

2.1 Required knowledge and capabilities of the target groups

We assume and require that fabricators possess the following knowledge and skills:

- knowledge of the regulations concerning occupational safety and accident prevention
- comprehension of technical correlations according to state-of-the-art science and technology
- knowledge of professional work steps
- knowledge of the applicable standards and directives
- knowledge of applicable testing regulations
- knowledge and skills with regard to material processing of the respective material (timber, PVC, aluminium)
- knowledge and skills with regard to the professional use of tooling, machines and systems for the production of door elements
- knowledge and skills with regard to the professional fixing of technical elements
- knowledge in functional testing and operation of door elements
- knowledge of the requirements of profile system providers

if the door elements are equipped with an electromechanical drive, the following knowledge and skills are presumed and required:

- knowledge and skills with regard to the professional fabrication of electrical components

We assume and require that fitters and retrofitters possess the following knowledge and skills:

- knowledge of the regulations concerning occupational safety and accident prevention
- comprehension of technical correlations according to state-of-the-art science and technology
- knowledge of professional work steps
- knowledge of the applicable standards and directives
- knowledge and skills with regard to the professional use of electrical and mechanical tooling
- knowledge and skills with regard to the professional fixing of technical elements
- knowledge and skills with regard to the retrofit of mechanical security technology on window or door elements

if the door elements are equipped with an electromechanical drive or a sensor, the following knowledge and skills are presumed and required:

- knowledge and skills with regard to the professional fabrication of electrical components
- knowledge and skills with regard to the work steps, connecting electrical components, commissioning and functional testing

KFV offers training courses for the acquisition of some of the required knowledge and skills. Contact your KFV sales consultant in case of requirement.

2.2 Intended use

- The GENIUS 2.2 is suitable for installation in timber, aluminium, steel and PVC entrance doors.
- Use the GENIUS 2.2 as shown below:
  - with a non-restrictive cylinder in accordance with DIN 18252 and the designation „FZG“
  - in vertical installation
  - in a technically sound condition
  - only with original KFV products and accessories
- Do not use the GENIUS 2.2 as shown below:
  - for escape doors in accordance with EN 179 or EN 1125
  - in doors for wet rooms or rooms in which the air contains aggressive or corrosive components
- Do not interfere with and/or make any modifications to the GENIUS 2.2.
- Foreign objects and/or materials which impede or prevent proper use must not be placed within the opening range, the locking system or the striker plates.
- Locking elements must not be misused to hold the door open.

2.3 Transport

- The transit support provided must remain in the main lock during the transport of a pre-assembled door without cylinder lock.
- In the installed and non-installed status of the multi-point lock, ensure that the locking elements are in the release position.In the installed and non-installed status of the multi-point lock, ensure that the locking elements are in the release position.
- Multi-point locks are sensitive components and must therefore be handled with care. For example, they must not be thrown, hit hard or bent.
- Do not carry the door by the lever handle or hardware when transporting it.

2.4 Protective equipment

You will need the following protective equipment when assembling a multi-point lock:

- safety footwear
- protective gloves
- protective goggles

2.5 Safety notes

- All work on the 230 V AC mains power supply must be carried out in compliance with the current German VDE regulations (e. g., VDE 0100) and any relevant country-specific requirements.
- All-pole safety isolation should be used when routing the network connection cable on site.
- Wiring the unit incorrectly can irreparably damage its electronic components.
- If energy-carrying cables are routed in parallel to data cables (ISDN, DSL, etc.), this could lead to interference e.g. in the speed of the data transmission. Only use the shielded original KFV cable.

2.6 Structure of the warning notes

The warning notes in these instructions

- when observed, provide protection against potential personal injury and material damage,
- classify the level of danger by the signal word,
- designate the danger of personal injury via the hazard sign,
- define the type and source of danger,
- show measures to prevent danger and prohibit specific behaviour.

The warning notes are set up according to the following principle:

⚠ SIGNAL WORD

Type and source of danger

explanation of the type and source of danger

- measures for the prevention of the danger

the hazard sign designates warning notices that warn of personal injury.

The type and source of the danger defines the cause of the hazard. The potential consequences of non-observation of warning notices are e.g. danger to life due to electric shock.

Under measures, actions are listed that must be carried out for the prevention of hazards or which are prohibited for the prevention of a hazard.

2.7 Warning notes used

⚠ DANGER

The signal word "Danger" designates an immediately threatening danger. If this danger is not prevented, it leads to death or severe injuries.

⚠ WARNING

The signal word "Warning" designates a potential danger. If this danger is not prevented, it could lead to death or severe injuries.

⚠ CAUTION

The signal word "Caution" designates a potentially hazardous situation. If this hazardous situation is not prevented, it could lead to minor or moderate injuries.

NOTICE

The signal word "Notice" defines actions for the prevention of material damage. The observation of these notes prevents damage to the components.

Information, advice etc.

This symbol indicates special features and designates facts that require increased attention.

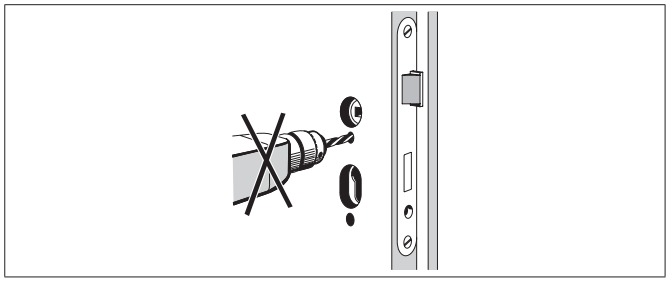
2.8 Foreseeable improper use

NOTICE

Damage to the main lock

The main lock of the multi-point lock could be damaged if you drill through the door leaf in the area of the gear box.

- Do not drill into the door leaf in the area of the gear box.

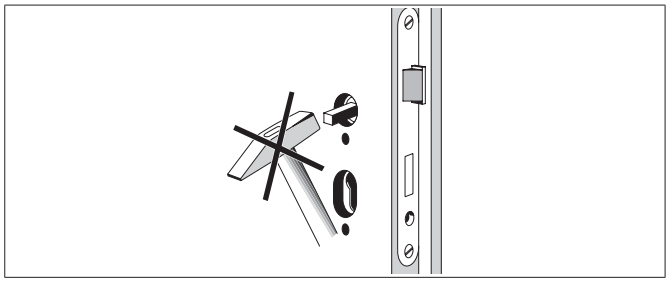


NOTICE

Damage to the main lock

The main lock of the multi-point lock could be damaged if the square spindle of the lever handle is knocked through the locking groove by force.

- Do not knock the square spindle of the lever handle into the locking groove with a tool (e. g. with a hammer) using excessive force.

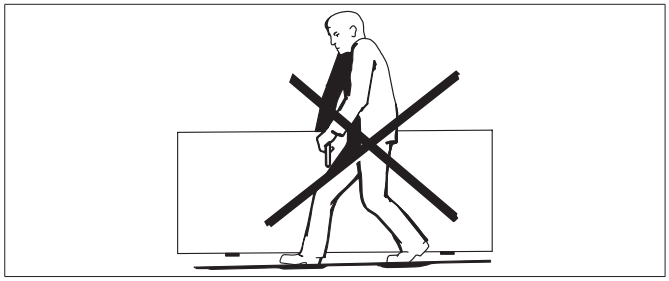


NOTICE

Damage to the lock

The door leaf must not be carried using the lever handle as a grip.

- Use suitable aids to transport the door leaf.

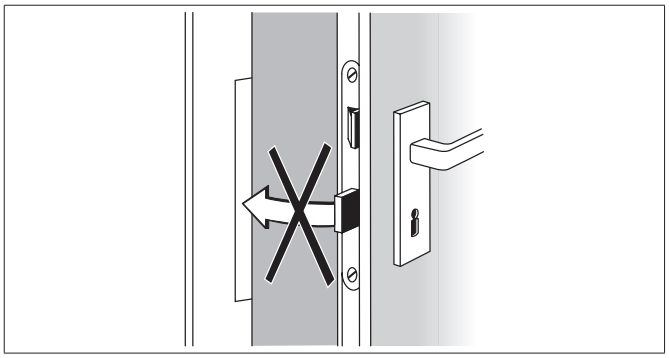


NOTICE

Damage to the lock and the frame parts

The lock can be damaged if the locking elements are in the locking position when the door is open.

- Bring the locking elements into the release position with the door open.

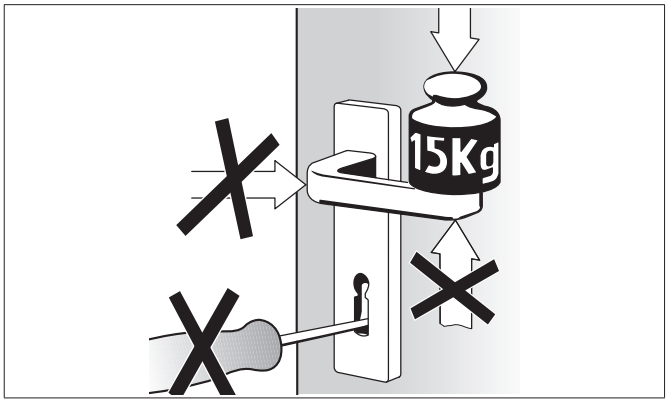


NOTICE

Damage to the lock

The lock could be damaged if the lever handle is not loaded in the normal direction of rotation and loads of more than 150 N are applied to the lever handle in the direction of activation or if the lock is activated with foreign objects.

- Only load the lever handle in the normal direction of rotation and do not apply loads of more than 150 N in the direction of activation and only lock the lock or multi-point lock with the pertinent key.

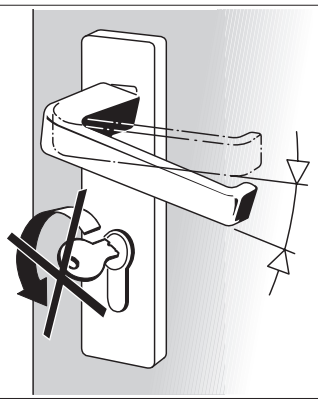


NOTICE

Damage to the main lock

The main lock can be damaged if the lever handle and key are operated at the same time.

- Never activate the key and the lever handle simultaneously.

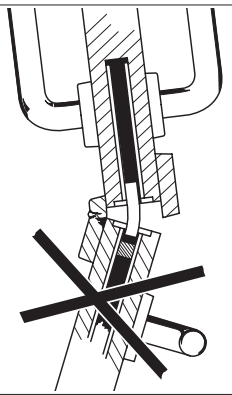


NOTICE

Damage to the multi-point lock

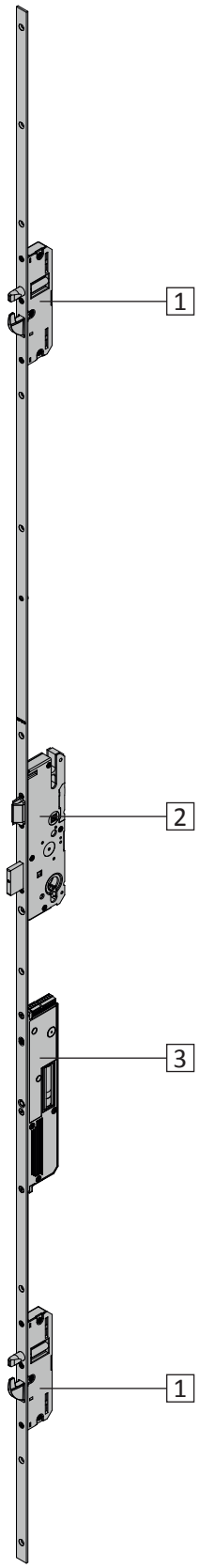
The multi-point lock of double-sash doors could be damaged by forcing the inactive sash open.

- Double-sash doors must not be forced open using the inactive sash.



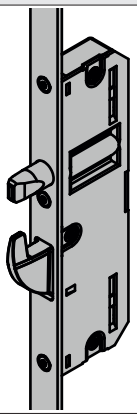
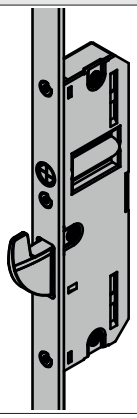
3 Components and variants

GENIUS 2.2



Components	
1	**Auxiliary boxes**
2	**main lock**
3	**Electromechanical drive**

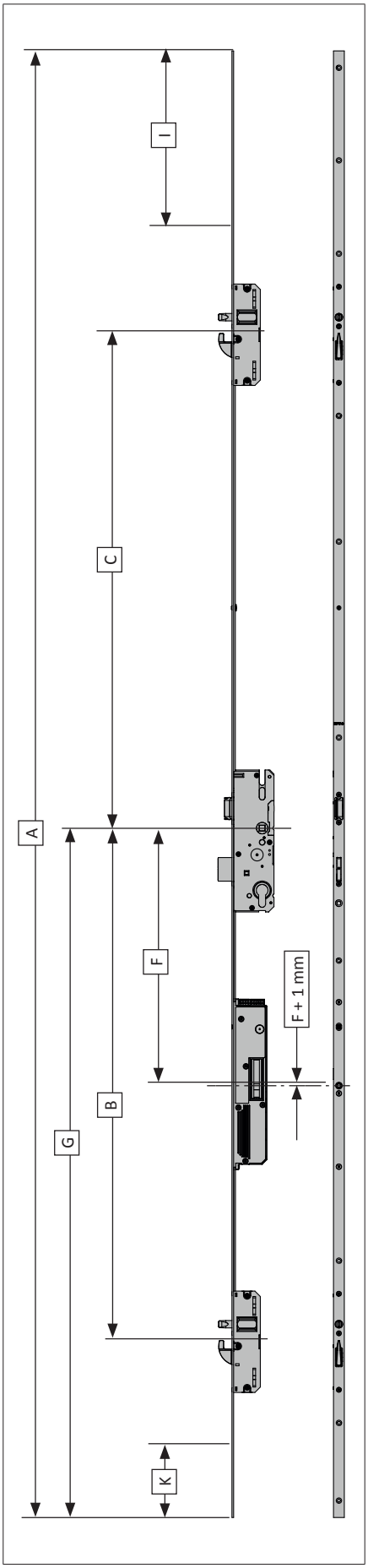
Variants of auxiliary boxes 1

GEN AS 2600	GEN AS 2500	GEN AS 2300
		

Variants of functions 3

Functions	GENIUS version			
	EA	EB	CA	CB
Opening via the profile cylinder	●	●	●	●
Opening via an E-button (optional)	●	●	●	●
Opening via an access control system (optional)	●	●	●	●
SI-BUS interface	●	●	●	●
Comfort function: open via lever handle on the inside of the door			●	●
Switchover of day / night mode with external clock timer		●		●
Feedback contact for external systems such as motorised door drive or alarm systems.		●		●

3.1 Size variants and dimensions

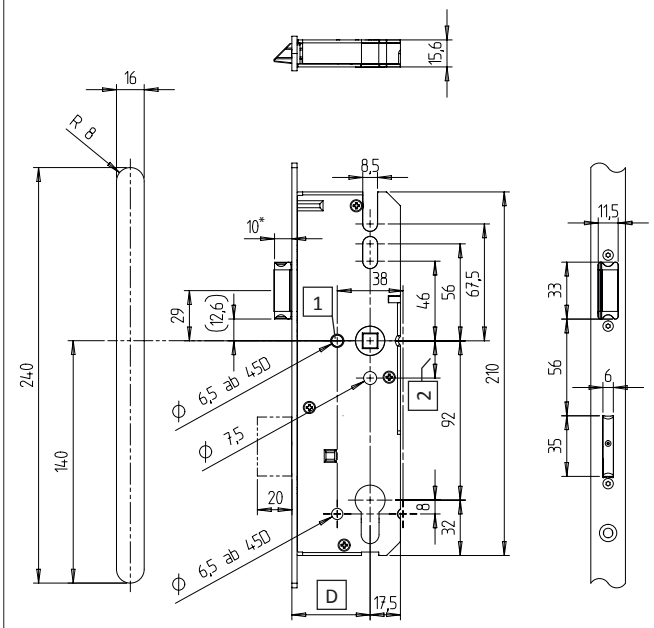


Size variants	A	B	C	F	G	I	K	Suitable for sash rebate height
PZ dimension 92								
B296*	2170	760	355	380	1020	**665**	**130**	1505 - 1754
B298	2170	760	605	380	1020	**415**	**130**	1755 - 1880
B001	2170	760	730	380	1020	**290**	**130**	1881 - 2170
B003	2400	760	980	380	1020	**270**	**130**	2171 - 2400
B039*	1500	760	355	380	952			1505 - 1754
B041	1700	760	605	380	952			1755 - 1880
B166	1855	760	730	380	952			1881 - 2170
B253	2170	760	980	380	952			2171 - 2400
K038	1629	760	605	380	892			1755 - 1880
K002	1754	760	730	380	892			1881 - 2170
K054	2004	760	980	380	892			2171 - 2400
PZ dimension 85								
K010	2400	727	721	374	1050	**500**	**190**	1900 - 2400
PZ dimension 88								
B001	2170	756	734	377	1016	**290**	**130**	1881 - 2170
PZ dimension 72								
B001	2170	760	730	380	1020	**290**	**130**	1881 - 2170
B002	2170	760	730	380	1050	**260**	**160**	1911 - 2170
B166	1855	760	730	380	952			1881 - 2170
K007	1847	822.5	730	380	970			1881 - 2400

*	= Not available with hole group "T0"
Dimensions I + K	= can be shortened
F	= Middle of GENIUS to middle of lever handle square spindle; middle of magnetic sensor = F + 2 mm

3.1.1 Dimensions of the main lock cases

Main lock type K, backset 35-55, PZ dimension 92



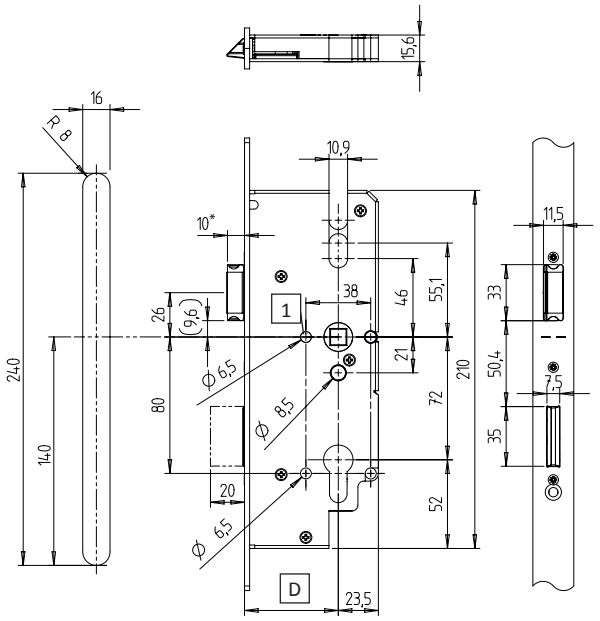
[1] = omitted for multi-point locks in versions CA and CB

[2] = 21.5 mm for version EA / 21.0 mm for version CA and CB

* = for latches type FS, the dimension is 12 mm

Backset [D]
35
40
45
50
55

Main lock type F, backset 55-80, PZ dimension 72

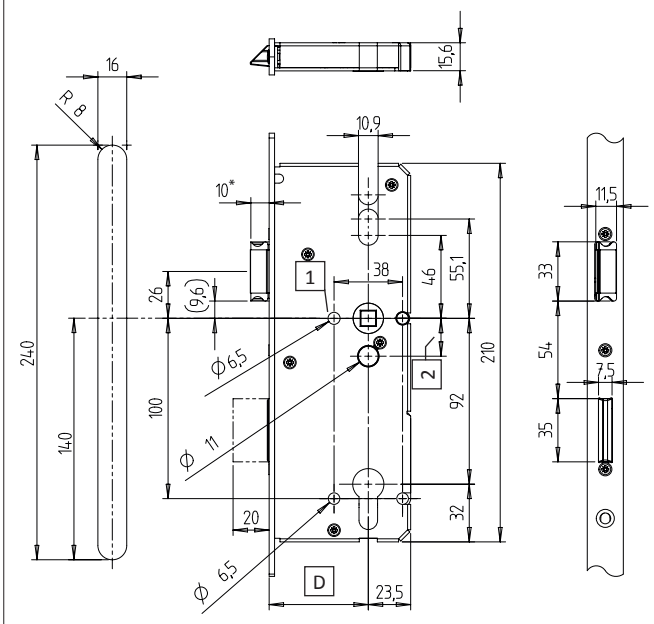


[1] = omitted for multi-point locks in versions CA and CB

* = for latches type FS, the dimension is 12 mm

Backset [D]
55
65
80

Main lock type G, backset 55-80, PZ dimension 92



[1] = omitted for multi-point locks in versions CA and CB

[2] = 21.5 mm for version EA / 21.0 mm for version CA and CB

* = for latches type FS, the dimension is 12 mm

Backset [D]
55
65
80

NOTICE

Damage to the main lock

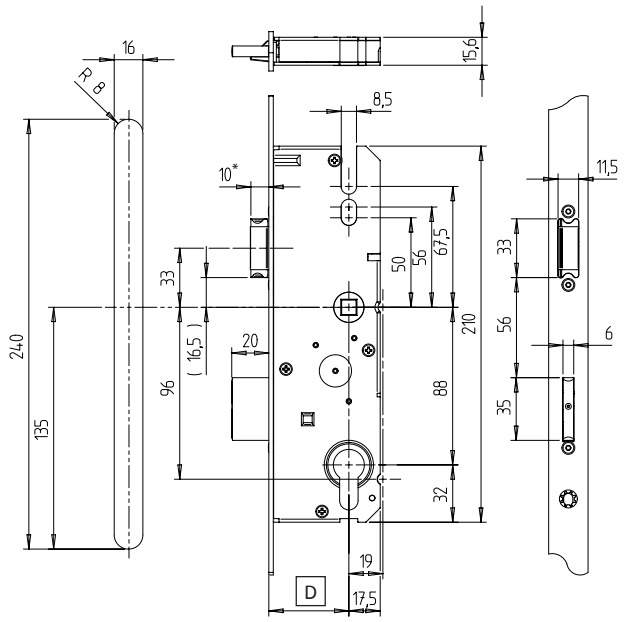
If you drill through the lock case of multi-points locks versions CA and CB, the main lock of the multi-point lock can be damaged and its function impaired.

- Do not drill holes in the area of the lock case of multi-point locks versions CA and CB.

GENIUS 2.2, Electromechanical multi-point lock

These main lock types can only be delivered in the EA and EB version.

