ASSEMBLY AND OPERATING INSTRUCTIONS



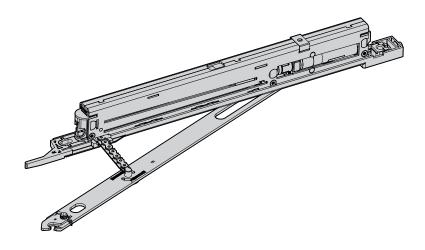
DRIVE axxent DK

Concealed tilt sash locking drive.

Window systems

Door systems

Comfort systems



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1. General information

1.1 Target group of this documentation

- This documentation is intended for use by specialists and end users.
- All instructions in this document pertaining to assembly, installation, maintenance and trouble-shooting are to be
 performed exclusively by experienced professionals with training and experience in the installation, commissioning and
 maintenance of motor drives.
- All instructions contained in this document pertaining to operation and cleaning are intended for 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

- DRIVE axxent DK is a concealed tilt sash locking drive, which may only be used for the motorised locking/release, tilting
 and closing of a tilt sash or turn-and-tilt window.
- The drive can be controlled via a wall button, via a smartphone/tablet or optionally via radio remote control.
- DRIVE axxent DK is an incomplete machine that must not be commissioned until it has been incorporated in a poweroperated window as a complete machine and has been approved in accordance with the manufacturer's specifications.
- DRIVE axxent DK is exclusively intended for installation in vertical tilt/turn-and-tilt windows made of timber, PVC or aluminium in fixed buildings. The device must be installed in the window frame at the top of the locking side.
- Requirements for timber profiles:
 - Groove axis 13 mm
 - Airgap 12+1 mm and Eurofalz min. 30 mm
- Requirements for PVC profiles
 - Groove axis 13 mm
 - Airgap 12+1 mm
- Requirements for aluminium profiles:
 - Groove axis 10 mm
 - ALU eurogroove and chamber dimension 21 +1 mm
- DRIVE axxent DK only use in conjunction with hardware systems SIEGENIA TITAN AF, TITAN iP and ALU 5200. You will
 find detailed information on possible hardware systems in the SIEGENIA download portal:
 https://www.siegenia.com/en/qr/service/drive/drive_axxent_dk/beschlaquebersichten



- Sash weights up to 130 kg (the application diagrams of the respective fittings must be observed)
- DRIVE axxent DK is only to be used if it is in a technically sound condition, and no modifications may be made to the unit and/or its components
- DRIVE axxent DK must only be used in conjunction with genuine accessories and hardware approved by SIEGENIA.
- DRIVE axxent DK is suitable only for installation in dry rooms (protection class IP20) and permissible operating temperatures of -20°C to +40°C
- In the event of a fault, the DRIVE axxent DK is to be checked and repaired by experienced specialists only
- The system is designed only for occasional manual operation
- Any other use is considered as improper use



1.3 Improper use

- DRIVE axxent DK may not be used as a drive for smoke and heat control systems in windows.
- DRIVE axxent DK may not be used in windows that are intended as emergency exits.
- DRIVE axxent DK may not be used in windows fitted with an anti-mishandling device (FBS).
- DRIVE axxent DK may not be installed in window profiles with a groove axis of 9 mm.
- Do not use handles with lock-in position; only removable Si-line handles with Si-line rose.
- Any use of this product not in accordance with its intended use, or any use or modifications made 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 millimetres (mm).

1.5 Figures

• All illustrations are shown in DIN right, DIN left is a mirror image.



2. Safety information

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.
- This unit can be used by children aged 8 and above as well as by people with physical, sensory or mental difficulties or
 with a lack of experience and knowledge as long as they are supervised or have been instructed in how to use the unit
 safely and understand the resulting risks. Children must not play with the unit. Cleaning and user maintenance may not be
 carried out by unsupervised children.
- If the window is installed in an accessible area, e.g. at a height of less than 2.5 m (lower window edge), the appropriate measures must be taken to ensure that no persons are endangered.
 It is essential to ensure the following precautionary measures when controlling the window automatically (memory function in CLOSE direction, automatic weather control etc.):
 - Safety edges, contact hoses, light barriers which automatically stop the drive in case of crushing hazard.
 - Grilles or other mechanical devices that prevent reaching into the hazardous zone.
 - Operation via key-operated push button by an authorised person with the actuated window in their line of sight. See ASR-A1-6 guideline for power-operated windows, doors and gates.
- For tilted sashes, a safety stay must be mounted in addition to the window drive, which secures the tilting of the window sash after the removal of the drive, e. g. for cleaning windows (arresting position), and secures the sash against tilting down. This arresting position must be somewhat larger than the opening width of the drive. The safety stay must be mounted before commencing the installation of the drive!
- Electrically actuated windows and shutters must be constructed in such a way that they do not protrude into access routes in buildings when either open or closed. Ground-level access openings must be secured against falling.
- If there is a hazard of falling glass, the glass used must be laminated safety glass (VSG).
- In automatic operation, the drive is stopped via the limit switch or overload cut-off device.

Risk of injury or death due to electrical shock or fire. Electric motor-driven systems can overheat and cause fire.

- Only a qualified electrician may perform any work on the 230 V AC mains power supply.
- Comply with the current local regulations (e.g. VDE 0100 in Germany).
- Strict compliance with the relevant national regulations is required with 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 DRIVE axxent DK in junction boxes. These junction boxes must be kept accessible for maintenance.
- When cleaning the drive, make sure that no liquid enters the device interior, as this could damage the electronics.
- The unit may only be checked by a specialist in the event of a fault.
- Should a solid object or any liquid enter the device interior, cease operation immediately and disconnect the
 DRIVE axxent DK from the mains. Then have the DRIVE axxent DK checked and repaired by qualified specialists only.

