INSTALLATION AND OPERATING INSTRUCTIONS

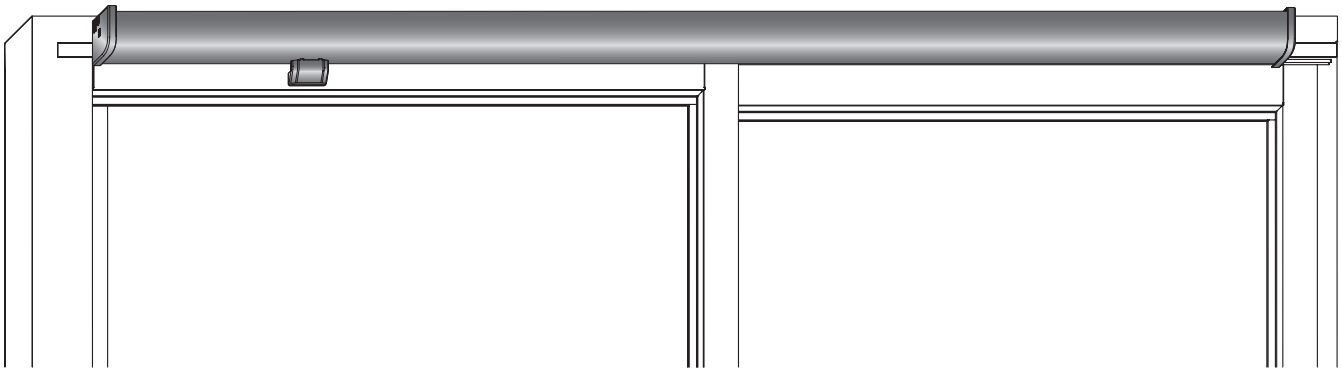
SIEGENIA®
brings spaces to life

DRIVE

MHS400 smart

Motorised lift-slide drive.

Window systems
Door systems
Comfort systems



Contents

1. General information

Please read these installation and operating instructions carefully and in full before commissioning the HS system MHS400 smart.

1.1 Target group of this documentation

- This documentation is intended for use by specialists and end users.
- All instructions concerning installation, commissioning and repairs contained in this document are to be performed exclusively by electricians with training and experience in the installation, commissioning, maintenance and servicing of motorised drives.
- All instructions on operation, care and maintenance as well as the rectification of malfunctions described here are intended for specialists end users.
- Following installation, the installation company must hand over the installation and operating instructions to the end user and brief the user/owner of the building accordingly.

1.2 Intended use

- The MHS400 smart system uses an electric motor to open and close windows and patio doors with lift-slide hardware (e.g. PORTAL HS).
- The standard MHS400 smart system is not suitable for use in swimming pools and/or damp rooms. Special designs are possible and permitted only upon request and after having been tested by SIEGENIA.
- The MHS400 smart must only be operated with hardware and genuine accessories from SIEGENIA (hardware from third-party manufactures upon request).
- It must be possible to access and disassemble the slide drive SA at all times should maintenance and service work be required (curtain rods, lamps, ceiling covers, roller shutter housings, etc. must not hinder removal).
- The instructions contained in ASR A 1.6, VFF data sheet KB.01 as well as EN 12453 for power-operated windows, doors and gates must be observed!
- If you are using the system for commercial purposes, you must also observe the safety instructions of your accident insurance provider.
- Following installation of the MHS400 smart, you must carry out a reference run as well as a calibration and teach-in run when the unit is commissioned for the first time.

1.3 Incorrect use

- Lift and slide elements that are equipped with the MHS400 smart HS system must not be used as escape doors/ emergency exits in the event of a fire!
- Any use of this product that is not in accordance with its correct use, or any adaptation of or modification to the product and its associated components for which the express consent of SIEGENIA has not been obtained, is strictly prohibited. SIEGENIA accepts no liability whatsoever for any material losses or injury to people caused by failure to comply with this stipulation.

1.4 Dimensions

- All the dimensions in this documentation are specified in mm.

2. Safety notes

Risk of injury or fatal injury. Hands, arms, legs and feet can get trapped and/or crushed in systems driven by an electric motor.

- Make sure that no parts of the body or objects are within the shearing and locking area of the system.
- Particularly when lowering lift and slide elements, make sure that no parts of the body or objects are under the lift & slide sash.
- Do not leave children unattended near a lift and slide element.

Risk of injury or death due to electrical shock or fire. Systems driven by an electric motor can overheat and cause fire.

- Insert the Euro mains plug of the standard connecting cable only into a suitable 230 V AC mains power supply socket.
- Only a qualified electrician may perform any work on the 230 V AC mains power supply.
- Current local regulations (such as VDE 0100 of the VDE in Germany) must be observed.
- Relevant country-specific regulations must be strictly followed for all work on the voltage supply system or building wiring system.
- All-pole safety isolation is required when the mains cable is laid on-site because the power supply does not have a separate line disconnector.
- Connect in-wall supply lines to the MHS400 smart HS system in branch boxes. These branch boxes must be kept accessible for maintenance.
- When cleaning the lift & slide sash and the drives, make sure that no liquid gets inside the MHS400 smart HS system as this could damage the electronics.
- The unit must be checked by a specialist in the event of a fault.

Injuries caused by falling objects.

- Please do not put or place objects on top of the MHS400 smart.

Hazard due to third party attacks on SIEGENIA WLAN devices! Please observe the following notes to protect your system against attacks by third parties:

- Every SIEGENIA WLAN device is protected by two passwords (user and administrator). It is essential that you change these passwords after the initial setup. Do not leave in the default setting.
- If the SIEGENIA WLAN devices are integrated in your home WLAN, this must be encrypted for operation.
- Please choose secure passwords consisting of lower case and capital letters, numbers and special symbols.

3. Device functions

3.1 General product description

- The MHS400 smart is a motorised HS system for the automatic locking, release and movement of lift & slide sashes (lift and slide elements, scheme A and C).
- The MHS400 smart can be controlled by a tablet or smartphone and offers additional device functions via the SIEGENIA Comfort app. Please follow the enclosed quick start instructions (H47.MOTS005EN).
- The slide drive SA features an electronic cut-off function (see "3.3 Information on safety cut-off and jam protection" on page 7).
- To further increase safety during travel, the slide drive SA with terminal board allows for the integration of a light curtain. If an object is moved into the path of the lift & slide sash, the lift & slide sash is stopped immediately.
- In the event of a power failure, the MHS400 smart can be operated manually using the emergency operating handle.
- The lift & slide sash can be moved into a freely programmed intermediate position (intermediate stop).
- The lift & slide sash can be moved into a secured night vent position (only the PORTAL HS).

3.2 Control

The MHS400 smart system offers the following control options:

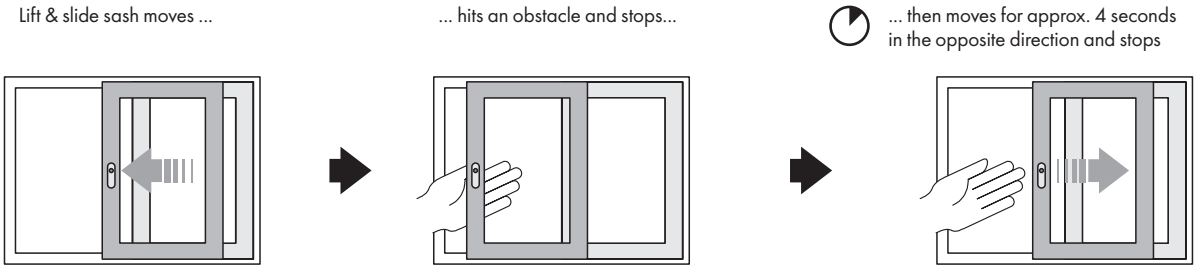
Function	Lift & slide sash end position	Button on the lift drive	SIEGENIA Comfort App	Infrared remote control (optional accessory)	On-site button
Reference run	Closed and locked	✓	–	–	–
Calibration and teach-in run	Closed and locked	✓	–	–	–
Open	Unlocked and open	✓	✓	✓	✓
Close	Closed	–	✓	✓	–
Lock	Closed and locked	✓	✓	✓	✓
Intermediate stop	User-defined, limited opening width	✓	✓	✓	–
Night vent	Night vent position (locked in locking bolt/locking part)	–	✓	✓	–
10-min. night vent		✓	✓	✓	–
Night vent timer (0–60 min.)		–	✓	–	–
Open up to the end position	Unlocked and fully open (up to stop)	✓	–	–	✓

3.3 Information on safety cut-off and jam protection

General information on safety cut-off

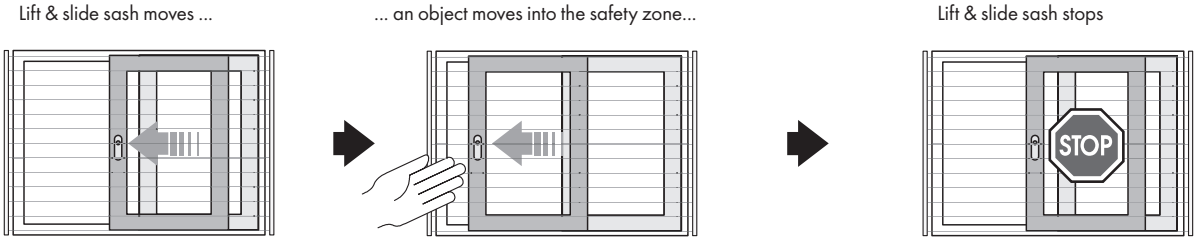
As soon as the path of a lift & slide sash becomes blocked (e.g. due to an obstacle or because it is stuck), it stops, moves for approx. 4 seconds in the opposite direction and then comes to a final stop (see figure below).

For increased safety in the area around the bottom shear points between the lift & slide sash and the HS frame, in normal motor-powered operation, the lift & slide sash only moves as far as a defined opening position.



Safety shutdown in systems with light curtain

If additional safety requirements apply, the optional terminal board must be ordered. To prevent injuries and damage, the safety cut-off function is activated, which causes the lift & slide sash to stop immediately. If equipped with a light curtain, the lift & slide sash is opened fully to its stop.



3.4 LED indicator

The LED is attached to the lower edge of the slide drive SA. Please note the light indicators in the LED. The indicators and their meanings are listed in the table below:

Function and meaning	LED
System test	Flashes yellow or red/green alternately
Teach in	Flashes red
Move in direction of "Open" position	Continuously green
Move in direction of "Close/Lock" position	Continuously red
10-min. night vent (timer running)	Flashes green
Night vent (without timer)	Off
Intermediate stop (limited opening width)	Off
Locked	Off
After a power failure	Flashes red

4. Scope of delivery

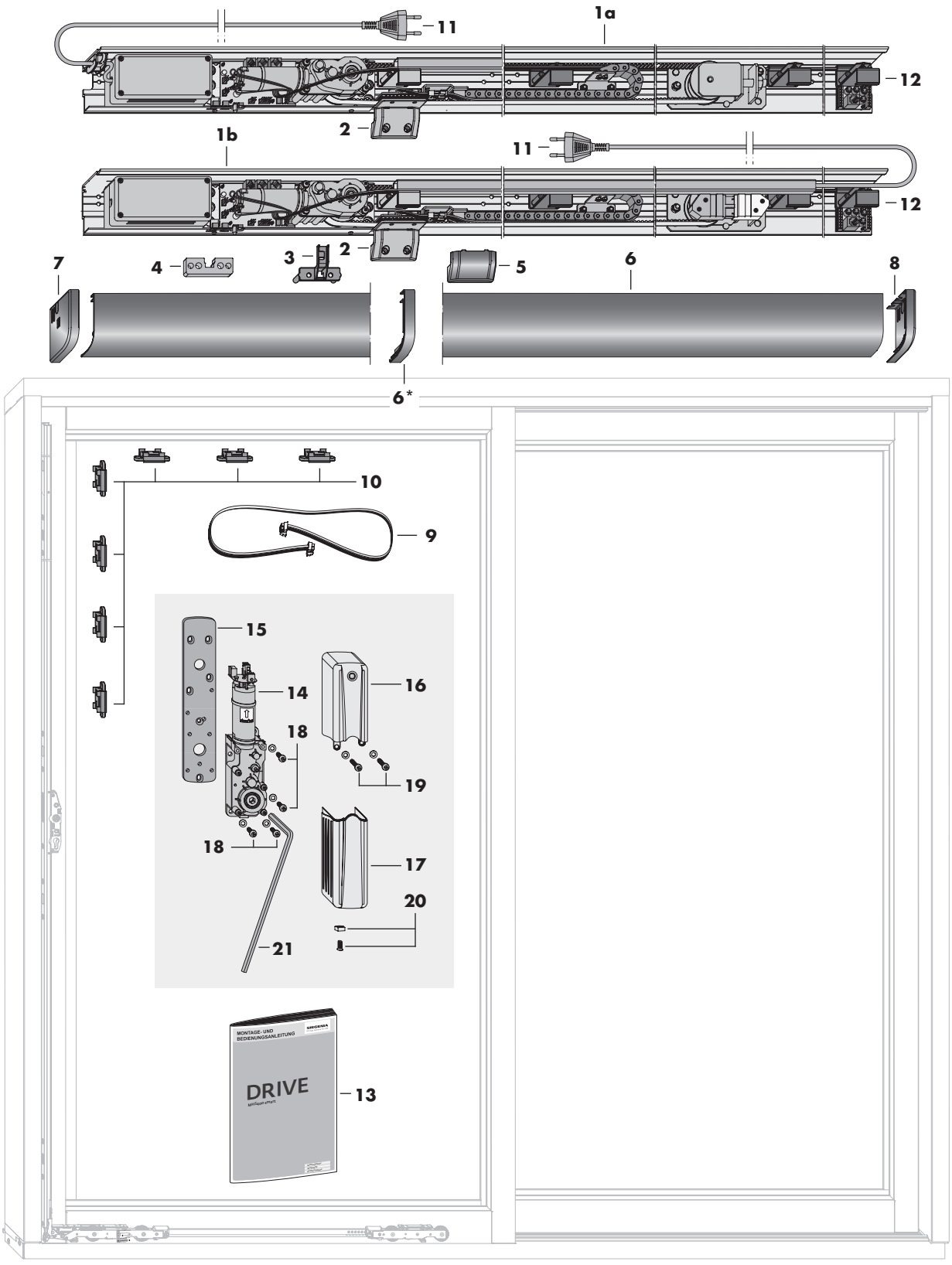
Number of pieces	Size by slide drive MHS400 smart	Size range in mm	Colour
1	Scheme A, size 1 (one slide drive each on left or right)	2144 – 2794	White RAL 9003 Silver RAL 9006
1	Scheme A, size 2 (one slide drive each on left or right)	2795 – 4099	
1	Scheme A, size 3 (one slide drive each on left or right)	4100 – 6666	
1	Scheme C, size 1 (one slide drive each on left and right)	4284 – 5584	
1	Scheme C, size 2 (one slide drive each on left and right)	5585 – 8194	
1	Scheme C, size 3 (one slide drive each on left and right)	8195 – 13328	

Pos.	Number of pieces A	Number of pieces C	Contents of slide drive SA carton	Version
1a	1	–	Scheme A - Slide drive SA	Including 24 V power supply
1b	–	2	Scheme C - Slide drive SA	
2	1	2	Catch	For slide drive SA
3	1	2	Catch base	For lift & slide sash top
4	1	2	Packer (2.5 / 5 / 8/ 10 mm thick depending on profile system)	For catch on lift & slide sash top
5	1	2	Cover cap M	For catch
6	1	1	Cover profile SA	For slide drive SA
	–	2	Cover profile SA with profile connector	
7	1	1	Cover cap SA left	For cover profile SA
8	1	1	Cover cap SA right	For cover profile SA
9	1	2	Sash cable (flat ribbon cable, 6-wire)	For slide drive SA
10	12	24	Cable holder	Clip-on or screw-on
11	1	1	Network connection cable with Euro plug	On slide drive SA, 5 m cable length
12	1	1	Terminal board (optional)	For connecting light curtain*
13	1	1	Installation and operating instructions	

*e.g. if the result of the risk analysis requires a light curtain

Pos.	Pieces		Contents of lift drive HA carton	Version
14	1	2	Lift drive HA	
15	1	2	Fixing plate HA	For lift drive HA
16	1	2	Cover cap HA top	For lift drive HA
17	1	2	Cover cap HA bottom	For lift drive HA
18	4	8	M5 x 10 mm fixing screws (inc. washers)	For fixing plate lift drive HA
19	2	4	M4 x 25 mm fixing screws (inc. washers)	For cover cap HA top
20	1	2	M5 x 19 mm fixing screw with M5 square nut	For cover cap HA bottom
21	1	1	Emergency operating handle	Hexagon wrench WAF 8

4.1 Component and accessories overview



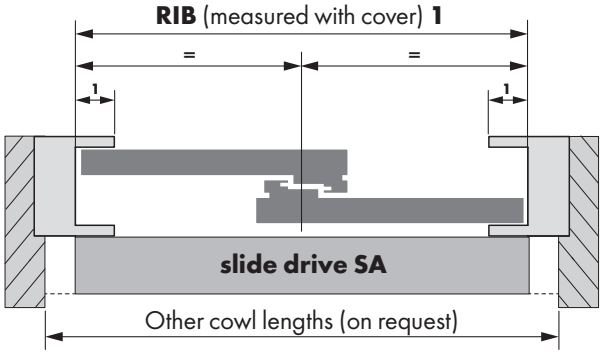
5. Size range

	Scheme A	Scheme C
Inside frame width (RIB) size 1	2144 mm – 2794 mm	4284 mm – 5584 mm[1]
Inside frame width (RIB) size 2	2795 mm – 4099 mm	5585 mm – 8194 mm[1]
Inside frame width (RIB) size 3	4100 mm – 6666 mm	8195 mm – 13328 mm[1]
Sash height[2] (standard for PORTAL HS)	1175 mm – 2675 mm	1175 mm – 2675 mm
Sash weight PORTAL HS 200	max. 200 kg	max. 200 kg
Sash weight PORTAL HS 300	max. 300 kg	max. 300 kg
Sash weight PORTAL HS 400	max. 400 kg	max. 400 kg
Max. permissible sash weight for MHS400 smart	max. 400 kg	max. 400 kg
Backset (gear) PORTAL HS 200	27.5 mm	27.5 mm
Backset (gear) PORTAL HS 300	37.5 mm	37.5 mm

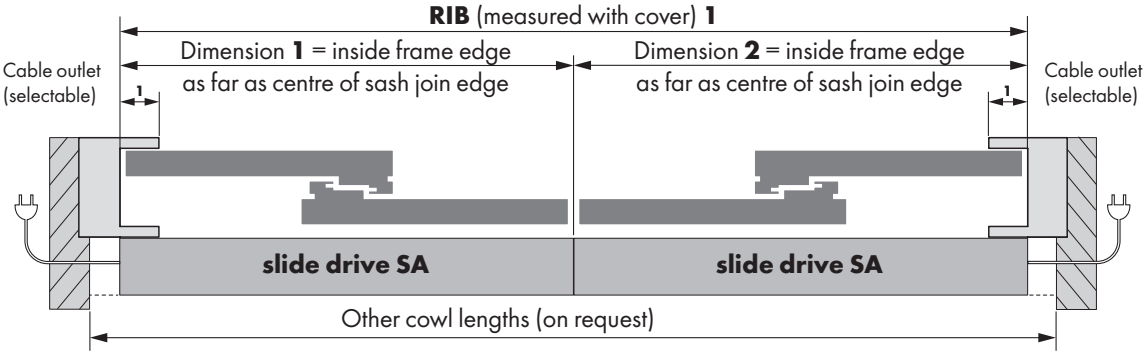
[1] per slide drive = RIB/2

[2] for other sash heights (on request), note the special cable length!

Dimension drawing – Scheme A



Dimension drawing – scheme C



6. On-site risk and hazard analysis

In order to assess the potential hazards of a power-operated window and to take the appropriate protective measures, you must assess risks in the planning phase. A risk analysis provides you with all the information needed to assess risks and make decisions concerning the safety of the window elements. The lift and slide element of the MHS400 smart can cause crushing and shearing. You must carry out a risk and hazard analysis during the planning phase in accordance with VFF data sheet KB.01 and the current Machinery Directive relating to the safety equipment and installation location as appropriate for the individual property and conditions of use (e.g. in case of persons requiring special protection or commercial properties).

6.1 Risk and hazard analysis

- Takes into account the protective measures necessary in the planning phase
- Must be carried out before commissioning
- Provides information based on the individual installation location and instructs users on how to install the window system in order to prevent or minimise possible hazards
- Draws attention to possible residual risks

The following aspects must be checked:

- Public or non-public area (private or industrial property)
- Installation location
- Users (authorised users, persons in need of protection or trained personnel)
- Special structural conditions
- Type of access control
- Requirements for added safety can be met with a light curtain

6.2 Instructions for assembly and installation

- Use flexible supply lines (route conduit tubes if necessary)
- When routing cables, avoid damaging the cables by crushing, bending or stretching them
- The concealed mains supply lines running to the MHS400 smart must be connected in branch boxes (these branch boxes must be easily accessible for maintenance)
- Protect the MHS400 smart system against contamination by site material and humidity
- The hardware components must be securely fixed in place
- Connect to the mains supply only after you have tested for proper mechanical function
- Observe the applicable fabrication guidelines from the profile manufacturer
- To avoid personal injury, it is important to observe the safety precautions provided in these instructions and make sure that these instructions are accessible at all times

6.3 Cooperation between trades and interfaces

In the context of project management, the work of the various trades must be carefully coordinated. If SIEGENIA components are being connected to third-party installations or SIEGENIA products are being combined with parts by other manufacturers (e.g. drives and controls), technical compatibility must be verified in advance by authorised personnel. For data collation purposes, the technical data sheets and the latest versions of the installation and operating instructions must be handed over to the trades involved when work commences.

7. Installation

7.1 Installation requirements

General information about installation

- The following description of the assembly process is a recommendation from SIEGENIA and describes the major steps involved. The specific details of the assembly process are determined, amongst other factors, by the HS element used, by the production process and by the window manufacturer's equipment and facilities.
- You will find specific steps for installation of the MHS400 smart on our download portal: downloads.siegenia.com/de/00007/index.html

Tools required (not included in scope of delivery)

- Drill
- Ø 3 mm, Ø 7 mm, Ø 10 mm, Ø 15 mm timber or metal drill
- Phillips screwdriver (size 2)
- 1 screwdriver bit 90 mm long
- 2 screw clamps
- Folding rule
- Router (for timber elements)
- Between 2 and 4 assembly racks
- **Recommendation:** For straightforward and accurate positioning or fixing of the catch on the lift & slide sash, SIEGENIA recommends using the catch jig (see accessories, page 53).