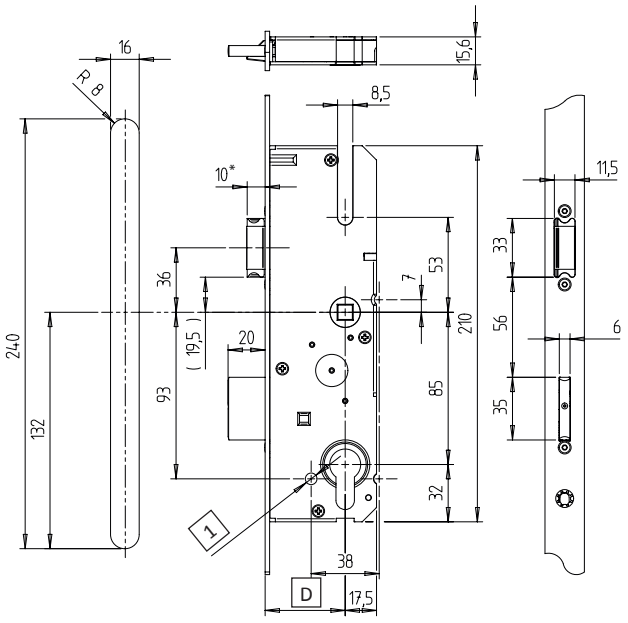
Main lock type K, backset 35-55, PZ dimension 88



Backset [D]
35
40
45
50
55

* = for latches type FS, the dimension is 12 mm

Main lock type K, backset 35-50, PZ dimension 85

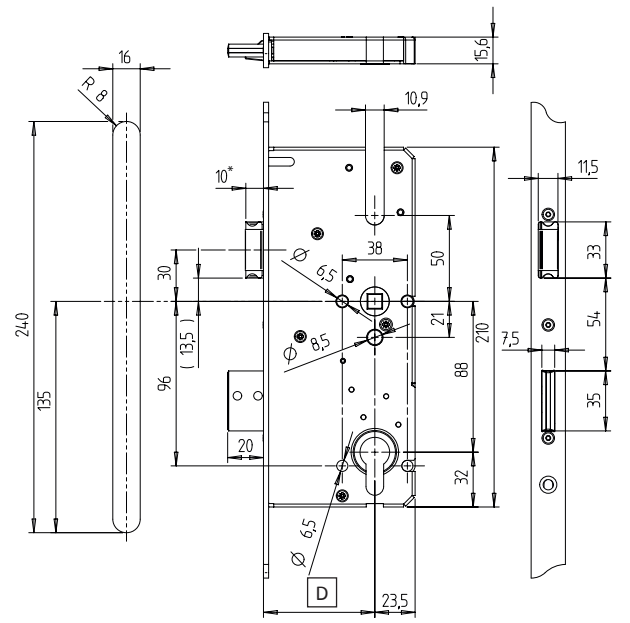


Backset [D]
35
40
45
50

[1] = Ø 6.5 from backset 45

* = for latches type FS, the dimension is 12 mm

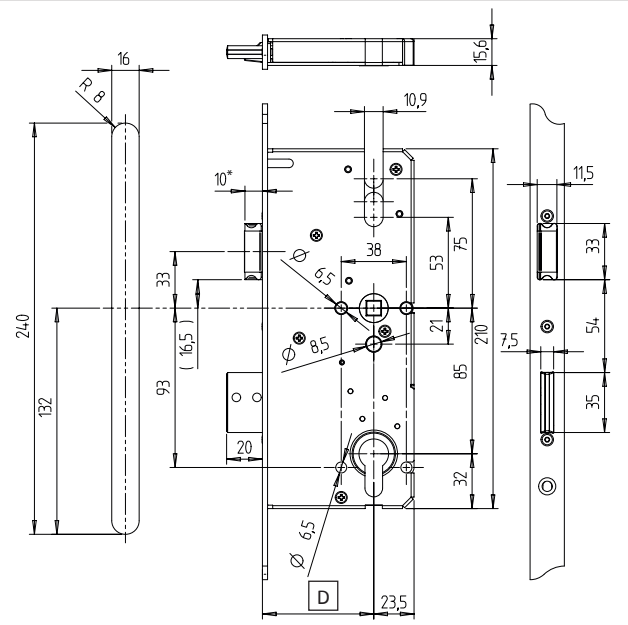
Main lock type G, backset 55 and 65, PZ dimension 88



Backset [D]
55
65

* = for latches type FS, the dimension is 12 mm

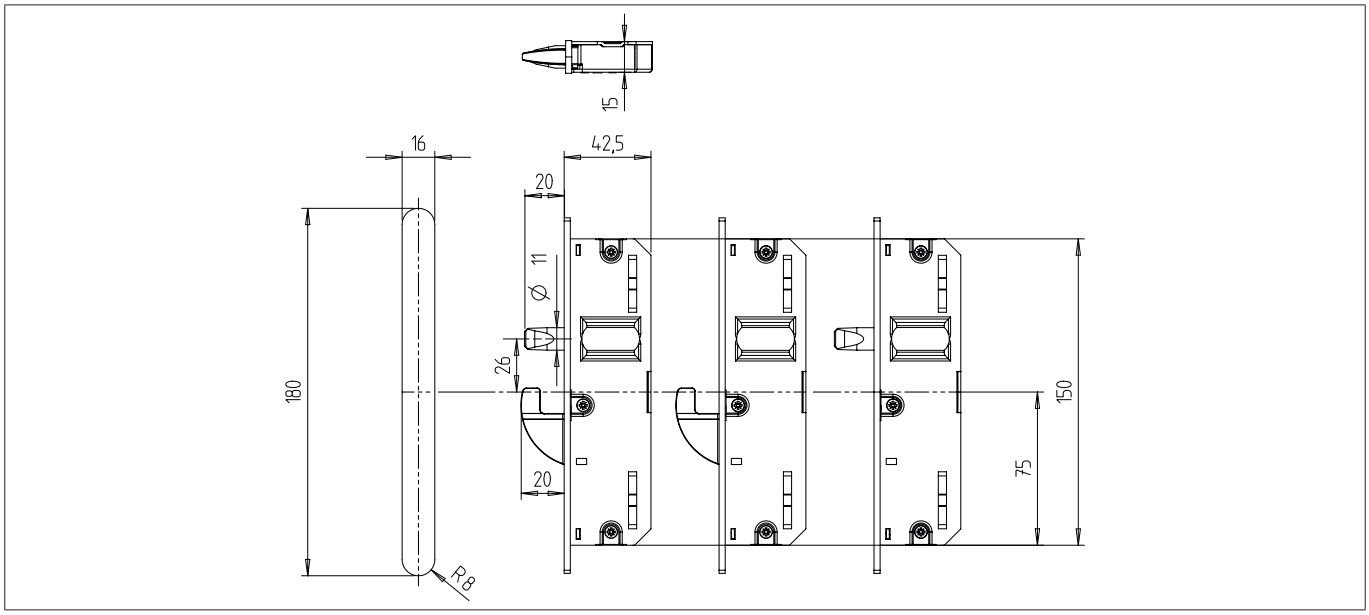
Main lock type G, backset 55 and 65, PZ dimension 85



Backset [D]
35
50

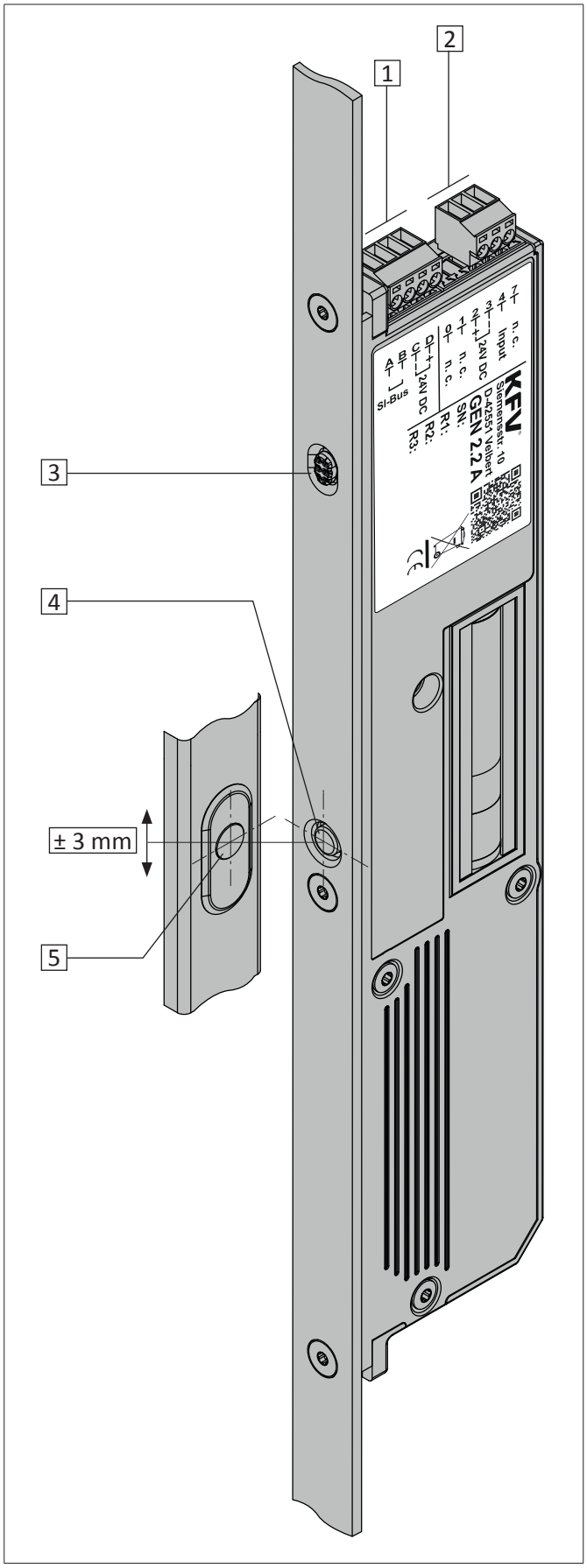
* = for latches type FS, the dimension is 12 mm

3.1.2 Dimensions of the auxiliary boxes



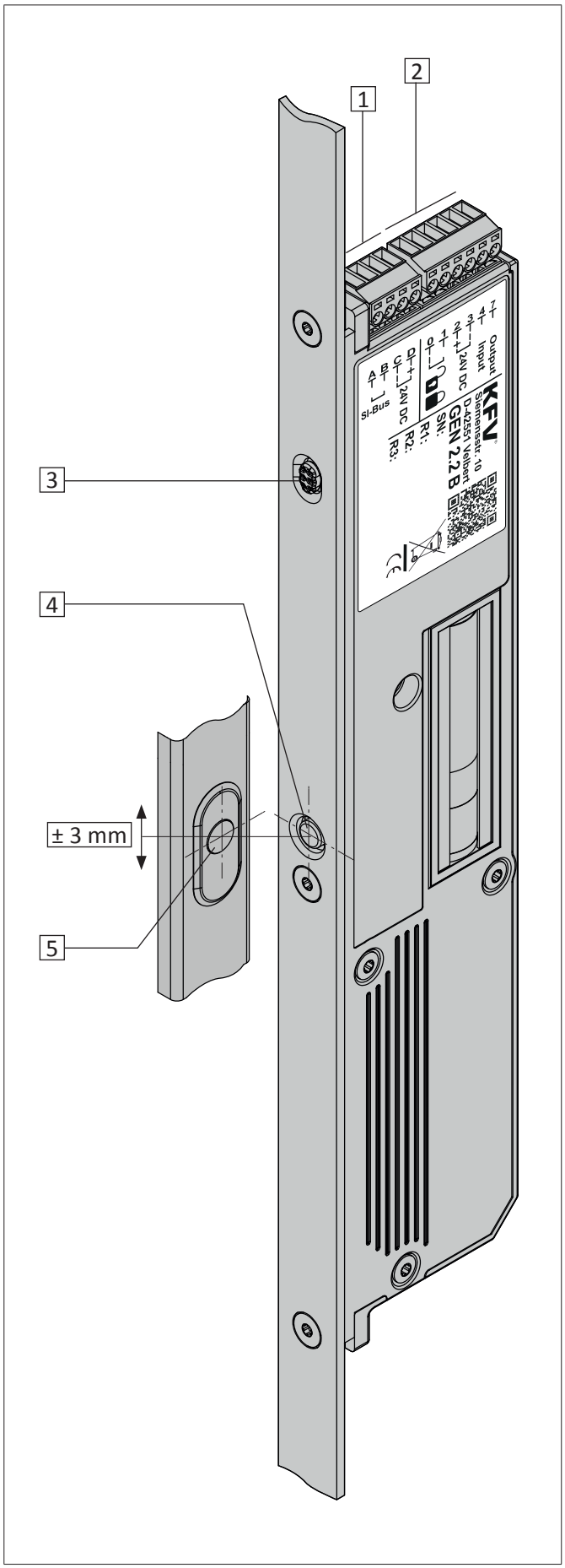
4 Functions

4.1 Connections and operating elements GENIUS 2.2 (EA / CA)



Item	Function
[1]	**SI-BUS connection:** terminal A/B: data interface SI-BUS terminal C: supply voltage (-) GND terminal D: supply voltage + 24 V DC
[2]	**Analogue connection:** terminal 2: supply voltage + 24 V DC terminal 3: supply voltage (-) terminal 4: input for external unlocking signal at + 24 V DC ≥ 1 seconds = opening process
[3]	Button with menu LED for menu navigation to make all adjustments of the GENIUS 2.2 A.
[4]	• Status LED to indicate the current operating status • Magnetic sensor
[5]	**Magnet (frame side):** the magnet must be positioned centrally in relation to the magnetic sensor [4] (permissible vertical tolerance ± 3 mm)

4.2 Connections and operating elements GENIUS 2.2 (EB / CB)



Item	Function
[1]	**SI-BUS connection:** terminal A/B: data interface SI-BUS terminal C: supply voltage (-) GND terminal D: supply voltage + 24 V DC
[2]	**Analogue connection:** terminal 0/1: mode of operation changeover day/night mode terminal 2: supply voltage + 24 V DC terminal 3: supply voltage (-) terminal 4: input for external unlocking signal at + 24 V DC ≥ 1 seconds = opening process terminal 7: feedback function for the locking status indicator (adjustable via menu)
[3]	Button with menu LED for menu navigation to make all adjustments of the GENIUS 2.2 B.
[4]	status LED to indicate the current operating status; magnetic sensor
[5]	**Magnet (frame side):** the magnet must be positioned centrally in relation to the magnetic sensor [4] (permissible vertical tolerance ± 3 mm)

4.3 Cable and wiring diagram

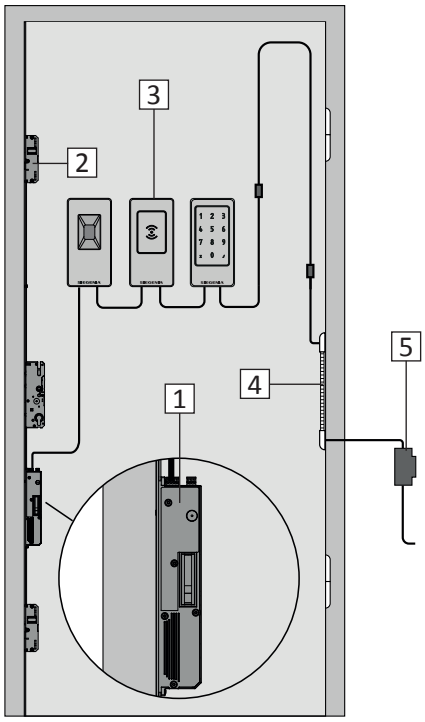
⚠ WARNING

Electric shock or fire due to exposed electrical components

You could suffer an electric shock if you touch the electrical components. Flying sparks could cause a fire. You could suffer life-threatening injuries caused by electric shock or fire.

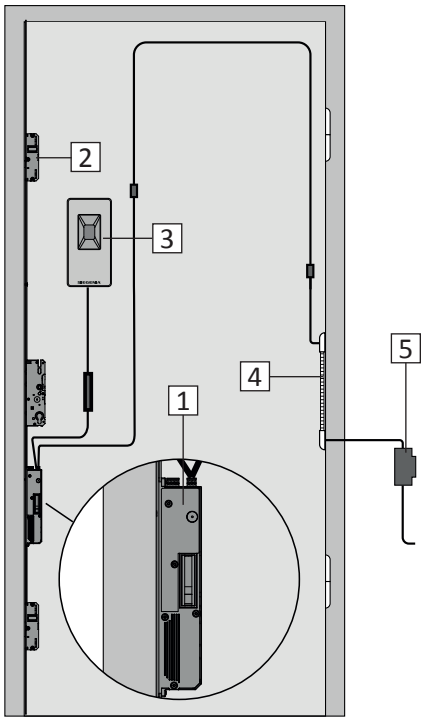
- Switch off unit prior to work.
- Pull the mains plug out of the socket.
- With a fixed connection at the 230-V AC mains power supply, switch off the safety device at the mains connection.

GENIUS 2.2 via SI-BUS connection



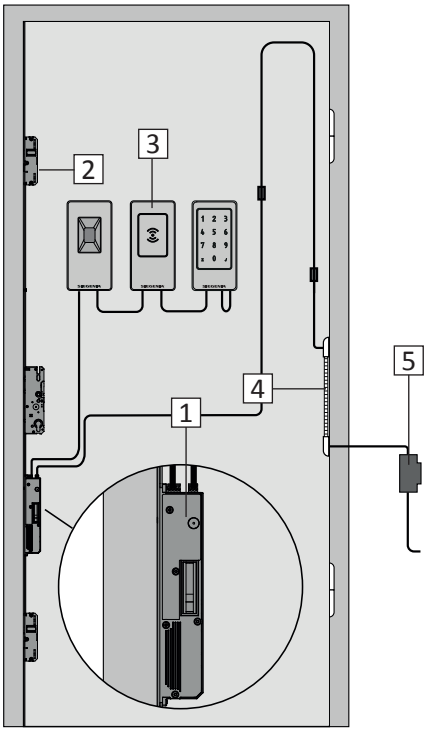
Item	Name
1	**Electromechanical drive**
2	Multi-point lock AS 2x00
3	Access control system with SI-BUS
4	Cable transfer
5	Frame-integrated or rail nut power supply, voltage via SI-BUS

GENIUS 2.2 via analogue connection



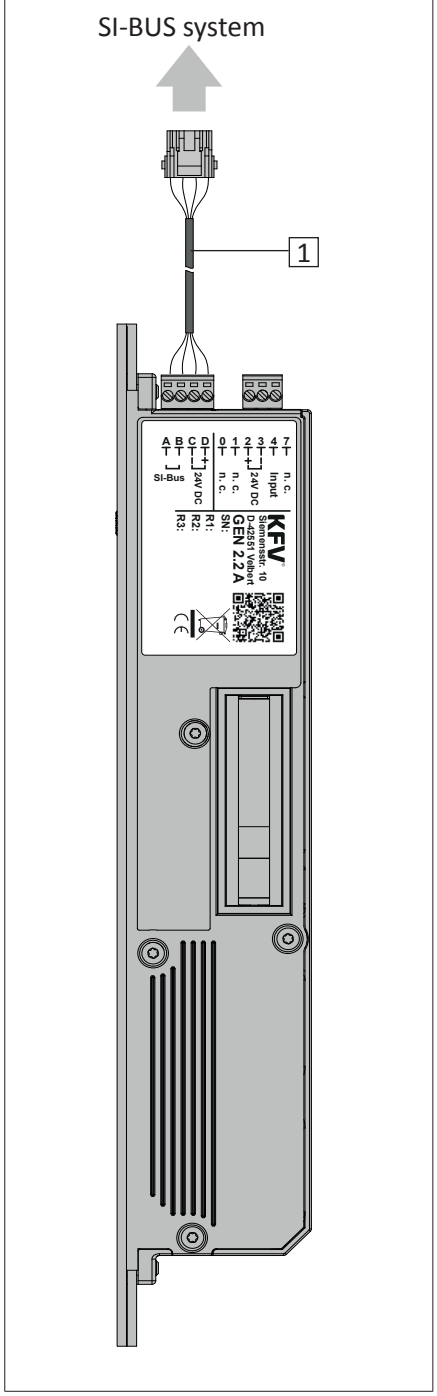
Item	Name
1	**Electromechanical drive**
2	Multi-point lock AS 2x00
3	Access control system (analogue) e. g. ACS from third party producer
4	Cable transfer
5	Frame-integrated or rail nut power supply, voltage via analogue connection

GENIUS 2.2 via SI-BUS connection and power supply via analogue connection

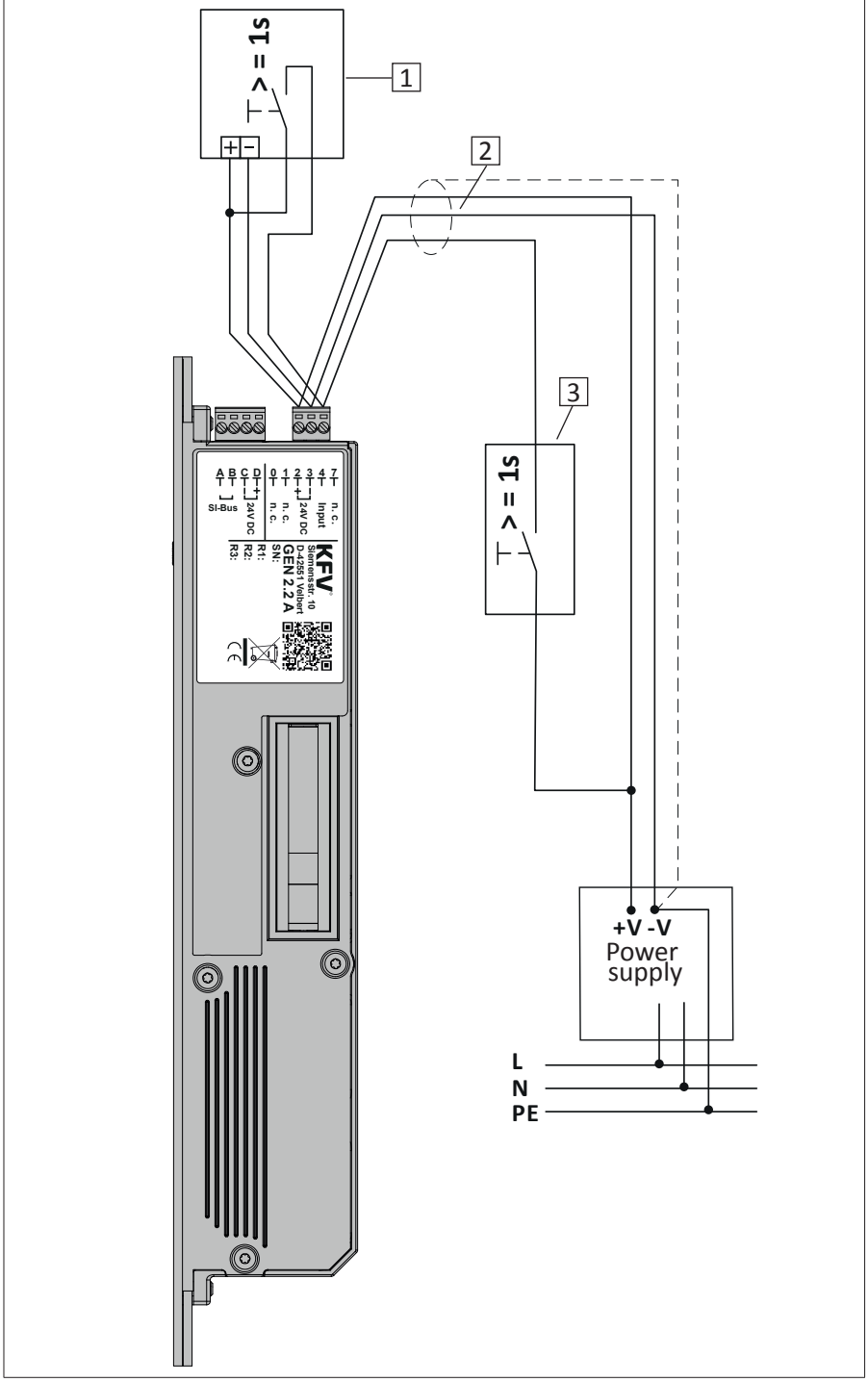


Item	Name
1	**Electromechanical drive**
2	Multi-point lock AS 2x00
3	Access control system with SI-BUS
4	Cable transfer
5	Frame-integrated or rail nut power supply, voltage via analogue connection

SI-BUS connection GENIUS 2.2 (EA / CA)



Analogue connection GENIUS 2.2 (EA / CA)