3. 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 all the information needed to assess risks and make decisions concerning the safety of the window elements. The window element of the DRIVE axxent DK can cause crushing and shearing. Depending on the individual object and use situation (e.g. in case of persons requiring special protection or commercial properties) 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.

Risk and hazard analysis

- · Takes into account the protective measures necessary in the planning phase
- Must be carried out before commissioning at the latest
- Provides information based on the individual installation location and user circle, on how to prevent or minimise possible hazards with the window system
- 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

3.1 Information for assembly and installation

Comply with the applicable national and international regulations concerning mechanical and electrical work and the specifications of this documentation when installing and commissioning the DRIVE axxent DK.

- Install DRIVE axxent DK in its intended installation position and in accordance with the local installation regulations.
- During cable routing, avoid damage to the cables caused by pinching, bending or pulling.
- The concealed mains supply lines running to the DRIVE axxent DK must be connected in junction boxes (these junction boxes must be easily accessible for maintenance)
- Protect DRIVE axxent DK against contamination by site material and humidity
- All fittings must be mounted properly
- Connect to the mains supply only after you have tested for proper mechanical function
- Observe the applicable fabrication guidelines from the profile manufacturer
- Always comply with the safety information provided in these instructions and make sure that these instructions are
 accessible at all times

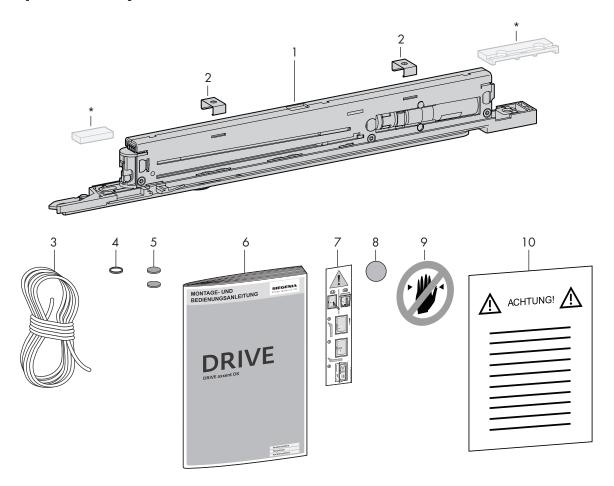
Please note: The traversing speed of the DRIVE axxent DK means that it complies with the protection class 0 to 3 in accordance with VFF data sheet KB.01 without additional protection.

3.2 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.



4. Scope of delivery



Item	Name
1	DRIVE axxent DK
2	Clamping spring (2x)
3	Connecting line
4	Rubber ring
5	Magnet (2x) - (Note: The magnets are only required for timber and PVC windows)
6	Installation and operating instructions
7	Warning sticker for window
8	Lens (status indicator)
9	Safety sticker The safety sticker must be placed on a visible area on the frame of the power-operated window.
10	Safety information

^{*} Recommendation: It may be necessary to support the drive to prevent the DRIVE axxent DK from tilting in the profile. Depending on the profile system, we recommend the use of RB/FPS packers (fig. may differ).

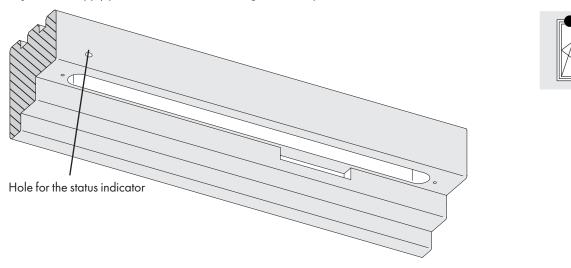
The packers are not included in the scope of delivery and must be ordered separately (see the profile data sheets)

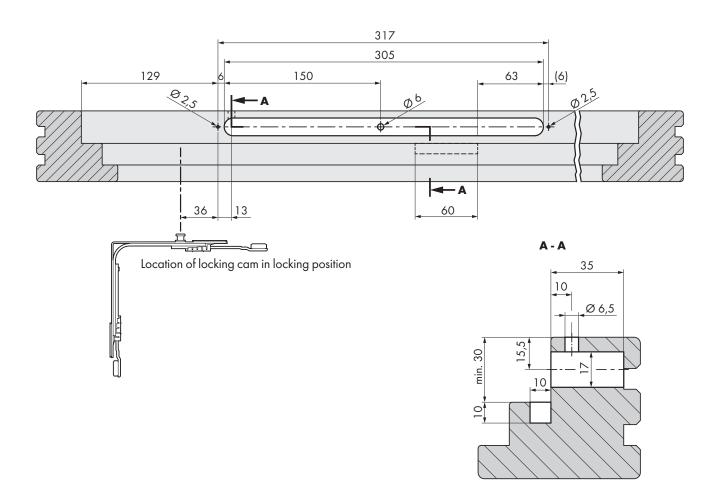
5. Installation

5.4 Machining the profile

5.1.1 Milling and drilling in the timber frame profile, groove axis 13 (locking side on top), turn-and-tilt window

Important: Apply protective varnish after milling the routed pocket.

