

Manual

HELIH[®] KNX security and automation radio window handle

Art. No.: 106010.X

Order Number: H-6010-XXX



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We have checked the contents of this publication for conformity with the components described. However, deviations cannot be ruled out, so we cannot guarantee complete conformity. The information in this publication is checked regularly and any necessary corrections are included in subsequent editions.

We are grateful for any suggestions for improvement.

We reserve the right to make technical changes.

Trademark

KNX is a registered trademark of the KNX Association.

HELIH® is a registered trademark of BSS Baumann Sicherheitssysteme GmbH.

Operating instructions valid for:

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V1.1	- Revision of illustrations Parameters - Addition to text in chapter 7.8 Temperature - Revision of texts	23.09.2024
V1.2	- Addition Chapter 8.3 - Firmware V1.18	18.11.2024
V1.3	- Addition of flashing codes when connecting the battery - Spelling correction - Firmware V1.20 - Chapter 6.4: Addition of KNX programming mode via touch - Chapter 4.2 Malfunction pause time 180 seconds	16.07.2025
V1.4	- Firmware V1.21 - Adjustment: Battery check every 12 hours - Addition to Chapter 10.5: Disposal	27.07.2026

1 Features

The "Highly Efficient Lowpower Intelligent Handle" (HELIH® for short) is a handle for windows and French doors¹ that combines status monitoring with electromechanical locking of the window. The HELIH® is designed for integration into KNX systems. It is integrated into KNX systems via the connection to the *ise KNX RF Multi/TP media coupler or RF repeater* (article number: 3-0002-005).

The HELIH® is suitable for both side-hung and tilt-and-turn window, provided they are never tilted more than 45° to the vertical.

The integration of numerous sensors provides many communication objects that allow comprehensive window and handle status monitoring. Window glass monitoring is possible via the optional connection of a glass breakage detector. No additional battery is required for this, as the evaluation is carried out via the HELIH®. Furthermore, various switching functions allow the realisation of many scenarios in the areas of security, energy, comfort and damage prevention. An RGB LED and a capacitive touch field enable modern and intuitive use.

The HELIH® can be fitted to most commercially available windows. The distance between the fixing holes is a standardised 43 mm (DIN 18267). The very small flat magnet for window status monitoring can be screwed or glued into the window profile in most cases. Alternatively, a magnetic switch housing is available to enable the magnet to be surface-mounted.

The HELIH® has and records the following essential functions and information with the security of KNX Secure:

- Handle position (bottom, side, top, undefined)
- Window status (combination of window opening status, handle position and handle locking)
- Window contact (window open/closed)
- Tilt window position
- Handle lock
- Encompassing the HELIH® (capacitive touch)
- Battery energy status
- Number of locking cycles
- Malfunctions
- Alarm and alarm source
- Sabotage and sabotage source
- Ambient temperature (with offset function)

¹ In the following, windows and French doors are collectively referred to as windows.

1.1 Intended use

The HELIH® is intended for use on commercially available side-hung and tilt-and-turn windows with a hole spacing of 43 mm (DIN 18267). The connection to KNX is made via the *ise KNX RF Multi/TP media coupler or RF repeater* (article number: 3-0002-005).

1.2 Security

Read the safety instructions carefully before starting installation work:

- All installation work with the HELIH® may only be carried out by authorised persons who are qualified to work with KNX.
- Observe the notes and explanations in the product manual for the *ise KNX RF Multi/TP media coupler or RF repeater* (article number: 3-0002-005).
- Always keep the firmware on your device up to date. Use the BSS Firmware Update ETS app for this purpose. This is the only way to ensure that you receive all functional enhancements, security improvements, and bug fixes.
- Batteries should be kept away from children. Swallowed batteries cause internal burns, which can lead to death.
- Proper handling of the battery: Avoid dropping or violently knocking the battery. This can lead to an explosion or chemical burns. All connections must be clean and undamaged.
- The following users may only operate the HELIH® if they are aware of the dangers of the HELIH® or if they are supervised during operation: Children, persons with reduced physical, sensory or mental capabilities.
- The HELIH® must not be used in escape and rescue routes, fire protection areas or in conjunction with smoke extraction systems.