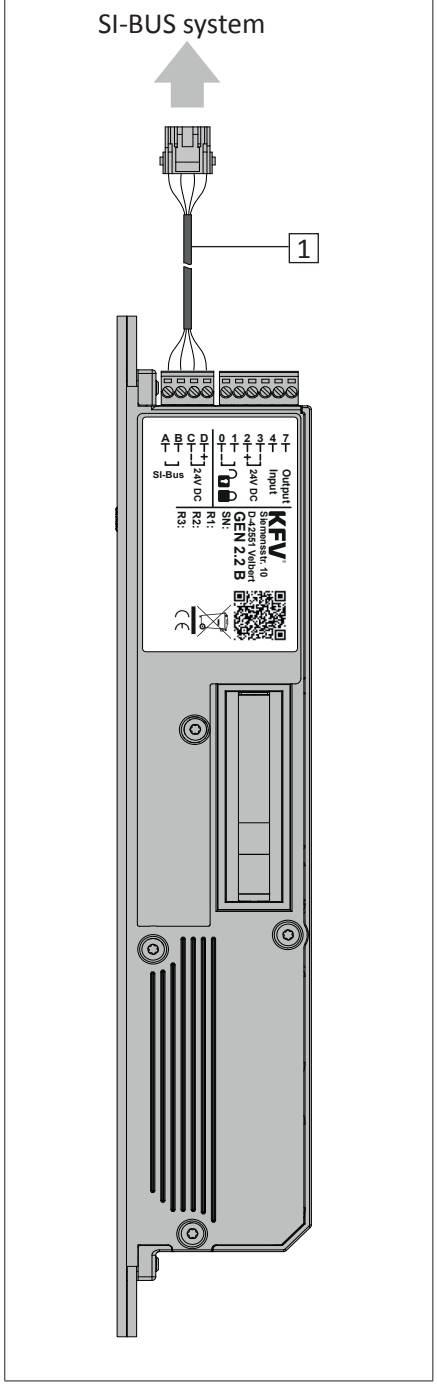


Item	Name
1	SI-BUS adapter cable

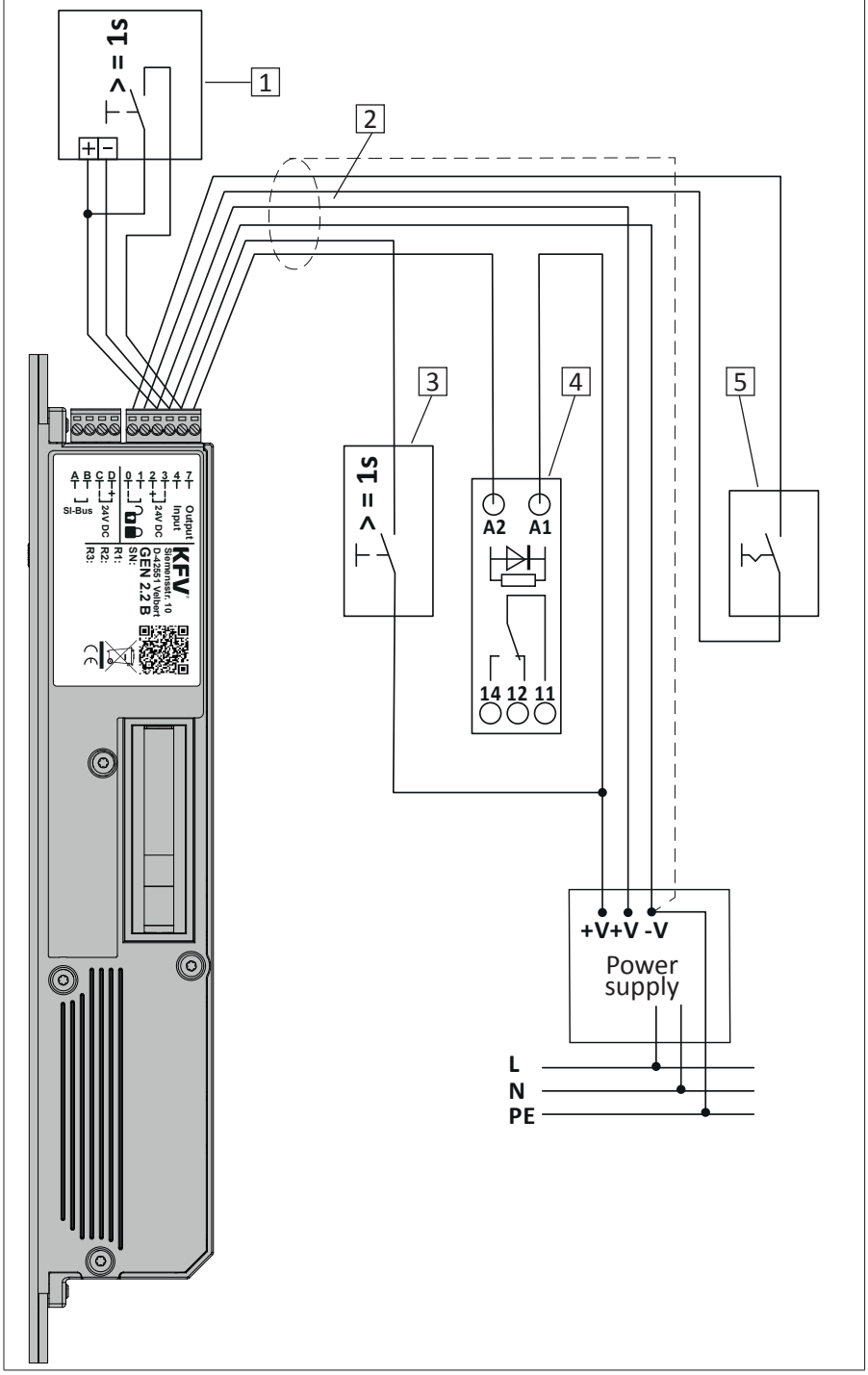
Item	Name
1	Unlocking via analogue access control system (optional)
2	Feed (shielded)
3	Optional external unlocking (e.g. button or intercom system etc.)

GENIUS 2.2, Electromechanical multi-point lock

SI-BUS connection GENIUS 2.2 (EB / CB)



Analogue connection GENIUS 2.2 (EB / CB)



Item	Name
1	SI-BUS adapter cable

Item	Name
1	Unlocking via analogue access control system (optional)
2	Feed (shielded)
3	Optional external unlocking (e.g. button or intercom system etc.)
4	Coupling relay 24 V DC (optional) for feedback contact
5	External switch or clock timer (optional) for automatic switchover day / night operation (optional)

5 Installation

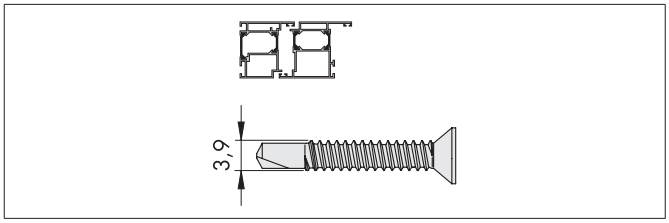
5.1 Installation conditions and requirements

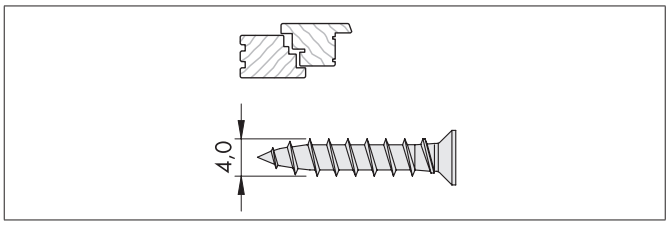
Local building laws and regulations must be observed before and during door installation in addition to the following requirements and conditions:

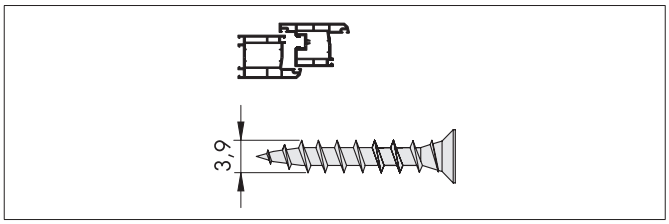
- before installing the multi-point lock, check the dimensional accuracy of the door and the door frame. The multi-point lock must not be installed if the door or the frame is warped or damaged.
- Surface treatment of the door and door frame must take place before the multi-point lock is installed. Subsequent surface treatment can reduce the functional capacity of the multi-point lock.
- Observe the specified positions and sizes for all milling and drilling dimensions within the defined tolerances. Observe the horizontal and vertical adjustment accurately.
- Remove any splinters from routed pockets after milling.
- Do not overtighten the screws or insert them at an angle.
- Once the multi-point lock is installed, do not perform mechanical work on the door (such as drilling or milling).
- Do not drill into or through the main lock under any circumstances.
- Install hardware components and cylinder flush. Adhere to airgap (interval between faceplate and frame parts): the multi-point lock functions safely with an airgap between 3.5 mm +/- 1.5 mm. Beyond this, the fabricator must ensure that the airgap is large enough to guarantee the freedom from constraint of the door.
- Avoid corrosion damage to components or to the door by using non-acidic, moistening sealants.

5.2 Screw recommendations

For the assembly, choose the screw lengths and screw heads to ensure that an adequate intervention in the material and flushness with the faceplate of the multi-point lock and the frame parts are ensured. For the screw diameter, we recommend the following screws:



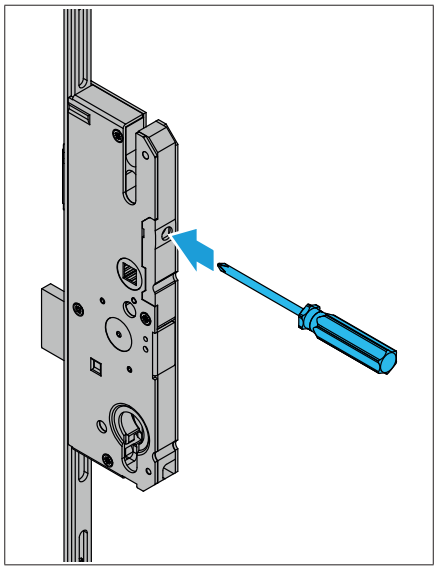


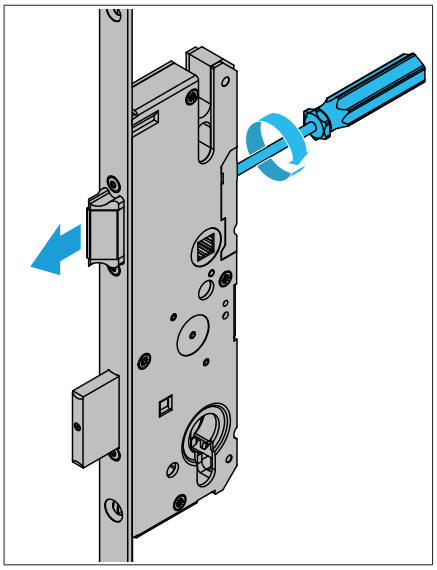


Adhere to the screw torque specified by the producer!

5.3 Assembly of sash side

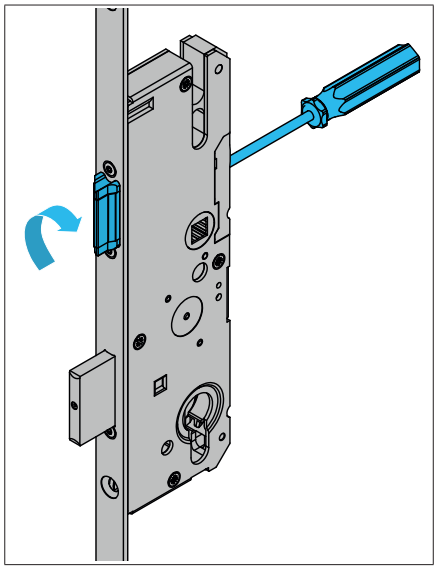
5.3.1 Change DIN orientation of the latch

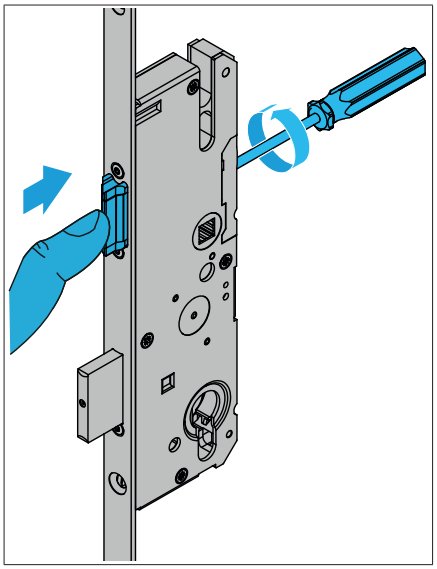




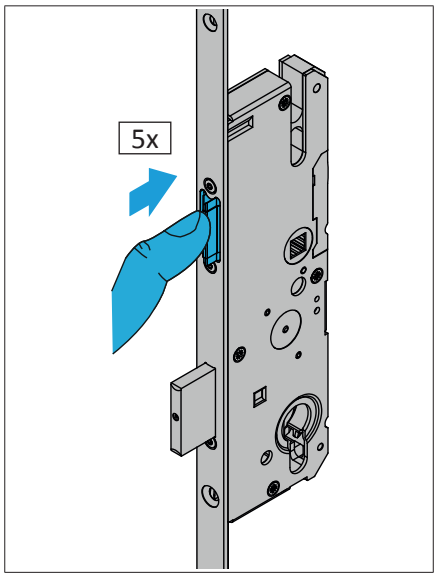
PZ 2

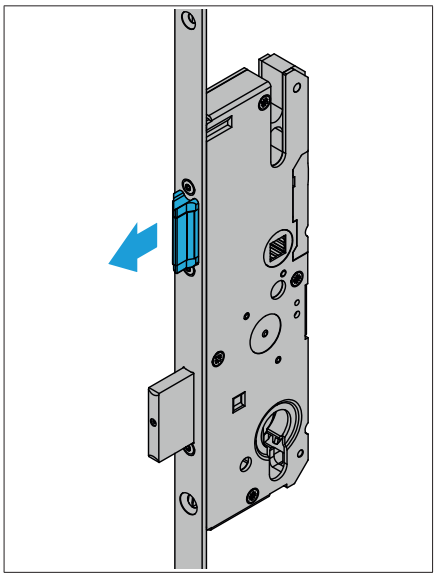
- Insert a PZ2 screwdriver through the hole at the rear of the gear box.
- Loosen the locking screws of the latch shaft with the PZ2 screwdriver until the latch can be pulled forwards and rotated by 180°.





- Rotate the latch by 180°.
- Press in the latch shaft and turn the locking screw of the latch shaft, tightening manually, using the PZ2 screwdriver.





- Press the latch approx. 5 times into the gear box for the functional test.
- The latch must be able to extend again with ease.

5.3.2 Milling the door leaf

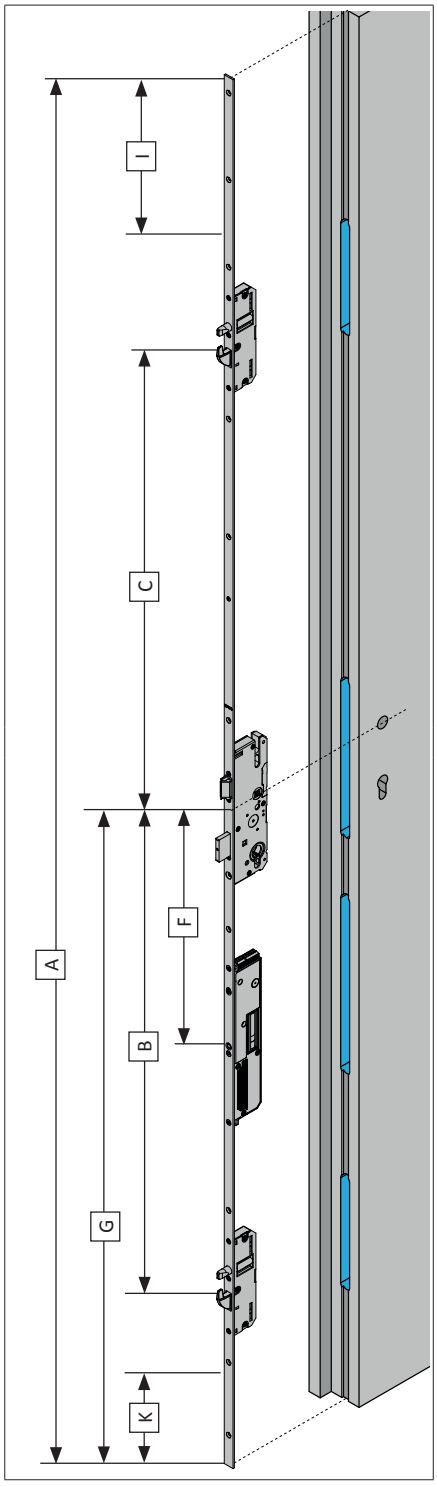
For determination of position and dimensions, see chapter 3.1.

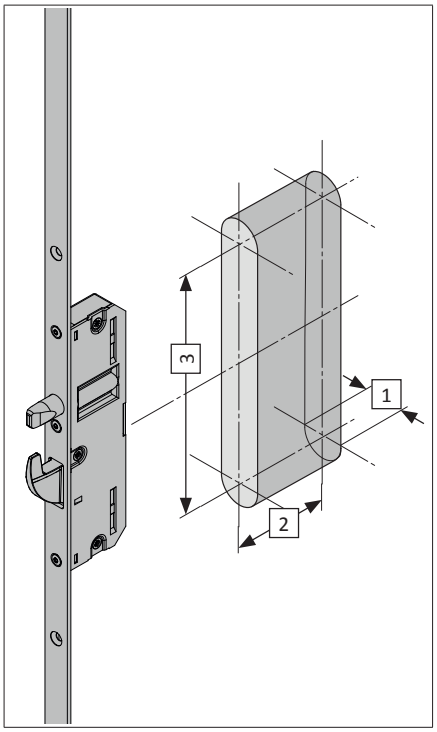
WARNING

Danger of injury from swarf flying around rapidly

During milling work, there will be swarf flying around. You could suffer eye injuries.

- Wear protective goggles.



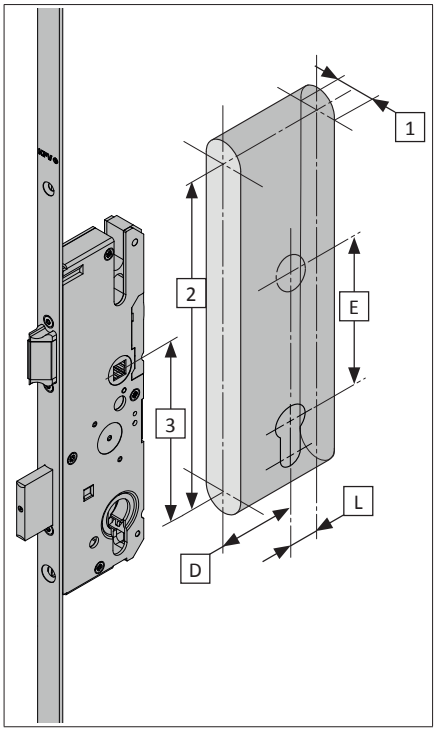


auxiliary box

[1] 16,0 mm

[2] 42.5 + 1 mm

[3] 164.0 mm



main lock

[1] 16,0 mm

[2] 224.0 mm

[3] see dimensions for main lock types

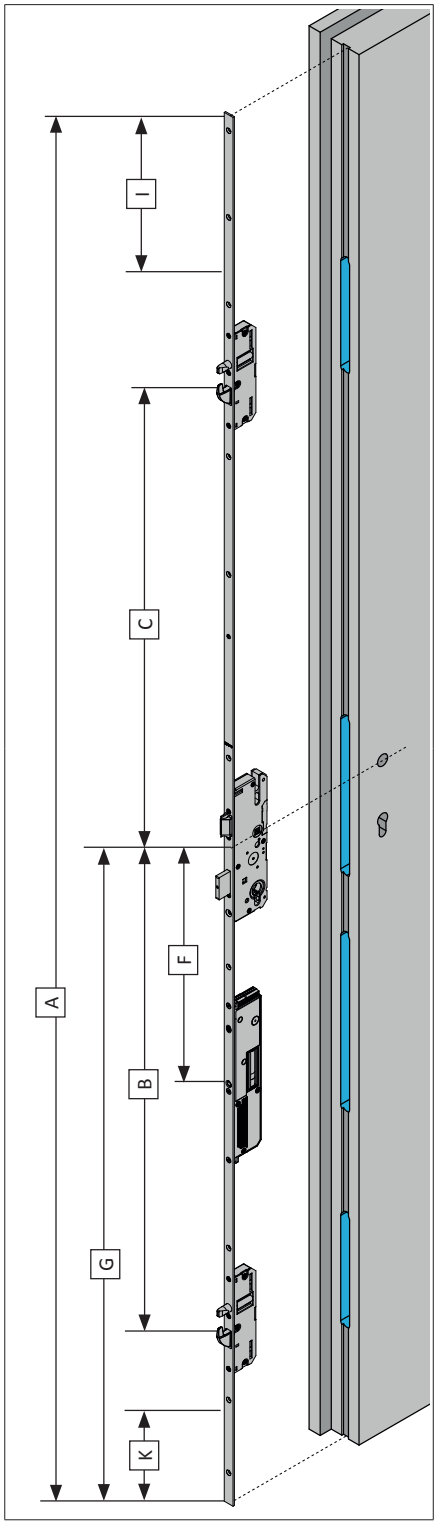
[L] Rear backset dimensions + 1 mm

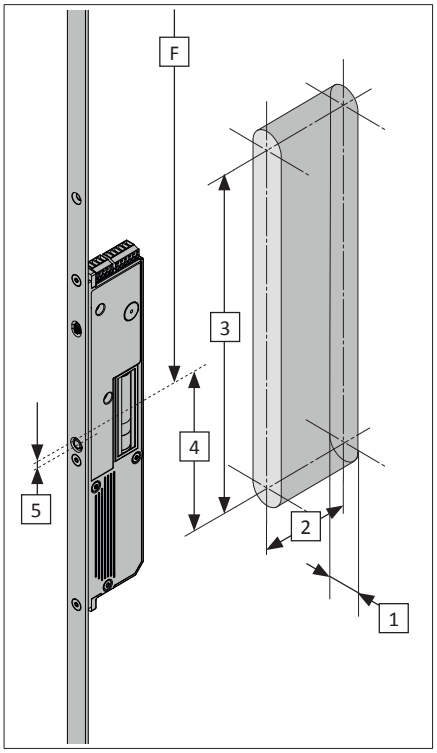
[D] Backset

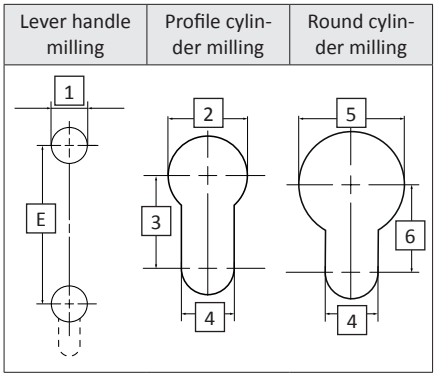
[E] PZ dimension

For all dimensions of the main lock, see chapter 3.1.1.

GENIUS 2.2, Electromechanical multi-point lock







GENIUS 2.2

[1] 16,0 mm

[2] 55.0 mm

[3] 270.0 mm

[4] 130 mm

[5] 1 mm = middle of GENIUS box to middle of magnetic sensor

[F] middle of lever handle square spindle to middle of GENIUS box (see page 10)

Lever handle and cylinder

[1] Ø 18.0 mm

[2] Ø 18.0 mm

[3] 21.0 mm

[4] 12.0 mm

[5] Ø 24.0 mm

[6] 20.0 mm

[E] PZ dimension

5.4 Routing and connecting cables

Various cable types are available for establishing the cable connections. Obtain prior information about what types of cable come into question for your installation.

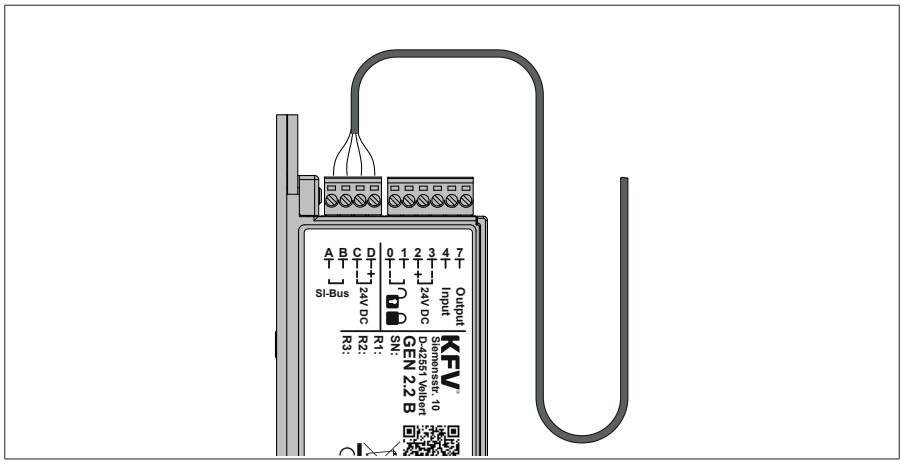
Only use shielded cables in order to prevent interferences, which have an effect on the KFV multi-point lock with GENIUS 2.2, or originate from the KFV multi-point lock with GENIUS 2.2.