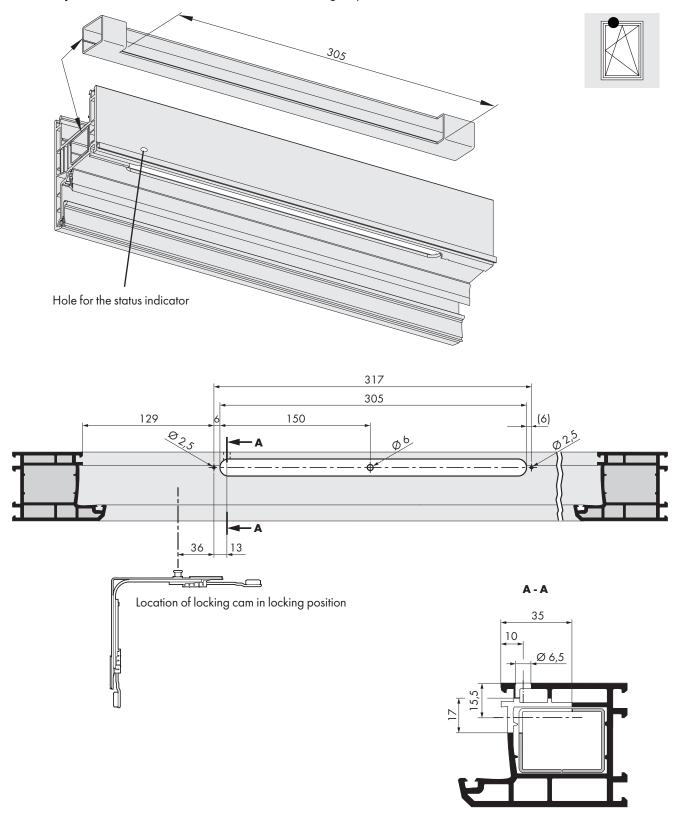




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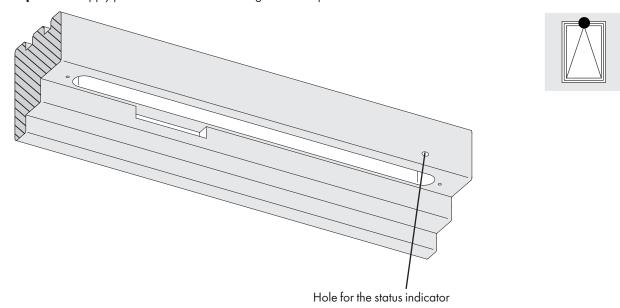
5.1.2 Milling and drilling in the PVC frame profile, groove axis 13, turn-and-tilt window

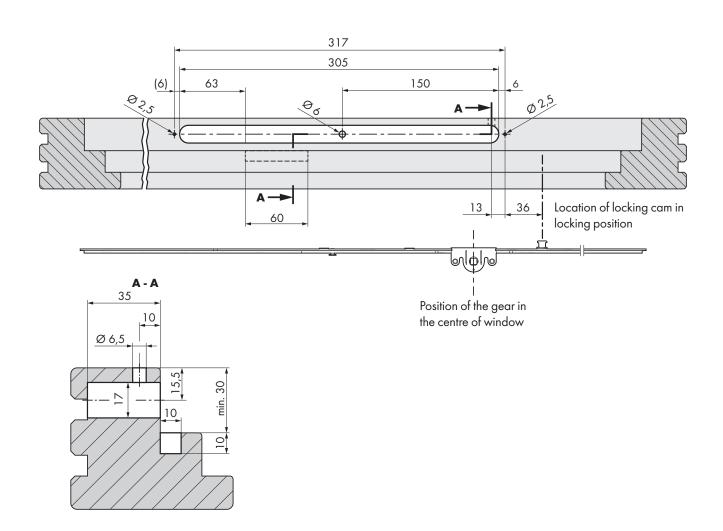
Important: Unlatch the reinforcement before assembling the profiles.



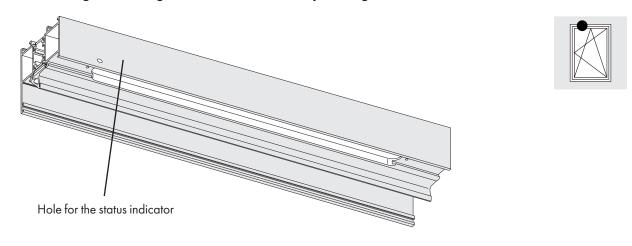
5.1.3 Milling and drilling in the timber frame profile, groove axis 13, turn-and-tilt window

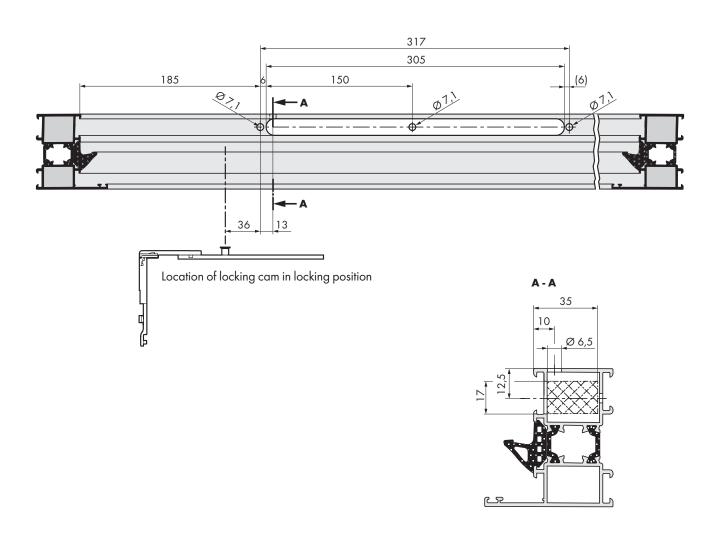
Important: Apply protective varnish after milling the routed pocket.