Materials required (not included in scope of delivery)

Screws		Number of units (depending on RIB)* Scheme		For component
For timber and PVC elements	For aluminium elements	A	C	
Screw PC 4.1 x 38 mm	Flow-drill screw M4 x 18 mm	10–25	20–50	Slide drive SA*
		2	4	Catch
Screw PC 4.1 x 19 mm	Flow-drill screw M4 x 18 mm	4–6	8–12	Fixing plate HA
		6	12	Cable holder

Note: All screwing points must be pre-drilled to Ø 3 mm. The length of the fixing screws for PVC elements must be sufficient to penetrate deep enough into the reinforcing material to ensure a sufficient hold. Materials for lining the slide drive SA (PVC plates, for example) must be provided by the customer for certain lift & slide profile systems.

⚠ WARNING **Risk of mechanical defects if the MHS400 smart system is put into operation unassembled.**

› You must assemble the MHS400 smart first before putting it into operation!

Requirements to be met by the HS element

- The HS element must not be warped.
- The HS element must be installed vertically plumb in the reveal.
- The threshold must be properly and sufficiently supported – especially for wide or heavy HS elements (e.g. 400 kg).
- The displacement force must not be > 60 N.
- To avoid the risk of the connection cable getting crushed in the sash groove, the locking bolt or the locking part for the night vent must always be installed at the bottom on the locking side (see the latest assembly instructions for more information).
- The lift & slide sash must lock into the locking bolts or locking parts evenly.
- The cable routing of the cable in the lift & slide sash must be checked prior to assembly. The lift & slide sash must be prepared for an optimum cable channel in the eurogroove.
- For scheme A, the concealed mains cable guide must always be located on the horizontal top section of the HS frame near the locking side.
- For scheme C, the concealed mains cable guide can be located on the outside of the HS frame on either the left-hand side or the right-hand side.

Requirements to be met by the hardware

- You can find detailed specifications for size ranges and sash weights in the relevant assembly instructions (e.g. assembly instructions for PORTAL HS 200, PORTAL HS 300 or PORTAL HS 400).
- The hardware must be able to run smoothly (be in unrestricted working order). The max. torque on the handle must not exceed 25 Nm.

Requirements to be met by the drive

⚠ WARNING **Risk of mechanical defects if the MHS400 smart system is put into operation with lift and slide elements that are not able to move freely.**

› Only put MHS400 smart into operation if the smooth running of the lift and slide element can be ensured!

- The MHS400 smart system has not been tested as a locking unit in accordance with ENV 1627-1630.

7.2 Information about mains cable running

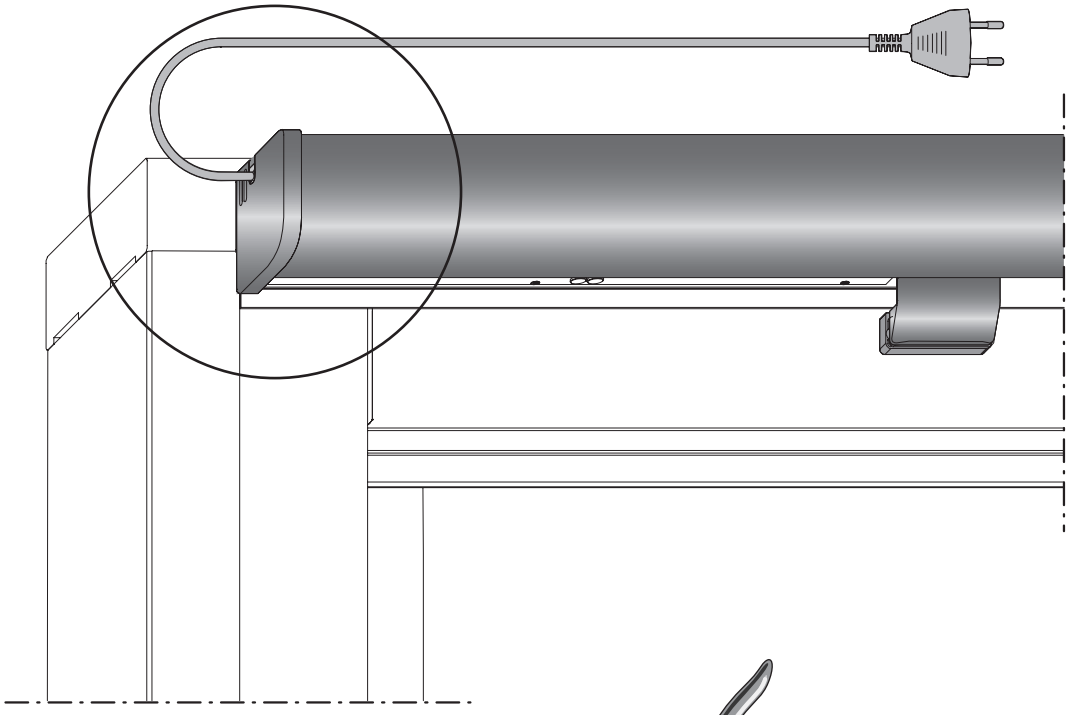
Important information for safety and assembly

The fitting of the mains cable is determined by the prevailing conditions on site. There are two assembly options:

Assembly option 1 – surface-mounted mains cable running

The MHS400 smart system is delivered as standard with a mains cable. The cable outlet for scheme A is always at the top of the slide drive SA on the locking side (Fig. 1); for scheme C, it can be located on the outside of the slide drive SA on either the left-hand side or the right-hand side. A notch for the cable outlet must be made on the cover cap SA of the cover profile SA (see Fig. 2). A suitable mains socket must be located near the cable outlet. It is recommended to route the mains cable through an appropriate installation duct.

1



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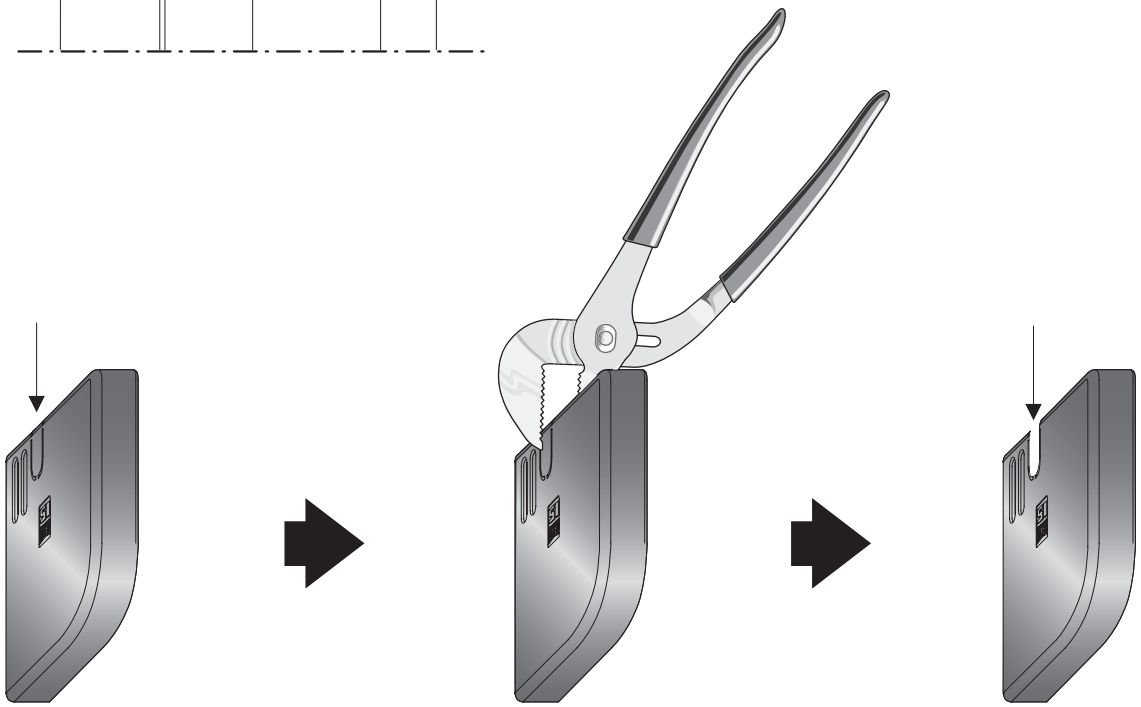
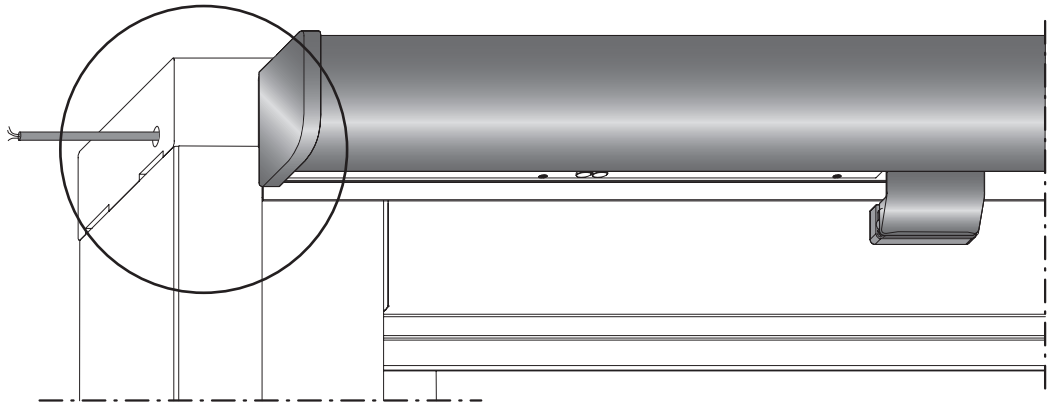


Assembly option 2 – concealed mains cable running

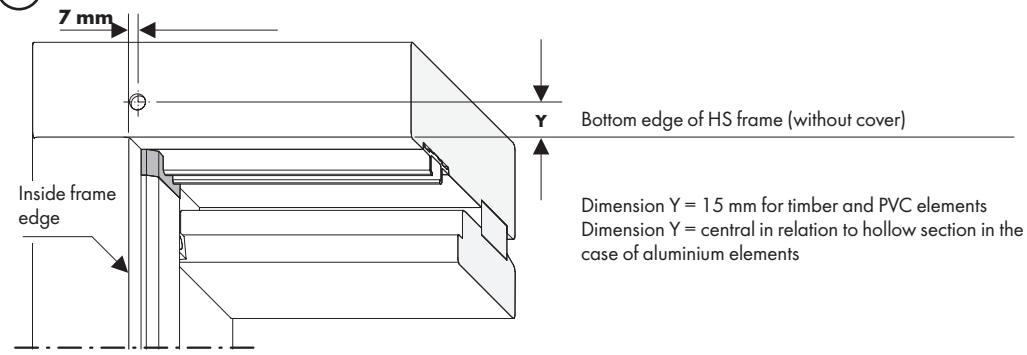
If the customer is responsible for the concealed routing of the mains cable for the slide drive SA and the connection of the slide drive SA (for scheme A in the power supply, for scheme C in the 5-pin socket), this work must be carried out by a qualified electrician. When running mains cables for HS elements which have not yet been installed (e.g. new build and renovation projects), a flexible cable (5 x 1.5 mm² incl. connection) for buttons (not included in scope of delivery) must be provided by the customer and fed concealed through the top section of the HS frame (Fig. 3).

3



Holes for the cable inlet and outlet (each approx. Ø 10 mm) must be made for this purpose, with the centre of each hole being positioned approx. 7 mm away from the inside frame edge (Fig. 4). All-pole safety isolation is required if the customer is routing the mains cable. The isolated end of the mains cable must be located inside the power supply housing (scheme A) or 5-pin socket (scheme C). The connection to the slide drive is made in accordance with the wiring diagrams. In the mounting angle for the slide drive SA, there is a sufficiently dimensioned recess for the cable outlet on the HS frame profile for scheme A (Fig. 5). The mounting angle for scheme C does not have a recess for the cable outlet (Fig. 6). Concealed mains cable running to the slide drive SA is through the top edge of the frame on the locking side

4



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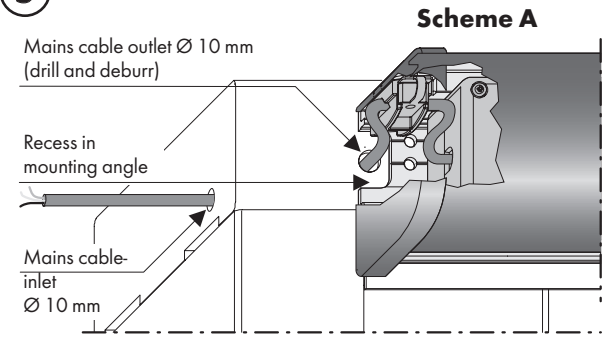

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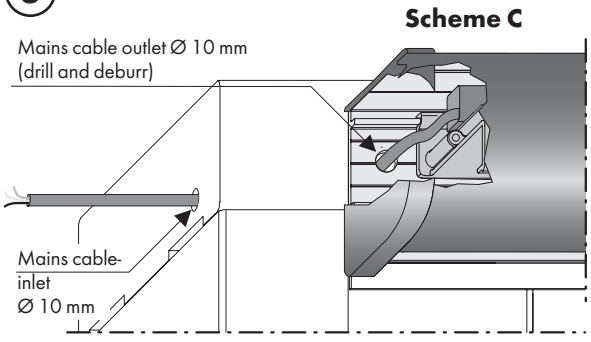


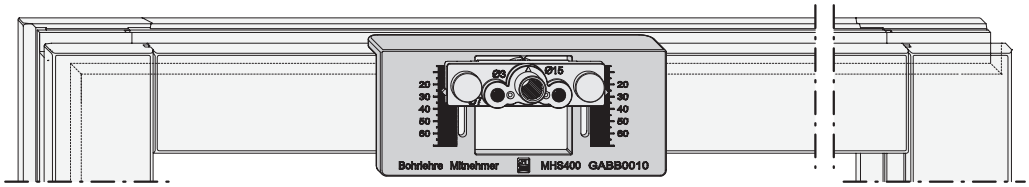
7.3 Drill holes on the lift & slide sash

7.3.1 Positioning and setting the catch jig (accessories)

Place the jig horizontally at the top of the lift & slide sash (Fig. 1), removing existing sash sealings first. Position and set the jig in accordance with the dimensioning (Fig. 2).

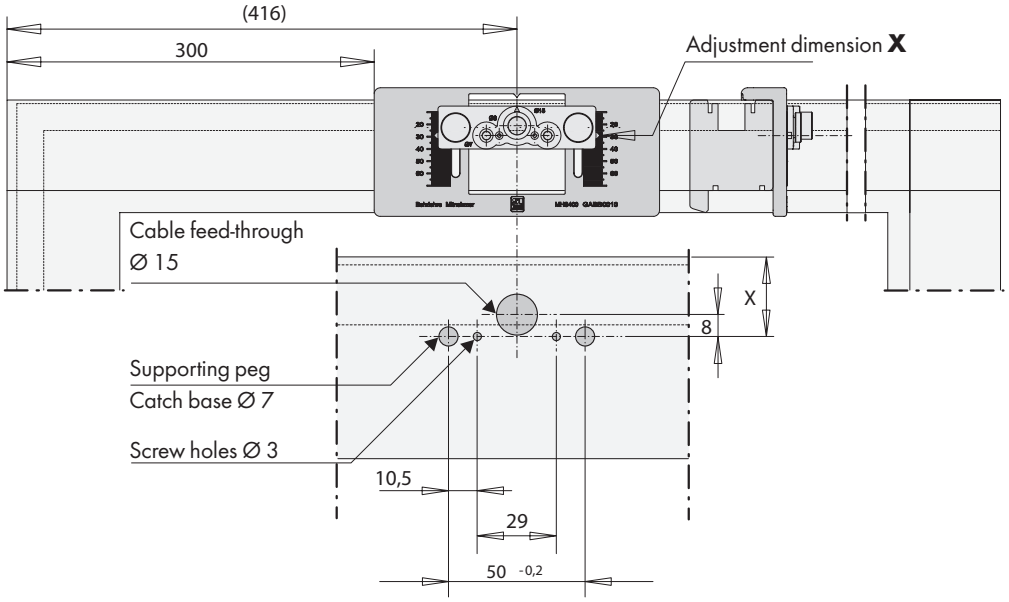
Make the holes for the catch horizontally at the top, noting the drilling diameter (Fig. 3).

1



Positioning and drilling dimensions for the drilled holes for the catch on the lift & slide sash (Fig. timber profile DIN left - DIN right mirror image)

2



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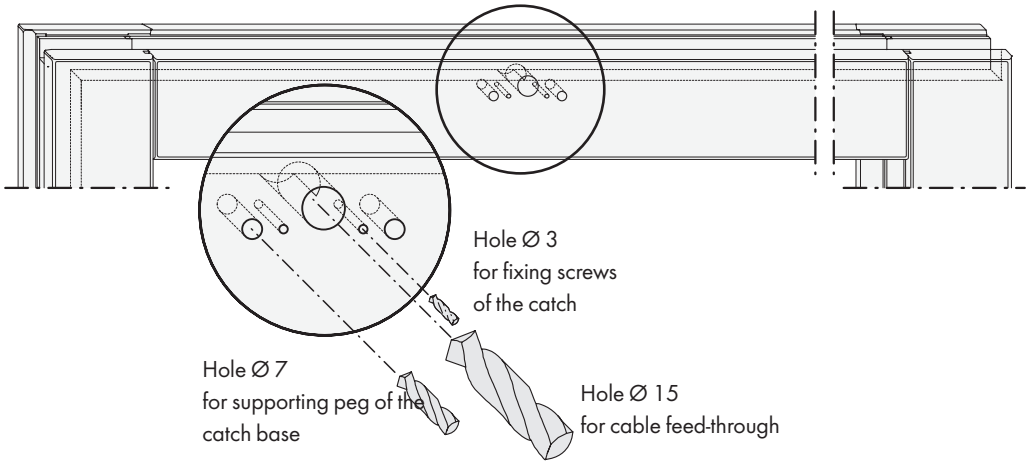

Attention: In order for the catch to be positioned correctly on the lift & slide sash, the correct set dimension X (Fig. 2) must be used. The correct set dimension **X** for each HS profile system is listed in the installation steps for MHS400 smart on our download portal:
downloads.siegenia.com/de/00007/index.html

7.3.2 Through hole for cable channel in lift & slide sash

Timber elements require a through hole (Ø 15 mm) for the cable channel in the sash groove in the top corner of the lift & slide sash on the locking side. This hole is created by pre-drilling to Ø 10 mm with a drill 180 mm long and then finish-drilling to Ø 15 mm (Fig. 5 and 6).

The through hole can be drilled with the through hole jig (see Fig. 6)
(see accessories, page 53).

Through holes do not have to be drilled for HS PVC and aluminium profiles. If necessary, the slider support can be machined to accommodate the cable channel

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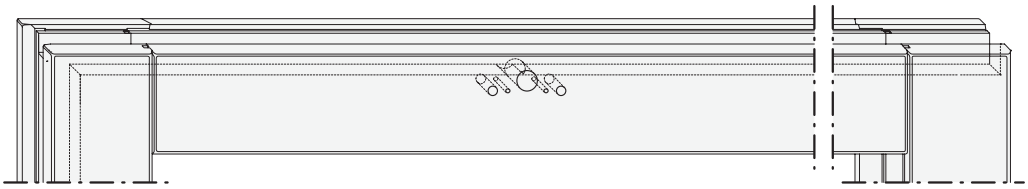

Drilling dimensions for the through hole on the lift & slide sash
(Fig. for timber profile DIN left - DIN right is a mirror image)

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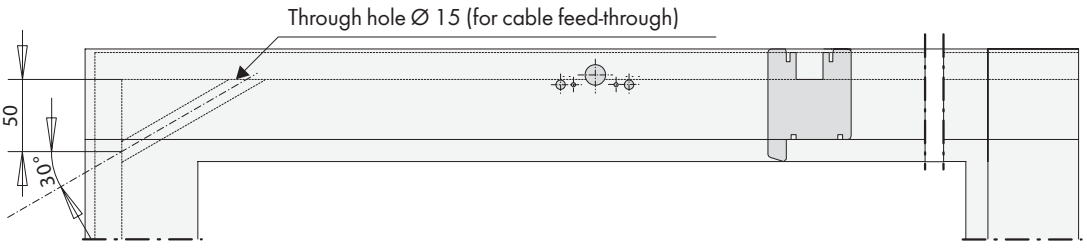

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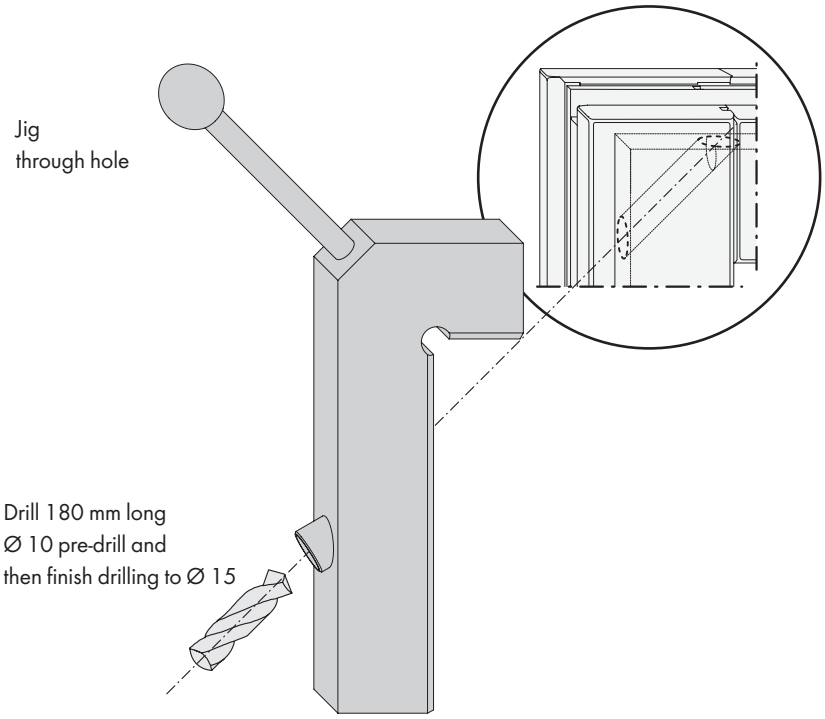
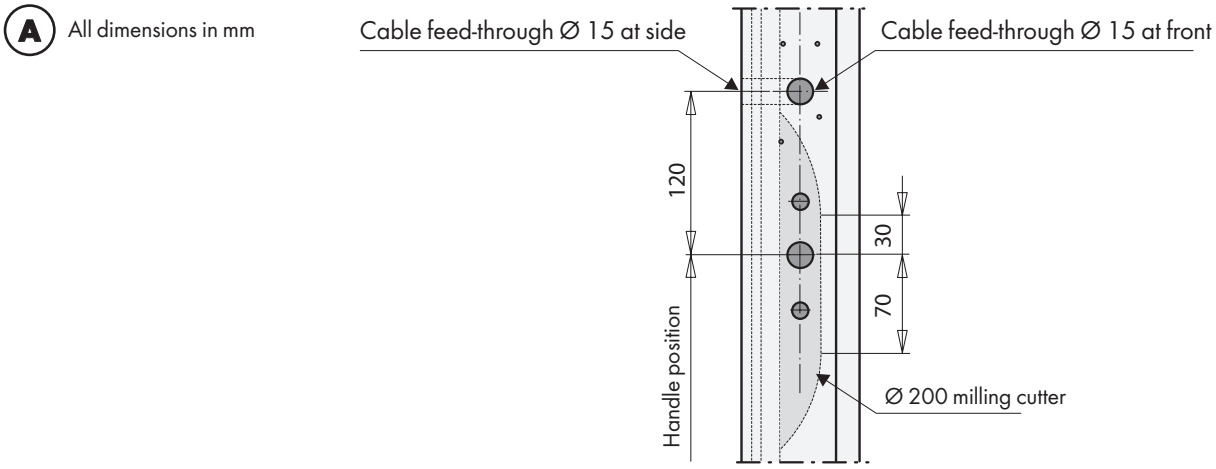


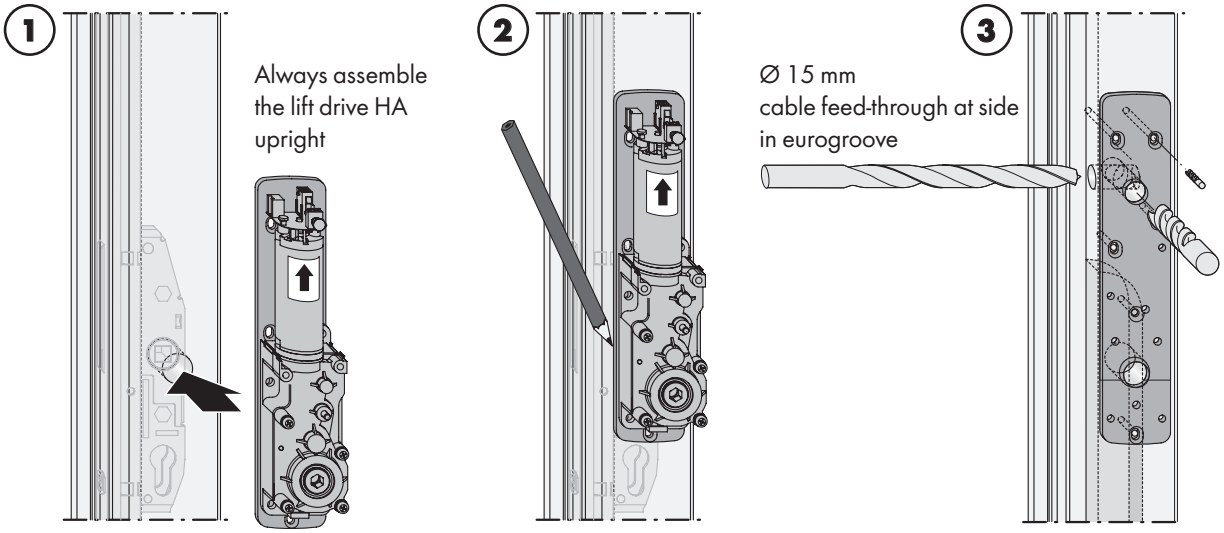
7.3.3 Drill holes for lift drive HA and cable feed-through

Drill the holes on the locking side of the lift-slide sash for the lift drive HA and the cable feed-through. There are two versions for drilling the holes. Use the fixing plate HA as the drilling template.