Only use the shielded original KFV cable. See: product catalogue KFV GENIUS and A-opener.

Deburr all holes for the cable routing.

Do not route cables over sharp edges. File or line any sharp edges.

Route cables without kinking.

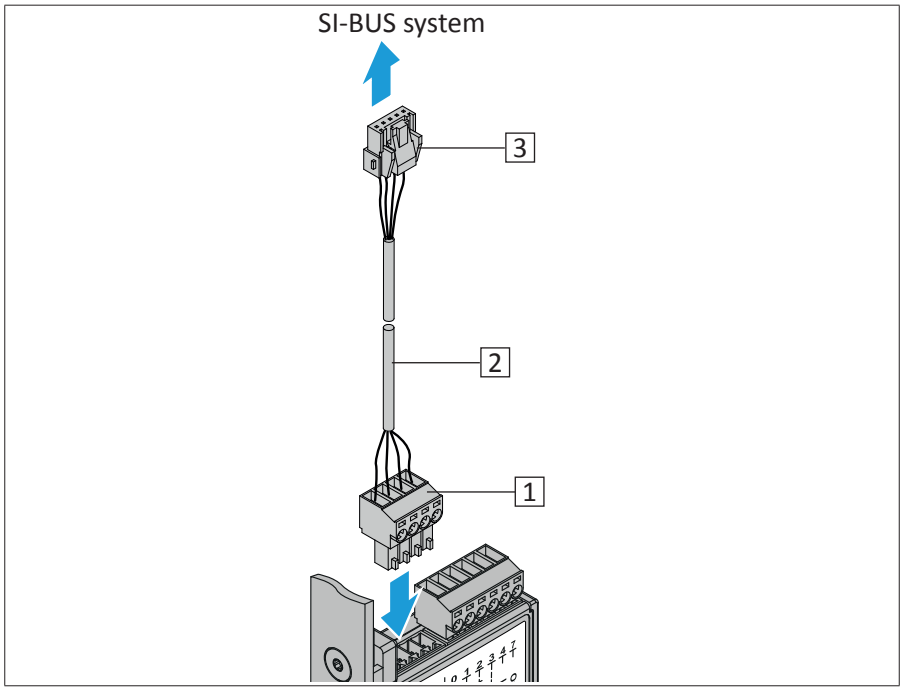


Always route the cable to the GENIUS 2.2 in a loop to prevent any ingress water from running into the connections of the GENIUS.

5.4.1 Via the SI-BUS connection

Use only the SI-BUS cable from KFV intended for this purpose to establish a connection via the SI-BUS.

SI-BUS cable KFV	Cable detection	Cable colour	Name
	0	Yellow	Data
	1	Green	Data
	-	Brown	- 24V DC
	+	white	+ 24V DC

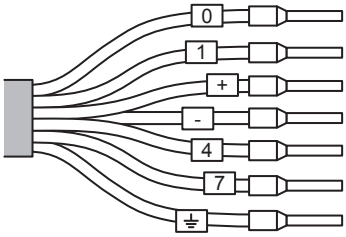


- ▶ Insert the green PTR plug [1] of the SI-BUS adapter cable [2] into the connection with the designation A to D of the GENIUS 2.2.
- ▶ Connect the plug [3] of the SI-BUS adapter cable to the SI-BUS system and route the cable.

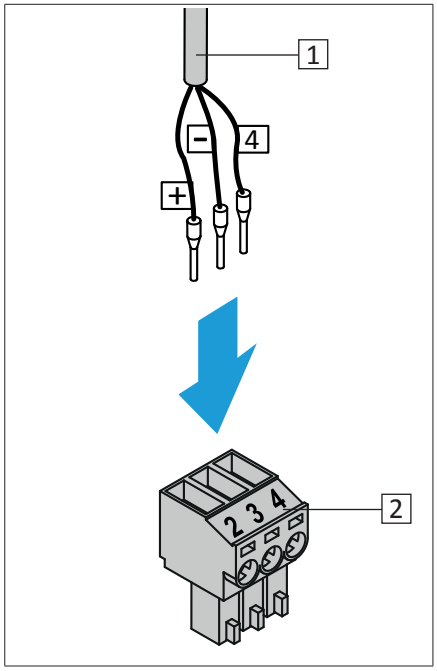
Select the holes for the cable bushings accordingly so that the plugs can be passed through.

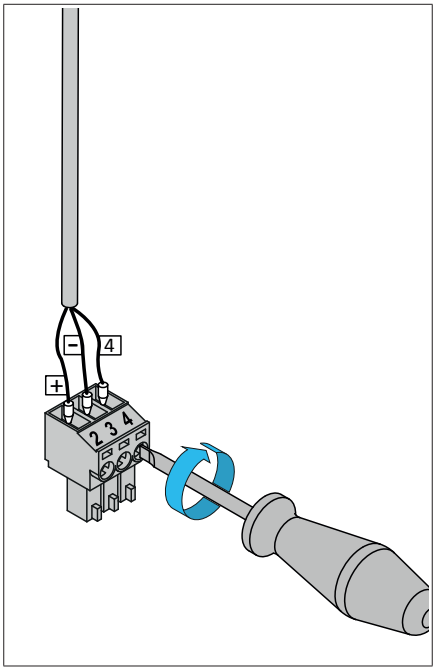
5.4.2 Via the analogue connection

To obtain a connection via the analogue connection, establish a plug connection with the KFV cable.

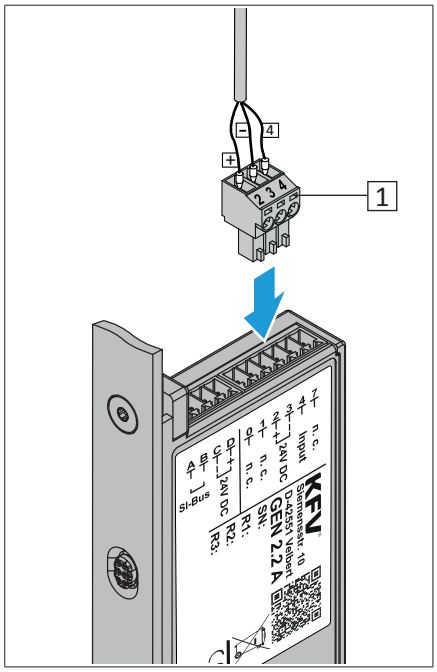
KFV cable	Cable ID	Band colour	Cable colour	Connection GENIUS 2.2 A	Connection GENIUS 2.2 B	Function
	0	Black	grey	-	0: input	Changeover day/night mode
	1	Brown	Yellow	-	1: input	Changeover day/night mode
	+	Red	white	2: + 24VDC	2: + 24VDC	Operating voltage (+) 24 V DC
	-	Blue	Brown	3: - GND	3: - GND	Operating voltage (-)
	4	Yellow	Green	4: input	4: input	External unlocking signal
	7	Violet	Pink	-	7: output	Feedback contact
	⏚	white	Blue	-	-	Shield for power supply

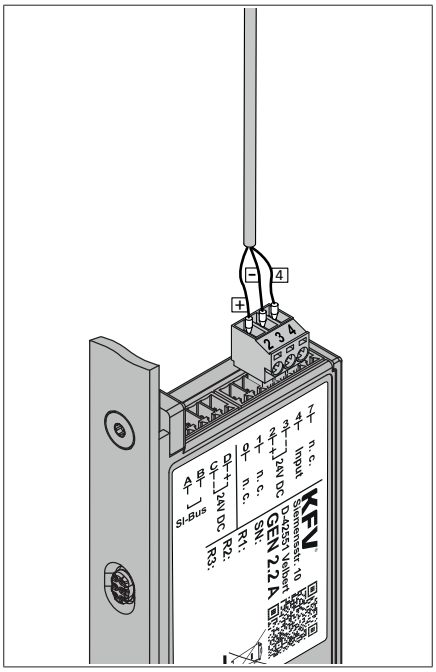
Establish plug connection for GENIUS 2.2 A





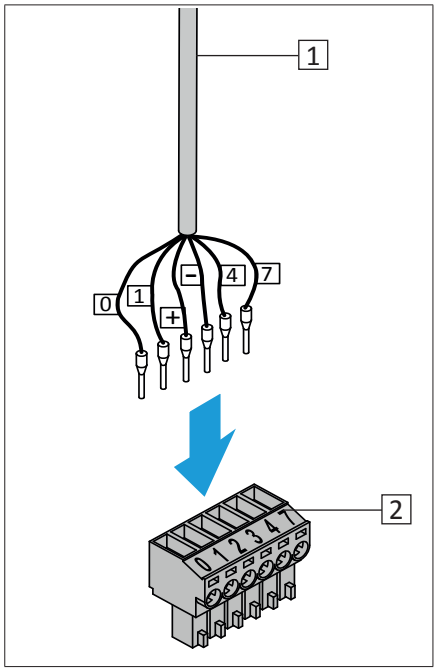
- Establish a plug connection with the KFV cable [1] and the green PTR plug [2].
- Tighten the screws of the PTR plug by hand so that the wires of the cable will not be able to loosen themselves.
  Check the firm seating.

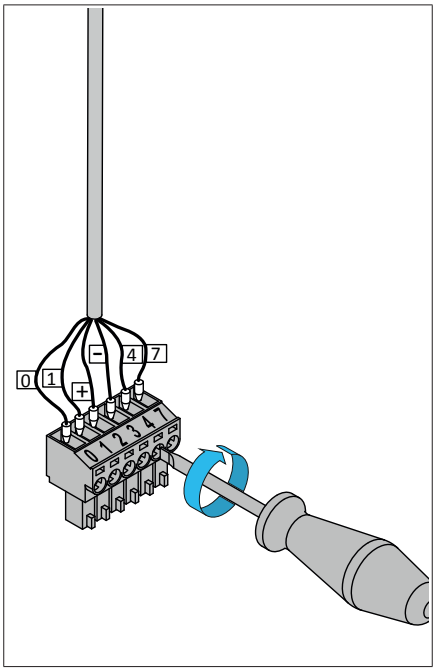




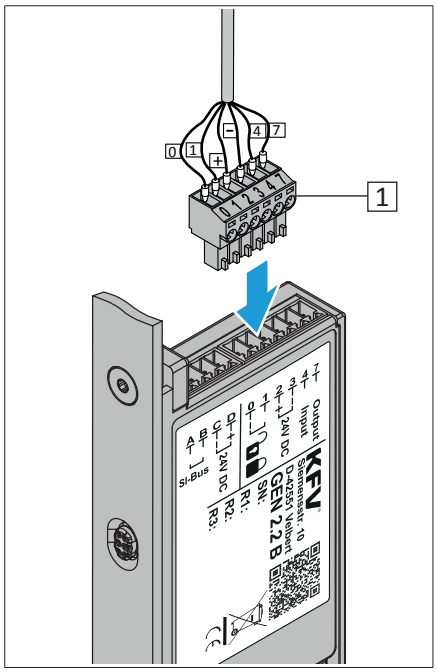
- Insert the green PTR plug [1] into the connection with the designation 2 to 4 of the A-opener.
- Route the cable and connect it to a power supply and optionally to an analogue access control system (see chapter 4.3).

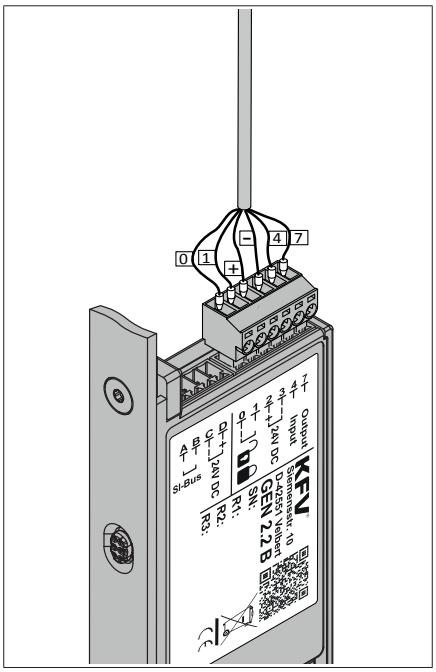
Establish plug connection for GENIUS 2.2 B





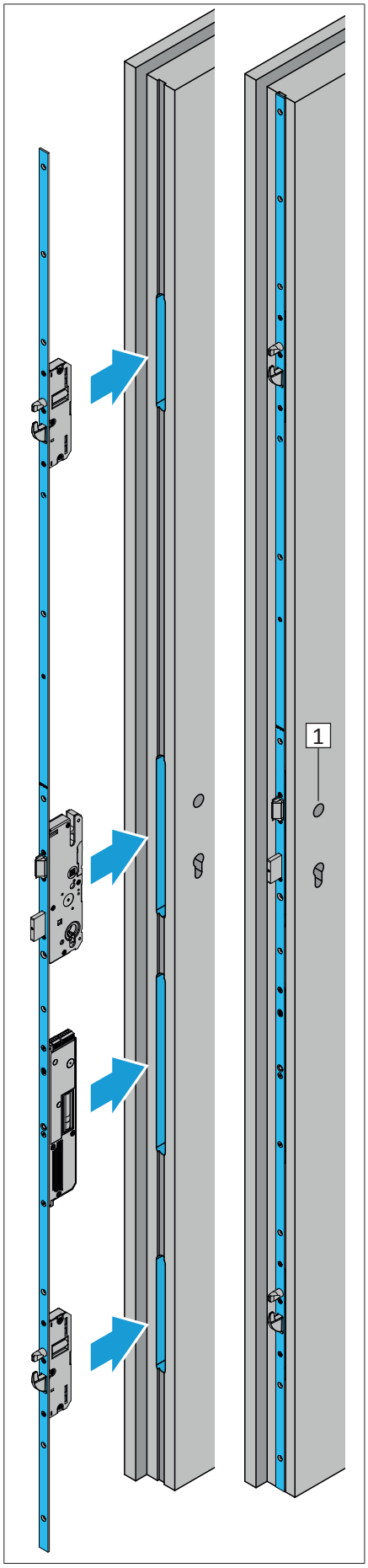
- Establish a plug connection with the KFV cable [1] and the green PTR plug [2].
- Tighten the screws of the PTR plug by hand so that the wires of the cable will not be able to loosen themselves.
  Check the firm seating.



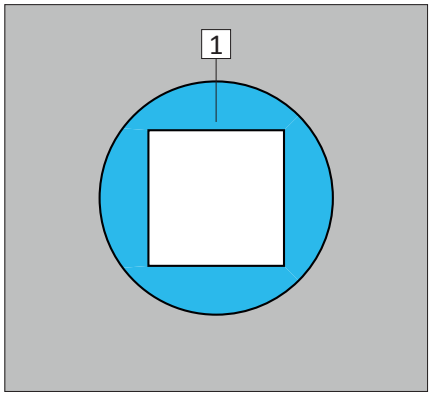


- Insert the green PTR plug [1] into the connection with the designation 0 to 7 of the GENIUS 2.2 B.
- Route the cable and connect it to a power supply and optionally to an analogue access control system (see chapter 4.3).

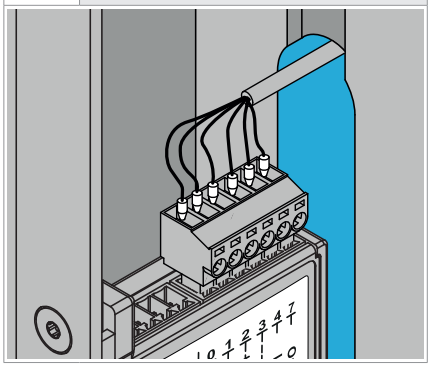
5.5 Screwing on the multi-point lock



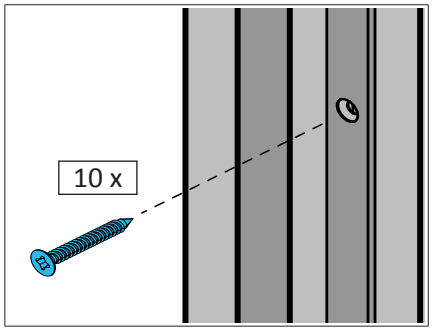
- Insert the multi-point lock in the milled door leaf.
- Adjust the multi-point lock to the handle spindle [1]:

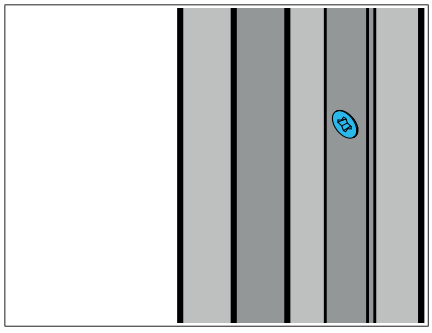


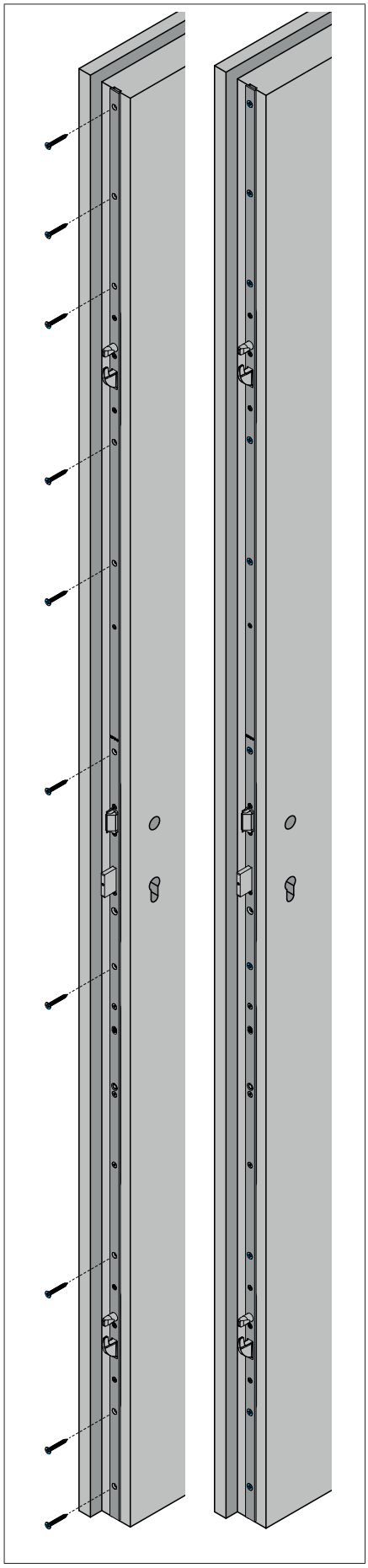
Ensure when you insert the GENIUS into the routed pocket that the cable is neither damaged nor kinked:



- screw the multi-point lock to the door leaf:







6 Frame side assembly

6.1 Milling the frame

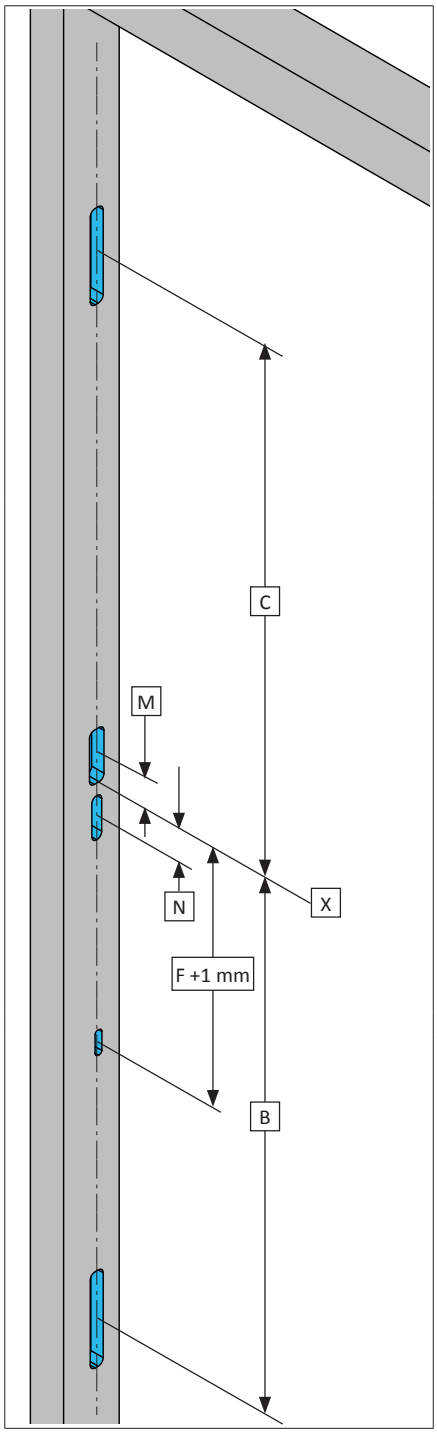
For determination of position and dimensions, see chapter 3.1.

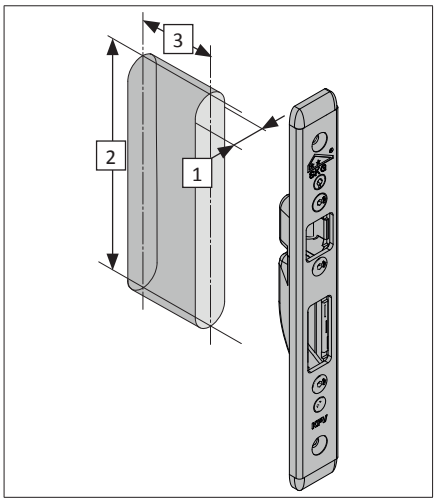
WARNING

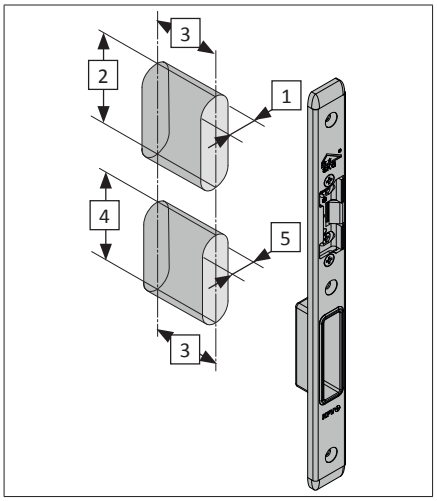
Danger of injury from swarf flying around rapidly

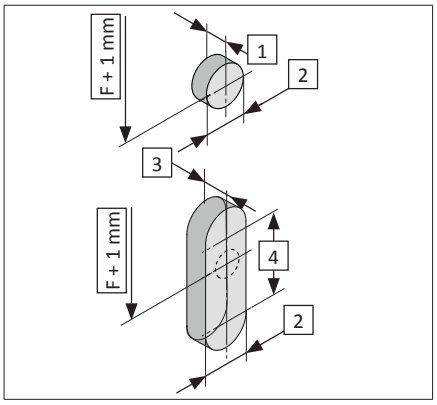
During milling work, there will be swarf flying around. You could suffer eye injuries.

- Wear protective goggles.









The defined milling dimensions given refer to:	
E8H striker plate:	main lock
Q striker plate:	auxiliary box
E8QH:	locking rail
23xx:	bolt striker plate

Contact the KFV customer service to find out the milling dimensions for other frame parts or locking rails.

Q striker plate:

[1] 21.0 mm
[2] 135.0 mm
[3] component depth + 1 mm

AT-piece and main deadbolt backing

[1] 23.0 mm
[2] 72.0 mm
[3] component depth + 1 mm
[4] 62.0 mm
[5] 16.0 mm

Magnets

According to the profile of the door, a hole or milling must be carried out for the round or oval magnets.