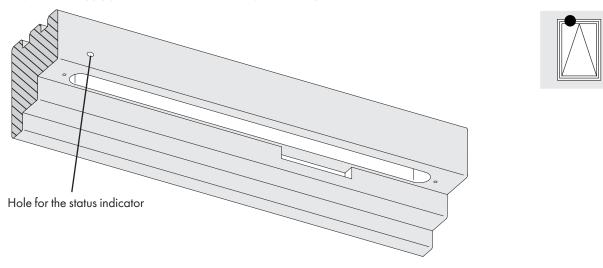
5.1.4 Milling and drilling in the aluminium frame profile, groove axis 10 turn-and-tilt window

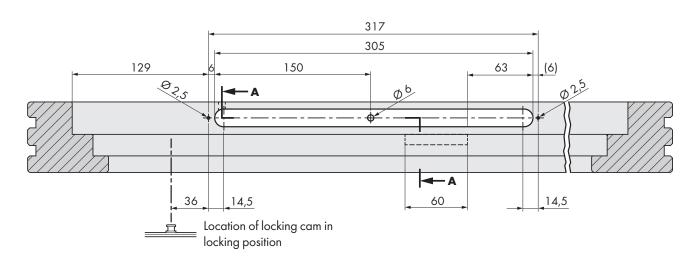


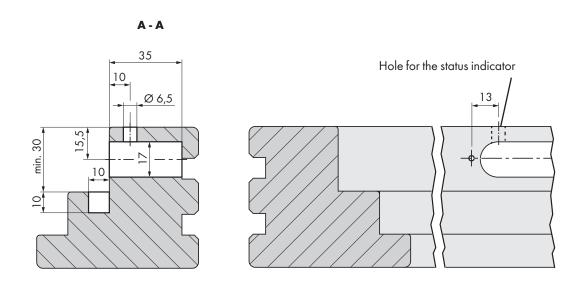


5.1.5 Milling and drilling in the timber frame profile, groove axis 13, turn-and-tilt windows (TITAN iP, FFB 550 - 1000)

Important: Apply protective varnish after milling the routed pocket.

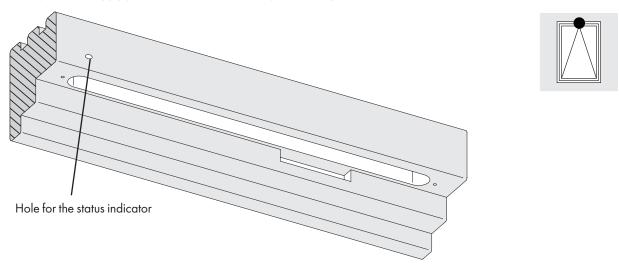


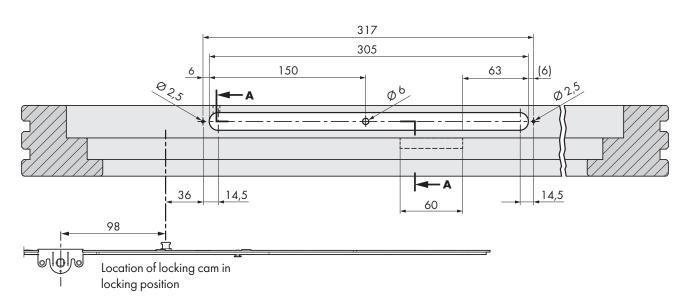


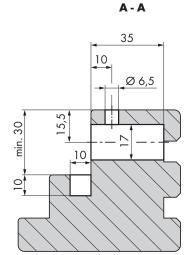


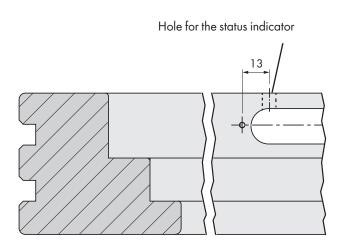
5.1.6 Milling and drilling in the timber frame profile, groove axis 13, turn-and-tilt windows (TITAN iP, FFB 1001 - 2400)

Important: Apply protective varnish after milling the routed pocket.