Important information and notes are labelled below with the following symbols:



Information



Important note

1.3 Accessories

BSS Art. No.	Designation	Illustration
106001.0	HELIH® Battery (½ AA LiSOCI2)	
106910.0	HELIH® Glass Breakage Detector Set	
106000.S	HELIH® Tool Battery Compartment	

1.4 Integration in KNF radio

The HELIH® can be integrated into the KNX installation using the *ise KNX RF Multi/TP media coupler or RF repeater* (article number: 3-0002-005).

Further information can be found at: <https://www.ise.de/en/products/knx-rf/knx-rf-multi/tp-media-coupler-or-rf-repeater>



Illustration 1: ise KNX RF Multi/TP media coupler or RF repeater²



Integration with another KNX-RF media coupler is currently not permitted.

² <https://www.ise.de/produkte/knx-rf/knx-rf-multi/-tp-medienkoppler-oder-rf-repeater>

1.5 KNX Secure



The device is KNX Data Secure compatible. KNX Data Secure offers protection against manipulation in building automation and can be configured in the ETS project. Detailed technical knowledge is required.



A device certificate, which is attached to the device, is required for KNX Data Secure commissioning. It is recommended that this certificate is removed during installation.



The enclosed sticker contains all the important device data including the device certificate for Data Secure commissioning.



All device certificates must be stored in a safe place. It is not possible to restore the device data including the device certificate, not even by the manufacturer.

2 Scope of delivery

The HELIH® is supplied with the following components:

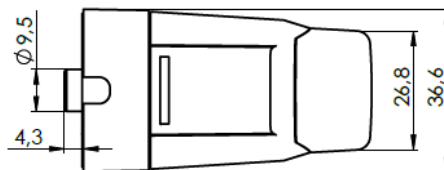
- 1 pc. HELIH® wireless window handle incl. square spindle
- 1 pc. Battery compartment cover
- 1 pc. Lithium thionyl chloride (LiSOCl₂), ½ AA battery (BSS art. no. 106001.0)
- 2 pcs. Mounting screws (ISO 7046 M5x45 - stainless steel A2)
- 2 pcs. Mounting screws (ISO 7046 M5x35 - stainless steel A2)
- 1 pc. Hexagon socket wrench 0.9 mm for conversion to DIN left-hand side
- 1 pc. Magnet (35x4x8 mm) for the window contact
- 2 pcs. self-tapping screws (DIN 7982 ST2.2x9.5 galvanised) for magnet attachment
- 1 pc. Housing for the magnet (for alternative mounting on the window frame)
- 1 pc. Device certificate (KNX Secure)
- 1 pc. Quick-Start guide

Additional tools required for installation:

- Phillips screwdriver PH1
- Torx TX10 (BSS recommends tool 106000.S)
- Drill ø1.5 mm

3 Drawing

1	Fenstergriff / <i>Window handle</i>
2	Montageplatte / <i>Mounting plate</i>
3	Dichtung / <i>Sealing</i>
4	Batteriefach / <i>Battery compartment</i>
5	Touch-Bereich / <i>Touch-area</i>
6	Schraube M5x45 / <i>Screw M5x45</i>
7	Vierkantstab / <i>Square bar</i>
8	LED / <i>LED</i>