[1] 8.0 mm
[2] 13.0 mm
[3] 4.0 mm
[4] 17.0 mm

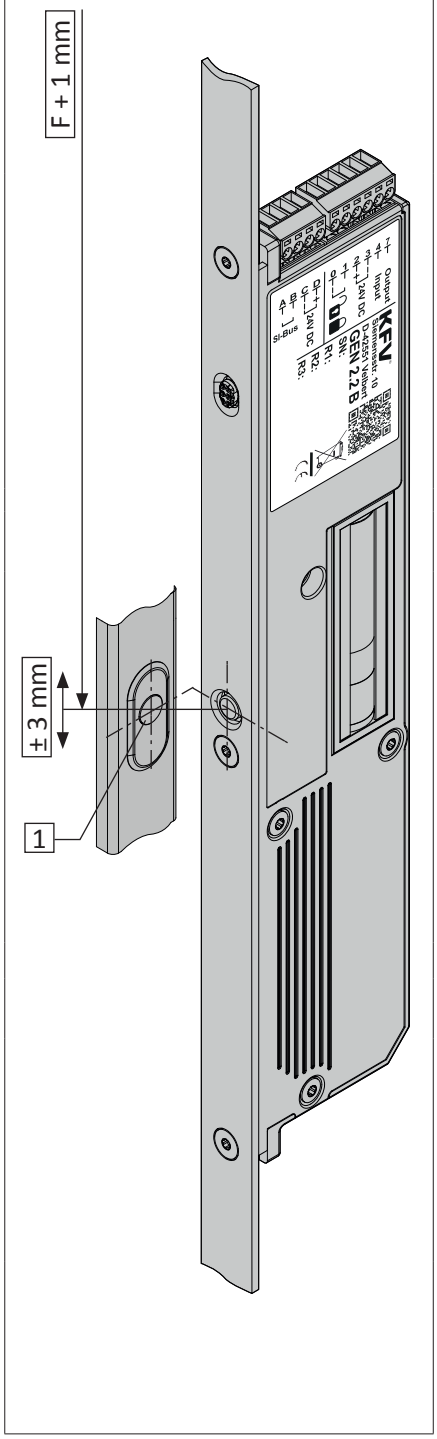
6.2 Assembling the frame parts and magnet

6.2.1 Variants of the magnet

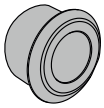
The GENIUS 2.2. detects whether the door is open or shut via the magnetic sensor.
The magnetic sensor is triggered by the opposite magnets on the frame side.

Never allow the magnet to come into direct contact with the faceplate. This would magnetise the faceplate and the drive rods behind it. This will cause malfunctions in the magnetic sensor. For dimension [F], see chapter 3.1.

Magnet position



Round magnet with bushing



For locking rails and timber frames

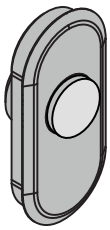
- According to the delivered version, the locking rail is predrilled (Ø 13 mm), or marked at the relevant point, or has a fastening hole at this point that must be drilled to Ø 13 mm.

According to the profile of the locking rail and profile of the frame, a milling must be set for the magnet in the frame.

For striker plates and timber frames

- If using striker plates for timber doors, the magnet and holder are fitted directly in the timber frame.

Oval magnet bush



For striker plates in PVC or aluminium doors

- A single striker plate from series 23xx (without backing) must be used.

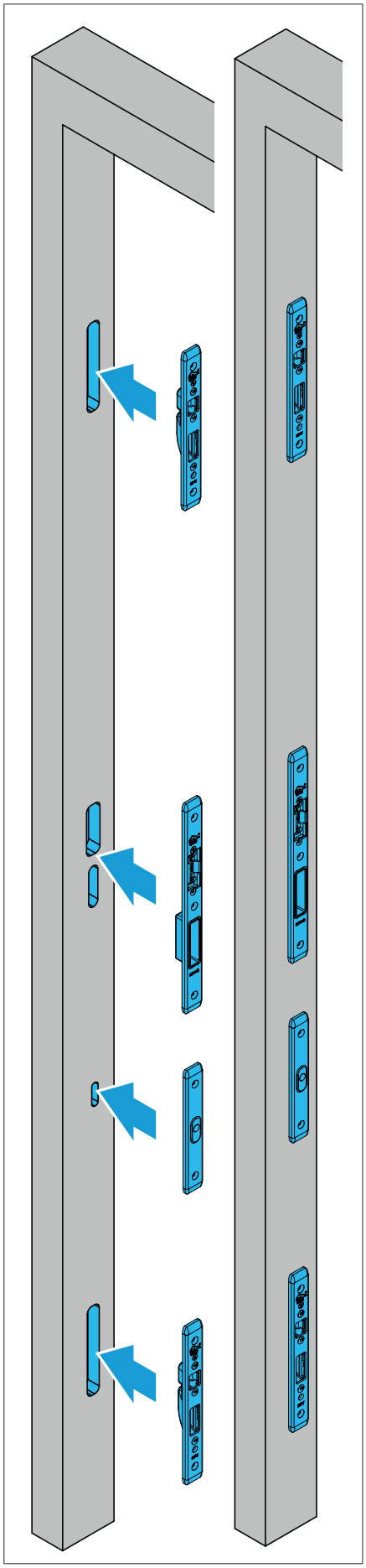
According to the profile of the striker plate and the frame, milling must be carried out for the magnet in the frame.

Magnet self-adhesive

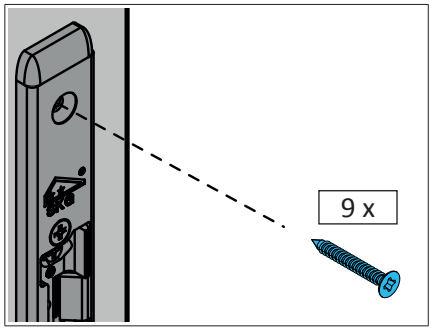
For secondary sash lock bolt

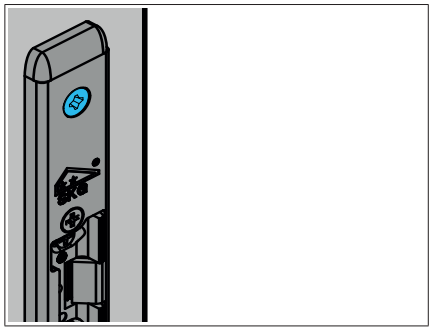
- As holes must not be drilled through the secondary sash lock bolt because of the drive rods located behind, the self-adhesive magnet must be used.

6.2.2 Mounting the striker plates in PVC and aluminium frames



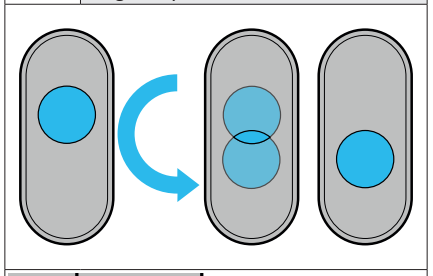
- ▶ Insert the striker plates into the intended millings.
- ▶ Then screw the striker plates to the door frame:

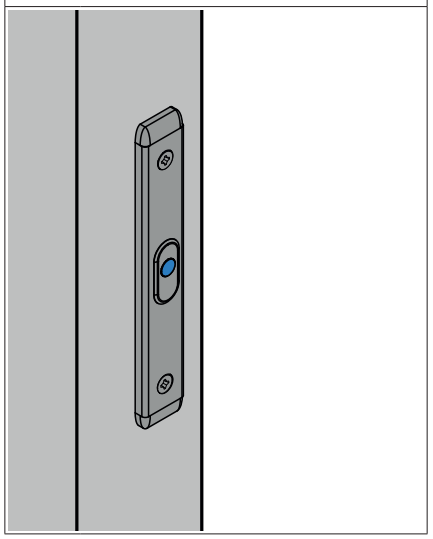


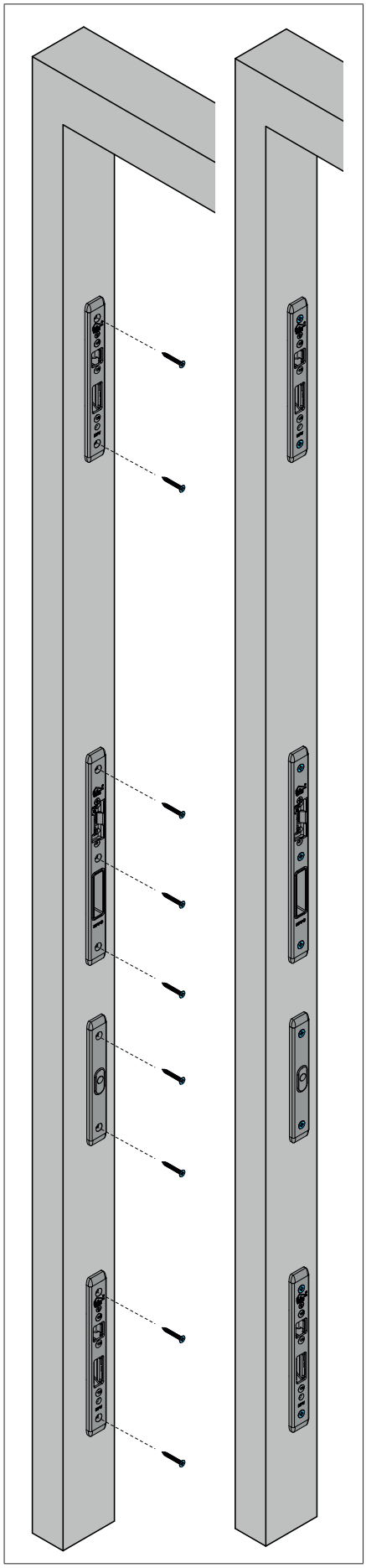


Insert the oval magnet bush with the magnet pointing upwards.

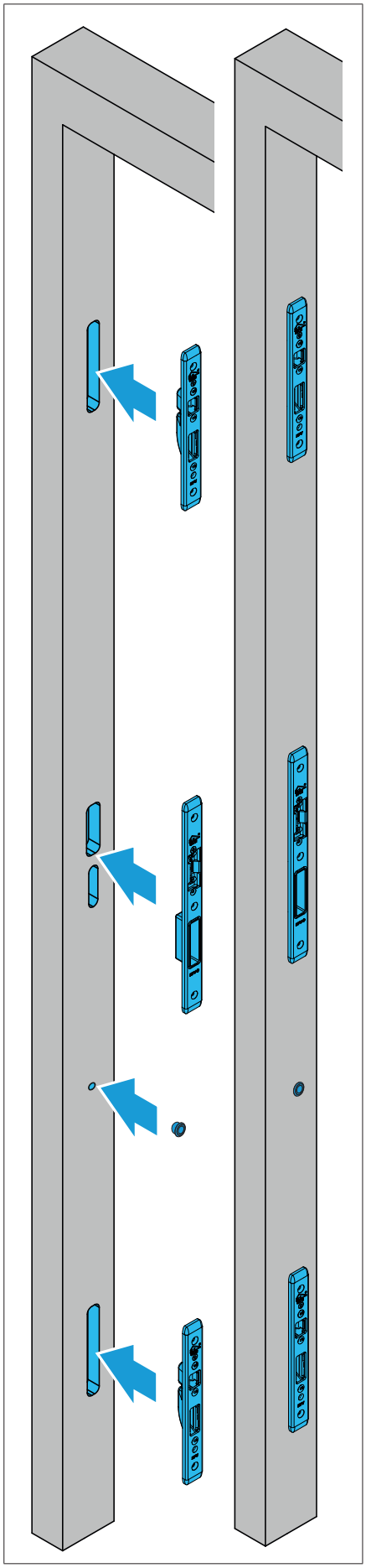
If the door is seated, the magnet bush can be turned by 180°, offsetting the magnet by 5 mm.



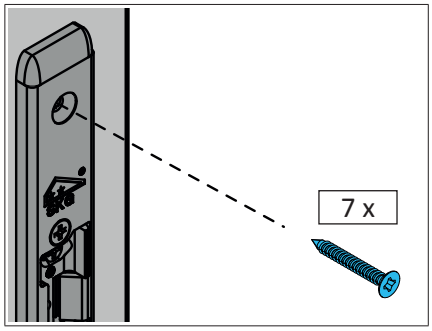


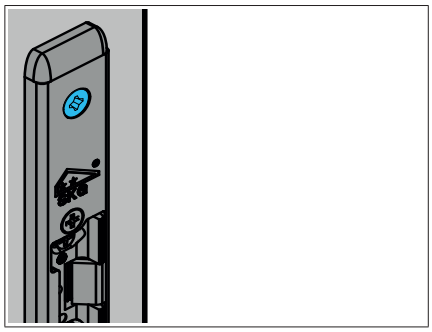


6.2.3 Mounting the striker plates in timber frames

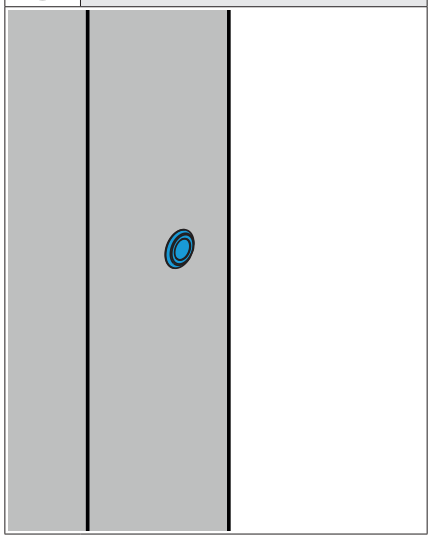


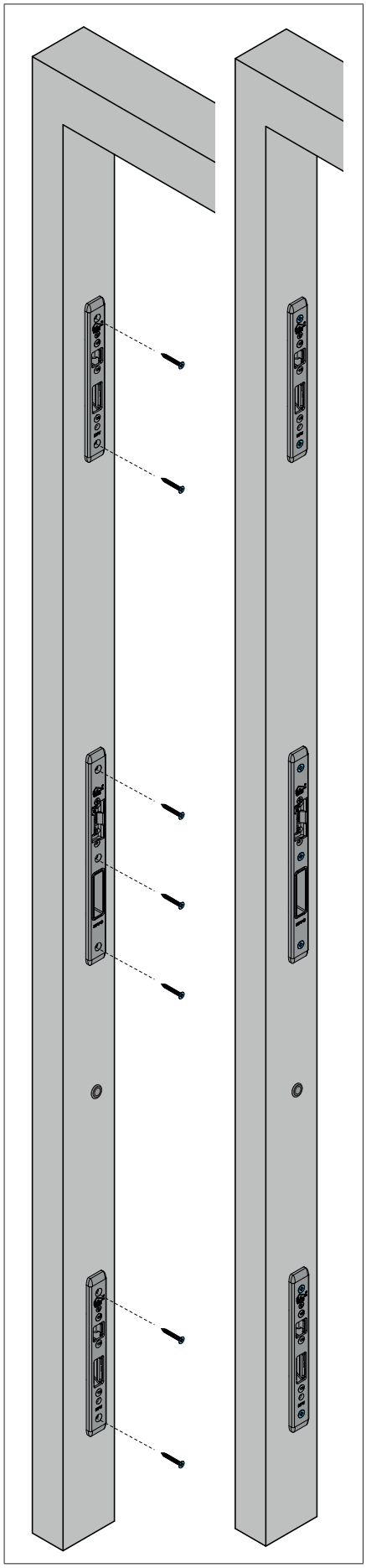
- ▶ Insert the striker plates into the intended millings.
- ▶ Then screw the striker plates to the door frame:



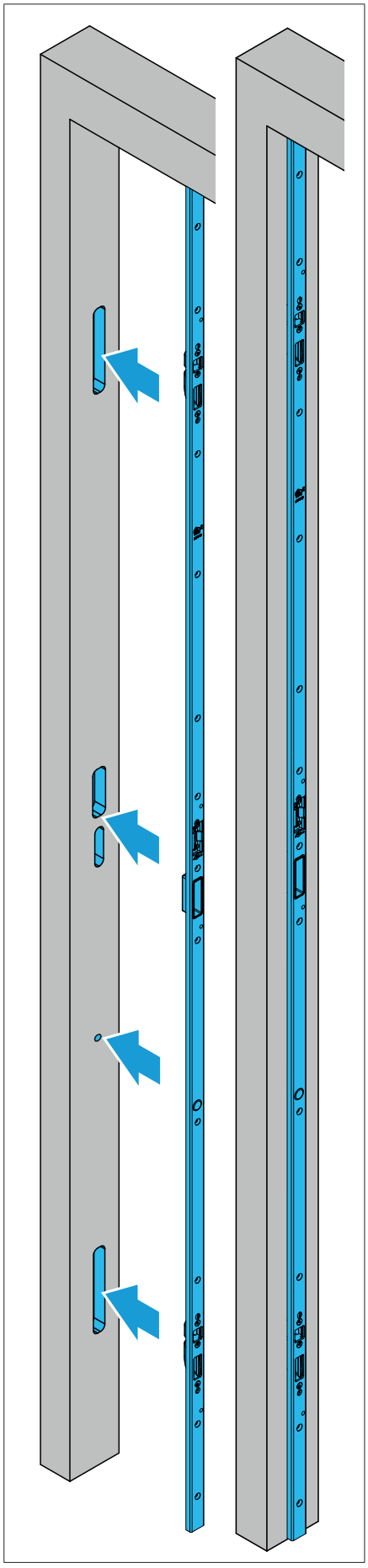


The round magnet with bushing can be fitted directly in the timber frame.

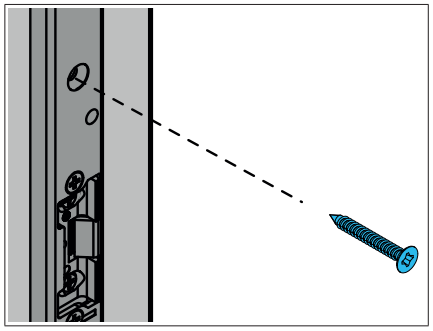


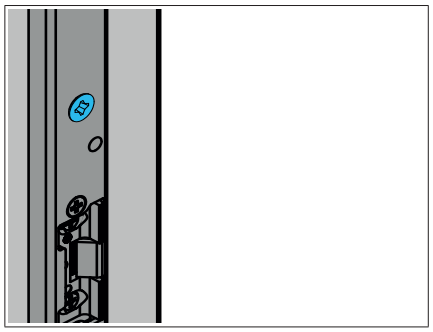


6.2.4 Mounting the locking rail

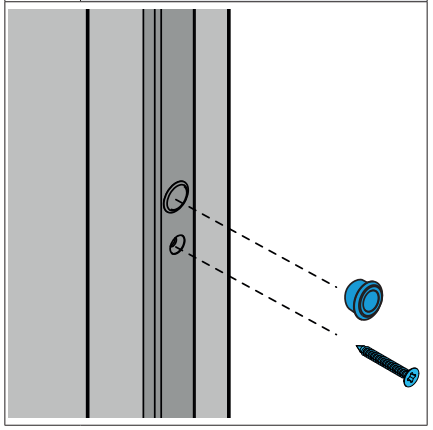


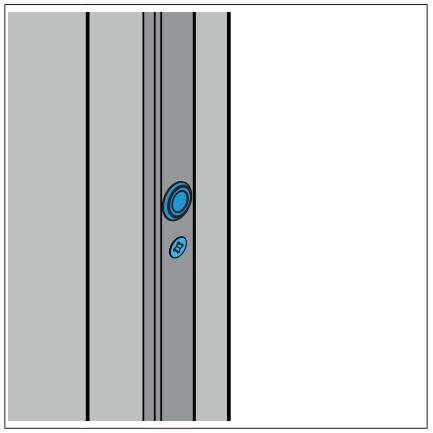
- ▶ Insert the locking rail plates into the intended millings.
- ▶ Then screw the locking rail to the door frame:

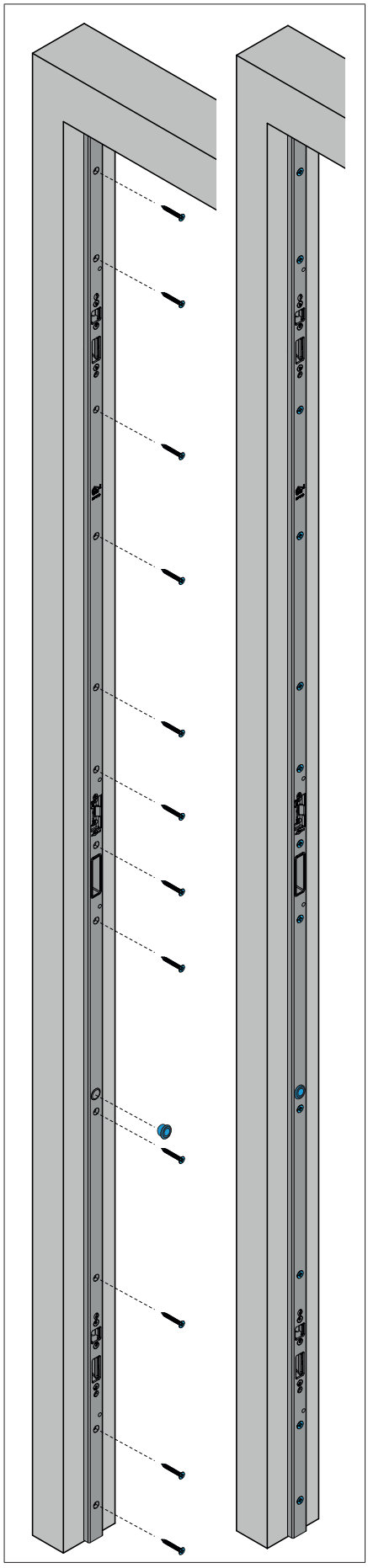




if using locking rails, the round magnet with bushing is used.

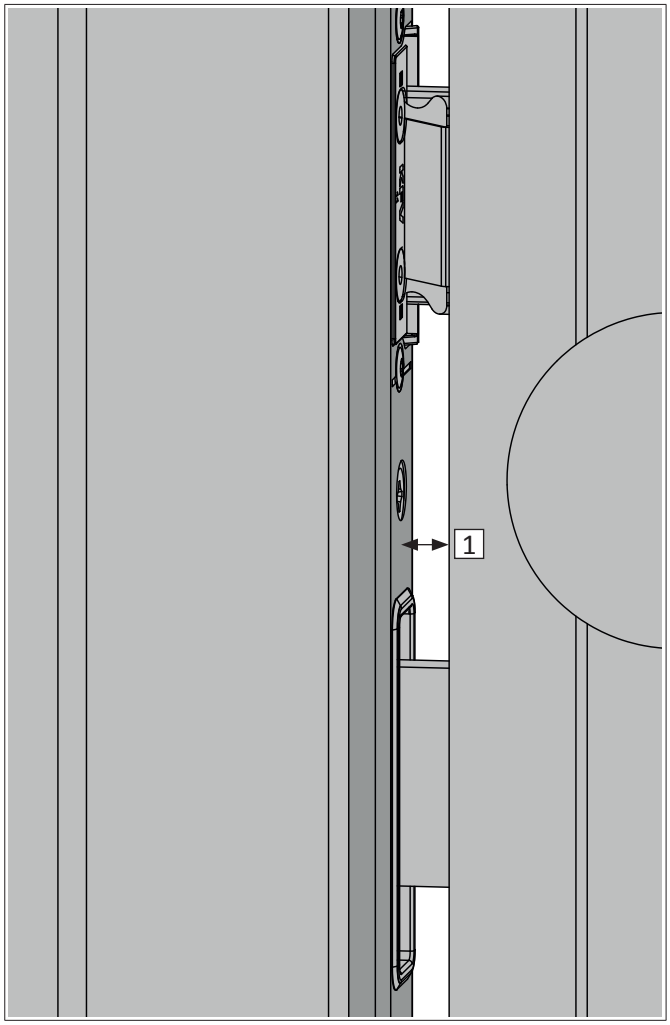






6.2.5 Adjustment of the airgap

Observe the assembly and operating instructions for the door hinges.