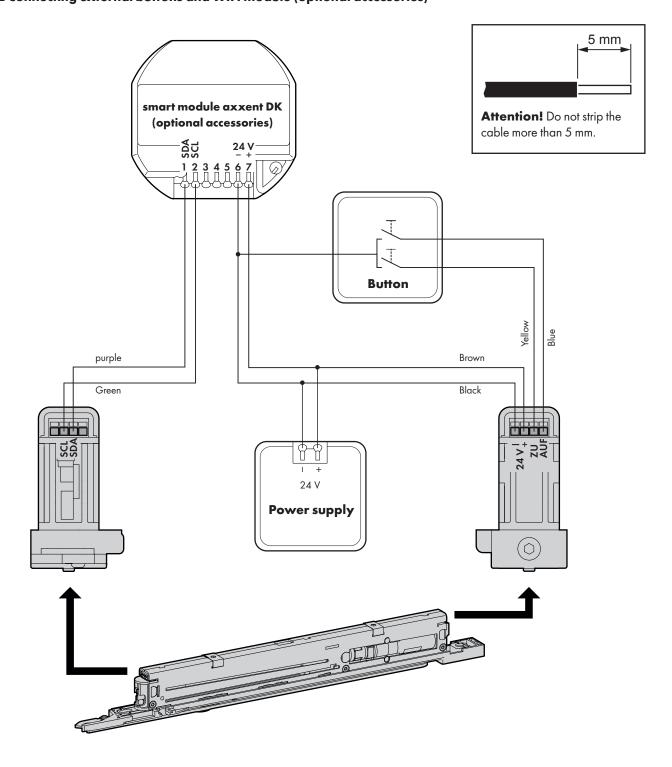






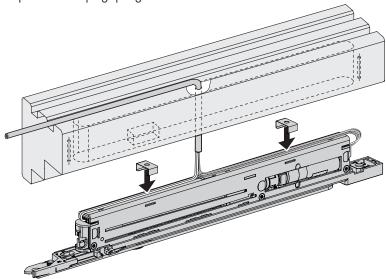


5.2 Connecting external buttons and WIFI module (optional accessories)

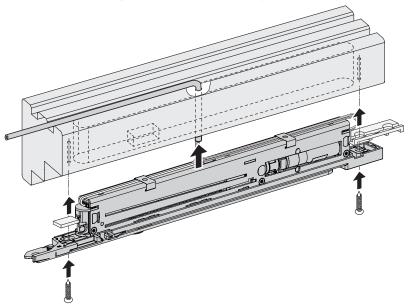


5.3 Installation and connection DRIVE axxent DK

- 1. Machine the profile in accordance with chapter 5.4 (see page 8 ff.)
- 2. Lead the cable through the frame and connect in accordance with chapter 5.5 (see page 12)
- 3. Clip on the clamping spring to fix the cable

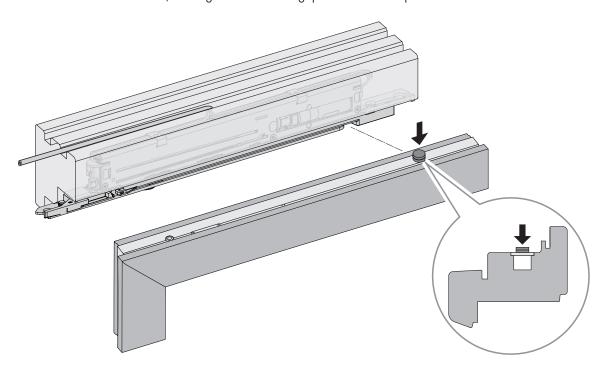


- Position the DRIVE axxent DK in the frame
 Attention! The drive must be seated angularly in the profile
- 5. If necessary, position the packer RB/FPS in the frame profile
- Screw the DRIVE axxent DK tight
 Attention! With ALU profiles, secure the screws against loosening with bolt adhesive (e.g. Loctite 243).

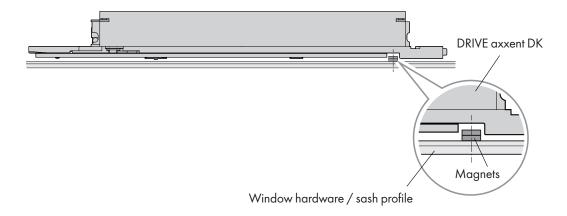


5.4 Positioning the magnets - timber and PVC windows

1. **Note:** If the window is closed, the magnet must sit in the gap at the end of the pivot arm DRIVE axxent DK.

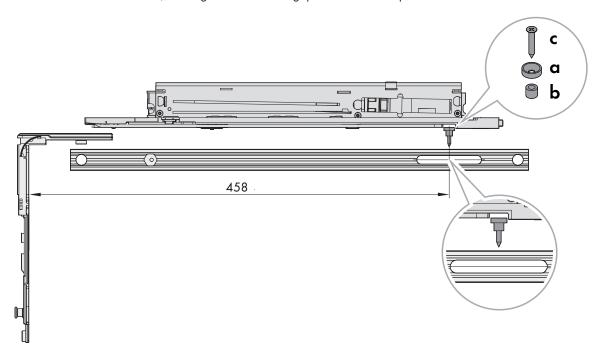


2. Fix the magnets with superglue to prevent slipping. **Attention!** Before fixing with superglue, test the "Auto-Lock" function (see chapter 7, page 21).

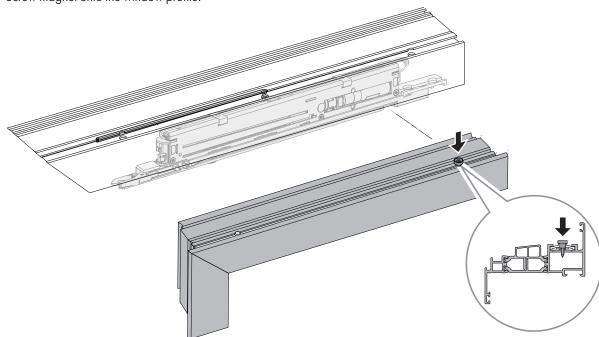


5.5 Positioning the ring magnet - aluminium windows

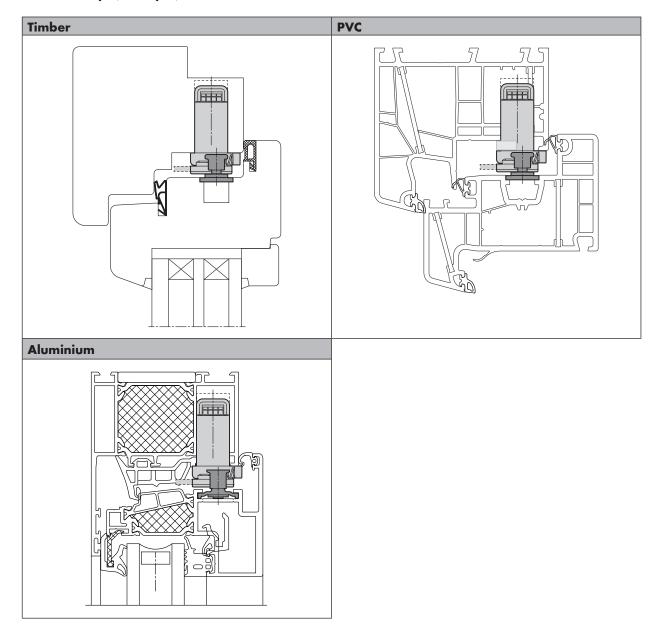
1. Guide ring magnet (a) and spacer sleeve 5 mm (b) into countersunk screw (c) and position according to figure **Note:** if the window is closed, the magnet must sit in the gap at the end of the pivot arm DRIVE axxent DK.