DIN ISO 2768-c	
0,5-3,0	+/-0,2
>3,0-6,0	+/-0,3
>6,0-30,0	+/-0,5
>30,0-120	+/-1,2
>120-400	+/-2,0

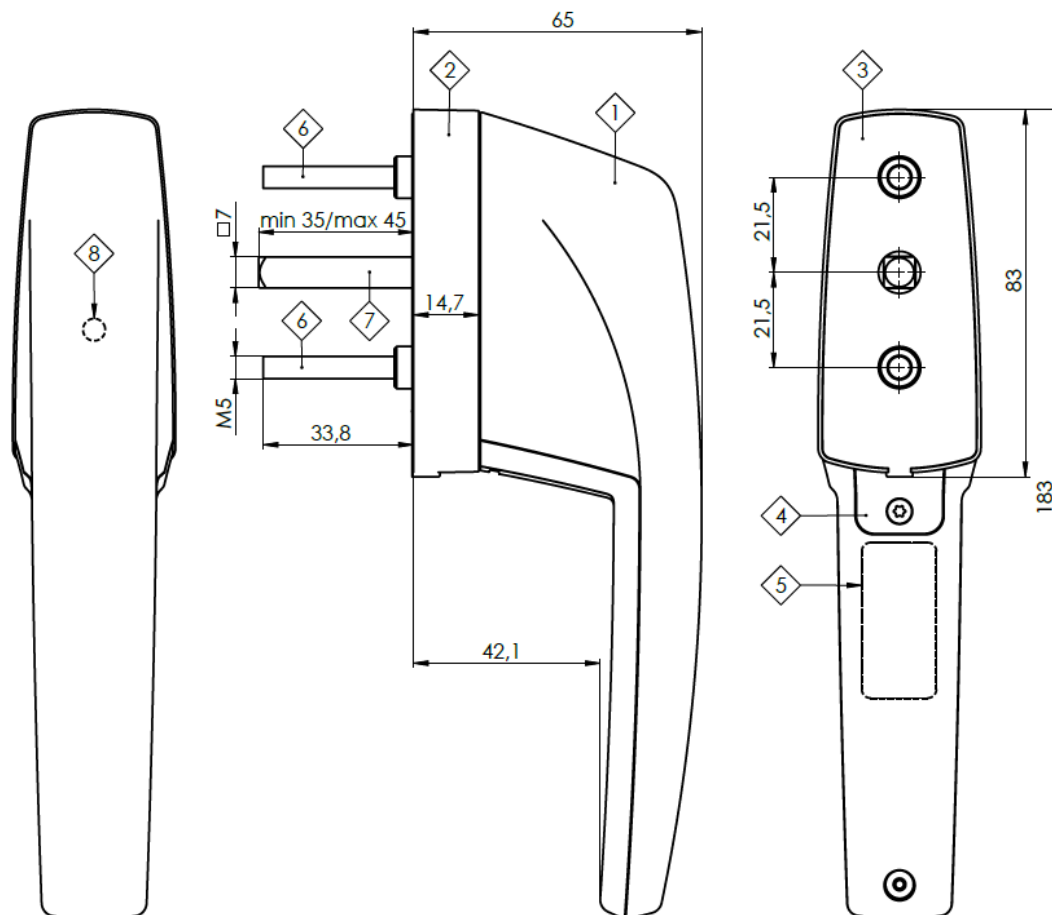


Illustration 2: Dimensional drawing³ of the HELIH[®]

³ not to scale

4 Product description

Thanks to its electromechanical locking mechanism and battery operation, the HELIH® must be operated differently to a conventional window handle:

- The HELIH® is in energy-saving mode by default. It is only activated by:
 - touching the touch sensor,
 - receiving KNX telegrams,
 - tampering attempts, or
 - triggered alarms.



The touch sensor area must be touched each time the handle position or window status is changed.

- After contact, HELIH® automatically checks the current authorization (handle unlocked/handle locked) and displays this via the integrated LED.
- When the user releases the touch sensor, HELIH® recognizes this and waits approx. two seconds to see whether there is further contact or whether the handle continues to be moved.
- If there is no further interaction, the current status is recorded, the handle rotation is locked again if necessary, and the changed communication objects are sent to the KNX bus.

4.1 Touch sensor area

To operate the HELIH®, a touch sensor area is provided on the rear of the device (see blue area in Illustration 3). You can interact with the HELIH® by touching the touch sensor area with your hand.