Version A — Existing gear recess (e.g. in lift & slide sash being retrofitted):

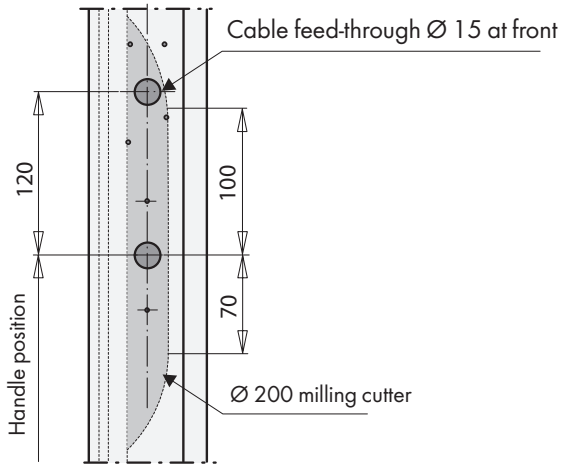


1. Connect the lift drive HA to the fixing plate HA (do not screw)
2. Insert the square of the drive unit into the square mount on the lift & slide hardware gear and align on the lift & slide sash (Fig. 1)
3. Mark the external edges of the fixing plate HA (Fig. 2)
4. Take the lift drive HA off the fixing plate HA
5. Use the outline and drilled holes of the fixing plate HA for the marking out and drilling.
6. If necessary, clamp on the fixing plate HA as a drilling template and secure with 2 suitable screws.
7. Remove the lift-slide hardware gear.
8. Drill the cable feed-through at the front and side (Ø 15 mm) (Fig 3).

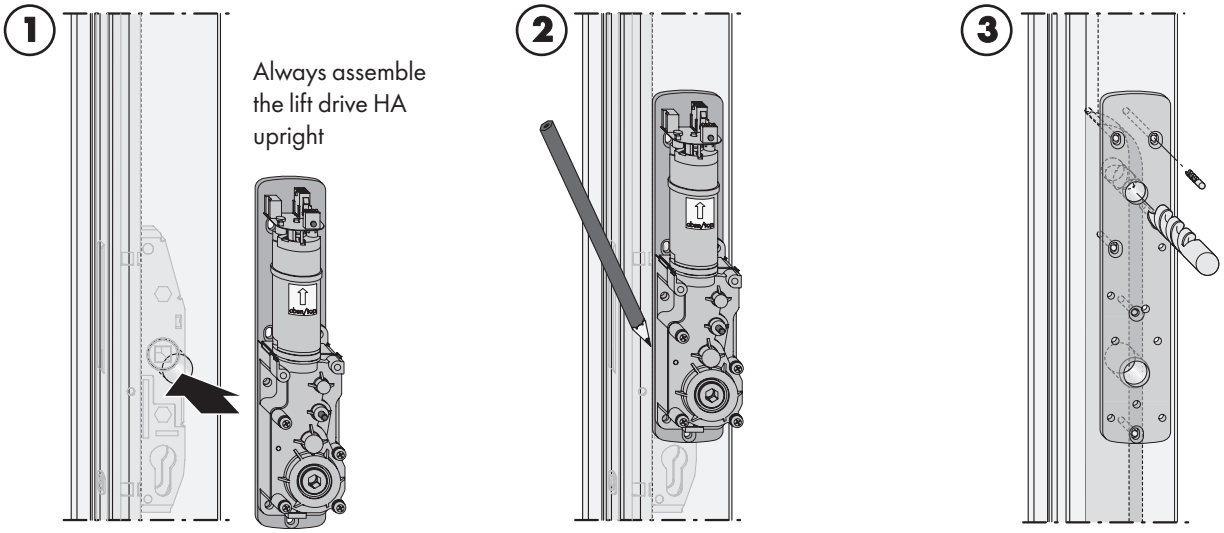


Option B — Extended gear recess on new lift & slide sash

B All dimensions in mm



1. Connect the lift drive HA to the fixing plate HA (do not screw)
2. Insert the square of the drive unit into the square mount on the lift & slide hardware gear and align on the lift & slide sash (Fig. 1)
3. Mark the external edges of the fixing plate HA (Fig. 2).
4. Take the lift drive HA off the fixing plate HA.
5. Use the outline and drilled holes of the fixing plate HA for the marking out and drilling.
6. If necessary, clamp on the fixing plate HA as a drilling template and secure with 2 suitable screws.
7. Remove the lift-slide hardware gear.
8. Drill the cable feed-through at the front (Ø 15 mm) (Fig. 3).



7.4 Cable routing in the lift & slide sash

7.4.1. Cable routing in the eurogroove (locking side lift & slide sash)

To avoid damaging the cable (flat ribbon cable, 6-wire) in the lift & slide sash, comply with the following specifications:

- Cable must be free from moving parts and must not be clamped.
- Sharp edges, in particular on aluminium elements, must be deburred.
- The locking bolt or locking part for the night vent must always be installed at the bottom.

In the case of a new lift & slide sash, the cable can run through the glazing rebate. When installing a gear extension with coupling piece for sash heights in excess of 2700 mm, the cable must run through the glazing rebate.

Cable routing for timber elements

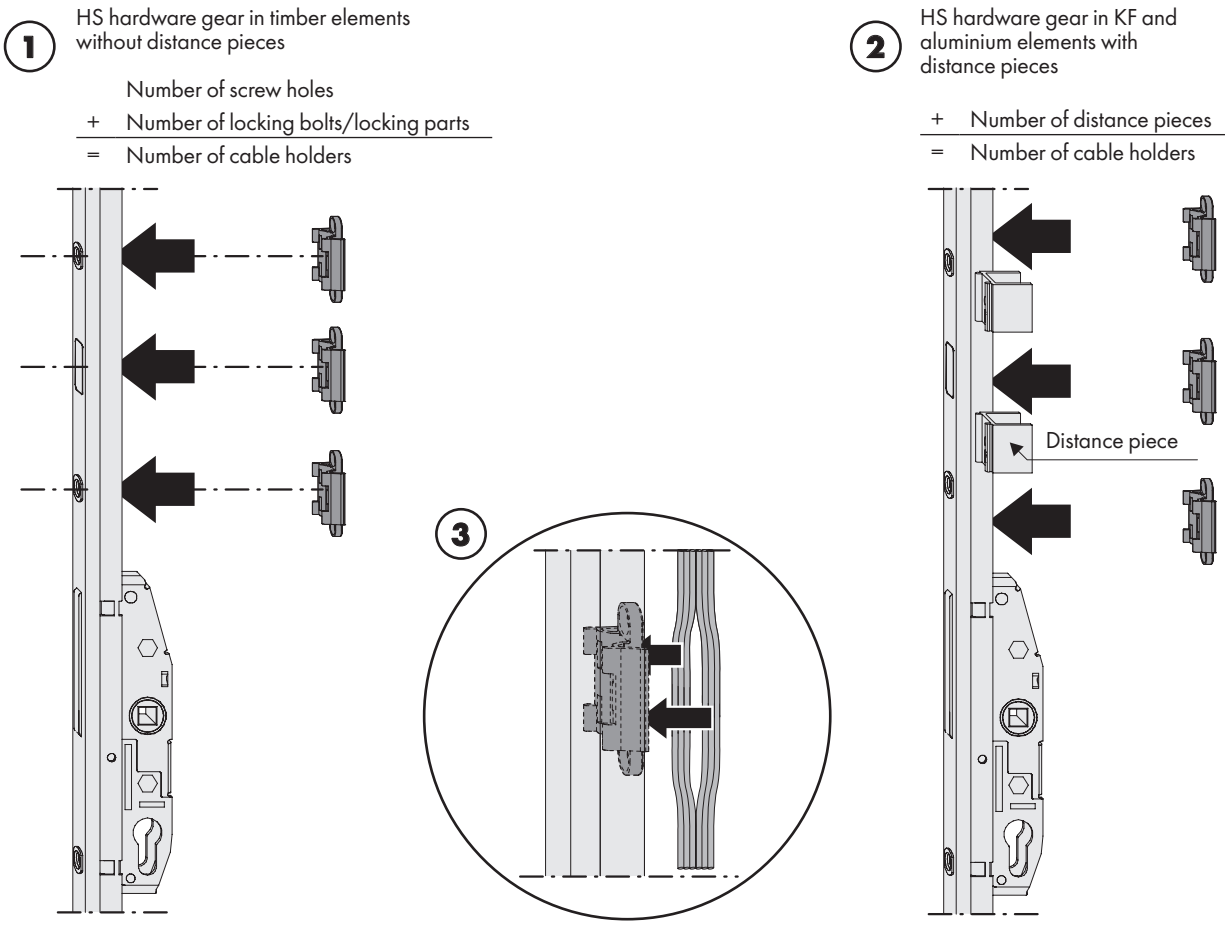
Use the cable holders to secure the 6-wire flat ribbon cable (included in the scope of delivery) in the lift & slide hardware gear and in the sash groove at the top of the lift & slide sash. The cable holders included in the scope of delivery clip into the HS lift & slide hardware gear or can be fixed into place in the eurogroove with suitable screws. The cable holders must be aligned with the screw holes and the locking bolt (Fig. 1).

Cable routing for PVC and aluminium elements

Distance pieces are only used with PVC and aluminium elements. The cable holders must be positioned on both sides above and below the distance pieces (Fig. 2).

Assembly sequence

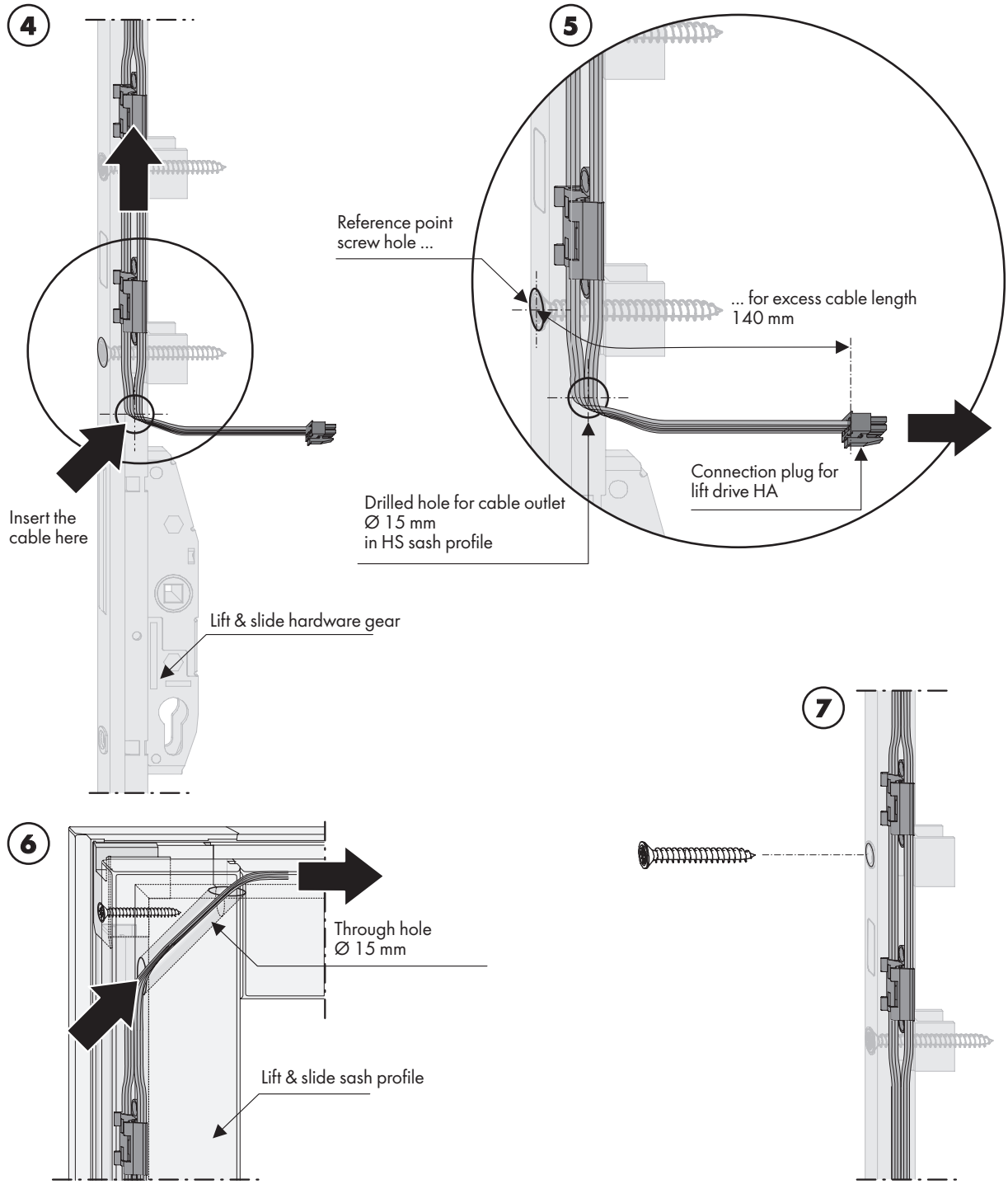
1. Clip cable holders into lift & slide hardware gear (Fig. 1 and 2).
2. Split the 6-wire flat ribbon cable into 2 sections of 3 wires and push into the cable holders (Fig. 3).



3. Run the cable through the cable outlet hole (Ø 15 mm) in the eurogroove of the lift-slide sash (Fig. 4 and 5). Excess cable

length of ~140 mm is essential if the lift drive HA is to be connected without problems (Fig. 5). Run the cable upwards through the gear sleeve and into the sash groove at the top. Secure with cable holders

4. With timber elements, the cable is fed through the through hole (Ø 15 mm) (Fig. 6)
5. With PVC and aluminium elements, the cable (if necessary) is routed into the sash groove at the top alongside the slider support. The slider support should be reworked accordingly if necessary
6. Insert the lift-slide hardware gear into the eurogroove and screw tight (Fig. 7) – do not crush the cable



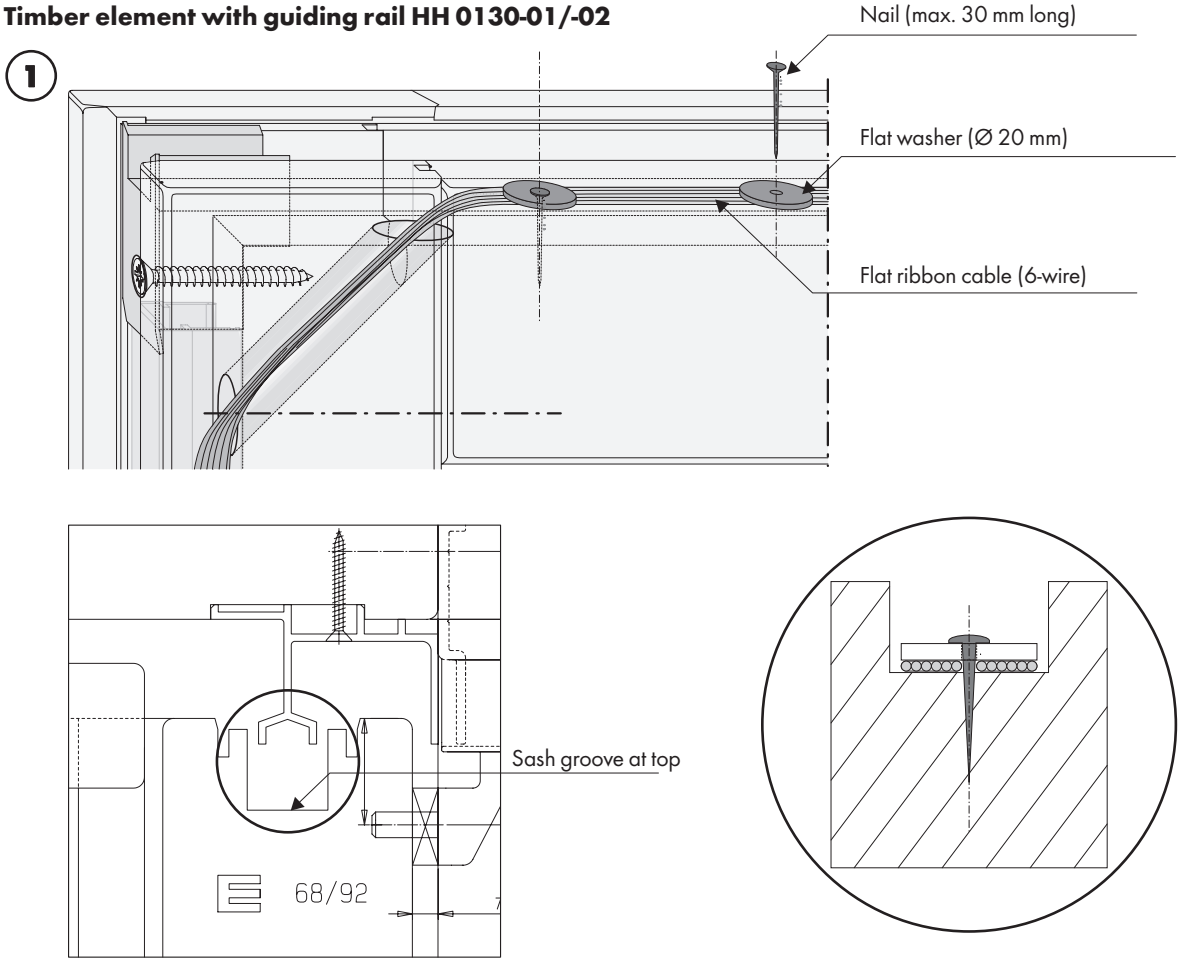
7.4.2 Preparing for cable routing in the sash groove at the top

Important note: With some profiles with guiding rail at the top, the cable holders can rub against the guiding rail when the lift & slide sash is lifted. Actions for avoiding this are described below:

Timber elements

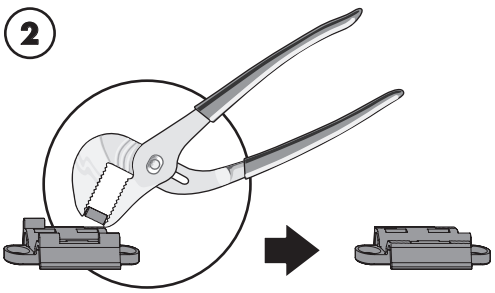
- For timber profiles with guiding rail HH 0130-01/-02, the cable can be routed through the glazing rebate.
- Alternatively, the sash groove can be milled 5 mm deeper on the horizontal sash timber at the top.
  The bearing surface of the guides must not be altered!
- In the case of retrofitting, flat washers (Ø 20 mm) and nails (max. 30 mm long) must be used to secure the cable in the sash groove at the top (see Fig. 1). Care must be taken to avoid damaging the wires of the cable with the nails.