2. Screw magnet onto the window profile.

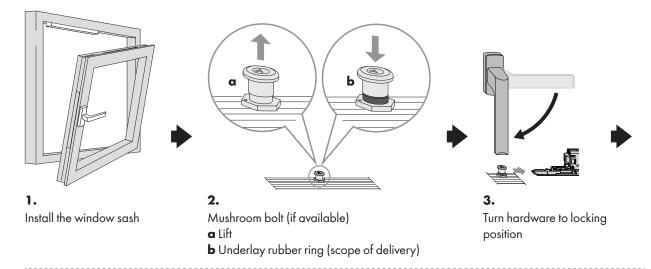


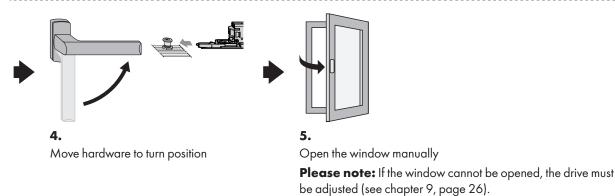
5.6 Installation steps (example)



5.7 Mechanical functional test

- Check the mechanical function of the DRIVE axxent DK before performing the first reference run and adjust if necessary.
- Attach window sticker and safety sticker to the window sash in a visible location above the rose.





6. Commissioning

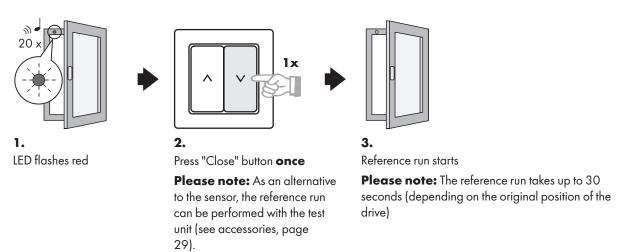
- The red LED of the DRIVE axxent DK flashes when the supply voltage is switched on.
- A referencing run must now be performed.
- Only perform reference run with the window open.

A WARNING

Risk of injury during referencing run! The safety functions are disabled!

- > Only operate the DRIVE axxent DK if you have a clear view of the window.
- > Ensure that other persons stay clear of the window.

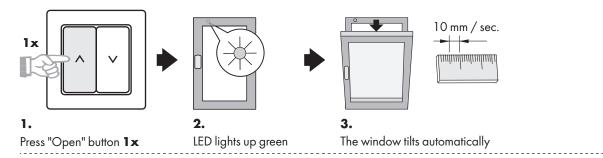
6.1 Performing a reference run



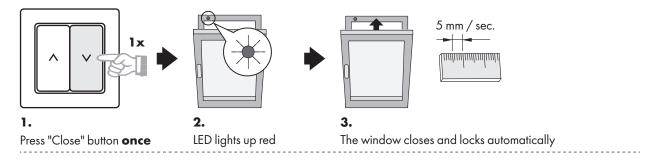
7. Operation

7.1 Window in the tilt position

7.1.1 Driving the window into the tilt position

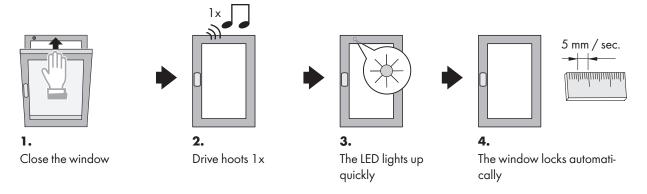


7.1.2 Closing the window with the button



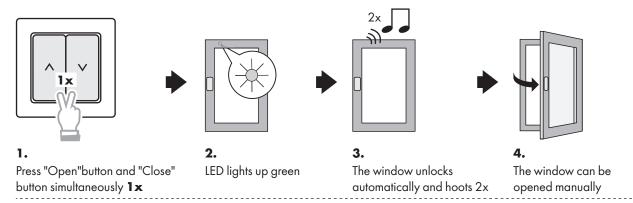
7.1.3 Closing the window with the auto-lock function

As soon as the window has been closed, the DRIVE axxent DK connects automatically and locks the window independently. **Please note:** The auto-lock function is inactive if the window has been manually actuated beforehand.



7.2 Window in the turn position

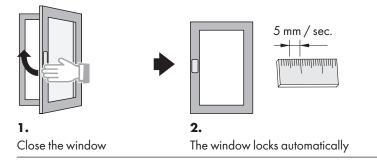
7.2.1 Releasing the window with the button



7.2.2 Closing the window with the auto-lock function

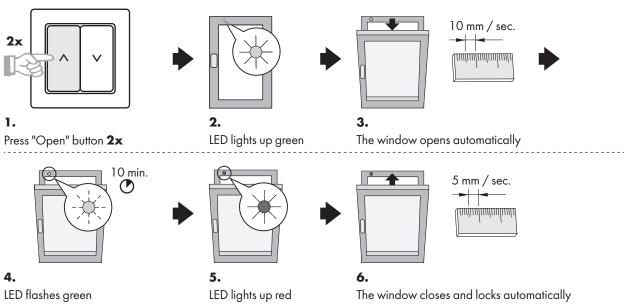
As soon as the window has been closed, the DRIVE axxent DK connects automatically and locks the window independently. If the window has not been pressed in correctly, the drive will attempt to lock it up to four times.

Attention! If the window is not fitted with a snapper, the sash must be held until the DRIVE axxent DK has been connected. **Please note:** The auto-lock function is inactive if the window has been manually actuated beforehand.