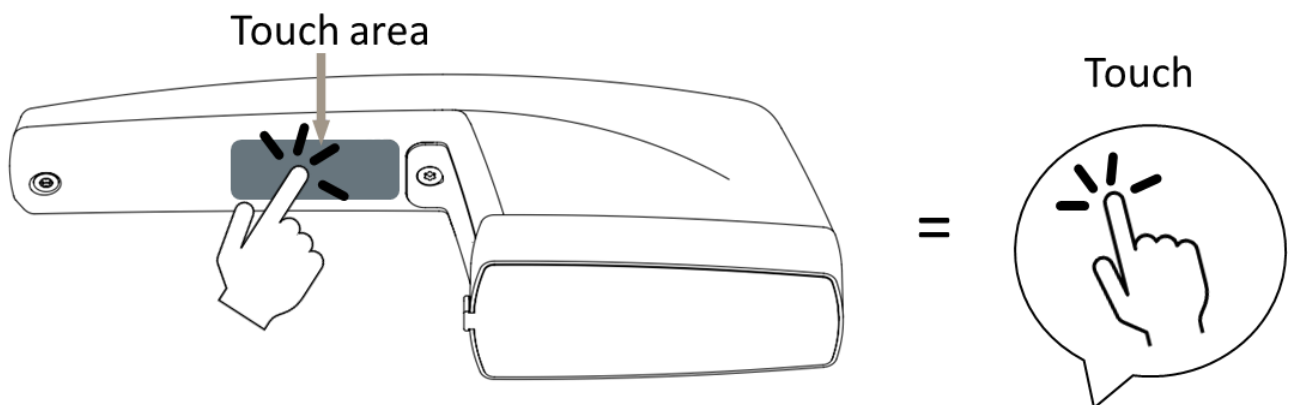


Illustration 3: Touch sensor area

4.2 LED flashing code

There is a multi-coloured LED on the front of the HELIH®, integrated in the handle housing. This lights up through the handle housing. The HELIH® uses the LED to indicate its status in certain situations or to prompt the user to interact with it.

The following codes apply for teach-in and normal operation:

Table 1: LED status for teach-in

Colour	Rhythm	Code	Description of the
red	fast flashing		Battery compartment cover is open.
white	flashing		The battery is checked or depassivated.
blue	flashing	 ... 	The number of flashes indicates the current step. For a description, see chapter 6.3.1.
yellow	0.5 s light up		Touch of the touch sensor.
green	0.5 s light up		Current teach-in step completed.
green	light up for 3 seconds		Teach-in successful or factory settings reset successful.
yellow	shine		Touch of the touch sensor area during factory reset.

Table 2: LED status for normal operation

Colour	Rhythm	Code	Description of the
white	flashing		The battery is checked or depassivated.
red	shine		KNX programming mode is active.
blue	0.5 s light up		Touch the touch button.
red	0.5 s light up		The window handle is locked and cannot be turned.
green	0.5 s light up		The window handle is unlocked and can be turned.
red	Flash 2x, 180 sec. pause		Malfunction (restart required) or battery flat.
off			Device is in sleep mode.

4.3 Automatic battery check

In order to recognise the imminent failure of the inserted battery, a test is carried out twice a day. If it is determined that the battery has become "weaker", the HELIH® will first attempt to depassivate ("refresh") the cell. The LED of the HELIH® flashes white for up to 20 minutes.

If depassivation does not lead to an improvement, the battery is discharged to such an extent that it must be replaced within the next 30 days. The corresponding communication object is sent to inform the user of this.



If the battery is not replaced within 30 days, the HELIH® may fail. The HELIH® is automatically unlocked from the 31st day after the low battery notification.