Timber element with guiding rail HH 0130-01/-02



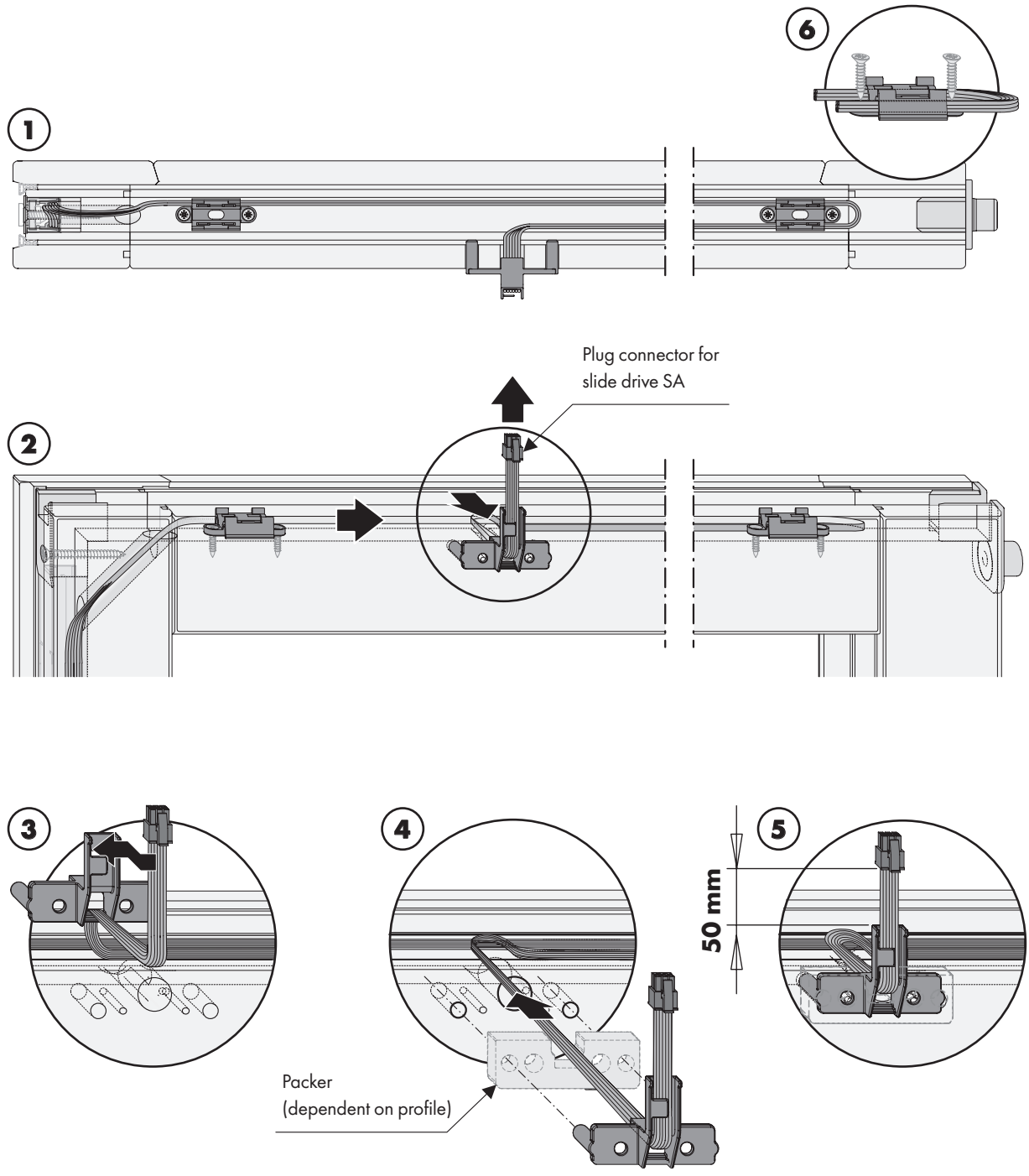
PVC elements

With certain PVC profiles (see Chapter 4), the webs of the cable holders must be removed (e.g. with pliers or similar, see Fig. 2)



7.4.3 Cable routing in the sash groove at the top

1. Run the cable in the sash groove at the top as far as the cable outlet hole (Fig. 1 and 2).
2. Insert the cable into the cable feed-through on the catch base (Fig. 3) and pull back as far as a length of 50 mm (Fig. 5).
3. Place the catch base and if applicable the packer (depending on profile, included in scope of delivery) on the sash (Fig. 4).
4. Use cable holders to secure, loop and fix the cable in the sash groove at the top (Fig. 6).
5. If a central lock is being used in the HS hardware, provision may need to be made for a sufficiently dimensioned side recess for the cable channel in the sash groove at the top



7.5 Installation of the lift drive HA

7.5.1 Fixing and connection of the lift drive HA on the lift & slide sash

Positioning and screwing on the fixing plate HA

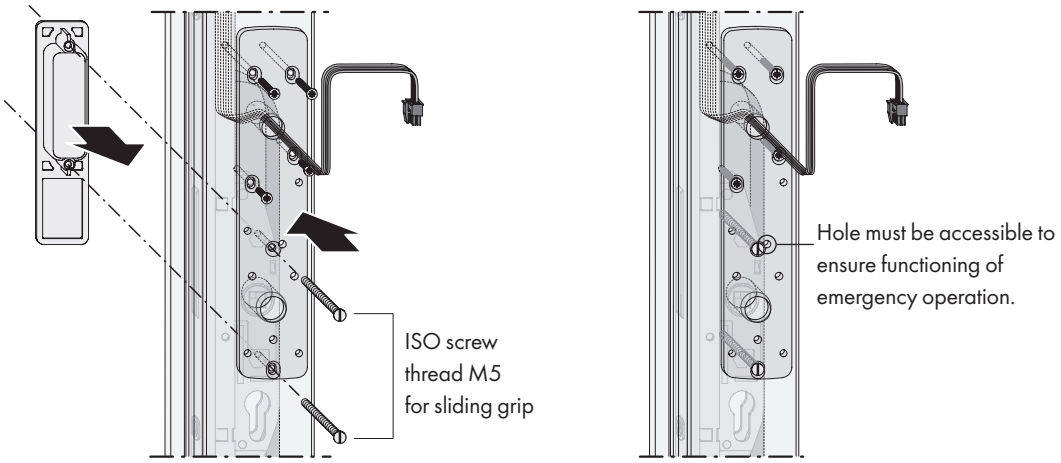
Option A — With sliding grip on the exterior

With lift & slide sashes with an exterior sliding grip (not included in scope of delivery), the fixing screws for the sliding grip (ISO screw thread M5) must be screwed to the fixing plate HA. If necessary, the fixing screws must be shortened accordingly.

Note: Fixing screws larger than ISO screw thread M5 on sliding grips by other manufacturers can in some cases prevent manual operation with the emergency operating handle. The sliding grip must then be replaced with the exterior Si-line escutcheon (mat. no. PHZB-_ _ _ _ _ _) (see PORTAL product catalogue, 8.1 Lift & slide handles).

- Position fixing plate HA and sliding grip on the lift & slide sash and screw tight as shown in the drilling diagram (Fig. A)

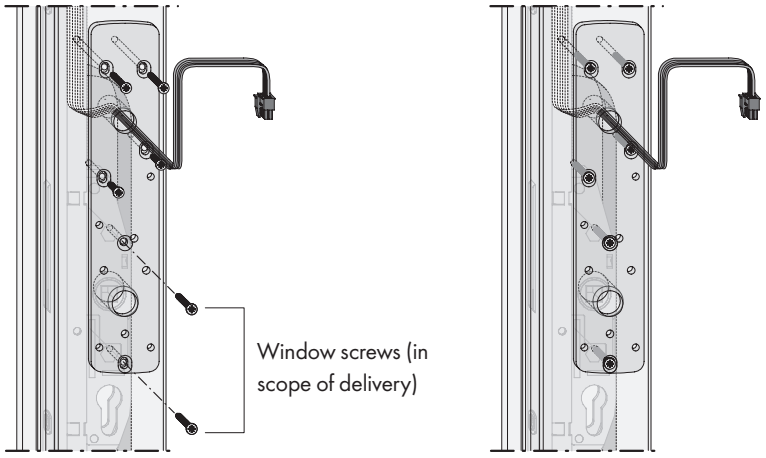
A



Option B — Without sliding grip (standard for new lift & slide sashes)

An exterior sliding grip does not have to be attached to the outside when using the MHS400 smart (Fig. B)

B



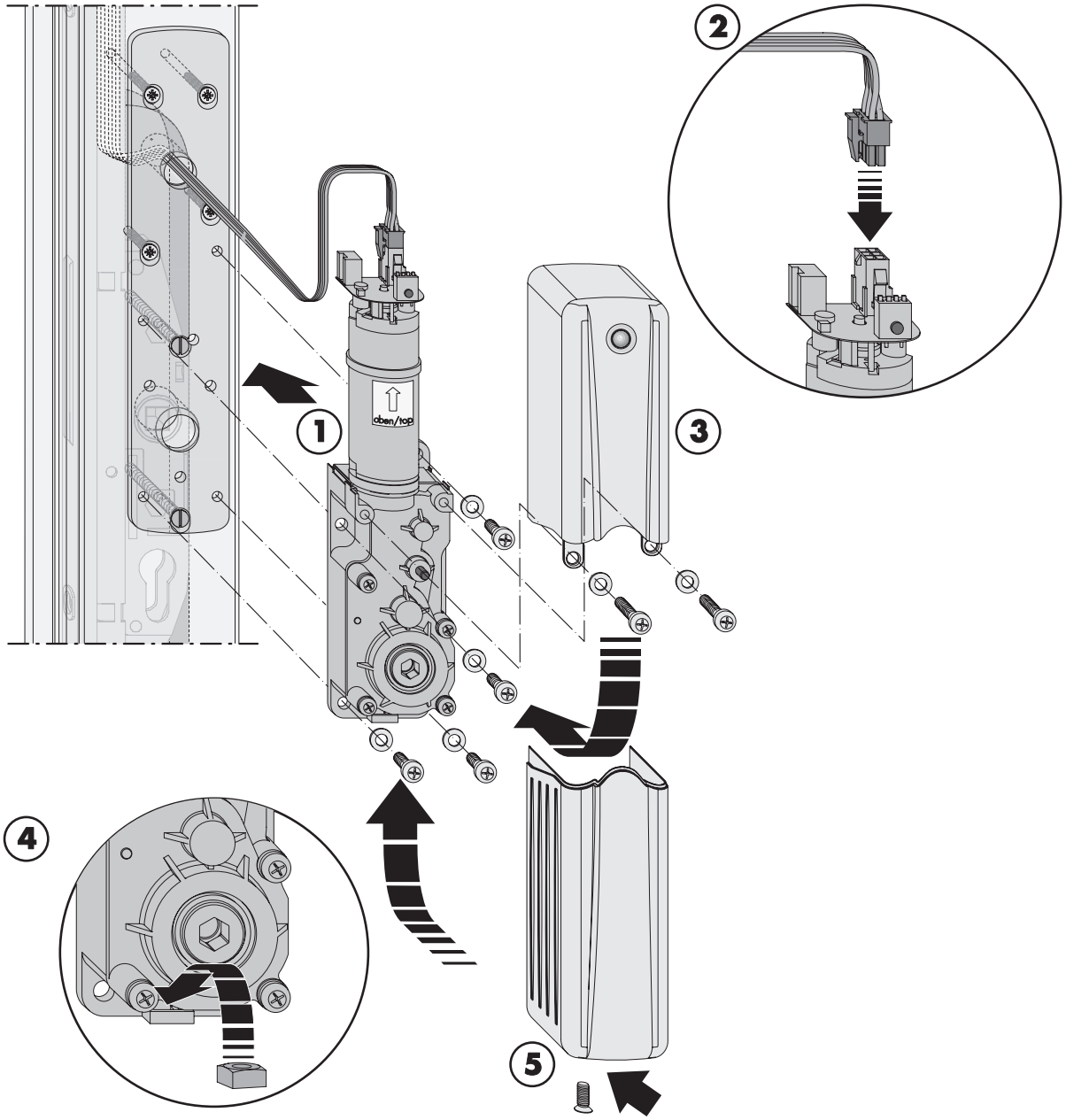
7.5.2 Fixing and e-connection of the lift drive HA on the lift & slide sash

Screw connections and e-connection on the drive unit HA

1. Attach the drive unit of the lift drive HA to the fixing plate HA and fix in place with M5 x 10 mm screws and washers (included in scope of delivery) (Fig. 1).
2. Insert the plug at the end of the flat ribbon cable into the plug socket (on the circuit board) of the drive unit (Fig. 2).

Attaching and screwing on the cover caps HA

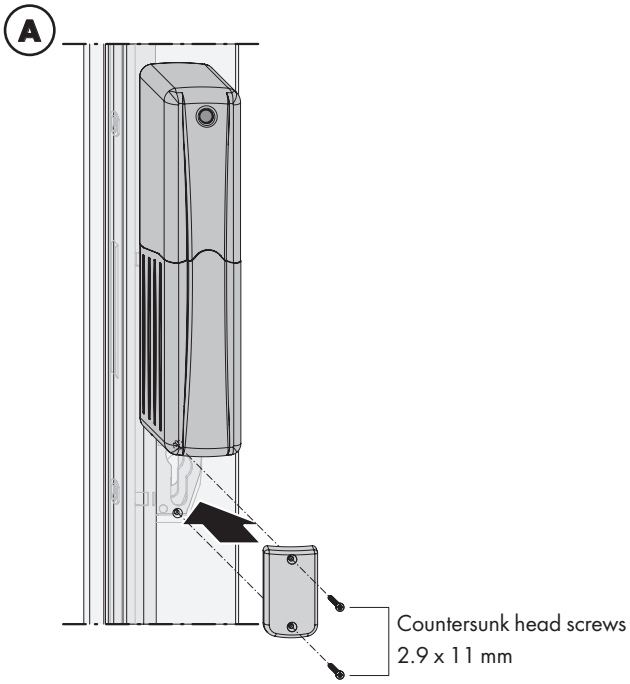
3. Unscrew the two screws in the centre of the drive unit, then set the top half of the cover cap HA down on the fixing plate HA and carefully screw tight to the drive unit with the two screws, taking care not to damage the thread (Fig. 3).
4. Insert the square nut into the insert pocket at the bottom of the drive unit (Fig. 4).
5. Set the bottom half of the cover cap HA down on the fixing plate HA and slide into the top half of the cover cap HA. Next, fix the M5 x 16 mm countersunk head screw (included in scope of delivery) to the drive unit with the square nut (Fig. 5)



7.5.3 Lift drive HA in conjunction with a cylinder lock

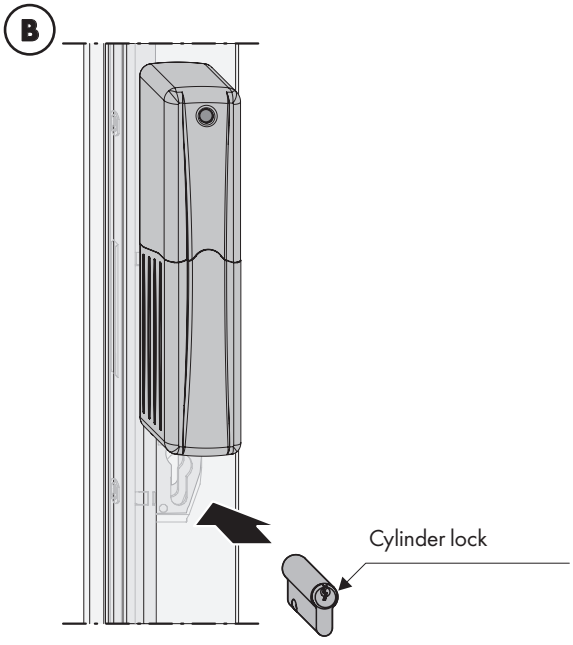
Version A — lift & slide sash without cylinder lock (with rose to cover the cylinder lock)

When retrofitting previously installed lift & slide elements, a visible drilled hole for the cylinder lock in the lift & slide sash (created by removing the handle cover, for example) can be covered with the lock cover rose, which is available as an accessory



Option B — Lift & slide sash with cylinder lock (cylinder lock not included in scope of delivery)

The lift & slide hardware gear supports the option of a cylinder lock being installed by the customer as standard.

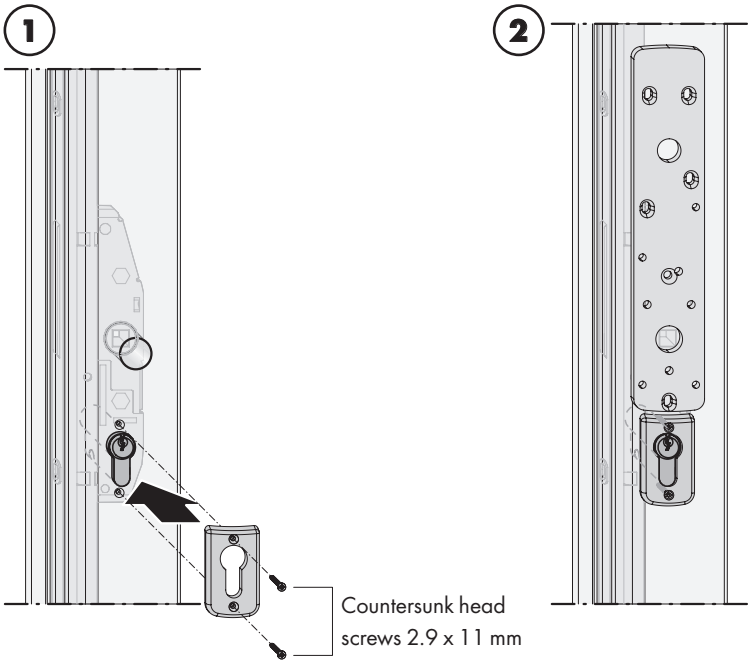


Note: Do not install a cylinder lock when using the MHS400 smart, especially with new lift & slide sashes, as this prevents operation with an electric motor when the cylinder lock is locked.

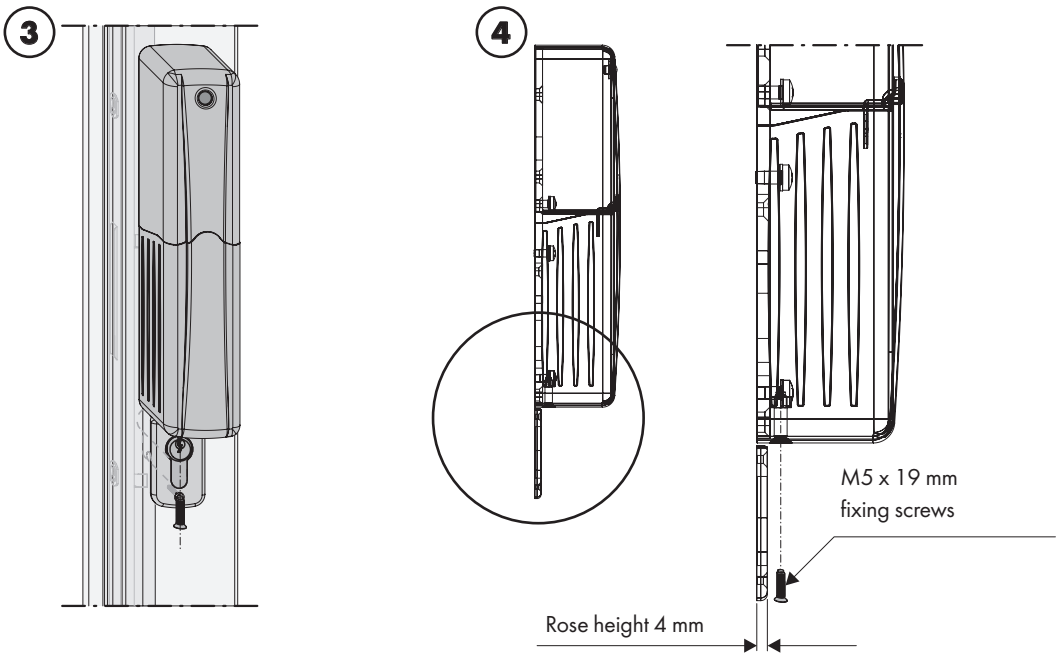
Installation of lift drive HA with cylinder lock and rose lock

A cylinder lock can be used as an additional security measure (e.g. for burglar resistance in conjunction with RC2 HS hardware). To achieve this, proceed as follows:

1. Drill a hole for the cylinder lock in the sash profile.
2. Position the rose lock (accessory) on the lift & slide sash underneath the lift drive HA and fix in place with 2 countersunk head screws 2.9 x 11 mm (included in scope of delivery) (Fig. 1). For aluminium elements, 2 holes each Ø 2 mm must be drilled before doing this.



- The cylinder lock must end flush with the rose lock; it must not protrude, otherwise the fixing screw for the cover cap HA at the bottom of the lift drive HA can no longer be released for manual operation (Fig. 3 and 4)



7.6 Installation of the slide drive SA – scheme A

7.6.1 Horizontal positioning of the slide drive SA – scheme A

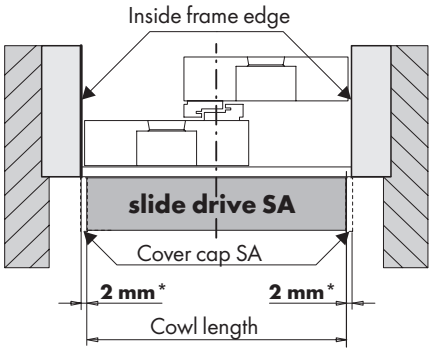
When measuring the RIB (inside frame width), take into account whether the HS frame profile is being used with or without a cover. With a cover, the inside frame edge is offset inwards and must be taken into account when measuring the RIB. The offset specified here of 2 mm* corresponds to the material thickness of the side cover cap SA.

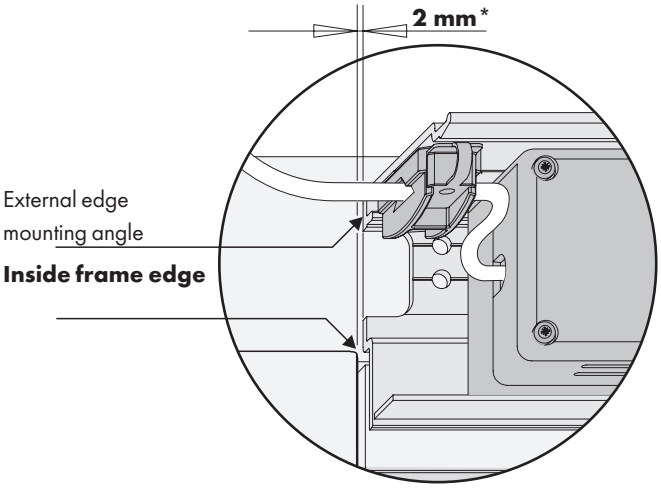
Option A — HS frame profile without cover

Position slide drive SA offset from inside frame edge by 2 mm* (see Fig. A)

A

Fig. for positioning DIN left (DIN right is a mirror image)



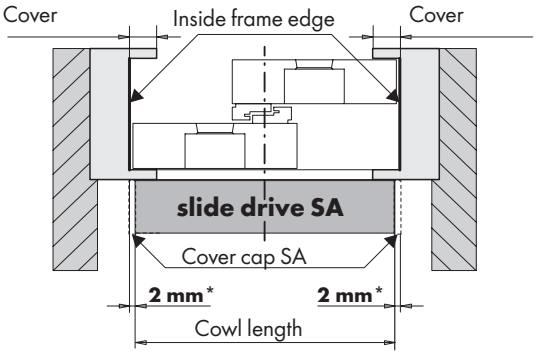


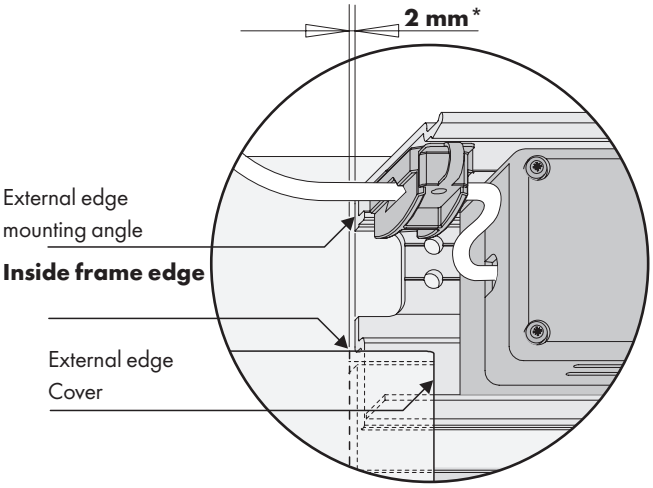
Option B — HS frame profile with cover

On a HS frame profile with cover, the inside frame edge is not visible through the cover. The slide drive SA must be positioned offset from the inside frame edge by 2 mm* (see Fig. B). To achieve this, the distance from the inside frame edge to the external edge of the cover must be measured out before positioning the slide drive SA.