7.3 Tipping the window with 10 min ventilation

Note: When operating with the SIEGENIA Comfort app, it is possible to set the time individually (from 1 min to 59 min). The optional axxent DK smart module is required in order to perform the operation via the SIEGENIA Comfort app (see accessories, page 29).



7.4 Whisper mode (only in connection with SIEGENIA Comfort app)

If the whisper mode is operated in the SIEGENIA Comfort App, the drive moves into the open and close direction in
inching speed with 5 mm/s. The window will not be locked. Whisper mode is intended to enable especially quiet
fully-automatic operation e.g. in combination with the SENSOAIR smart room air quality sensor. Termination of the
activated ventilation timer always unlocks the window and deactivates the whisper mode.

7.5 Safety functions

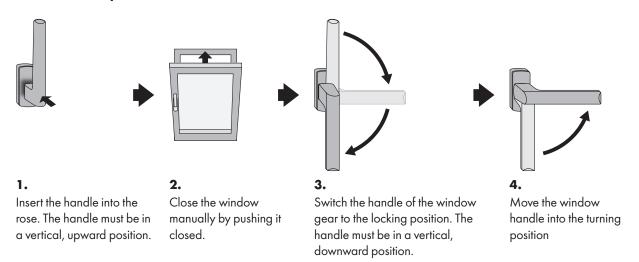
- If the maximum permissible force of 150 N is exceeded when closing the window, e.g. due to wind load, the drive will return to its starting position.
- The drive will attempt to close the window again after 60 seconds, with the LED flashing red/green. If the second attempt fails, the window will remain open with the LED flashing red.
- Check the window for obstructions and remove them, if required. Press "Close" button again.

7.6 Manual operation

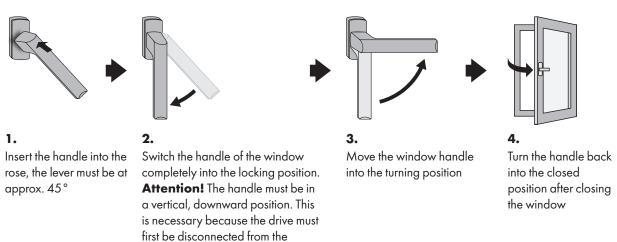
Attention!

- All open commands with an external wireless actuator, e.g. a WLAN module, are inactive during manual operation.
- Always maintain this operating sequence!

7.6.1 With an open window



7.6.2 With the window closed



- When the window is closed again and locked, the drive must be connected. Press the "Close" button. The drive is then reconnected. All functions are available again.
- If the drive is not reconnected, the drive cannot be operated. When pressing the "Open" button for 3 seconds, the drive will open and then return to its starting position.
- Remove handle and close the rose after manual operation.

hardware.

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8. Care and maintenance

A 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:

> 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.

8.1 Cleaning

Important: When cleaning the DRIVE axxent DK, do not allow liquids to get inside the unit.

- Never use any aggressive cleaning agents, those containing solvents, or sharp-edged objects, as these may damage the material surfaces.
- Never clean the unit with a high-pressure cleaner or steam-jet cleaner.
- Clean the DRIVE axxent DK with a cloth moistened with a mild soap solution or cleaning agent.
- Comply with the safety regulations for operating electrical equipment and, if necessary, for ladders, steps and work overhead or at certain heights.

8.2 Maintenance

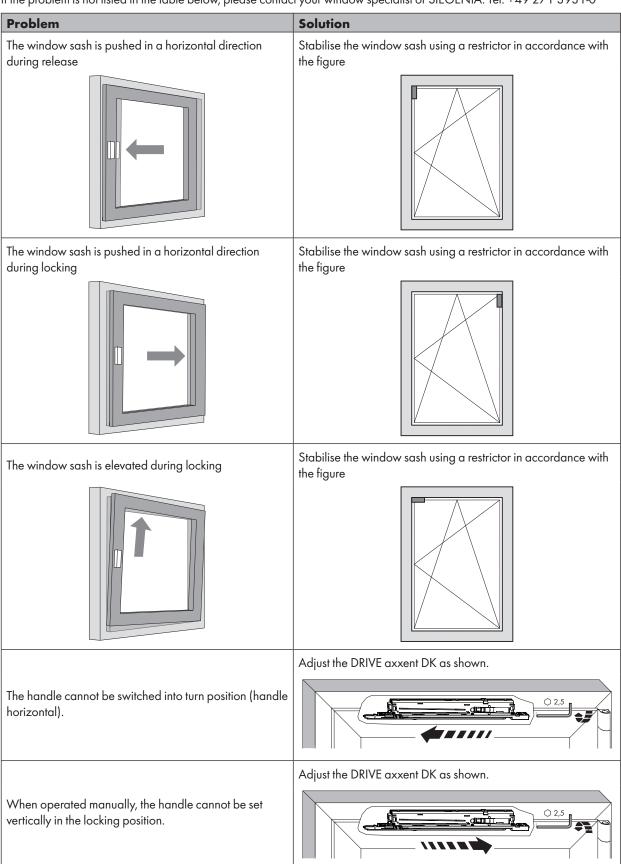
The maintenance and inspection of the DRIVE axxent DK and the hardware components in the window must be performed at least once per year by a qualified professional. The following features must be observed:

- Function of the DRIVE axxent DK
- airgap
- · Condition of packers and restrictor (if existent)
- Firm seating of the attachment screws
- Ease of movement of the hardware

9. Rectifying 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: Tel. +49 271 3931-0



Problem	Solution
The window cannot be opened automatically.	Perform emergency release: 1. Push card between the frame and window sash in accordance with the figure 2. Slide card forwards (in the direction of handle) and at the same time 3. move the handle into the locking position and 4. open the handle