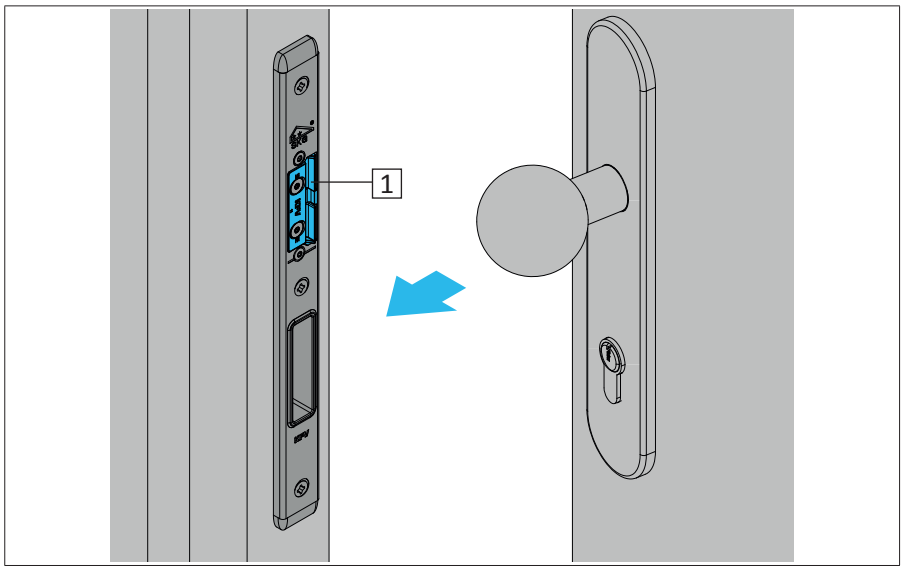


▶ In accordance with the enclosed assembly instructions of the door hinge manufacturer, adjust the airgap [1] between the faceplate and frame part.

An airgap of 3.5 mm ± 1.5 mm must be adhered to in order to permit the KFV multi-point locks to function properly.

6.2.6 Adjustment of the AT piece

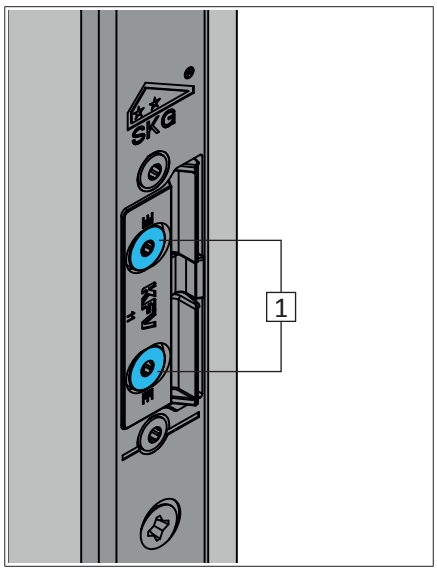
When the door is closed, the latch must engage in the AT-piece with as little play as possible. The AT piece is horizontally adjustable for this purpose.

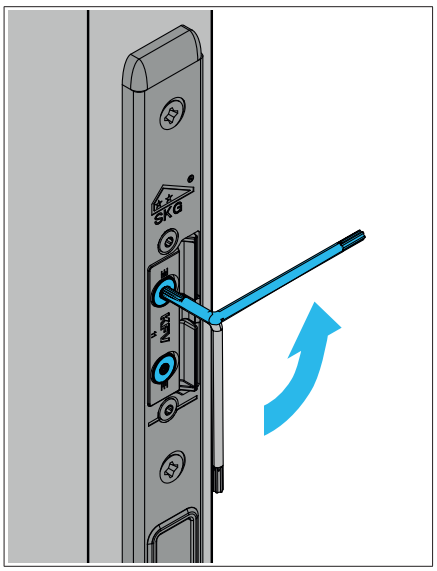


▶ Close the door.

The latch must engage in the AT-piece [1] and the door must remain locked.

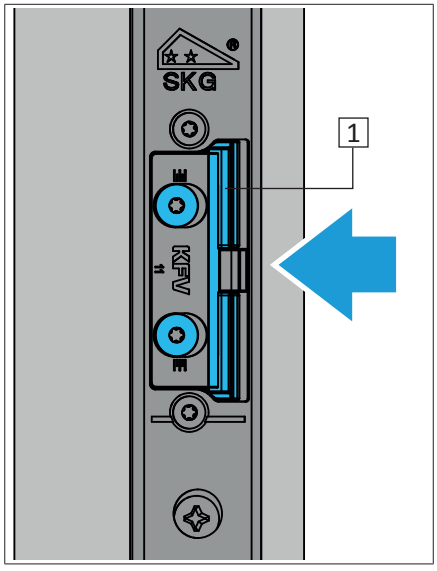
- If the latch does not engage, or if the pressure on the door seal is too high, the AT-piece must be adjusted in the direction of the door leaf.
- The AT piece must be adjusted in the direction of the frame if the latch has too much play.

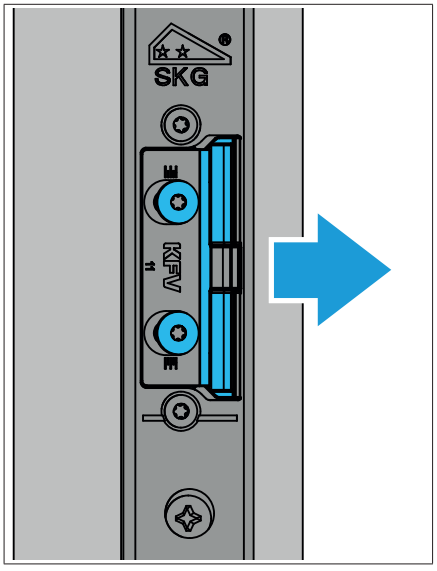




	T 10

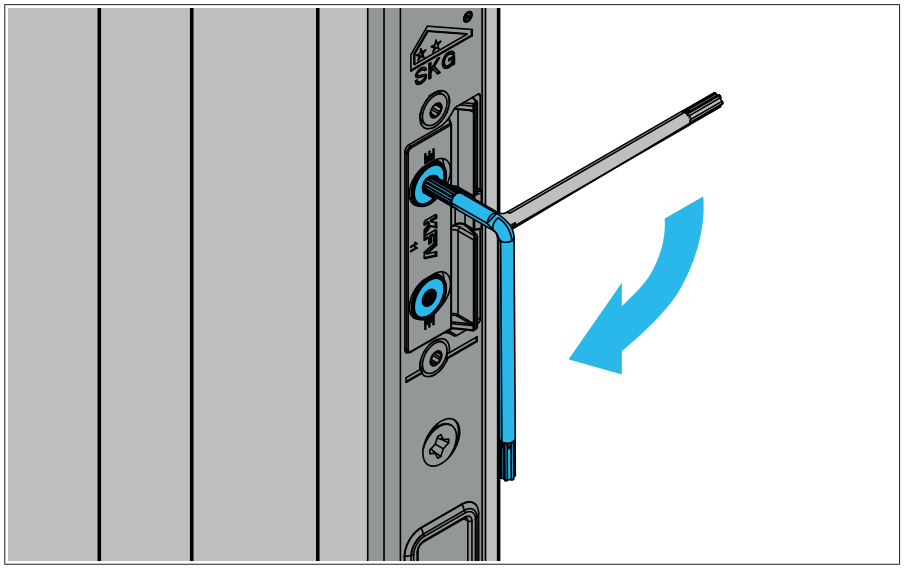
▶ Loosen the two adjustment screws [1] .





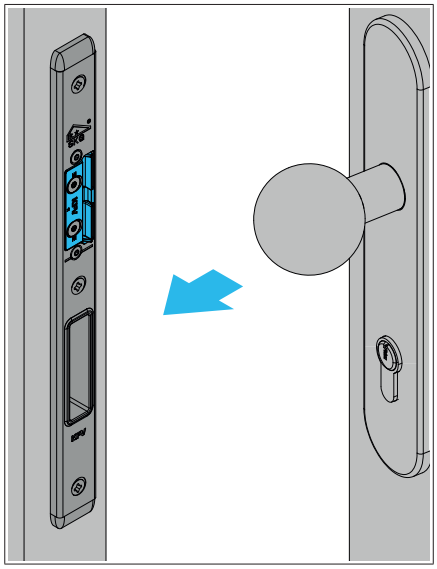
▶ Slide the fitting part [1]

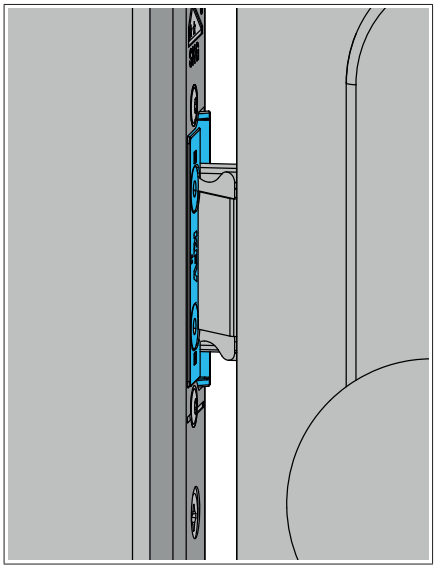
- The pressure will decrease in the direction of the door leaf.
- The pressure will increase in the direction of the frame.



	T 10 2.5 Nm

▶ Tighten the two adjustment screws.



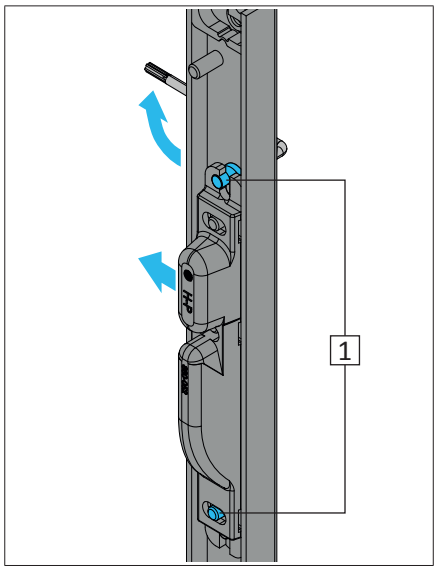


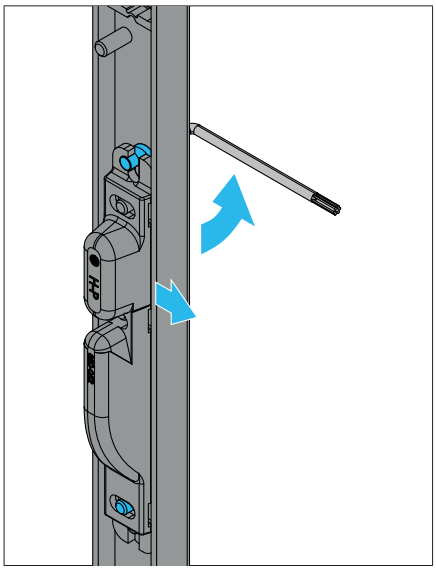
▶ Close the door and check whether the latch engages properly.

Repeat the adjustments if necessary.

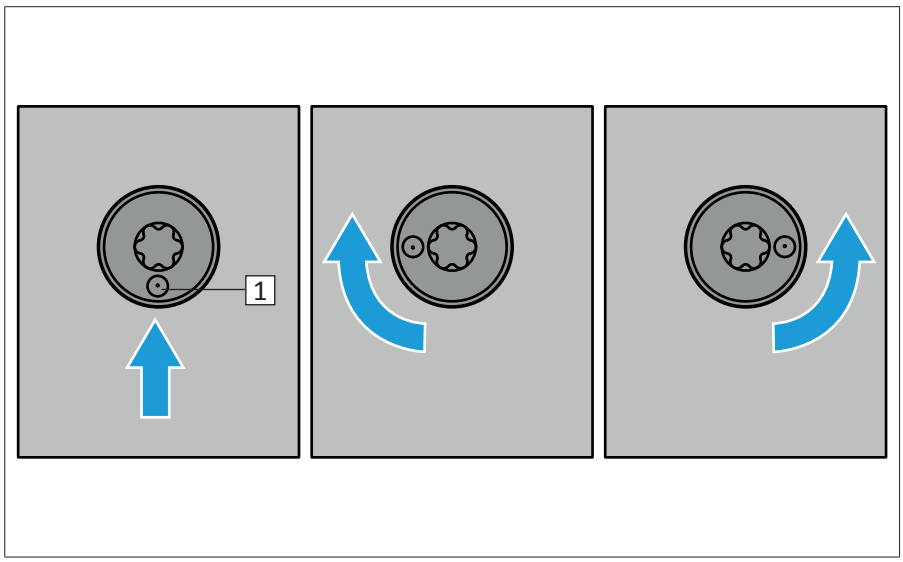
6.2.7 Correct the Q adjustment

The Q adjustment is moved laterally by ± 2.5 mm via two eccentric screws [1]; this lateral adjustment changes the contact pressure of the door on the frame seal.





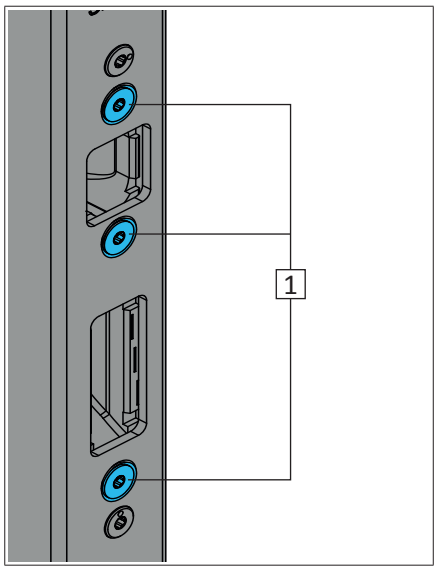
- If the contact pressure of the door on the frame seal is too low, the Q adjustment must be moved in the direction of the frame seal.
- If the contact pressure of the door on the frame seal is too high, the Q adjustment must be moved in the direction of the door leaf.

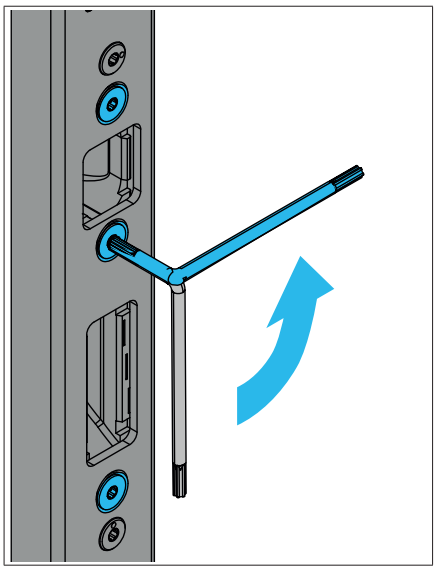


There is a marking [1] on the eccentric screw.

The default setting of the Q adjustment is in neutral position. The marking points downwards.

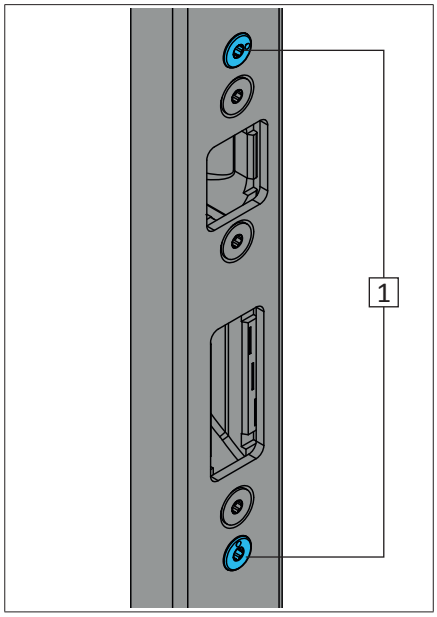
The max. travel range of the Q adjustment is reached when the marking is in a 90° position.

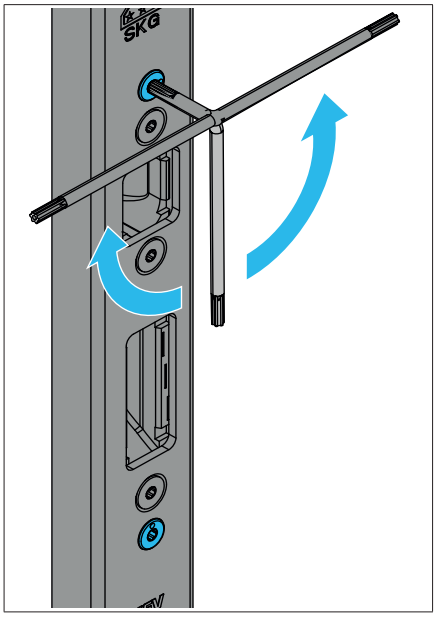




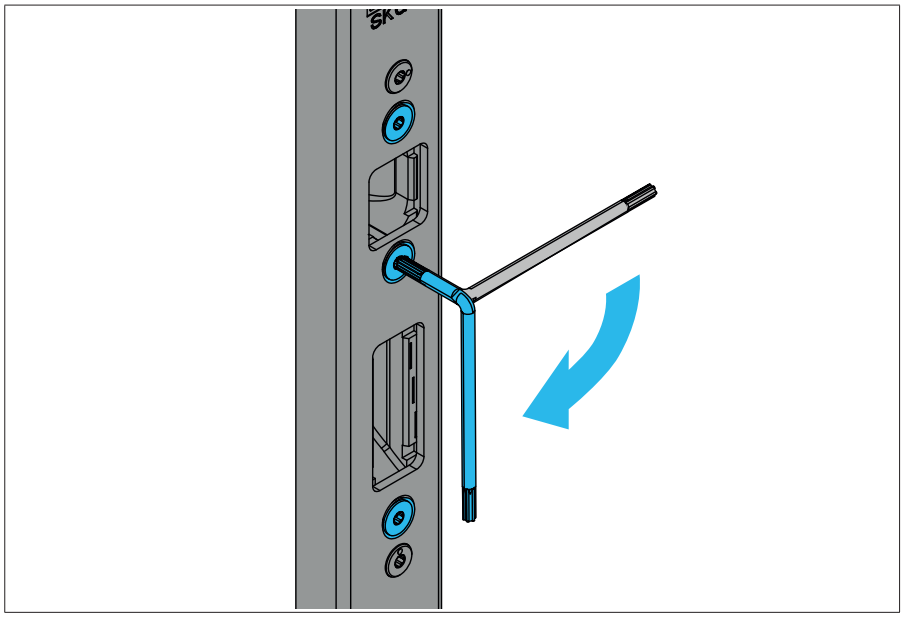
	T 10

▶ Loosen the three fixing screws [1] of the Q adjustment.



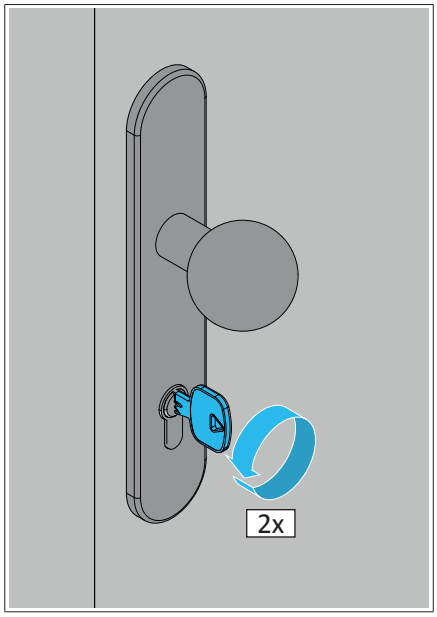


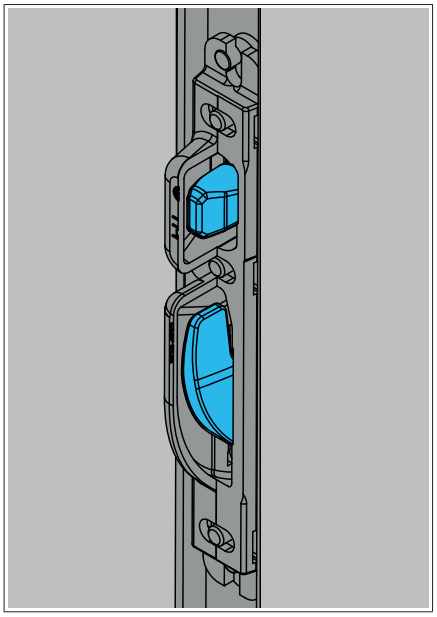
▶ Turn the two eccentric screws [1] to the left or right up to 90°.



	T 10 1.3 Nm

▶ Tighten the three fixing screws of the Q adjustment firmly.



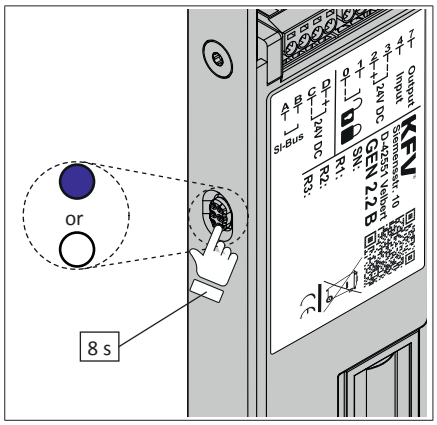


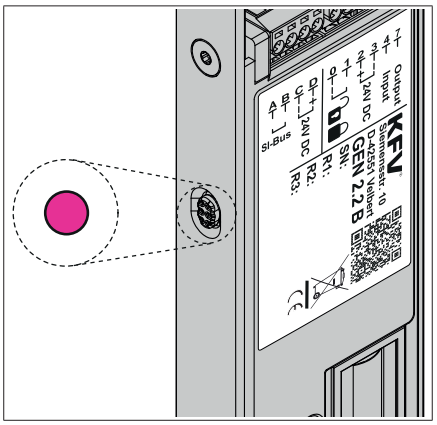
▶ Close the door and lock with a double turn.

Run the conical locking elements into the Q adjustment and laterally press the door against the seal.

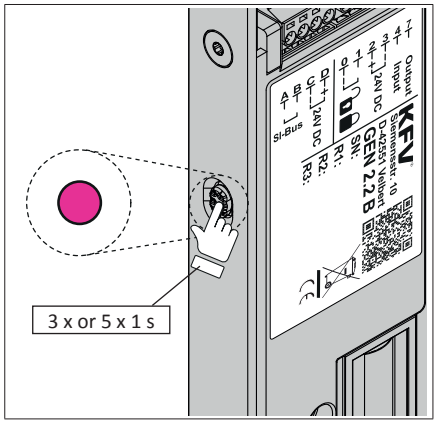
6.3 Perform a reference run of the GENIUS 2.2

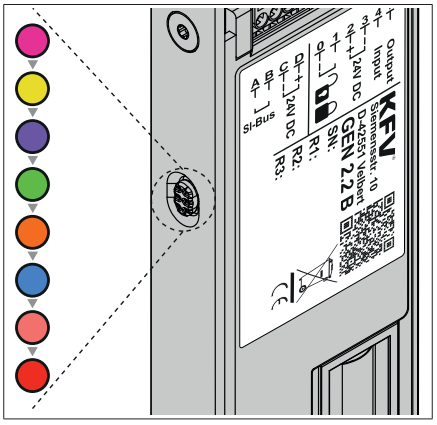
A reference run must be performed in service cases (e.g. the replacement of the GENIUS 2.2 drive). The travel ranges of the multi-point lock must be determined during the reference run.



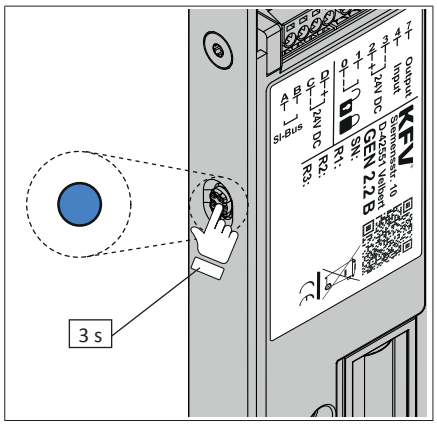


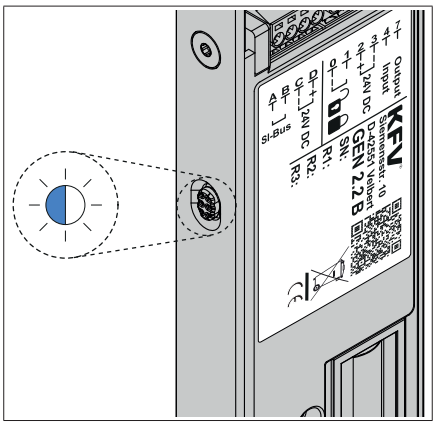
- ▶ proceed to the GENIUS 2.2 menu.
- ▶ To proceed to the menu, press the button on the GENIUS 2.2 for 8 seconds until the menu LED magenta lights up. The LED lights up blue or white during these 8 seconds.
- ▶ An acoustic signal sounds as acknowledgement.