B

Fig. for positioning DIN left (DIN right is a mirror image)

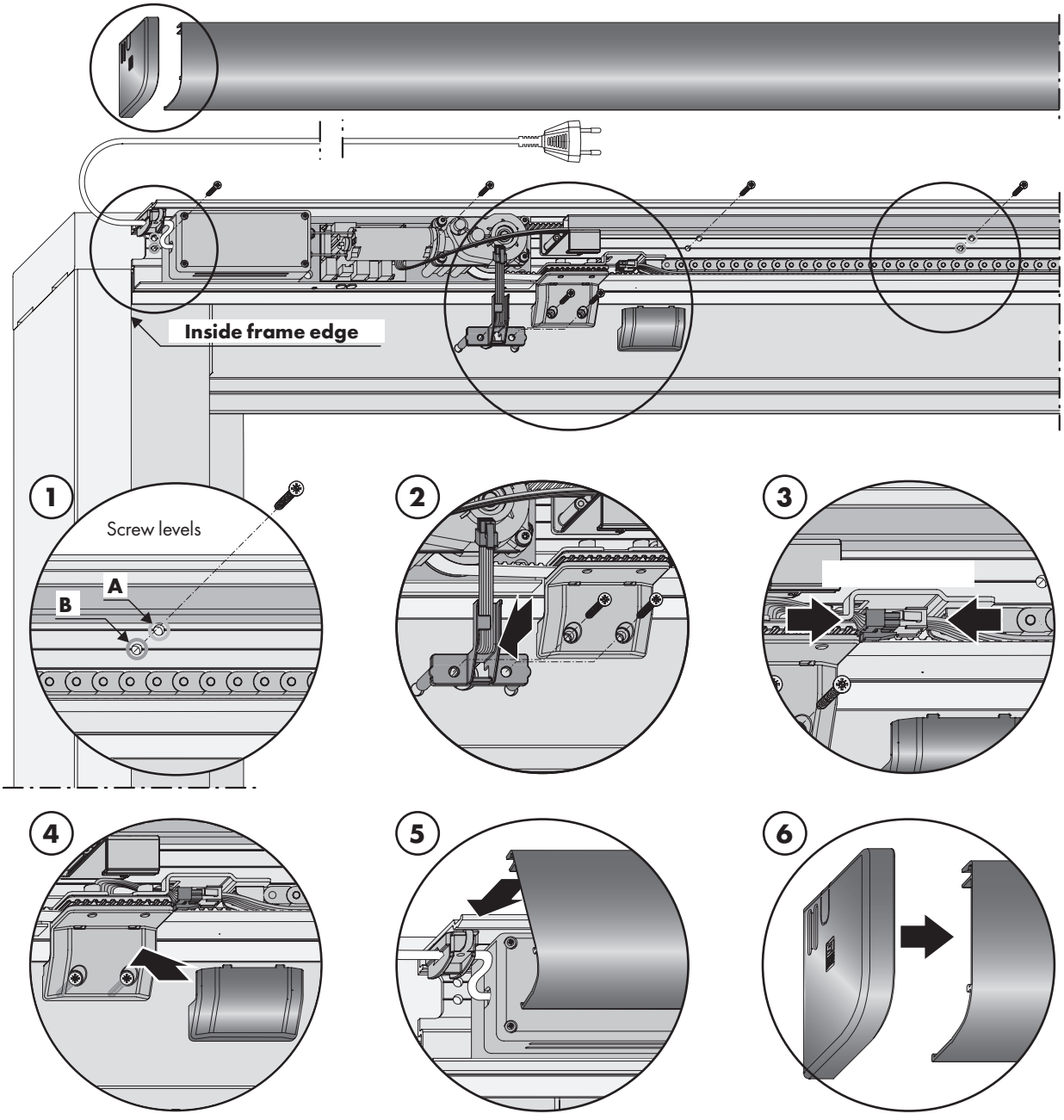




7.6.2 Vertical positioning and fixing of the slide drive SA – scheme A

Two screw levels (A or B) are provided to fix the slide drive SA to the top of the HS frame profile. You will find specific steps for installation of the MHS400 smart on our download portal:
downloads.siegenia.com/de/00007/index.html

1. Fixing the slide drive SA to the mounting angle at screw level A or B.
2. Set the catch down on the catch base and screw on with suitable screws
3. Connect the sash cable (flat ribbon cable, 6-wire) and cable energy supply chain with the plug socket. Do not crush the cable.
4. Attach the cover cap for the catch.
5. Attach the cover profile SA to the mounting angle.
6. Push the right-hand and left-hand cover caps SA onto the cover profile SA



7.7 Concealed mains cable running and connection – scheme A

Concealed routing and connection in the power supply for slide drive SA – scheme A

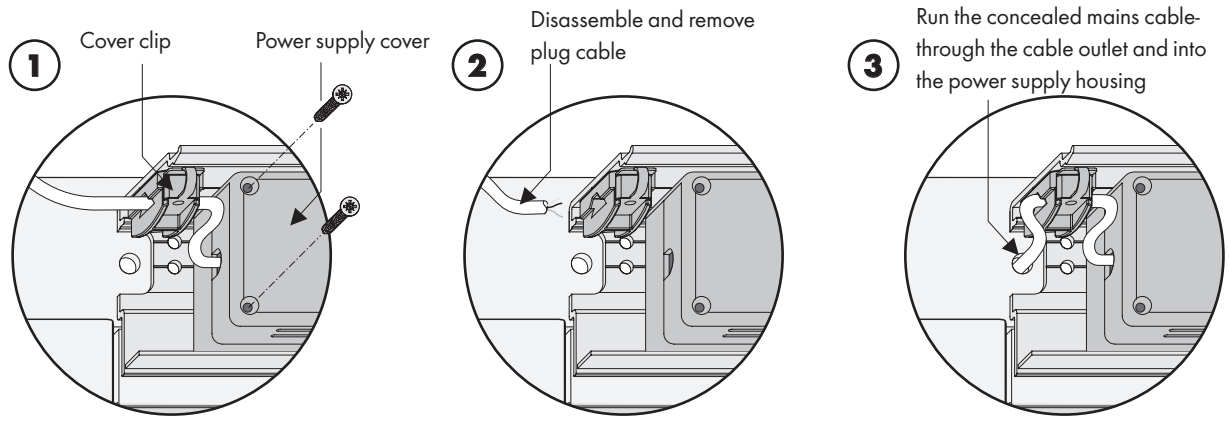
Important note: If the customer is responsible for routing the flexible mains cable (5 x 1.5 mm²) for the slide drive SA and the connection in the power supply of the slide drive SA, this work must be carried out by a qualified electrician.

⚠ WARNING **Risk of overheating!**
Risk of electrical shock!

› Prior to installation, you must disconnect the mains cable from the AC mains power supply or disconnect the mains fuses.

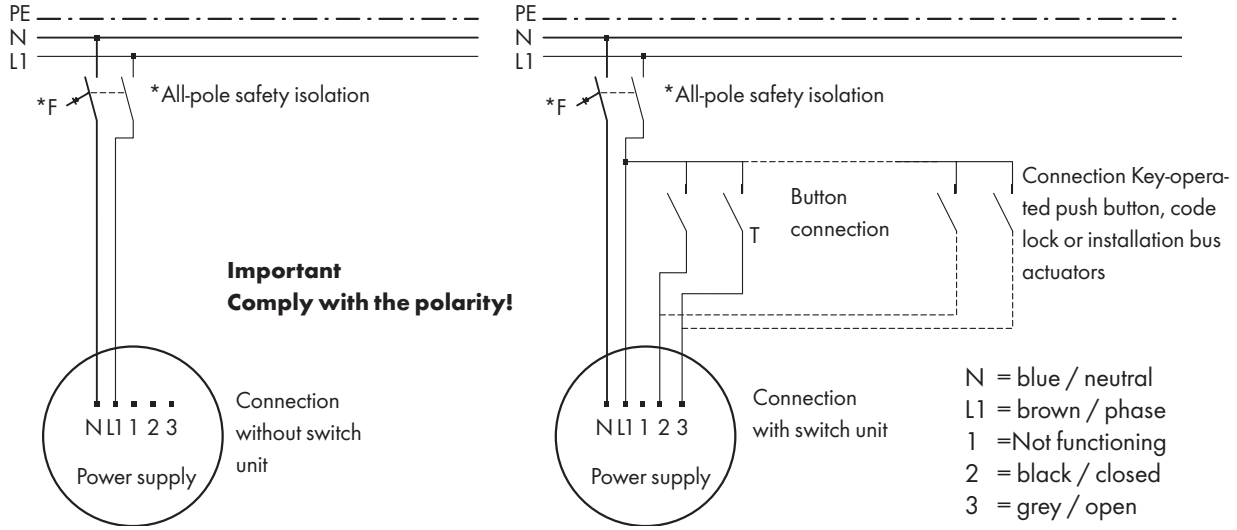
With concealed mains cable running and for control using a wall or key switch (not included in scope of delivery), the cable must be connected in the power supply of the slide drive SA.

1. Unscrew the fixing screws on the power supply cover and remove the power supply cover.
2. Disassemble and remove the plug cable that comes standard in the power supply.
3. Run the concealed mains cable through the cable outlet in the mounting angle and into the power supply housing; the jacket on the mains cable must extend into the power supply housing. The mains cable must be isolated inside the power supply housing:



Wiring diagram – scheme A

- All-pole safety isolation is essential.
- Connect the cable inside the power supply according to the wiring diagram.
- Reattach the power supply cover using the fixing screws

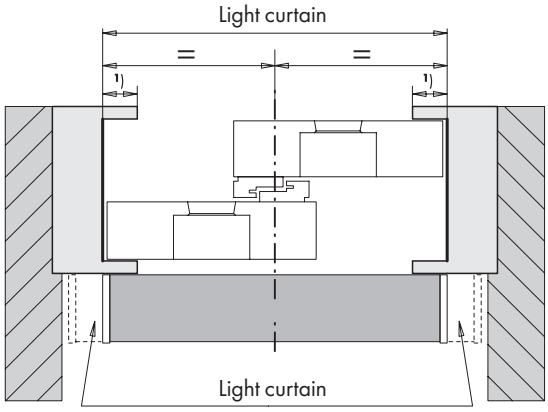


7.8 Installation of the light curtain – scheme A

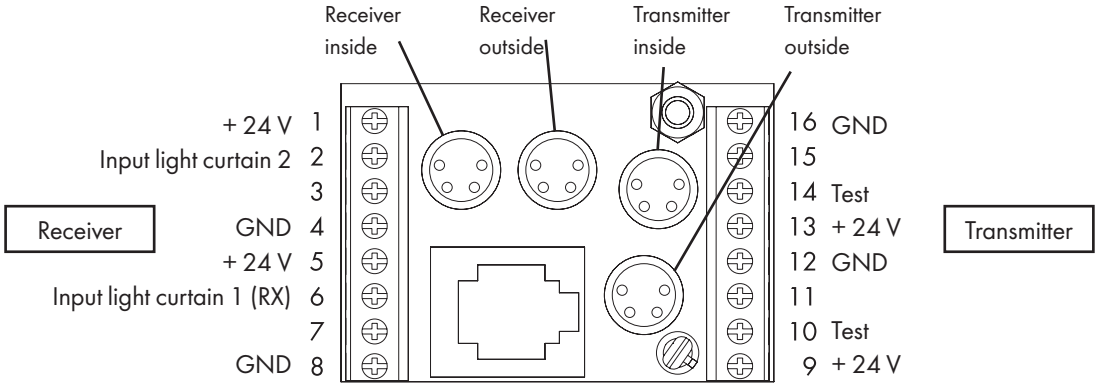
Alterations must be made to the MHS400 smart in order to operate it with a light curtain

The suitable light curtain can be ordered from:

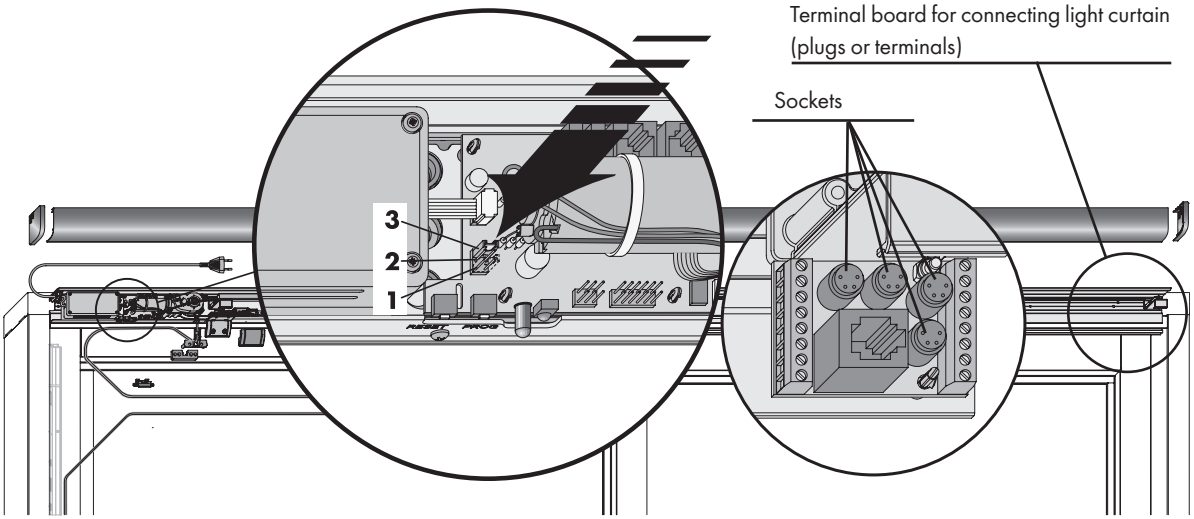
CEDES GmbH
Elektronische Systeme
Elzmatten 6
D-79365 Reinhausen



Terminal board for connecting light curtain (plugs or terminals)



On the slide drive SA, a jumper must be switched for operation with a light curtain.



Jumper position 3 = operation with light curtain
Jumper position 2 = operation in normal mode without light curtain
Jumper position 1 = operation with reduced traverse speed

7.9 Installation of the slide drive SA – scheme C

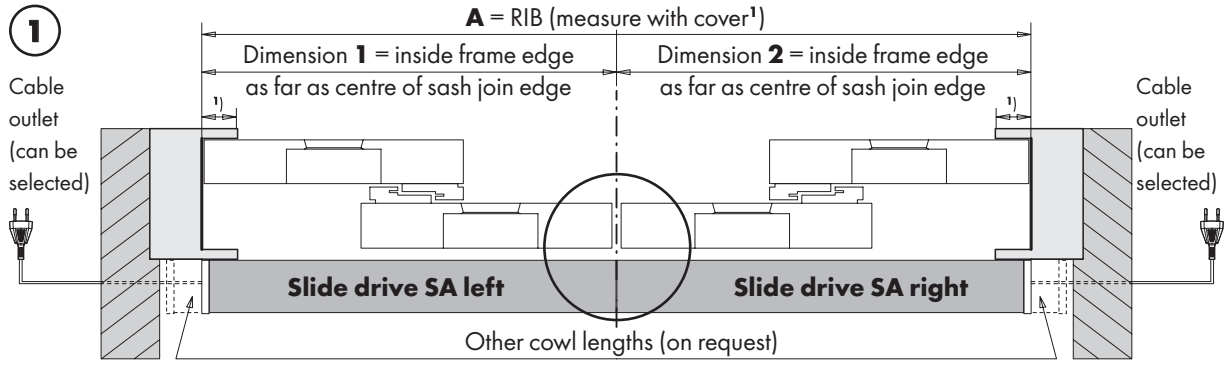
7.9.1 Horizontal positioning of the slide drive SA – scheme C

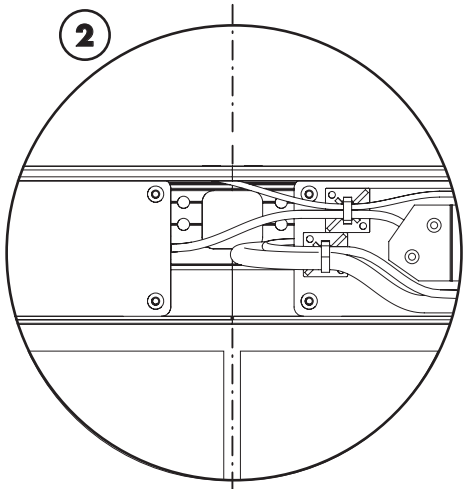
Both slide drives must be assembled dead centre between the two sash join edges. The two mounting angles must be positioned next to each other (Fig. 2 and 3). The two power supplies are then located inside, one opposite the other.

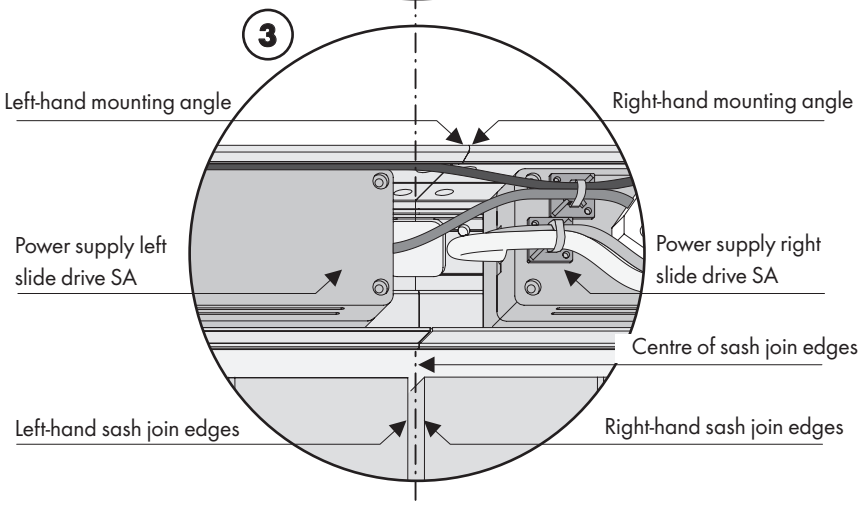
Checking the inside frame width (RIB) – scheme C

When measuring the RIB (inside frame width), take into account whether a HS frame profile is being used with or without a cover. With a cover, the inside frame edge is offset inwards and must be taken into account when measuring the RIB. Each RIB must be calculated individually, for the left-hand slide drive SA (dimension **1**) and the right-hand slide drive SA (dimension **2**).

To check that the measurement has been taken correctly, measure the total RIB (dimension **A**). The dimension **A** must match the total resulting from adding RIB dimension **1** to RIB dimension **2** (Fig. 1).