Problem	Possible cause	Solution	
		Perform emergency release	
		Verify proper seating of the mushroom bolt	
DRIVE axxent DK cannot be opened		Check the airgap	
manually	Decoupling does not function	Check milling dimensions if necessary	
		(timber windows)	
		Adjust the DRIVE axxent DK if necessary	
		(see page 26)	
	The window was operated	Connect the DRIVE axxent DK	
	manually beforehand	(see page 19)	
	The magnets are sitting in the	Check the position of the magnets and	
Auto-Lock does not work /	incorrect position	correct if necessary (see page 15)	
The window does not move into the turning position	Incorrect DIP switch position	ON DIP switch 1, 3 and 4 ON DIP switch 2 OFF	
	No power supply	Check power supply	
	Wiring wrong/defective or cable defective	Check the wiring (see page 12)	
DRIVE axxent DK shows no reaction		Measure the supply voltage	
when button is pressed or radio remote control	D 1 /1 (Target values:	
	Power supply wrong/defective	Input 230 V AC; 50/60 Hz; 170 mA	
		Output 24 V DC; 0.75 A; 18 W	
	Battery of radio remote control is flat	Replace battery	

Problem	Possible cause	Solution	
	Wiring wrong/defective or cable defective	Check the wiring (see page 12)	
	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	
When operating with optional WIFI module (smart module axxent DK):		Reset DRIVE axxent DK:	
DRIVE axxent DK does not respond to smartphones/tablets	No WLAN connection to the	Press "Close" button 3 times quickly in succession Then immediately press and hold the	
	DRIVE axxent DK	"Close" button (for approx. 4 seconds) 3. DRIVE axxent DK moves back and forth quickly before stopping	
		The module will then return to the default setting.	
	No power supply	Check power supply	
	Hardware is blocked or too stiff	Check manual function of window and rectify blockage if necessary	
	Hardware is too easy-running	Increase the compression	
	Drive is soiled	Check the drive for soiling and clean if	
DRIVE axxent DK does not move	(sawdust etc.)	necessary	
»OPEN«/»CLOSE«	Especially for »OPEN« motion: Drive is already in the »Open« position	Check position of the window sash and perform reference run if necessary	
	Especially for »CLOSE« motion: Drive is already in the »Closed« position	(see page 20)	
	Strong wind pressure	Wait until the wind pressure subsides	
DRIVE axxent DK beeps several times	Draught	Rectify reason for the draught	
and stands still. LED flashes permanently	Hardware is blocked or too stiff	Check manual function of window and rectify blockage if necessary	
Homy	Power failure	Rectify the power failure and perform reference run	
DRIVE axxent DK beeps several times	Strong wind pressure	Wait until the wind pressure subsides	
and slowly attempts up to 3x to travel	Draught	Rectify reason for the draught	
into the »Closed« position (the drive stands still after the third attempt). LED flashes permanently	Hardware is blocked or too stiff	Check manual function of window and rectify blockage if necessary	

^{*} **Please note:** A current measurement is performed on the drive whilst the window is closed in order to prevent operating errors when the window is open. If you issue an opening command while the window is open, the motor will detect that no hardware is connected. The drive will reverse and return to the starting position.

9.1 SIEGENIA Comfort app

You will find detailed operating information and information on how to rectify malfunctions on the SIEGENIA Smarthome Internet page.

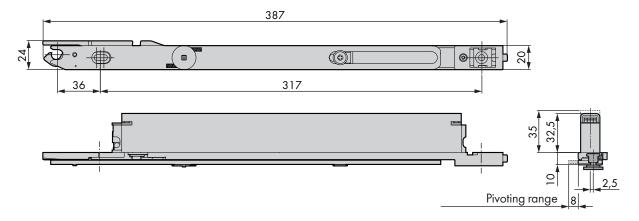
https//smarthome.siegenia.com



10. Technical specifications

DRIVE axxent DK	Performance data	
Window material	Timber, PVC or aluminium	
Installation location in window	At top, horizontal	
Sash weight	Max. 130 kg (comply with the specifications of the corresponding application diagrams)	
Supply voltage	24 V, 0.6 A	
Electronic overload protection		
Power cable supplied	6 x 0.8 mm, length 5 m	
Opening speed	Approx. 10 mm per second	
Duration of opening motion	Approx. 25 seconds	
Closing speed	Max. 5 mm per second	
Opening and closing force on drive rod	Max. 700 N (corresponds to approx. 8 Nm manual lever torque)	
Closing force of tilt window sash (reduced)	Max. 150 N	
Protection class	IP20 for dry locations	
Permissible operating temperature	ture -20 °C to +40 °C	
Tested with	30,000 operating cycles (double stroke including locking part)	

11. Dimensions



12. Accessories

Material description	Material nr.
Power supply DRIVE axxent DK	GANE0070-099010
Test unit DRIVE axxent DK	GZPG0010-000010
smart module axxent DK 2.1 (WIFI module for control via SIEGENIA Comfort app)	GZFM1300-000011
Radio module RCM 024-1 1-U	GZFM1024-000010
Radio remote control RCR 11-2	GZFB0030-000010

13. Feedback on documentation

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

14. EC declaration of incorporation

Manufacturer SIEGENIA-AUBI KG

Hardware and ventilation technology

Duisburger Straße 8 57234 Wilnsdorf

declares that the product: Concealed tilt sash locking drive

Device type

DRIVE axxent DK

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 14/383

The incomplete machine may only be commissioned if it has been ascertained (if required) 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 Appendix VII Part B of the EC Machinery Directive 2006/42/EC.

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 manufacturer.

Siegen, 03/06/2017

M. Weber

(Head of group development)

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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