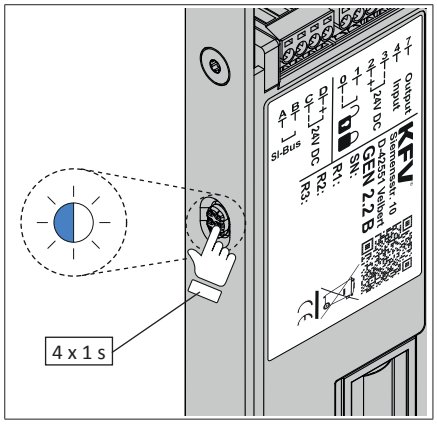


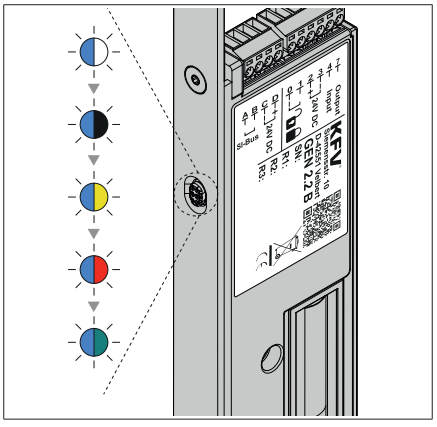
- ▶ Press the button several times quickly in succession (approx. 1 second each time) until the LED lights up light blue (for GENIUS 2.2 EA / CA -> 3 x and for GENIUS 2.2 EB -> CB 5 x). You will change to the main menu.
- ▶ Every press of a button is acknowledged by an acoustic signal.





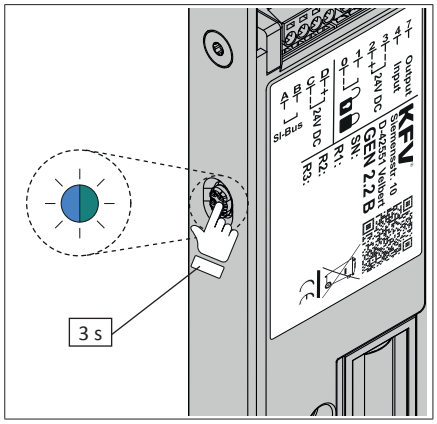
- ▶ If the LED lights up light blue, hold down the menu button for approx 3 seconds. You will then proceed to the sub-menu.
- ▶ An acoustic signal sounds as acknowledgement.
- ▶ The LED flashes alternatively light blue/white.

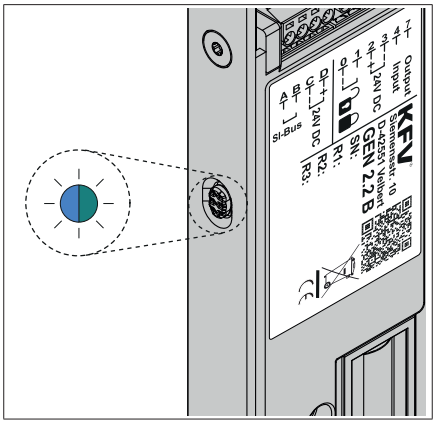




- ▶ Press the button 4 times quickly in succession (approx. 1 second each time) until the ED flashes light blue/turquoise.
- ▶ Every press of a button is acknowledged by an acoustic signal.

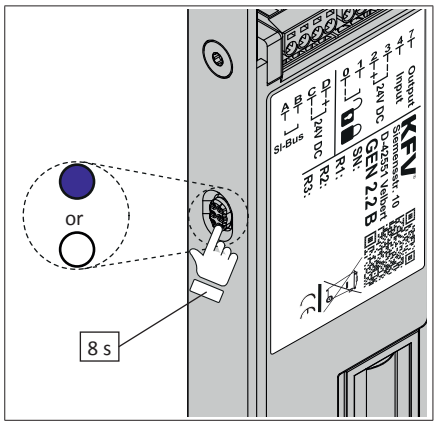
GENIUS 2.2, Electromechanical multi-point lock

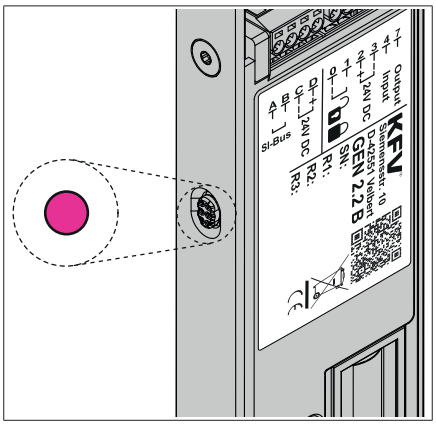




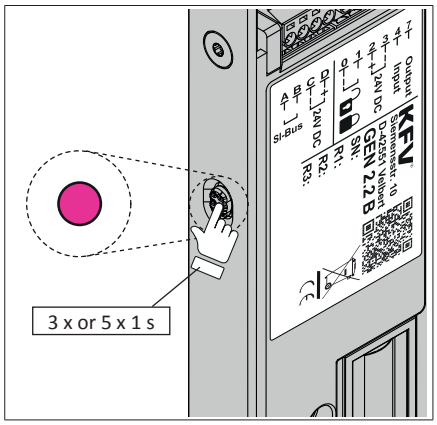
- ▶ Hold down the button for approx 3 seconds to perform the reference run.
- ▶ The motor starts up and drives the multi-point locking system into both end positions.

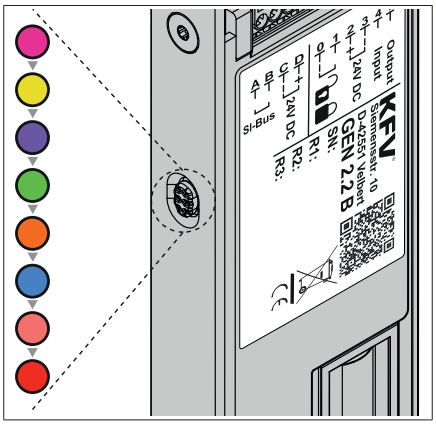
6.4 Manual adjustment of the magnetic sensor on GENIUS 2.2



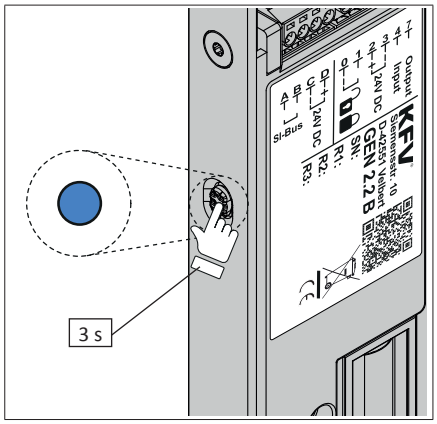


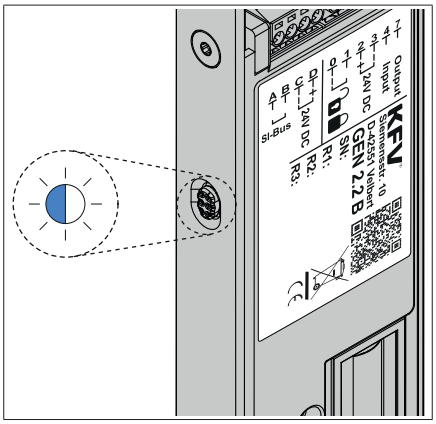
- proceed to the GENIUS 2.2 menu.
- To proceed to the menu, press the button on the GENIUS 2.2 for 8 seconds until the menu LED magenta lights up. The LED lights up blue or white during these 8 seconds.
- An acoustic signal sounds as acknowledgement.



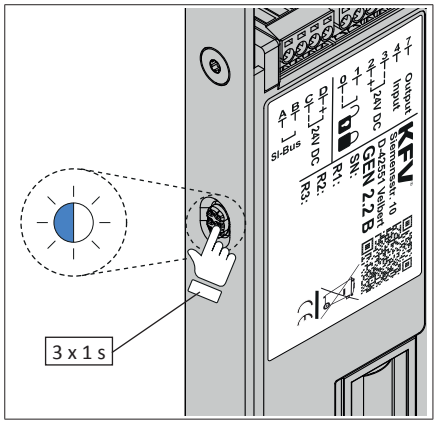


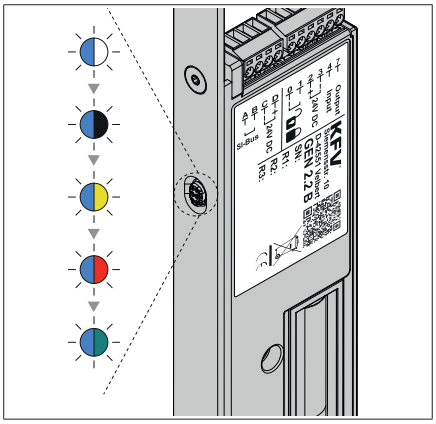
- Press the button several times quickly in succession (approx. 1 second each time) until the LED lights up light blue (for GENIUS 2.2 EA / CA -> 3 x and for GENIUS 2.2 EB -> CB 5 x). You will change to the main menu.
- Every press of a button is acknowledged by an acoustic signal.





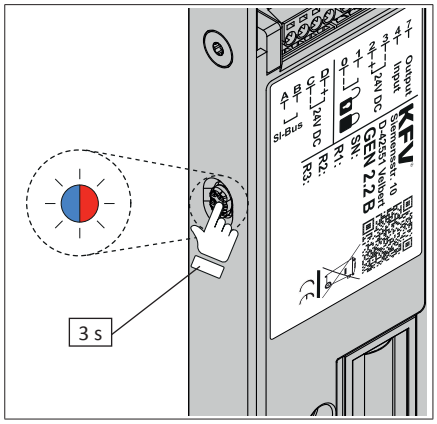
- If the LED lights up light blue, hold down the menu button for approx 3 seconds. You will then proceed to the sub-menu.
- An acoustic signal sounds as acknowledgement.
- The LED flashes alternatively light blue/white.

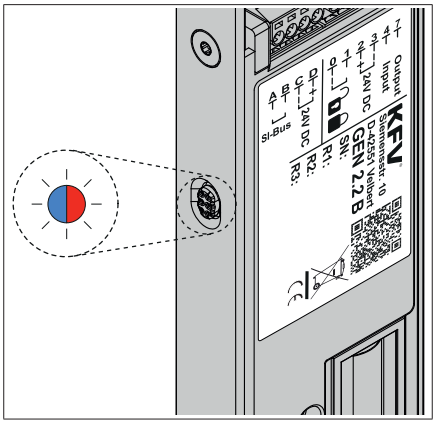




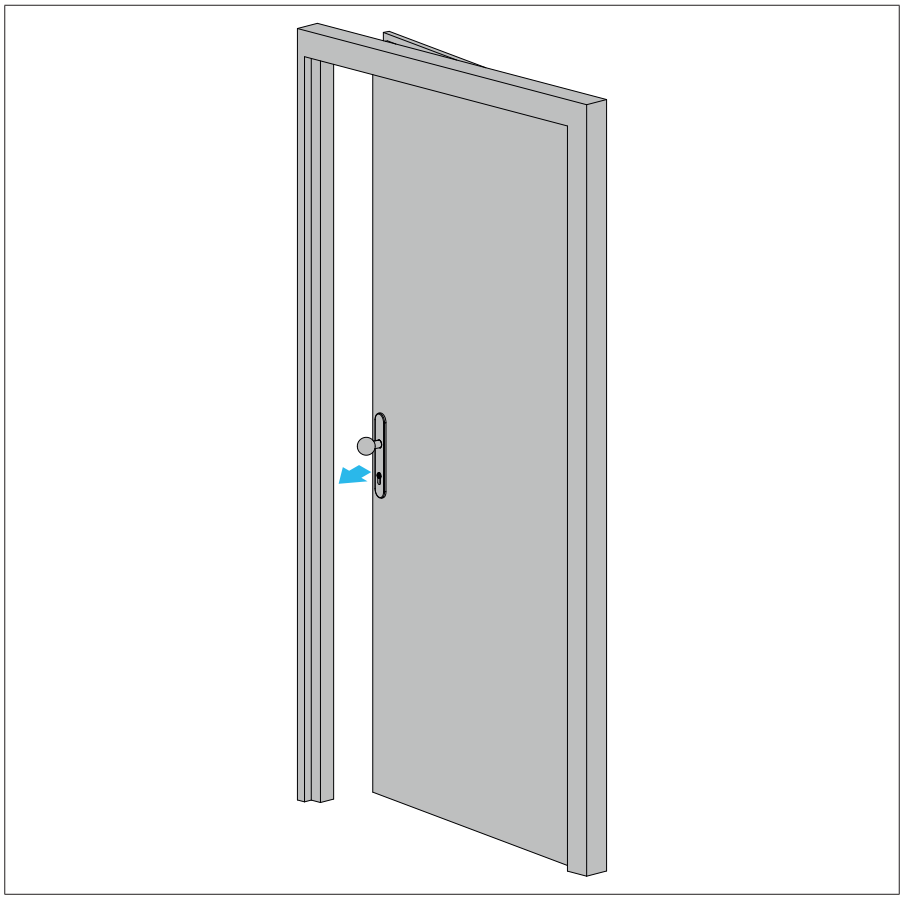
- Press the button 3 times quickly in succession (approx. 1 second each time) until the ED flashes light blue/red.
- Every press of a button is acknowledged by an acoustic signal.

GENIUS 2.2, Electromechanical multi-point lock





- Hold down the button for approx 3 seconds to adjust the magnetic sensor.
- An acoustic signal will sound for approx. 4 s (alternating tone).
- Do not close the door yet.



- A continuous tone is sounded after approx. 4 s.
- Now close the door.
- Adjustment of magnetic sensor follows. This procedure can take a few seconds.
- If the magnetic sensor has been successfully adjusted, the locking elements will move to the locking position.
- The status LED lights up green.

Further information on operation of the GENIUS 2.2 can be found in the enclosed operating instructions.

7 Functional test

- In order to check the functionality, the door and the door frame must be positioned vertically.
- Adhere to the screw torque specified by the producer
- Check whether the profile cylinder complies with the specification in chapter 2.2.

7.1 Check the locking and opening of the door

Switch the GENIUS 2.2 multi-point lock to day mode (see operating instructions).

Test point	Description	Action
Close the door	The door must engage into the frame.	The door must be adjusted if the frame parts and elements of the multi-point lock grind against each other.
Door closed:	The latch must keep the door securely closed.	The door must be adjusted if it opens again. Get in touch with your contractual partner.
• Lock the door with the key: • Open door	• all locking elements must move freely. • All locking elements must extend and retract freely in the frame parts when the door is closed. • When the key is removed and the door is locked, the child-proof lock must be active and the lever handle blocked. • Activate the lever handle. All locking elements and the latch must move freely. The lever handle must return to its original position by itself. • The latch must extend completely again after the lever handle is released.	If the locking elements move sluggishly, this can be due to various causes: • side adjustment of the frame parts: the sealing of the door leaf is influenced by distortion of the frame parts. If this is excessive, it can lead to sluggishness. Adjustment of frame parts and AT piece (see page 33 and 35) • Insufficient lubrication (see page 42) The GENIUS 2.2 multi-point lock must be serviced if the sluggishness remains. Get in touch with your contractual partner in all aforementioned cases.

7.2 Check the electromechanical locking and release

Switch the GENIUS 2.2 multi-point lock to night mode (see operating instructions).

Test point	Description	Action
• Close the door: the GENIUS 2.2 multi-point lock will move to the locking position.	All locking elements must lock freely.	If the locking elements move sluggishly or the locking process results in a block move (the GENIUS motor moves to the "unlocked" position with excessive resistance and a signal sounds), this can be due to various causes: • side adjustment of the frame parts: the sealing of the door leaf is influenced by distortion of the frame parts. If this is excessive, it can lead to sluggishness: adjust frame parts and AT piece (see page 33 and 35) • Insufficient lubrication: (see page 42). The GENIUS 2.2 multi-point lock must be serviced if the sluggishness remains. Get in touch with your contractual partner.
• Open door: activate lever handle from the inside • Release the door with the key	All locking elements must release smoothly and completely. The latch must be able to retract completely and with ease. The door must open easily	

7.3 Check the functioning of the optional access control system

If an optional access control system (e.g. a fingerprint scanner) is to be installed in combination with the GENIUS 2.2, refer to the relevant instructions for information about commissioning and testing.

7.4 Troubleshooting

7.4.1 Malfunction of the lever handle

If the lever handle does not return to its original position by itself, there is a malfunction.

- ▶ Check the routed pocket for dimensional accuracy.
- ▶ Check that the lever handle is correctly seated.
- ▶ Check that the door hardware is correctly seated.

If the lever handle does not return to its original position by itself, the multi-point lock must be checked by KFV.

7.4.2 Malfunction of the profile cylinder

- ▶ If you cannot remove the key, dismount the profile cylinder and check it for malfunction.
- ▶ If the profile cylinder does not function faultlessly, replace the cylinder and repeat the test step.

If the profile cylinder functions faultlessly, there is a mechanical disorder in the multi-point lock.

- ▶ Check whether the locking elements run smoothly into the frame parts. If this is not the case, adjust the frame parts.

7.4.3 Malfunction of the magnetic sensor

If the GENIUS 2.2 does not move to the locking position, check the function of the magnetic sensor. To do this, open the door and hold a magnet to the magnetic sensor (see chapter 4.1 and 4.2).

- ▶ The magnetic field sensor is working correctly if the GENIUS 2.2 moves to the locking position. Check the position of the magnet and the airgap and adjust this according to the specification (3.5 mm+- 1.5 mm).
- ▶ Then carry out a manual adjustment of the magnetic sensor (see chapter 6.4).

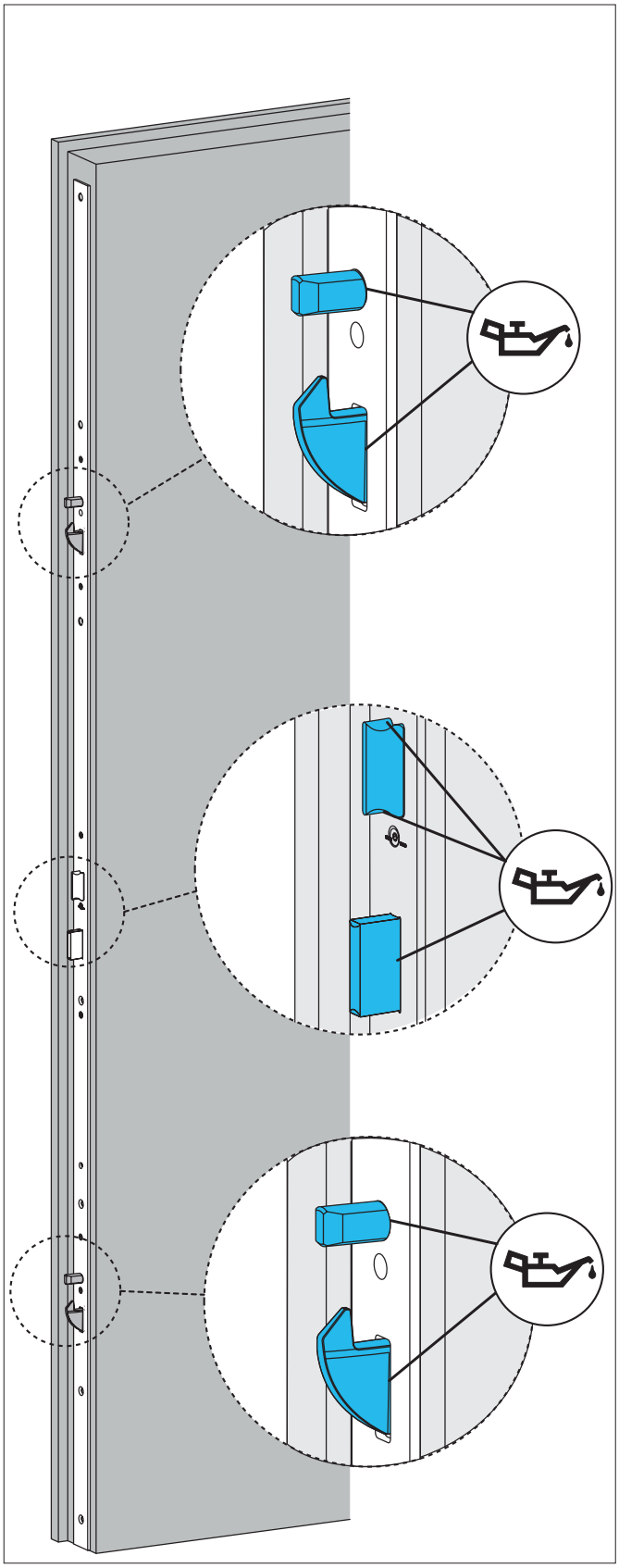
7.4.4 Malfunction due to block movement

If due to a block movement, the GENIUS 2.2 does not move completely to the locking position, an acoustic error signal will sound and the status LED will flash red.

- ▶ Check whether the locking elements run smoothly into the frame parts. If this is not the case, adjust the frame parts.

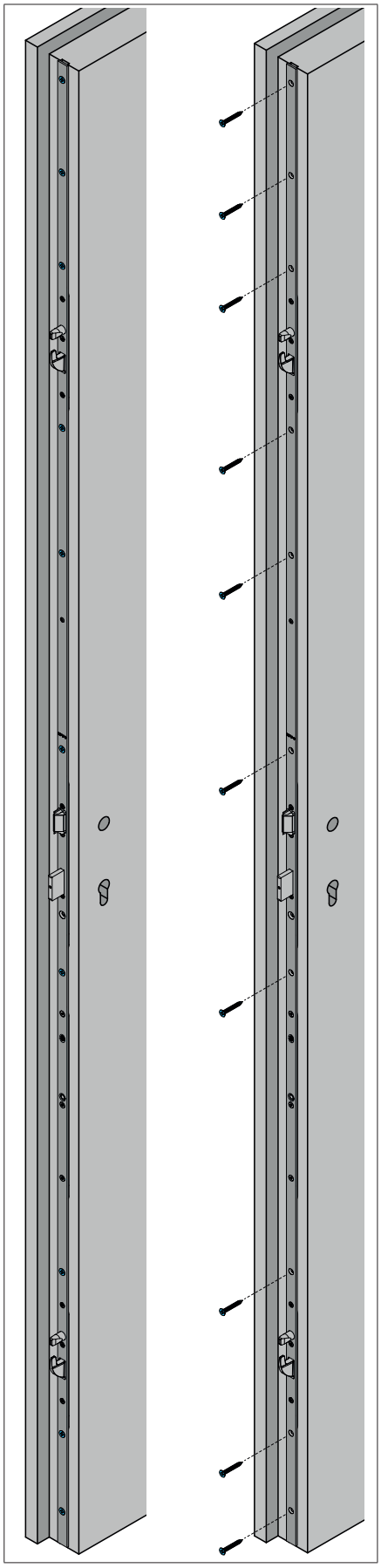
7.5 Lubrication

All the lubrication points defined below must be lubricated if necessary, and at least once annually.



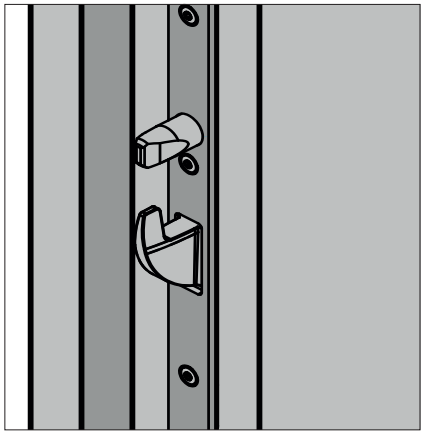
8 Replacement of the GENIUS 2.2 drive

8.1 Dismantling the multi-point lock



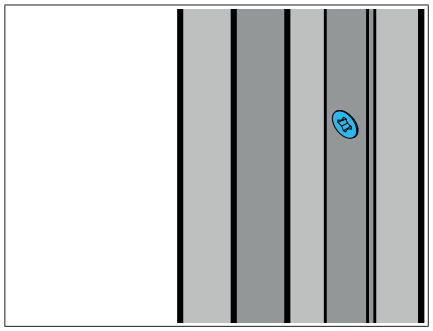
▶ Lock the multi-point lock using the key with the door open.