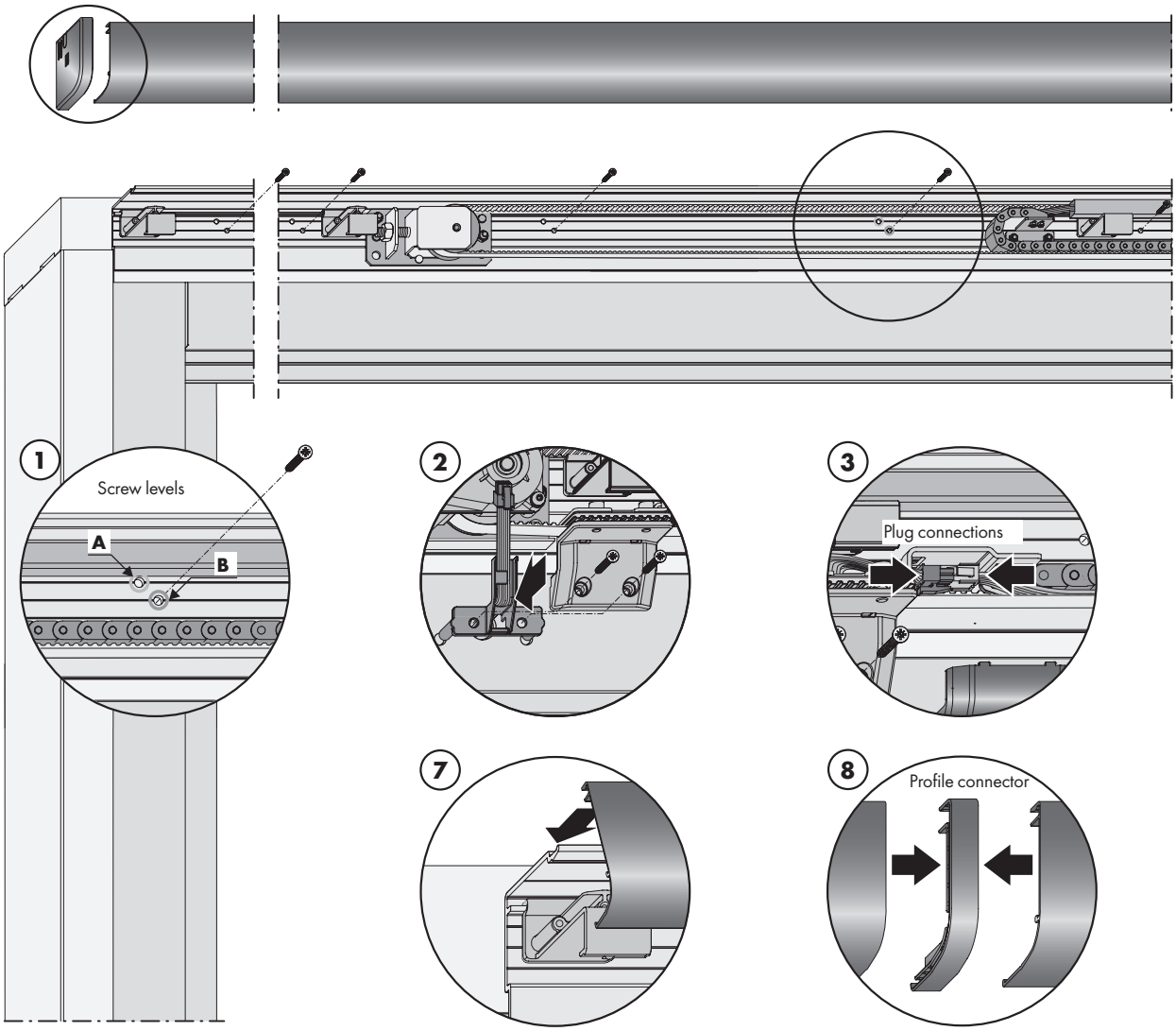




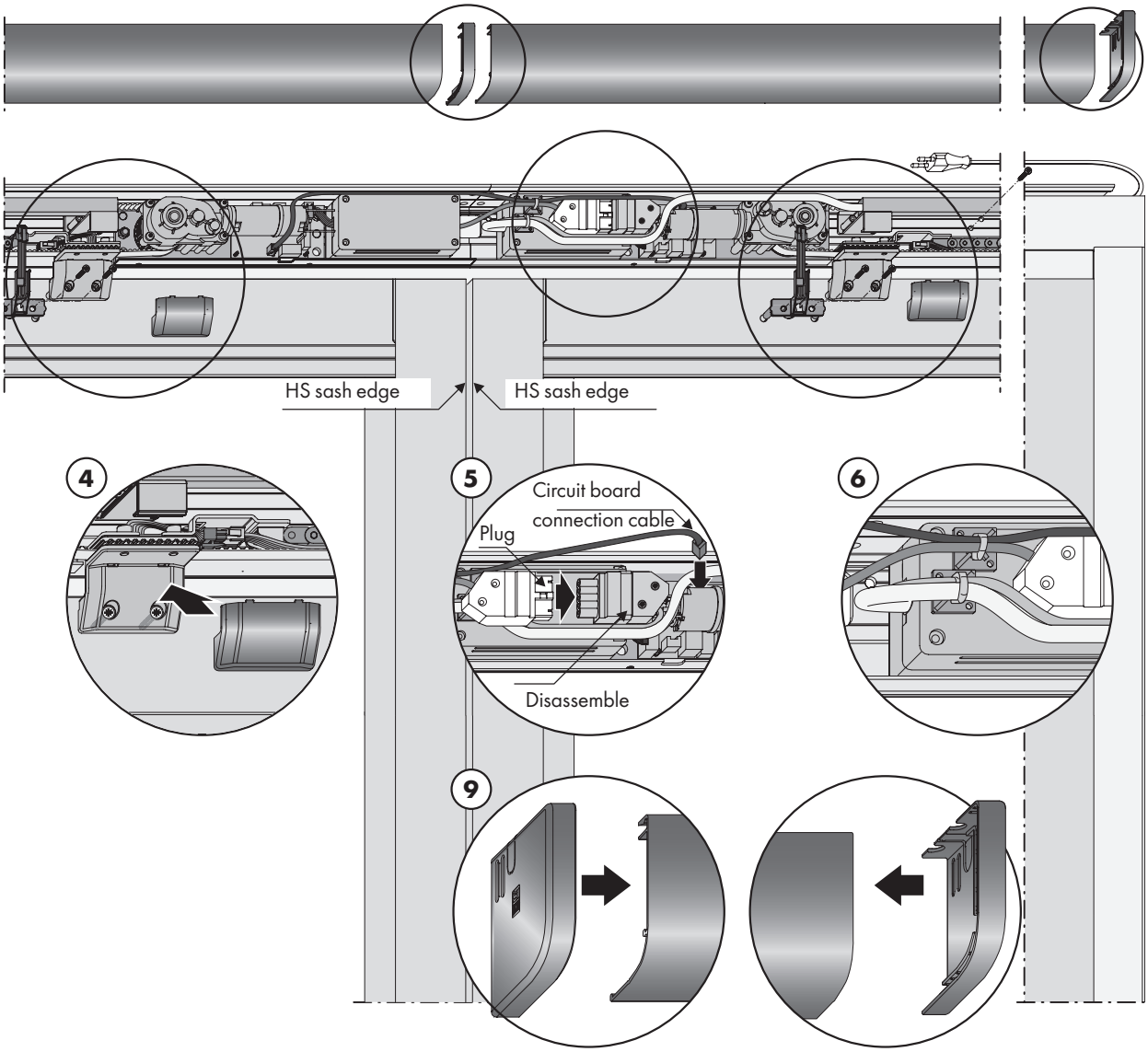
7.9.2 Vertical positioning and fixing of the slide drive SA – scheme C

Drill holes on two screw levels (A or B) are provided to fix the slide drive SA to the top of the HS frame profile. The slide drive is positioned and screwed on as appropriate for the installation location of the HS profile system concerned. You will find specific steps for installation of the MHS400 smart on our download portal:
downloads.siegenia.com/de/00007/index.html

1. Fixing the slide drives SA to the mounting angle at screw level A or B.
2. Set the catch down on the catch base and screw on with suitable screws.
3. Connect the sash cable (flat ribbon cable, 6-wire) and cable energy supply chain with the plug socket. Do not crush the cable



4. Attach the cover cap for the catch.
5. Connect the plug to the 5-pin socket and plug the connection cable (4-pin) into the circuit board.
6. Use cable binders to fix the cable to the power supply housing
7. Attach the cover profile SA to the mounting angle.
8. Use profile connectors to connect the cover profiles on the left and right at and above total length of 7000 mm. Press down on the cover profiles so that they snap in on the mounting angle.
9. Push the right-hand and left-hand cover caps SA onto the cover profile SA



7.10 Concealed mains cable running and connection – scheme C

Concealed routing and connection in the power supply for slide drive SA – scheme C

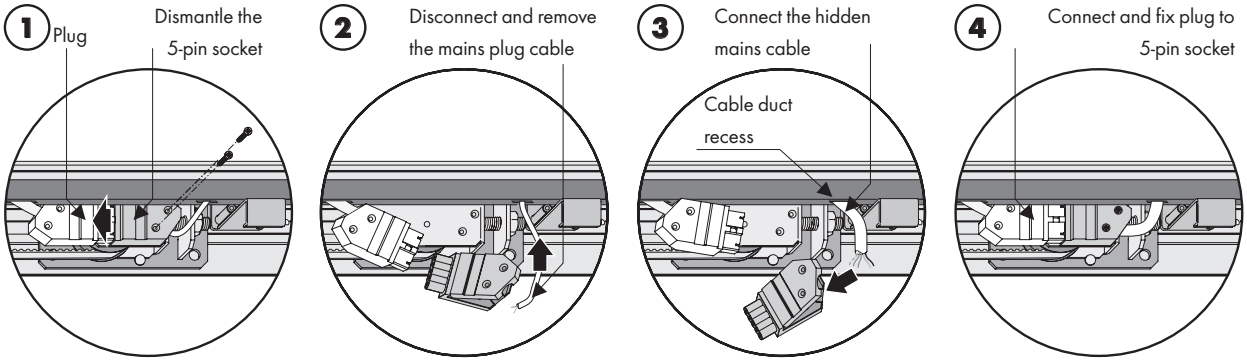
Important note: If the customer is responsible for routing the flexible mains cable (5 x 1.5 mm²) for the slide drive SA and the connection in the power supply of the slide drive SA, this work must be carried out by a qualified electrician.

⚠ WARNING **Risk of overheating!**
Risk of electrical shock!

› Prior to installation, you must disconnect the mains cable from the AC mains power supply or disconnect the mains fuses.

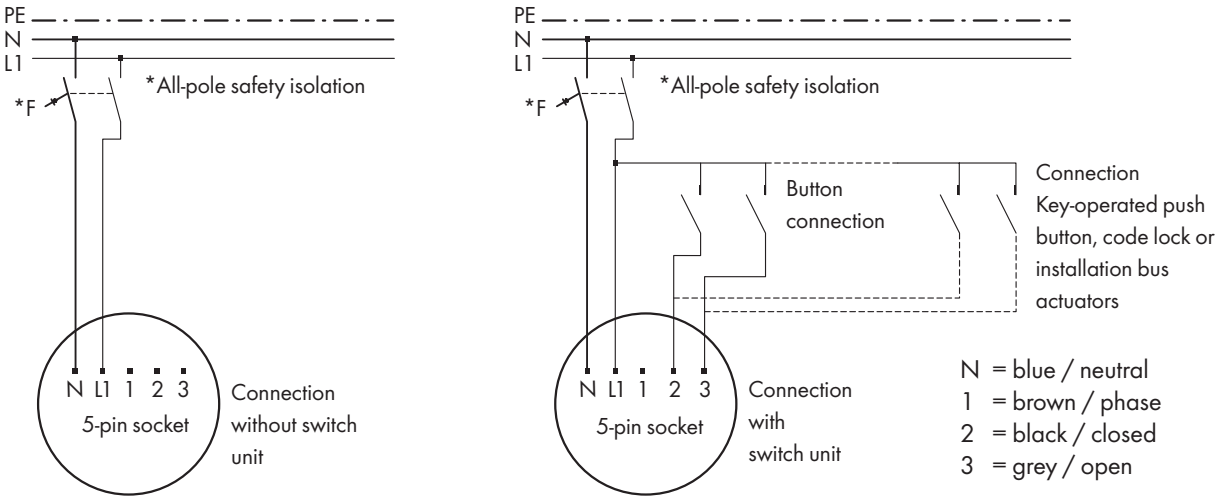
With concealed mains cable running and for control using a wall or key switch (not included in scope of delivery), the cable must be connected in the 5-pin socket of the slide drive SA.

1. Unscrew the fixing screws on the 5-pin socket and pull out the plug.
2. Unplug and remove the 2-wire mains plug cable that comes as standard in the power supply.
3. Route the concealed mains cable through the open cable duct (clips open and shut) and cable duct recess into the 5-pin socket. The isolated part of the mains cable must be located inside the 5-pin socket:



Wiring diagram – scheme C

- All-pole safety isolation is essential.
- Connect the cable inside the 5-pin socket according to the wiring diagram.
- Connect the plug to the 5-pin socket and reattach using the fixing screws (Fig. 4)

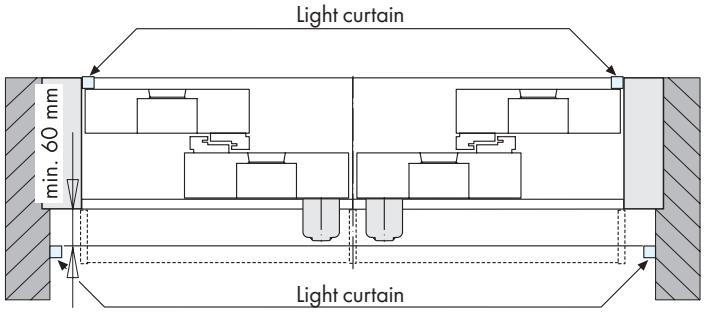


7.11 Installation of the light curtain – scheme C

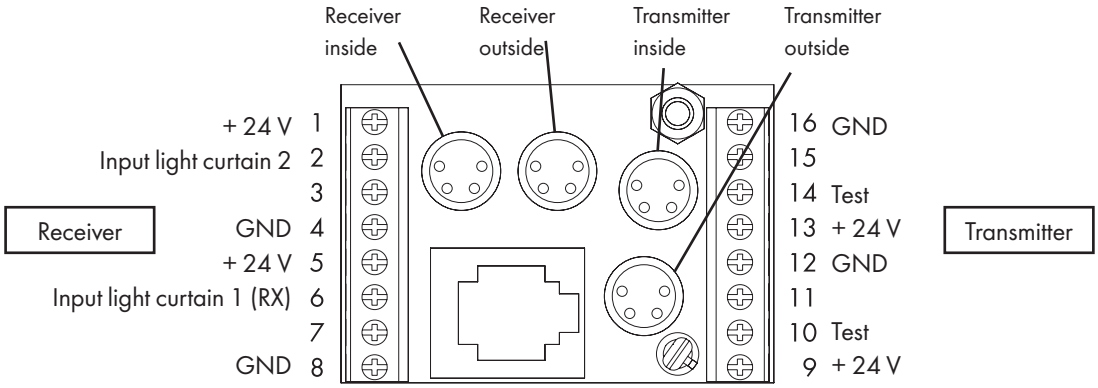
Alterations must be made to the MHS400 smart in order to operate it with a light curtain

The suitable light curtain can be ordered from:

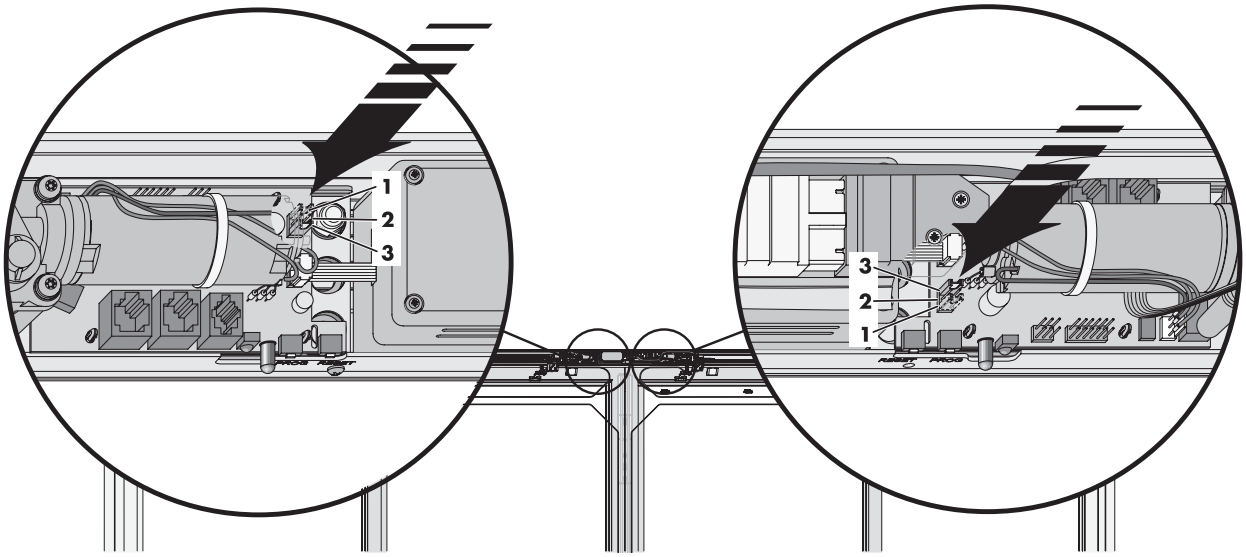
CEDES GmbH
Elektronische Systeme
Elzmatten 6
D-79365 Reinhausen



Terminal board for connecting light curtain (plugs or terminals)



On the slide drive SA, a jumper must be switched for operation with a light curtain.



Jumper position 3 = operation with light curtain
Jumper position 2 = operation in normal mode without light curtain
Jumper position 1 = operation with reduced traverse speed

7.12 Completing the installation

Checking the functionality of the HS element manually with the MHS400 smart system installed

So that friction and resistance can be identified during manual operation of the lift & slide sash, the slide drive should be decoupled from the sash. To do this, simply release the catch on the slide drive SA from the catch base on the lift & slide sash and pull out the plug of the connection cable for the lift drive HA in the slide drive SA.

Possible causes of malfunctions affecting the MHS400 smart

- Changes to the HS element following assembly of the MHS400 smart (e.g. changes to stoppers, end pieces, etc.)
- Seals on HS element too stiff or not fitted correctly
- Seal lip is rubbing against the guiding rail
- During travel, the cable holders in the sash groove at the top are rubbing against the guiding rail
- The front and rear guides at the top are not positioned correctly in the sash groove (e.g. installed too high up)
- The HS element has been installed warped and/or at an angle or not vertically plumb in the reveal
- Threshold not aligned precisely horizontally
- Heavy soiling on or significant damage to the running rail
- Thermal characteristics of the material not taken into account (e.g. continuous exposure to direct sunlight, dark shade of the HS element components)
- HS element not glazed or wedged properly

The causes should be remedied by qualified professionals taking the appropriate actions.

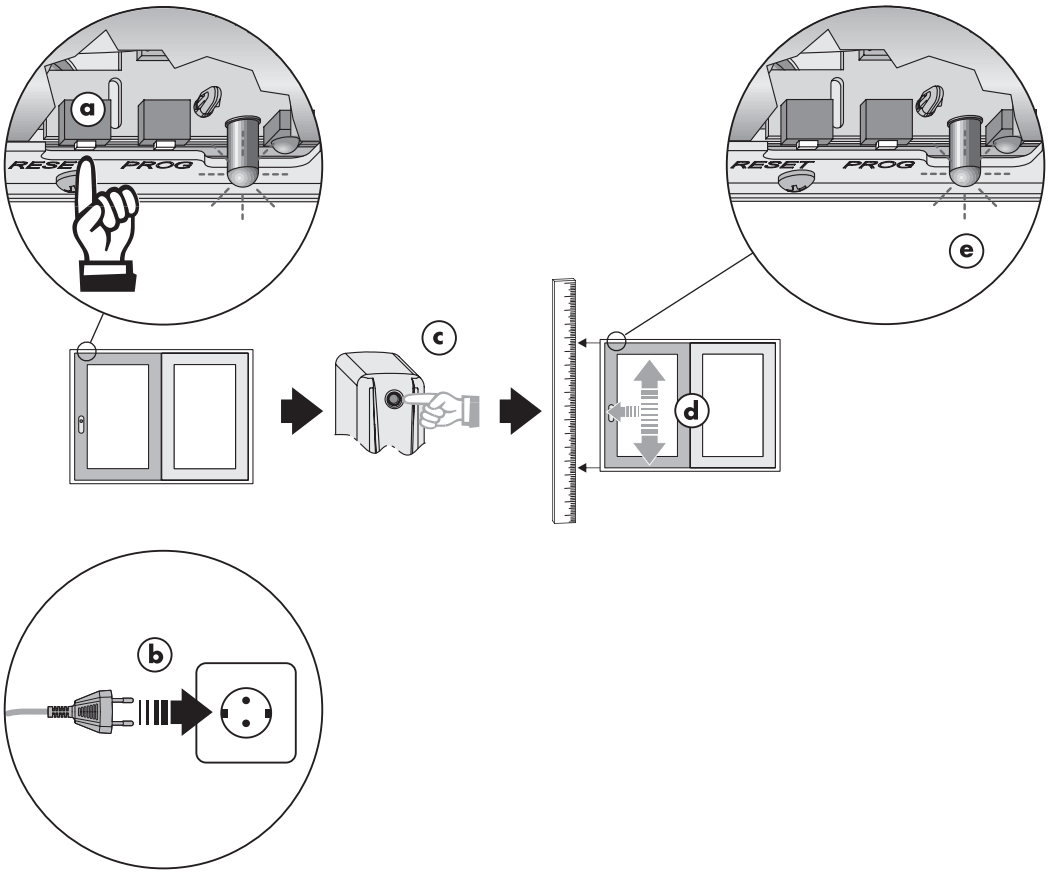
8. Commissioning – scheme A

8.1 General information for commissioning

- Following installation of the MHS400 smart (initial commissioning), you must carry out a reference run as well as a calibration and teach-in run.
- The reference run, as well as the calibration and teach-in run help to determine the size of the lift and slide element and the displacement force.
- The reference run must be performed again in the event of a power failure. The calibration and teach-in run only has to be performed when commissioning the equipment.
- Any tasks relating to commissioning may only be completed by qualified professionals.

8.2 Reference run

1. Press reset button (**a**) or break the electric circuit and then reconnect the power supply (**b**)
2. Move lift & slide sash into "Close" position (manually if necessary)
3. Press button on the lift drive (**c**)
4. The lift & slide sash is automatically lowered, lifted and lowered/locked during the reference run (**d**).
   Note: The LED flashes red during the reference run (**e**).
5. The LED goes out after the reference run has been completed and the "Lock" position has been reached.



8.3 Calibration and teach-in run

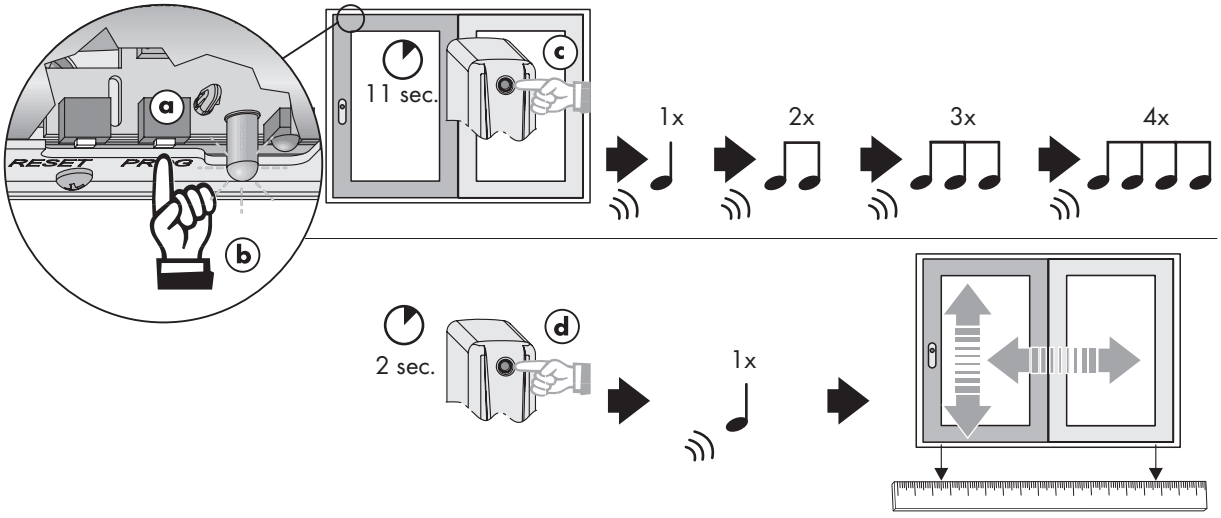
⚠ WARNING **Risk of injury! Hands, arms, legs and feet can get trapped and/or crushed! There is no safety cut-off function!**

› During the calibration and teach-in run, maintain a safe distance from the moving elements.

⚠ WARNING **Risk due to incorrect measured values!**

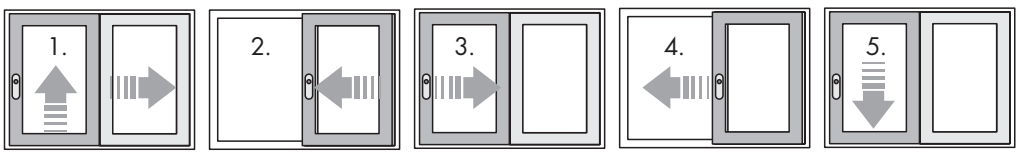
› To prevent incorrect measured values, never interrupt or interfere with the calibration and teach-in run of the MHS400 smart system!