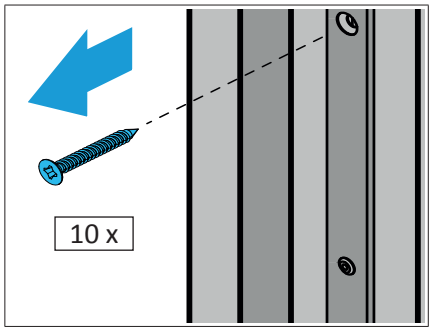
The locking elements are in the locking position:



▶ Remove the hardware components (lever handle set, cylinder).

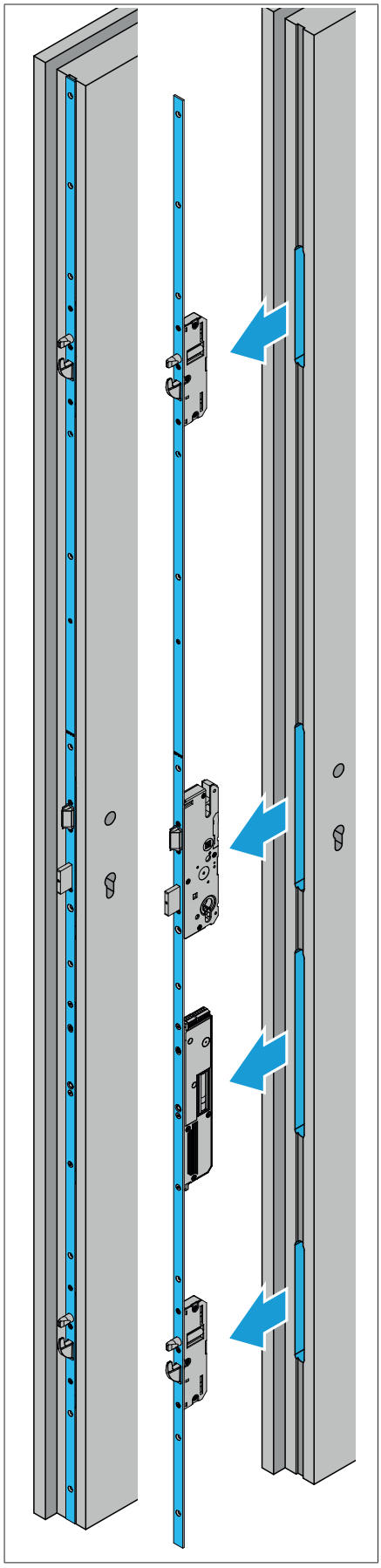
▶ Loosen the fixing screws of the multi-point locking system.





▶ Remove the multi-point lock from the door leaf.

!	Ensure that the cable connection is not damaged while you remove the GENIUS.



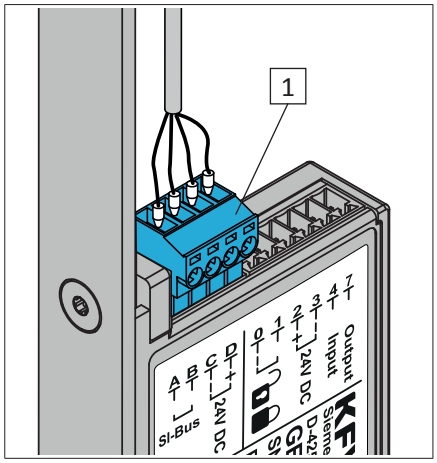
8.2 Dismounting the defective GENIUS 2.2 drive

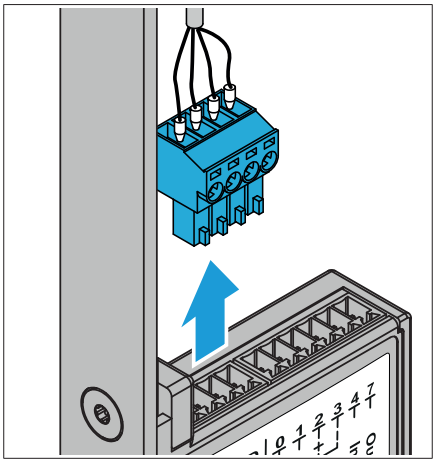
⚠ WARNING

Electric shock or fire due to exposed electrical components

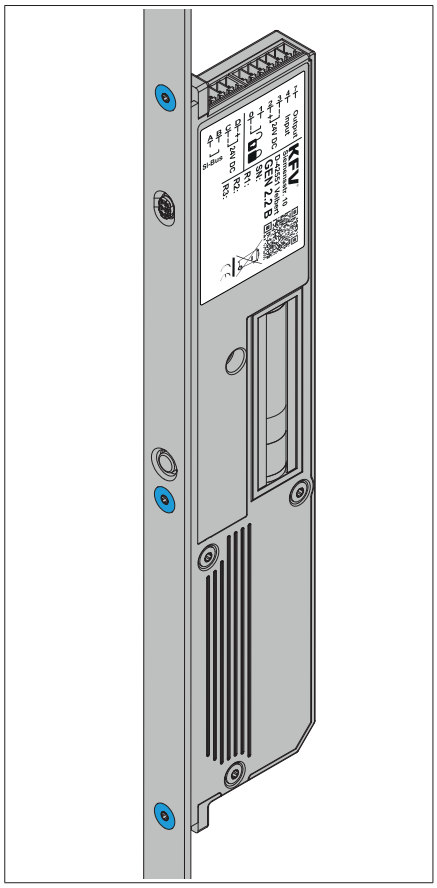
You could suffer an electric shock if you touch the electrical components. Flying sparks could cause a fire. You could suffer life-threatening injuries caused by electric shock or fire.

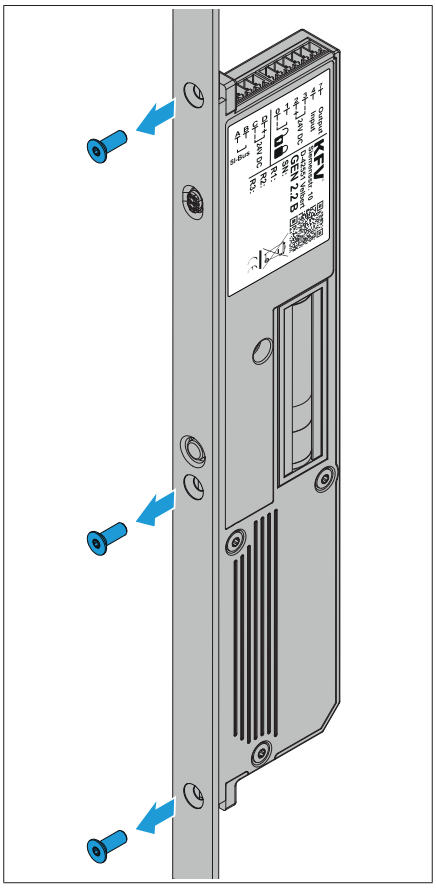
- Switch off unit prior to work.
- Pull the mains plug out of the socket.
- With a fixed connection at the 230-V AC mains power supply, switch off the safety device at the mains connection.





▶ Pull the green plug [1] out of the SI-BUS connection or from the analogue connection of the GENIUS.





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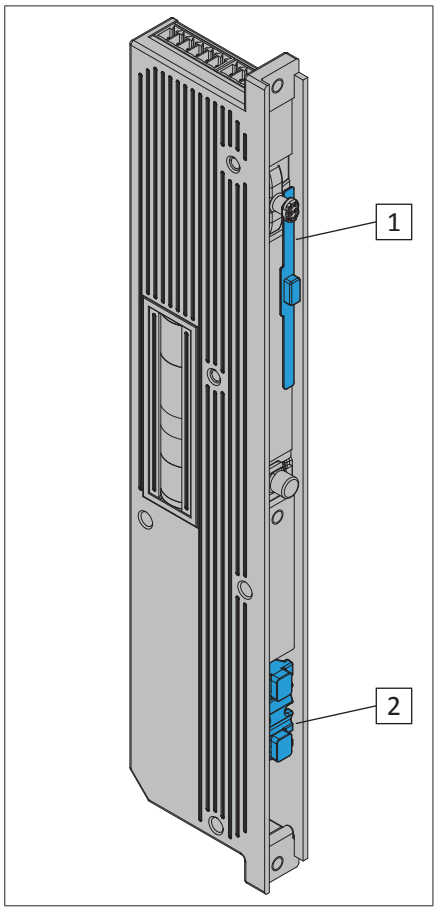
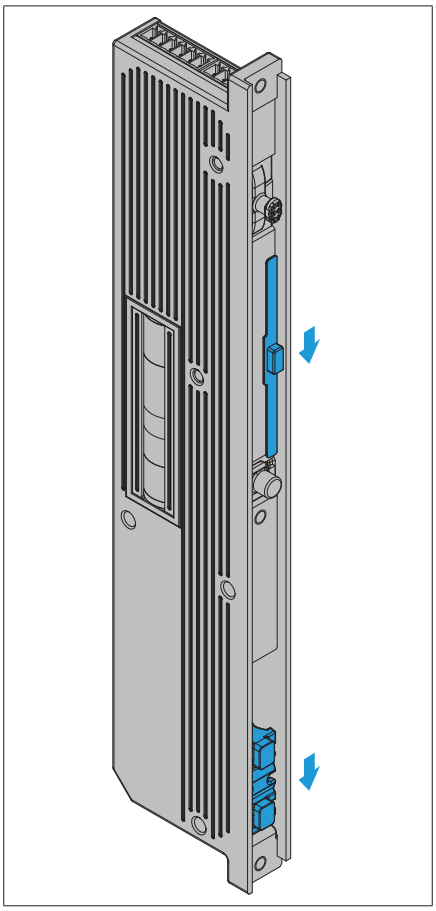
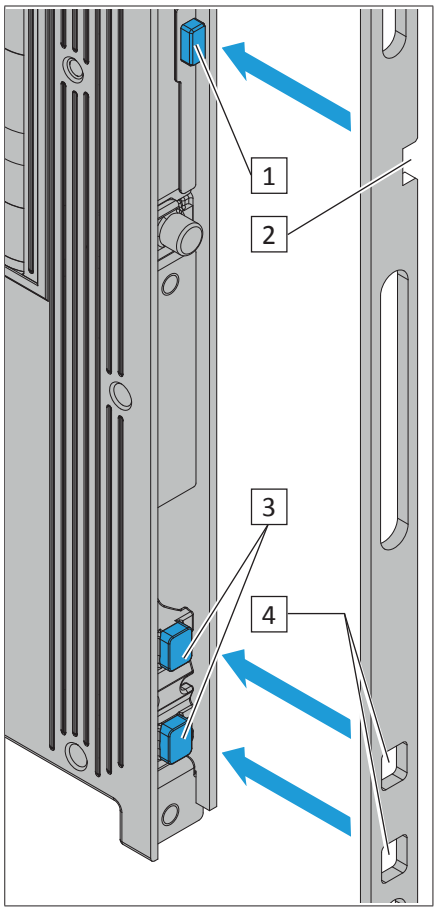
▶ Loosen and remove the Torx screws that fix the drive to the faceplate.

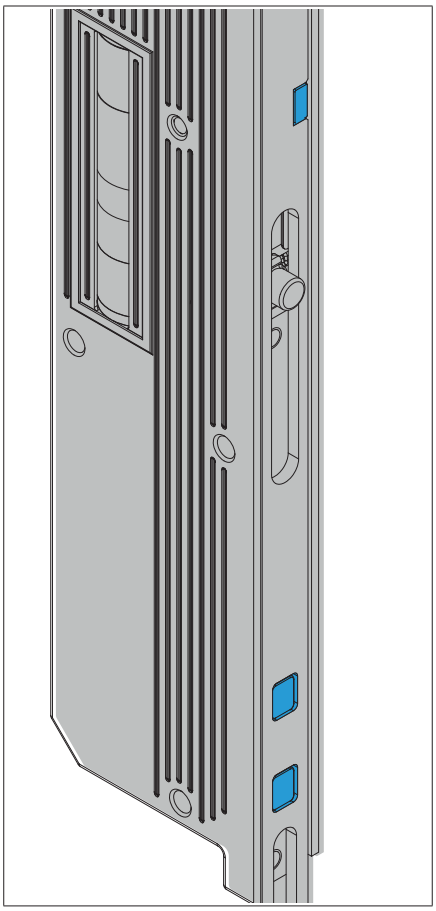
8.3 Installing new GENIUS 2.2 drive



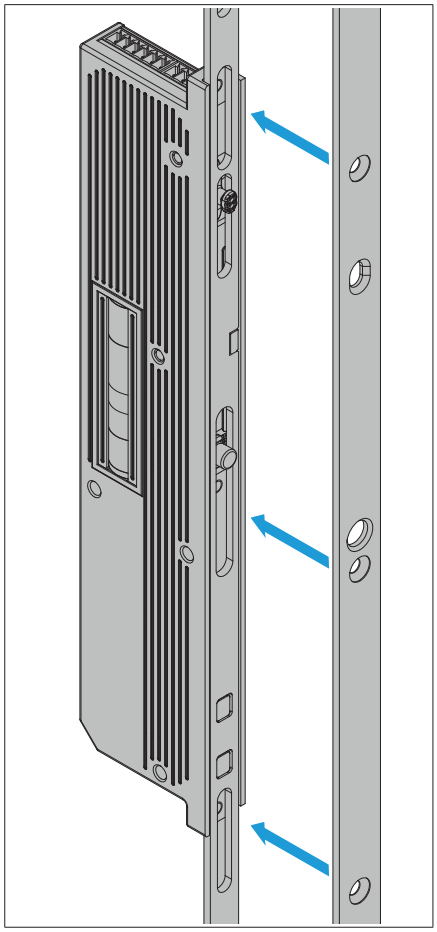


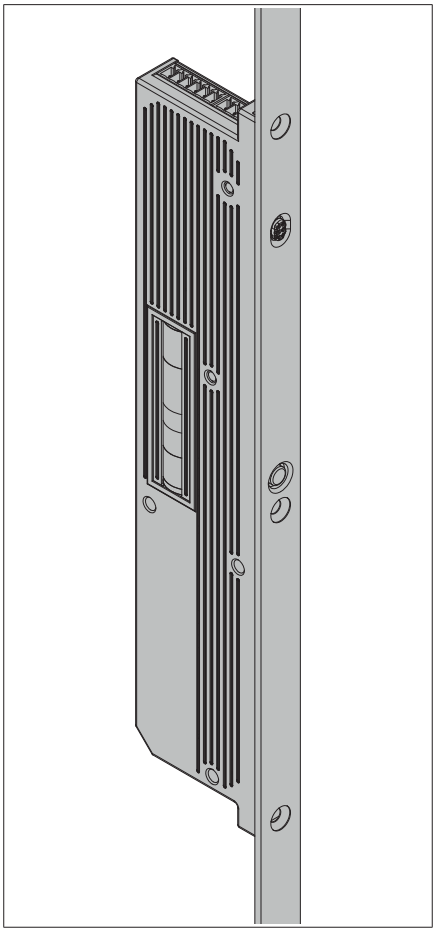
- Push the slider for the position inquiry [1] and the slider for the drive rod [2] into the bottom position.



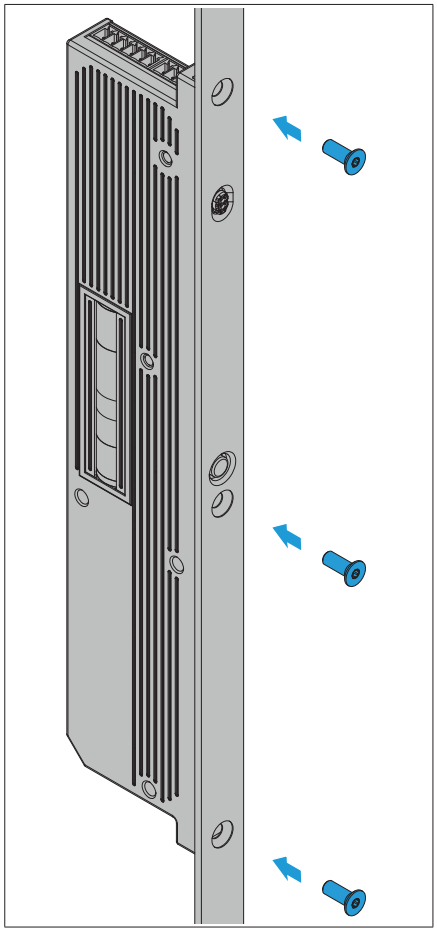


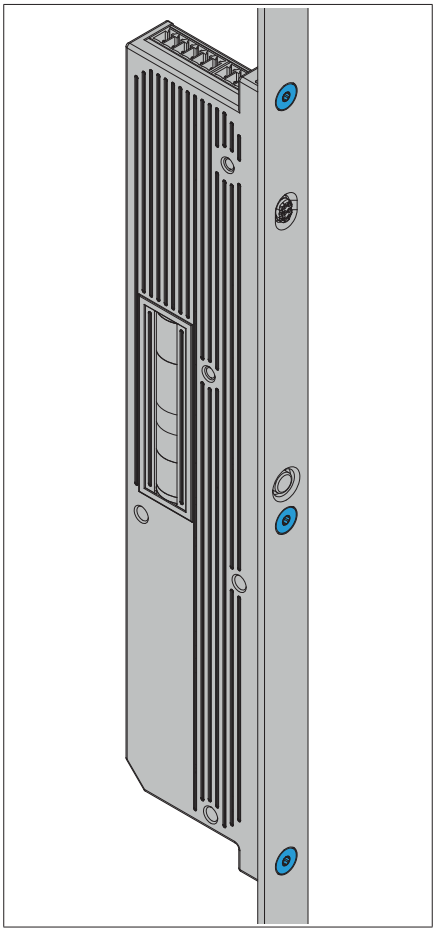
- Bring the multi-point lock into the locked situation.
- Suspend the GENIUS 2.2 drive in the drive rod.
- Fit the cam of the slider for the position inquiry [1] into the top recess [2].
- Fit the cams of the bottom slider [3] into the bottom recesses of the drive rod [4].





- Position the faceplate on the drive and the drive rod.





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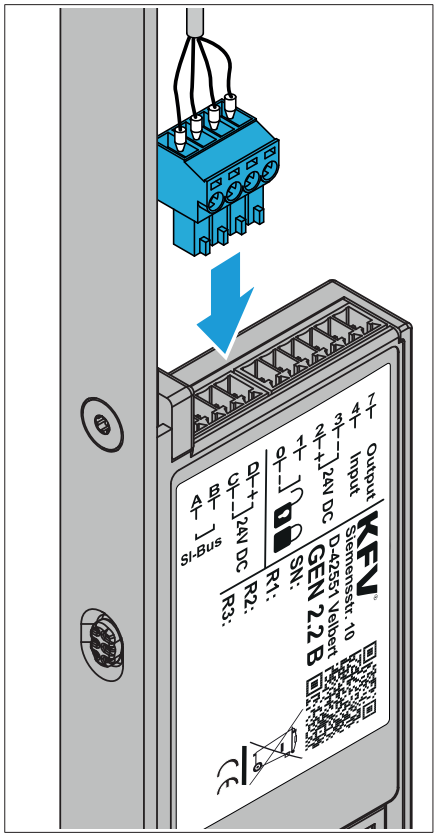
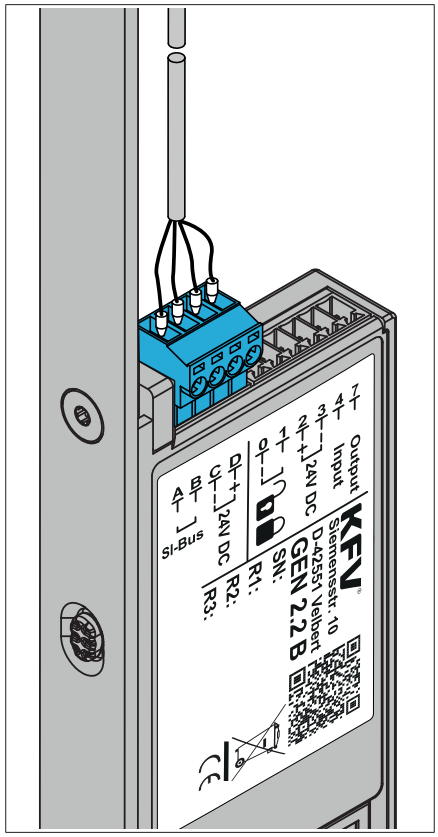
- Screw the GENIUS 2.2 drive onto the faceplate using the Torx screws included in the delivery.
- Use screw lock paint to secure the screws.





- Attach the green plug [1] from the SI-BUS connection or from the analogue connection to the GENIUS drive.

- For further installation of the multi-point lock, see chapter 5.5 on page 26.
- Perform a reference run (see page chapter 6.4 on page 37.
- Finally, perform a functional test (see chapter 7 on page 41).

9 Technical specifications

Environmental conditions		
Ambient temperature range in the door (according to DIN EN 14846 class K,M,L,N,P)	T_{UM}	- 25 °C to + 70 °C
Relative humidity		20% to 80% (non-condensing)
Protection class		IP 40

Electrical data		
Operating voltage	U_B	24 V DC (19 V DC to 32 V DC)
Operating current standby / standby	I_{ST}	Type 30 mA
Operating current for motor control	I_B	Type 500 mA (max. 1000 mA)
Reverse polarity protection	U_{Verp}	- 50 V
Output signal terminal 7		
Switches actively against mass (GND)	I_{KL7}	≤ 20 mA
Input signal terminal 4		
Release On	$U_{KL4.ON}$	+ 24 V DC (+ 19 V DC ...+ 32 V DC) > 1 s
Input signal terminal 0/1		
Day mode / night mode	potential-free; closed = day mode; open = night mode	

Magnetic sensor	
Airgap	3.5 ± 1.5 mm (with original magnet and correct adjustment)

Dimensions		
Dimensions	W x L x D	16 mm, 252 mm, 49 mm + faceplate thickness

Cable lengths		
Cable length at 0.14 mm²	LIYCY	≤ 24 m
Cable length at 0.5 mm²	LIYCY	≤ 50 m

10 Disposal

- The multi-point lock and the optional accessories should not be disposed of with household waste. Comply with the current local and national regulations.
- The packaging consists of raw materials that can be recycled and can be taken to the local recycling disposal site.

Electrical devices should not be disposed of as household waste. Bring the device, accessories and packaging to an environmentally-friendly recycling facility.

11 EC declaration of incorporation

Producer	KFV Karl Fliether GmbH & Co. KG Siemensstr. 10 D - 42551 Velbert	
declares that the product:	device type: **Electromechanical drive for multi-point locks**	Designation of type: **GENIUS 2.2 A / B / PANIC**

meets the following fundamental requirements:

EMC Directive	2014/30/EU EN 61000-6-2:2005 + Cor.: 2005* EN 61000-6-3:2007+A1:2011 class B EN 61000-3-2:2014 EN 61000-3-3:2013
RoHS Directive	2011/65/EU

*Only test modules ICI3+4, ICS, VDI

This declaration is based on test reports from:

Nemko GmbH & Co. KG, Test and Certification Authority; test report identification number: FS-1708-336996-001

The incomplete machine may only be commissioned if it has been ascertained that the machine into which it is to be installed conforms to the specifications of the Machinery Directive.

We undertake to provide such documentation to the regulatory authorities in electronic format within a reasonable time upon a well-founded request. The aforementioned technical documentation can be obtained from the producer.

Velbert, 2019-08-28

Uwe Ziewers
(Werkleitung)

The technical documents are provided by KFV Karl Fliether GmbH & Co. KG.

This declaration certifies conformity with the directives cited but does not constitute a warrant of properties in a legal sense.

The safety instructions provided in the product documentation supplied require compliance.

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