1. Move lift & slide sash into "Close" position (manually if necessary)
2. Press the "PROG" button (**a**)
   Note: The LED flashes green (**b**).
3. Press the button on the lift drive for 11 seconds (**c**)
   Note: While the button is pressed, the following tones sound in succession:
   1 short alarm signal, 2 short alarm signals, 3 short alarm signals, 4 short alarm signals. Then release the button.
4. Press the button on the lift drive for 2 seconds (**d**)
   Note: While the button is pressed, 1 short alarm signal is sounded. Then release the button.

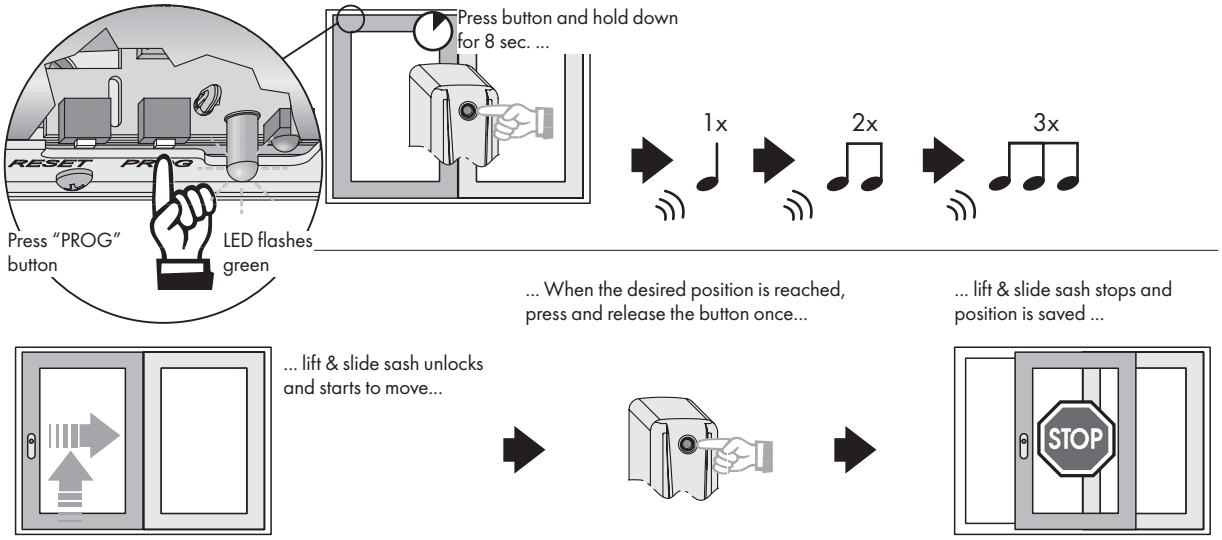


Positions of the calibration and teach-in run

1. The lift & slide sash unlocks and moves as far as the end position stop.
2. The lift & slide sash moves back to the "Close" position
3. The lift & slide sash moves as far as the end position stop again
4. The lift & slide sash moves back to the "Close" position again
5. The lift & slide sash locks
   Note: The LED flashes red during the calibration and teach-in run.



9. Teaching in the intermediate stop – Scheme A

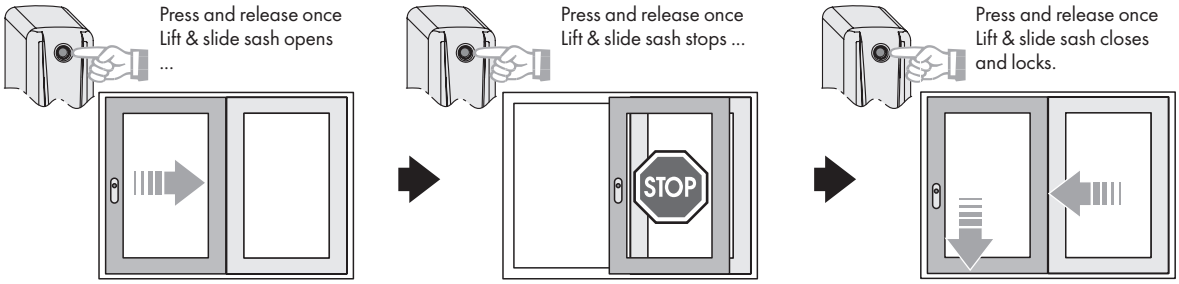


10. Operation – scheme A

10.1 “Open” - “Stop” - “Lock” operation

Every time the button is pressed, the function switches between “Open” - “Stop” - “Lock”.

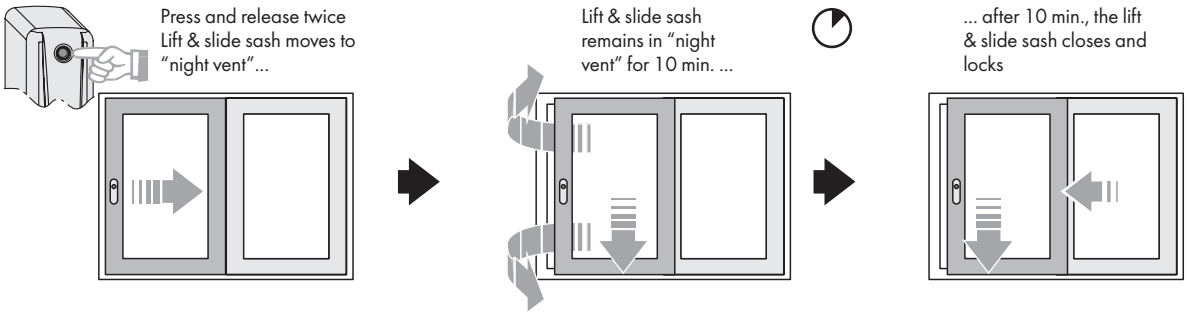
Note: The LED lights up green when opening. The LED lights up red when closing and locking.



10.2 10-min. night vent position

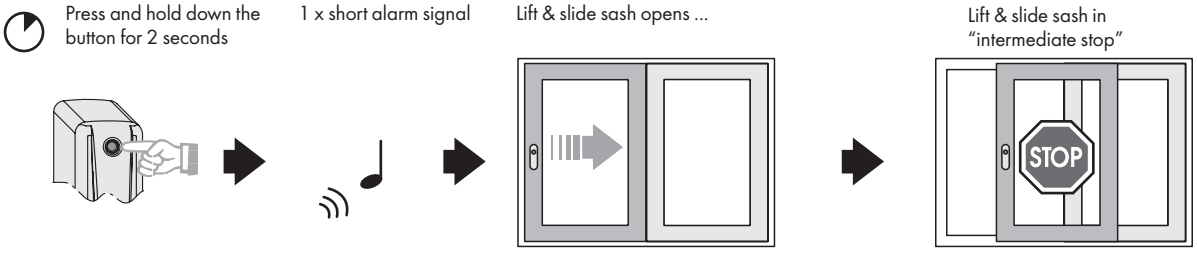
The lift & slide sash moves to the night vent position and lowers. After 10 minutes, the lift & slide sash automatically closes again and locks.

Note: The LED flashes green during night ventilation.



10.3 Intermediate stop (limited opening width)

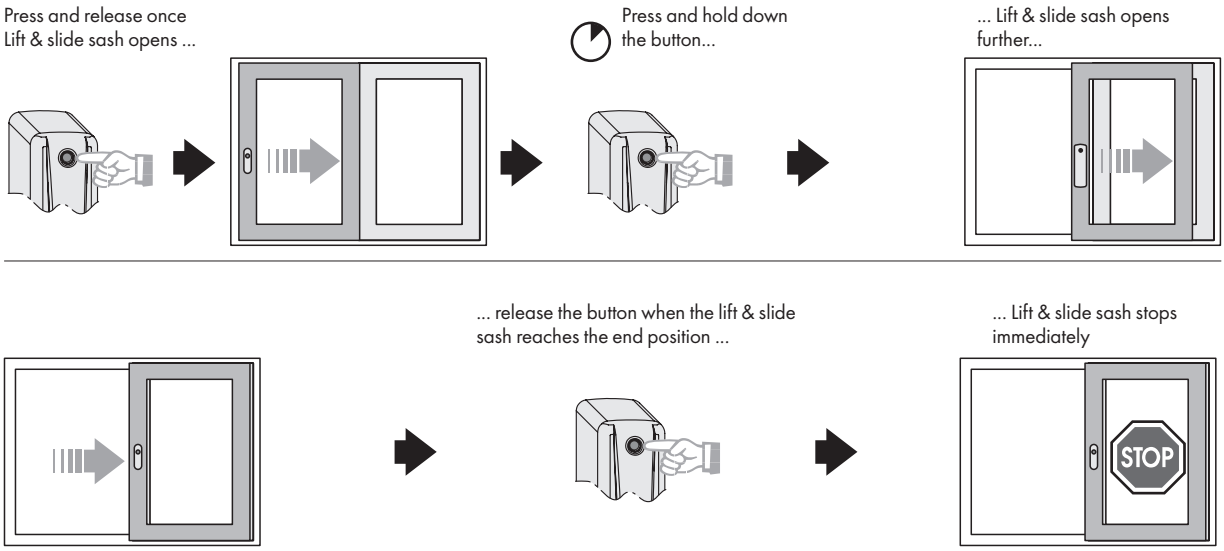
The lift & slide sash moves to a taught-in intermediate stop (see page 40).



10.4 Special function "Opening as far as the end position" (stop)

For safety reasons, the lift & slide sash does not open fully in normal motor-powered operation.

To move the lift & slide sash to its absolute end position (as far as the stop), it can be pushed open manually or moved to the end position by pressing the button on the lift drive. The lift & slide sash must be in the "Open" position.



Note: Not required for version with optional terminal board for light curtain. On the version with light curtain, the lift & slide sash is always opened as far as the end position.

11. Commissioning – scheme C

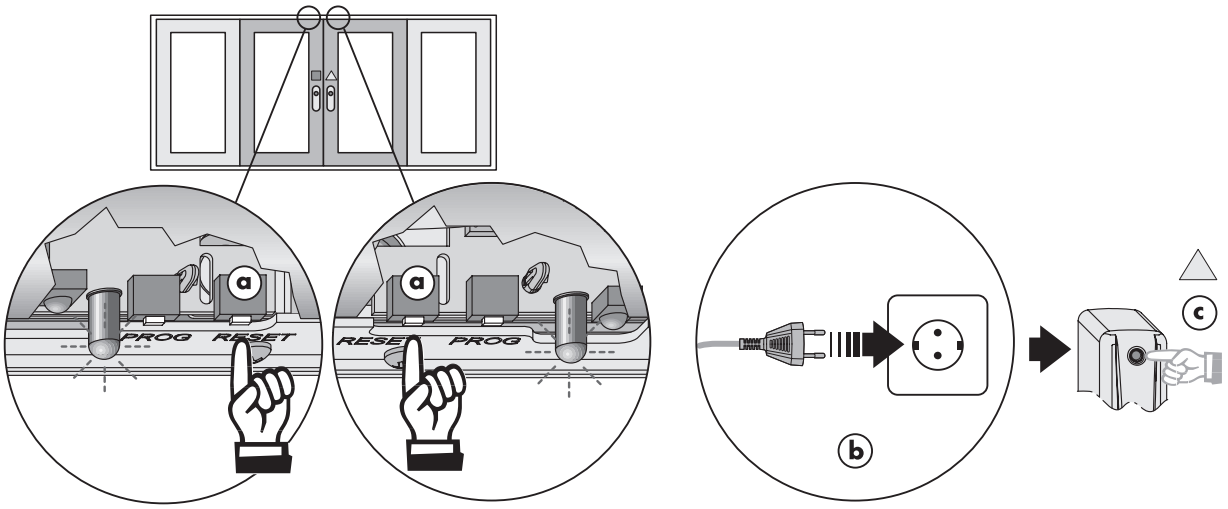
11.1 General information for commissioning

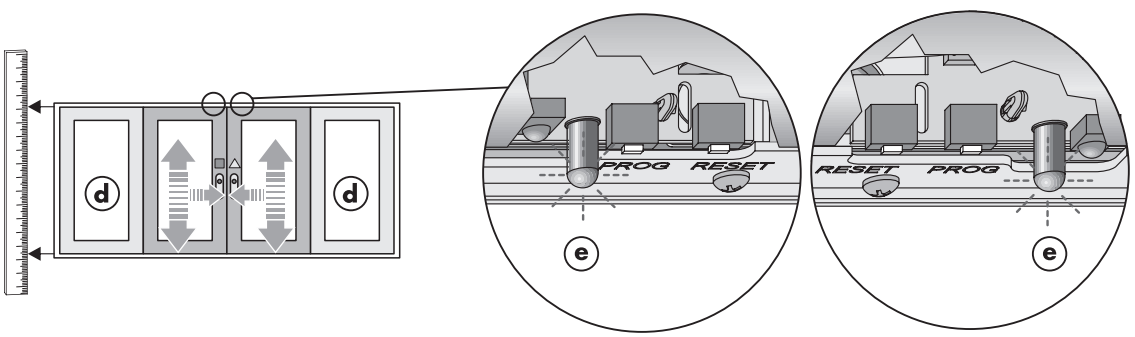
- Following installation of the MHS400 smart (initial commissioning), you must carry out a reference run as well as a calibration and teach-in run.
- The reference run, as well as the calibration and teach-in run help to determine the size of the lift and slide element and the displacement force.
- The reference run must be performed again in the event of a power failure. The calibration and teach-in run only has to be performed when commissioning the equipment.
- Any tasks relating to commissioning may only be completed by qualified professionals.

11.2 Reference run

With scheme C, a distinction is made between the primary sash ■ (initial opening sash) and the secondary sash △ (locking bolt or hook bolt on locking side).

1. Press both reset buttons (**a**) or break the electric circuit and then reconnect the power supply (**b**)
2. Move both lift & slide sashes into "Close" position (manually if necessary)
3. Press button on the lift drive of the secondary sash △ (**c**)
4. The lift & slide sashes are automatically lowered, lifted and lowered/locked during the reference run (**d**).
   Note: Both LEDs flash red during the reference run (**e**).
5. Both LEDs go out after the reference run has been completed and the "Lock" position has been reached.





11.3 Calibration and teach-in run

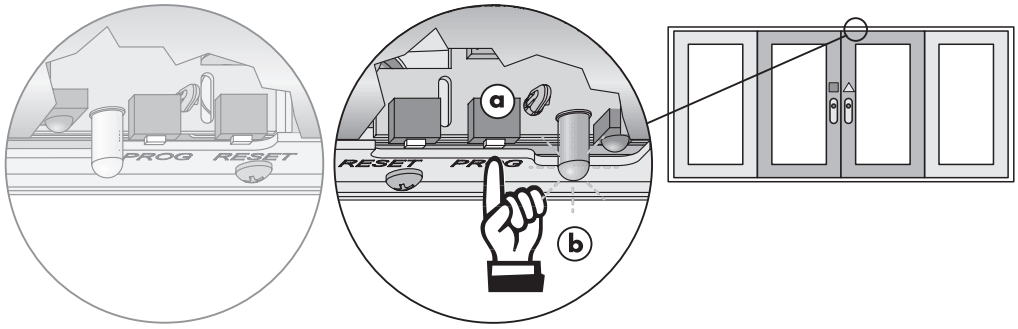
⚠ WARNING **Risk of injury! Hands, arms, legs and feet can get trapped and/or crushed! There is no safety cut-off function!**

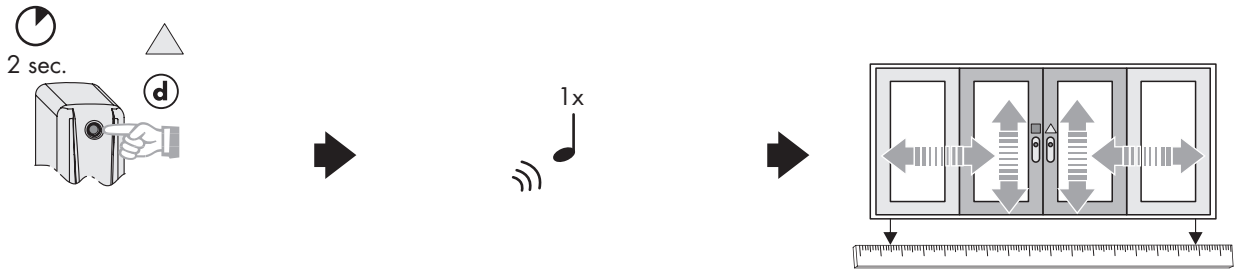
› During the calibration and teach-in run, maintain a safe distance from the moving elements.

⚠ WARNING **Risk due to incorrect measured values!**

› To prevent incorrect measured values, never interrupt or interfere with the calibration and teach-in run of the MHS400 smart system!

1. Move lift & slide sash into "Close" position (manually if necessary)
2. Press the "PROG" button (**a**)
   Note: The LED flashes green (**b**).
3. Press the button on the lift drive of the secondary sash △ for 11 seconds (**c**)
   Note: While the button is pressed, the following tones sound in succession:
   1 short alarm signal, 2 short alarm signals, 3 short alarm signals, 4 short alarm signals. Then release the button.
4. Press the button on the lift drive of the secondary sash △ for 2 seconds (**d**)
   Note: While the button is pressed, 1 short alarm signal is sounded. Then release the button.

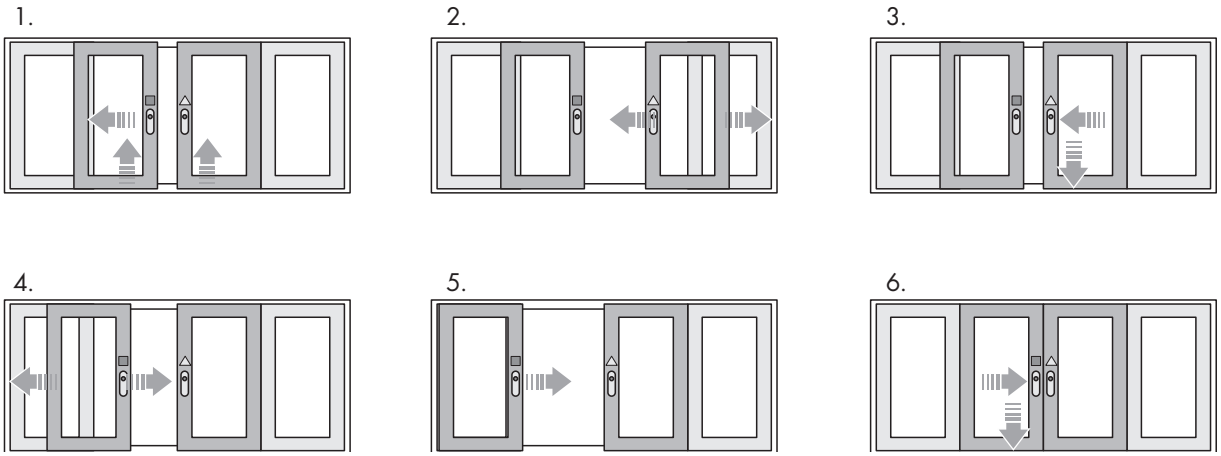




Positions of the calibration and teach-in run

The descriptions of the operating sequences on the following pages are based on the example of a primary sash. The following positions are approached after starting:

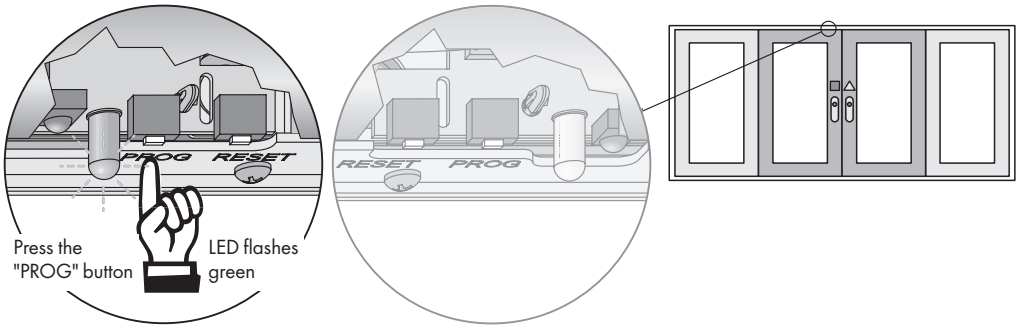
1. Both lift & slide sashes ■ △ release and the primary sash ■ opens slightly (moves to the waiting position).
2. The secondary sash △ opens as far as the end position stop then moves back to the "Close" position.
3. The secondary sash △ opens again as far as the end position stop, moves back to the "Close" position and locks.
4. The primary sash ■ opens as far as the end position stop again, moves back to the waiting position, stops briefly and then moves on as far as the "Close" position.
5. The primary sash ■ opens as far as the end position stop again, moves back to the waiting position, stops briefly and then moves on as far as the "Close" position.
6. Primary sash ■ locked

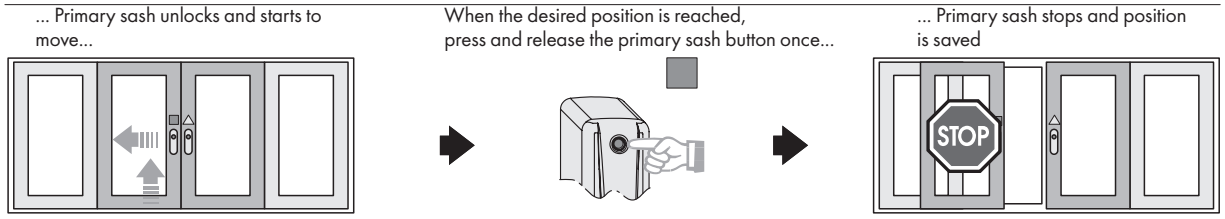


12. Teaching in the intermediate stop – scheme C

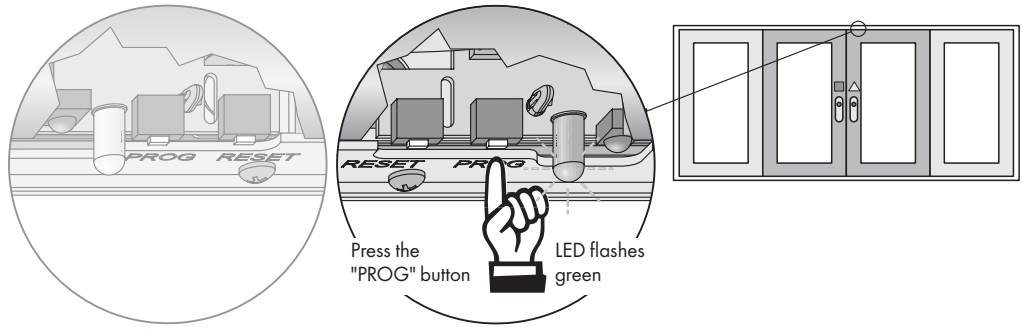
- Primary sash ■ and secondary sash △ must be taught in individually for the required intermediate stop.
- Usually, it is sufficient to teach in the intermediate stop for the primary sash only.

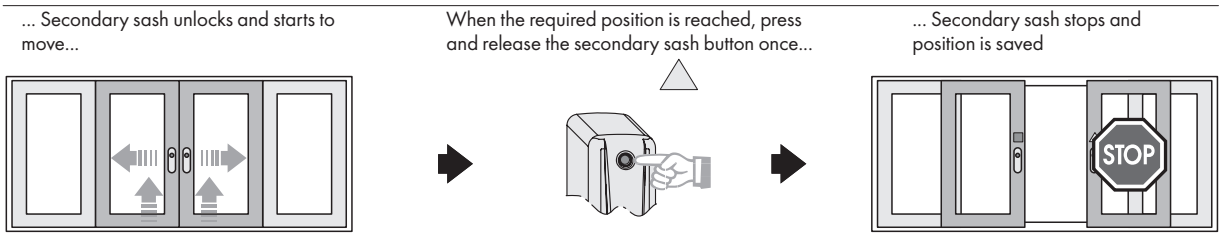
Teaching in the primary sash





Teaching in the secondary sash





13. Operation – scheme C

Scheme C lift and slide elements have two controllable lift & slide sashes (primary sash ■ and secondary sash △). The primary sash is the initial opening sash and the secondary sash opens next. The primary sash and secondary sash positions (right or left lift & slide sash) must be specified when placing your order. In the examples in these instructions, the left-hand lift & slide sash is the primary sash and the right-hand lift & slide sash is the secondary sash.

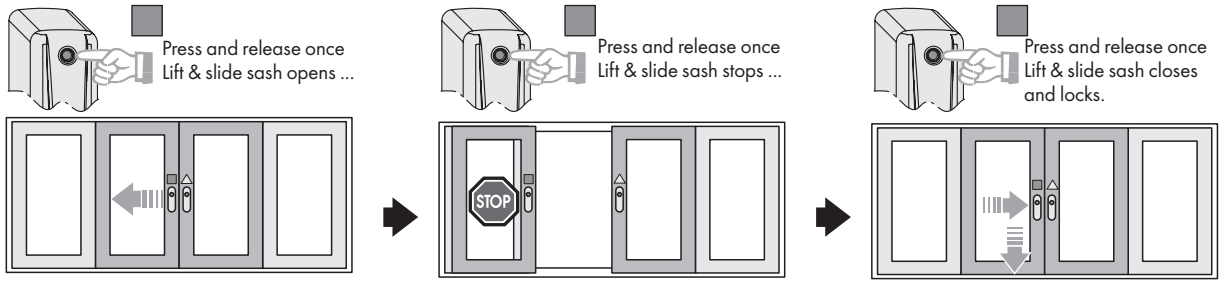
Note: The button for the primary sash controls the corresponding lift & slide sash individually.
The button for the secondary sash controls both lift & slide sashes at the same time.

13.1 "Open" - "Stop" - "Lock" operation

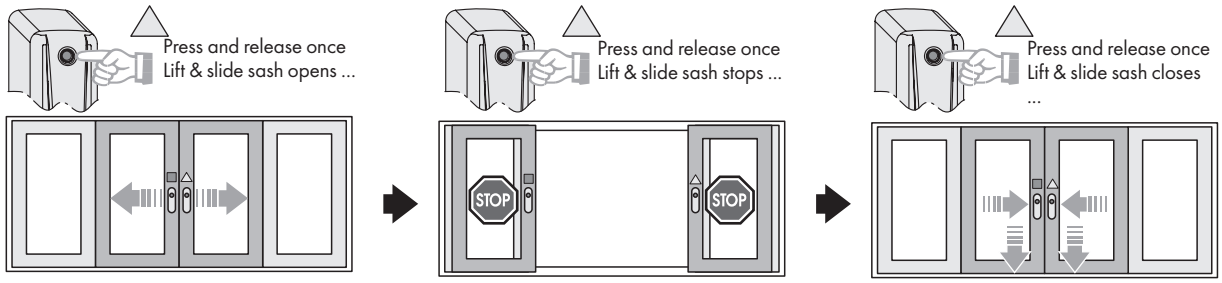
Every time the button is pressed, the function switches between "Open" - "Stop" - "Lock".

Note: The LED lights up green when opening. The LED lights up red when closing and locking

Primary sash button ■
(primary sash is controlled)



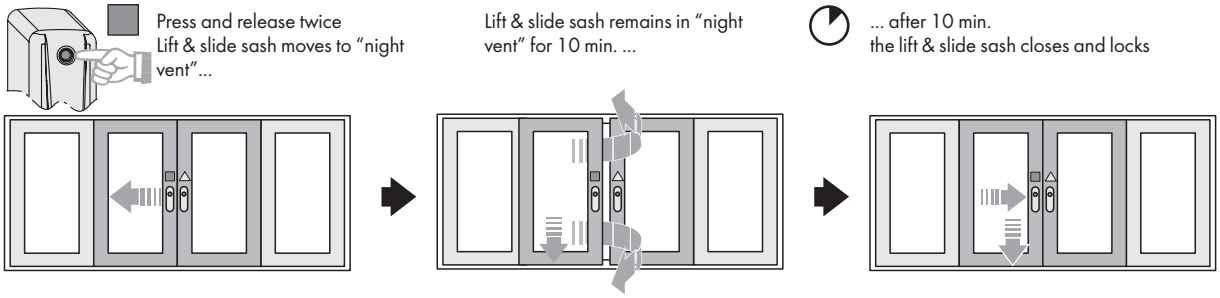
Secondary sash button △
(primary sash and secondary sash are controlled)



13.2 10-min. night vent position

For scheme C, only the primary sash moves to the 10-min. night vent position, where it lowers. During the 10-minute ventilation phase, the LED flashes green. It then goes out and the primary sash moves back to the "CLOSED" position. This is where it locks.

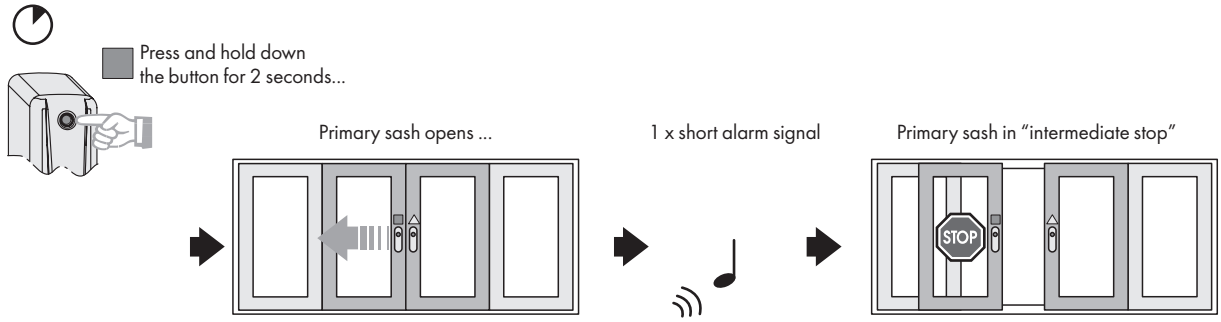
Primary sash button ■
(primary sash is controlled)



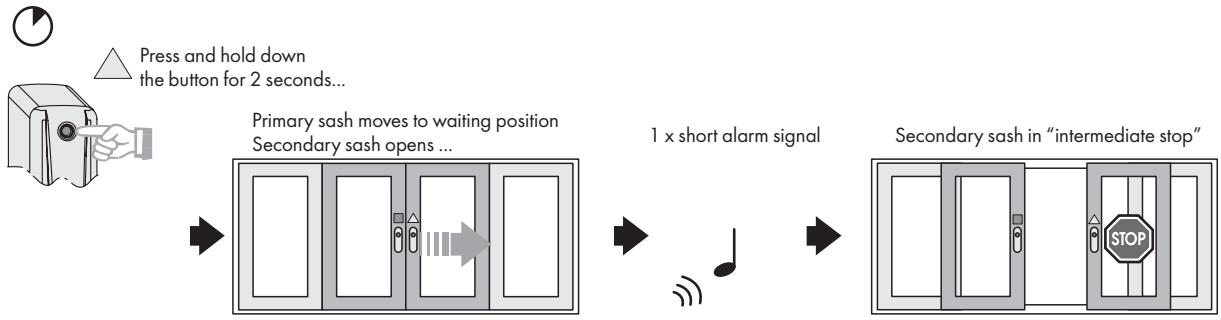
13.3 Intermediate stop (limited opening width)

The primary and secondary sashes are controlled individually and then move to the taught in intermediate stop.

Primary sash button ■
(primary sash is controlled)



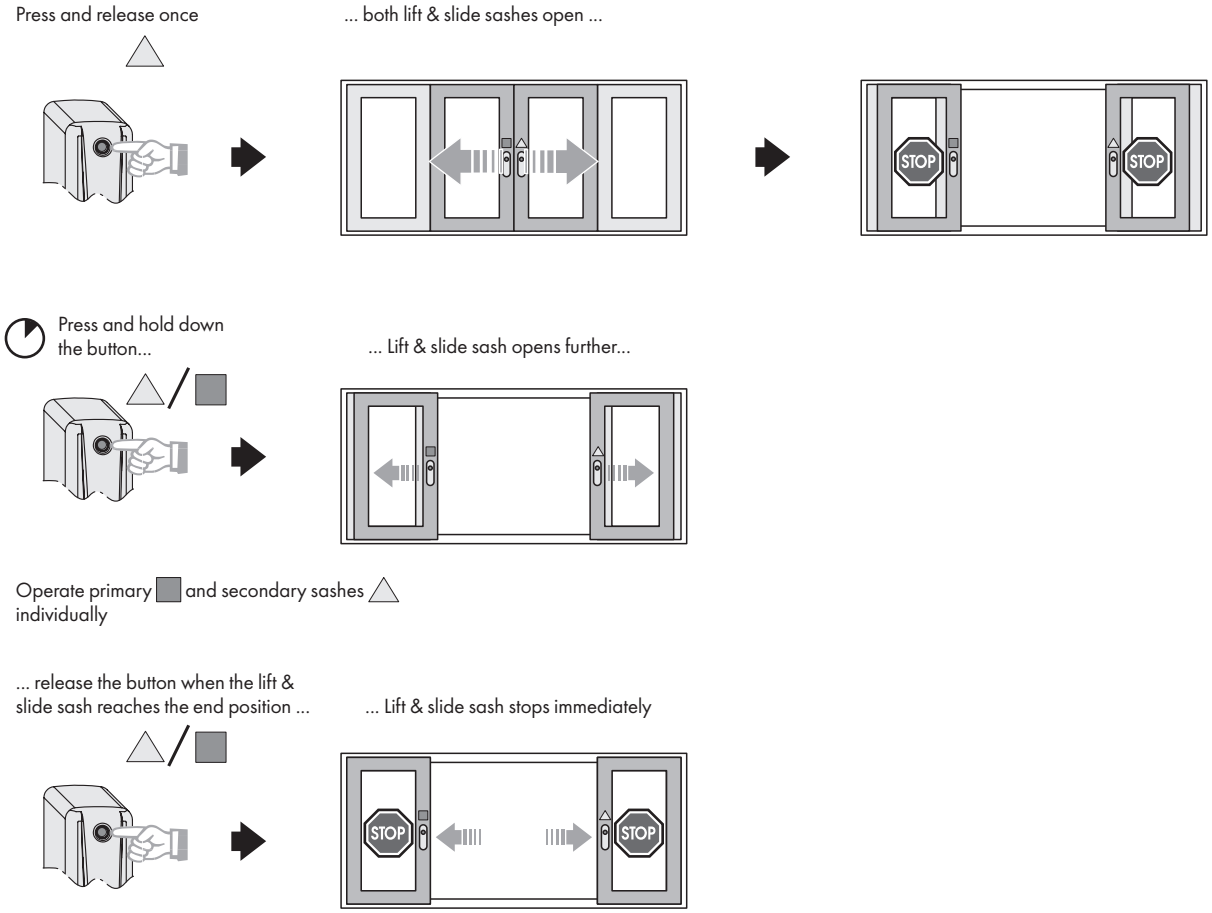
Secondary sash button △
(primary sash and secondary sash are controlled)



13.4 Special function "Opening as far as the end position" (stop)

For safety reasons, both lift & slide sashes do not open fully in normal motor-powered operation. To open the lift & slide sashes fully (i.e. to move them to their absolute end position (as far as the stop)), they can be manually pushed open individually or moved to the end position by pressing the button on the corresponding lift drive HA. The lift & slide sashes must be in the "OPEN" position before they can be moved to their absolute end position.

Secondary sash button △
(primary sash and secondary sash are controlled)



Note: This special function can only be executed for the primary and secondary sashes separately.

Note: Not required for version with optional terminal board for light curtain. On the version with light curtain, the lift & slide sash is always opened as far as the end position.

14. Manual emergency operation

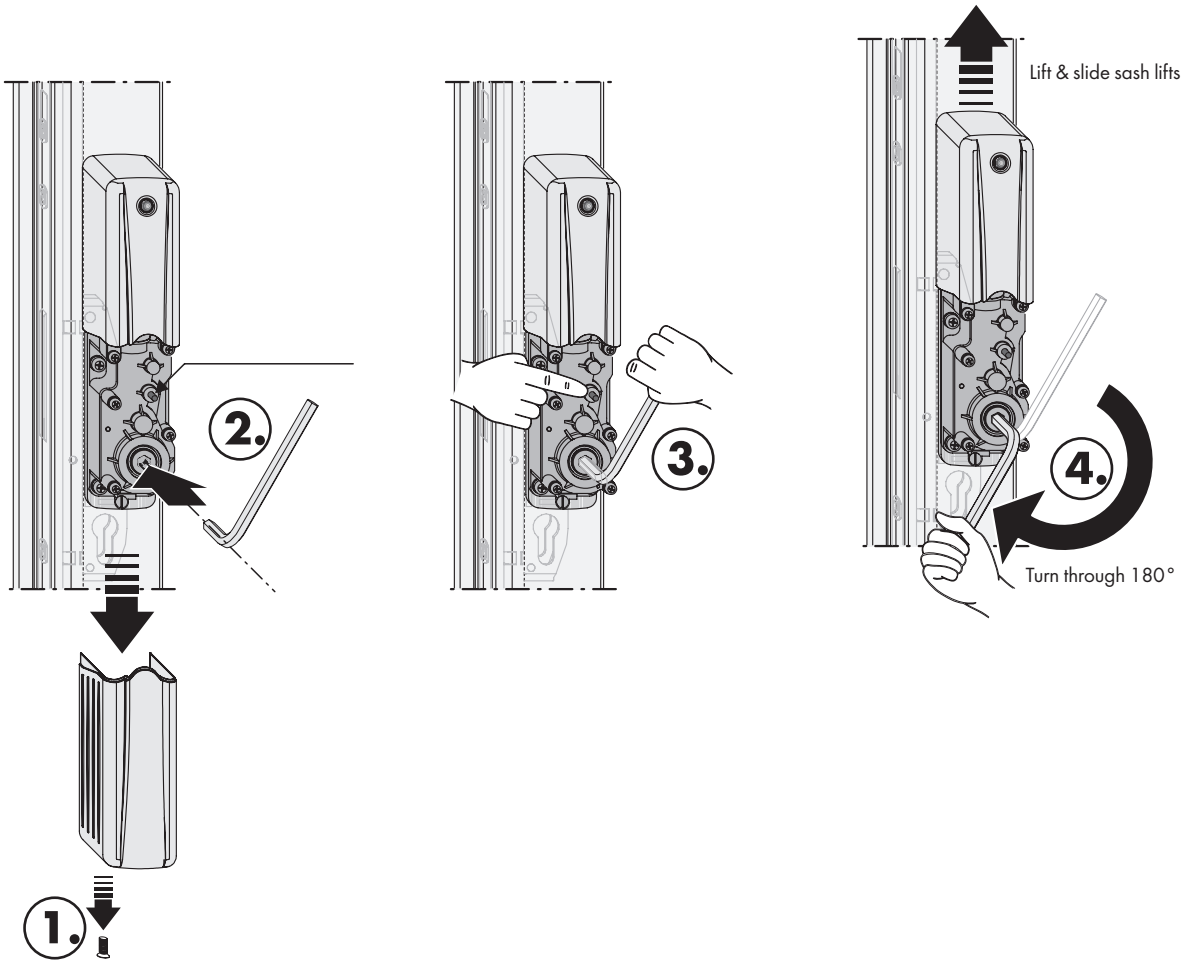
If the lift drive HA fails, the lift & slide sash can be lifted/lowered manually with the emergency operating handle (hexagon wrench WAF 8) included in the scope of delivery. Once it has been lifted/lowered, the lift & slide sash can be moved manually.

Note: The emergency operating handle is designed solely for use for manual operation in the event of a malfunction. It should therefore be kept in the vicinity of the lift and slide element.

⚠ WARNING **Danger of injury from emergency operating handle snapping back.**

› During manual operation with the emergency operating handle, hold the handle firmly. When the unit is unlocked, the emergency operating handle takes the weight of the lift & slide sash.

1. Unscrew the M5 x 19 mm fixing screw from the lower cover cap on the lift drive and remove the cover cap.
2. Insert the emergency operating handle into the opening (WAF 8) of the drive unit
3. Keeping a tight hold of the emergency operating handle, push in the release knob on the drive unit firmly – the drive is unlocked
4. Turn the emergency operating handle through 180° (main sash first with scheme C); the lift & slide sash lifts and can then be moved manually



15. Care and maintenance

⚠ WARNING **Electrically operated unit.**
Risk of fatal injury from electric shock or fire.

To prevent personal injury or damage to property, always comply with the following instructions:

› Pull the mains plug out of the socket prior to every cleaning process or maintenance work. Never pull at the cable to disconnect the device from the electricity grid.

› For all devices with a fixed connection to the 230 V AC mains power supply, switch off all poles of the feeder. The fuses may need to be removed.

15.1 Cleaning

Important: When cleaning the MHS400 smart, do not allow liquids to get inside the unit.

- Never use cleaning agents that are aggressive or contain solvents, or sharp-edged objects, as these may damage the surfaces of the casing.
- Never clean the unit with a high-pressure cleaner or steam-jet cleaner.
- Clean the MHS400 smart with a cloth moistened with a mild soap solution or cleaning agent.
- Observe the safety regulations for operating electrical equipment and, if necessary, for ladders, steps and work overhead or at certain heights.

16. Rectification of malfunctions

In case of a malfunction, do not open the device or try to repair it under any circumstances.

If the problem is not listed in the table below, please contact your window specialist or SIEGENIA directly:
Tel. +49 271 3931-0

16.1 MHS400 smart

Description of problem	LED	Possible cause	Proposed solution
MHS400 smart does not lock	–	Function „Closing without locking“ has been programmed (see operating instructions H47.MOTS011EN „Infrared remote control“)	MHS400 smart Locking with the aid of the SIEGENIA Comfort app
			Briefly tap the button on the lift-slide sash twice
			Delete function "Close without locking" 1. Move the lift-slide sash to the end position (see page 42 and 49). 2. Press the "PROG" button* (LED flashes green) 3. Press and hold button for 4 seconds* (1 brief signal, then 2 brief signals audible) 4. Release the button 5. Press and hold button once again (1 long signal audible)
MHS400 smart not functioning	Off	No power supply	Check power supply
	Off	Infrared remote control not taught in	See operating instructions – infrared remote control
	Flashes red	MHS400 smart not initialised	Perform reference run (see page 38 and 43)
	Flashes 2x green – 3x red	Overheating	Wait until drive cools and LED stops flashing
	Flashes red/green	System test failed	Disconnect the voltage for at least 10 seconds, then start reference and calibration run (see pages 38 and 43) (if the problem reoccurs, contact Service)
MHS400 smart aborts closing/opening and moves in opposite direction for 4 seconds	Off	Obstacle is blocking the sliding path of the lift & slide sash	Remove obstacle and operate MHS400 smart again
MHS400 smart does not respond to smartphones/tablets	–	No WLAN connection to the router of the home network	Restart WLAN router of the home network
	–	No WLAN connection to the smartphone/tablet	Restart smartphone/tablet
	–	No WLAN connection to the MHS400 smart	Reset MHS400 smart: 1. Press and release “PROG” button 3 times in succession. 2. Hold “PROG” button once (for approx. 4 seconds) directly on the connection 3. Lift & slide sash closes The module will then return to the default setting.

16.2 SIEGENIA Comfort App

You will find detailed operating information as well as information on how to rectify disturbances on the SIEGENIA Smarthome Internet page.
https//smarthome.siegenia.com

17. Technical specifications

Specification for a MHS400 smart	
Supply voltage scheme A	120–230 V~, 22 W
Supply voltage scheme C	120–230 V~, 48 W
Device operating voltage (power supply integrated in the slide drive)	24 V DC
Max. displacement force during slide operation	Approx. 50 N (depending on sash weight and friction)
Max. torque at square	Approx. 25 Nm
Traverse speed	Approx. 150 mm/sec.
Operating time of lift drive HA	Approx. 7 sec.
Temperature range	–5 °C to 50 °C
Jam protection	Electronic overload cut-off device (current limiter in accordance with standard)
Protection class	IP20 for dry locations
Connection to AC mains power supply (at factory)	Europlug, cable length 5 m
Connection to AC mains power supply (at installation site) (concealed cable channel)	5 x 1.5 mm² cable (all-pole safety isolation required)
Connecting clamps	For a max. supply-line cross-section of 2.5 mm²

18. Accessories

Material description	Material no.
Jig catch	GABB0010-0E5010
Jig through hole	GABB0020-0E5010
Rose lock	GZRS0010-096010 (white, RAL 9003) GZRS0010-025010 (silver, RAL 9006)
Rose lock cover	GZRA0010-096010 (white, RAL 9003) GZRA0010-025010 (silver, RAL 9006)
Infrared remote control	GZFB0020-025010
Light curtain (inside/outside)	Available from CEDES GmbH Elzmatten 6, 79365 Reinhausen, Germany

19. Feedback on documentation

We welcome your comments and suggestions on how to improve our documentation. Please email your comments to documentation@siegenia.com.

20. EC declaration of incorporation

Manufacturer

SIEGENIA-AUBI KG
Hardware and ventilation technology
Duisburger Straße 8
57234 Wilnsdorf

declares that the product:

HS drive

Device type

MHS400 smart

Type designation

meets the following fundamental requirements:

EC Machinery Directive	2006/42/EC
EMC Directive	2014/30/EU
	EN 301 489-1 EN 301 489-17
Low voltage directive	2014/35/EU
	EN 60335-1:2012 EN 60335-2-103:2010
RoHS Directive	2011/65/EU

This declaration is based on test reports from:

EMC TestHaus Dr. Schreiber GmbH - Test protocol 14/457

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

The specific technical documentation has been drafted in accordance with Annex VII Part B of the EC Machinery Directive 2006/42/EC.

We undertake to provide such documentation to market surveillance authorities in electronic format within a reasonable time upon reasoned request. The aforementioned technical documentation can be obtained from the manufacturer.

Siegen, 09-05-2017

ppa. Weber

M. Weber
(Head of group development)

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

The safety instructions in the product documentation supplied must be followed.

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