4.4 Quick start videos

In addition to the following textual and pictorial description of installation and commissioning, please also refer to the quick-start videos on YouTube:



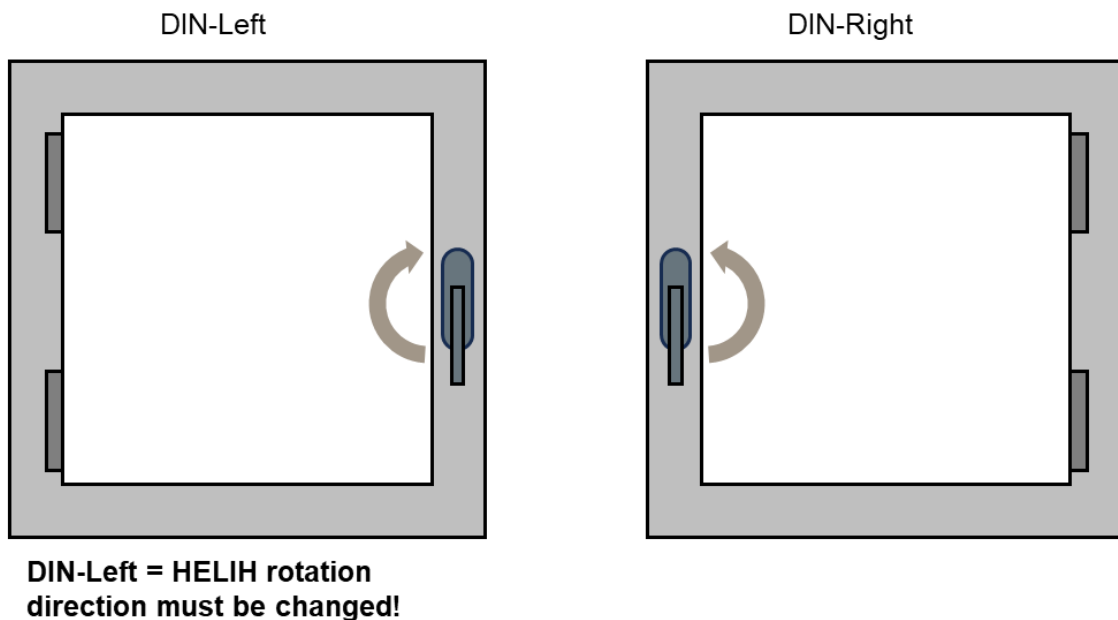
[BSS GmbH - HELIH® Quick Start Videos](#)

5 Assembly

Before attaching the HELIH® to the window, the direction of rotation must be set and adjusted to the opening direction of the window. If an optional glass breakage detector is to be used, it must be connected to the window before installation. All the necessary information can be found in the instructions for the glass breakage detector. The HELIH® and the magnet must then be fitted to the window.

5.1 HELIH® Check direction of rotation

Before installation, the HELIH® must be set to the respective opening direction of the window or door. By default, the HELIH® is preset to DIN-right⁴ windows in accordance with DIN 107.



The HELIH has a mechanical end stop in the mounting plate, which is implemented by two threaded pins. This stop limits the rotational movement to protect the permanently connected flex cable. If excessive force is applied, the stop may fail, which can cause the flex cable to be pulled out of the connector. This will result in the device becoming defective.

⁴ According to DIN 107, a distinction is made between left-opening windows (DIN left) and right-opening windows (DIN right) depending on the type of hinge - i.e. the side on which the hinges are located. If the hinges are on the left-hand side, they are therefore "DIN-left".

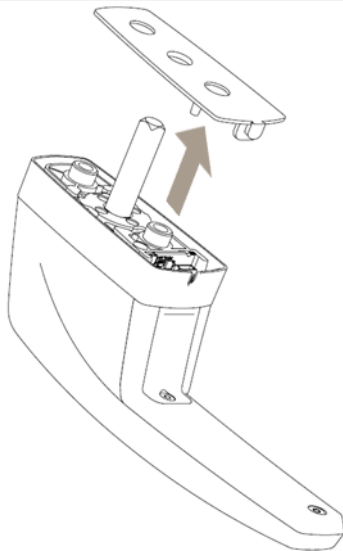
5.2 Set to DIN-left

If the HELIH® is installed on a DIN-left window, the handle direction must be changed in advance as follows:

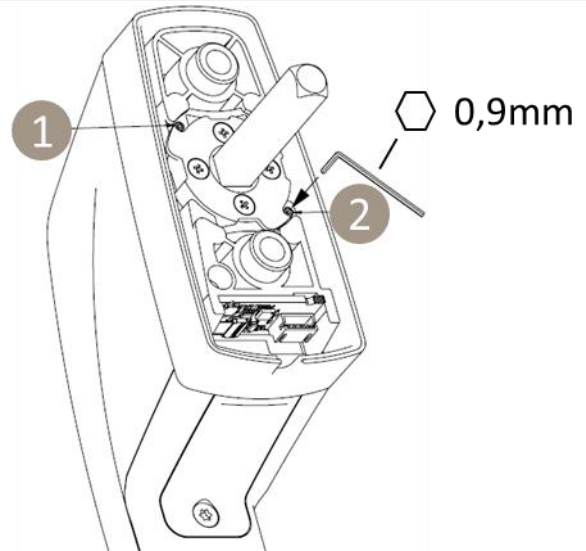


After removing the surface seal, ensure that the tamper switch fitted in the mounting plate is intact.

1. Carefully remove the surface seal and the square on the underside of the mounting plate.



2. Use the 0.9 mm allen key to screw in the grub screw 2 until it is slightly countersunk into the hole.
3. Use the 0.9 mm allen key to unscrew the grub screw 1 until it is flush with the locking disc.

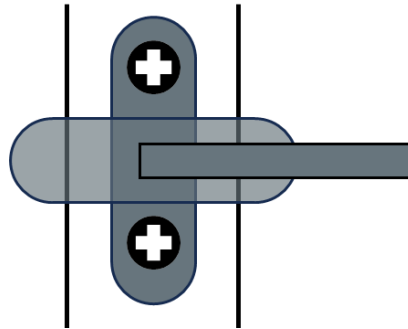


4. After adjusting the direction of rotation of the handle, the surface seal and the square can be carefully refitted.

5.3 Install HELIH® on the window

The following steps are required to install the HELIH®:

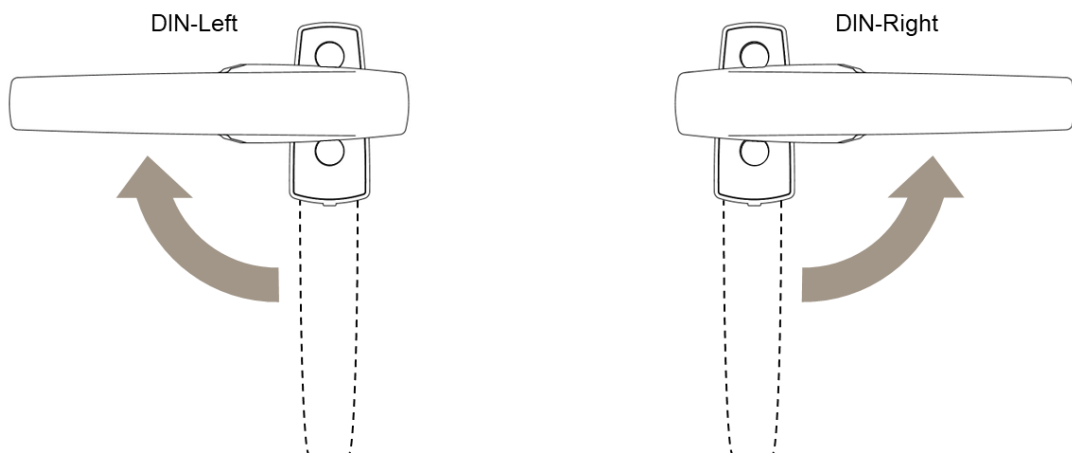
1. If there is a handle already fitted to the window, it must be removed. To do this, the old window handle must be turned to the side position, the cover cap rotated by 90° and then the two screws removed.



2. Measure the length of the old screws and remove the corresponding screws from the packaging.

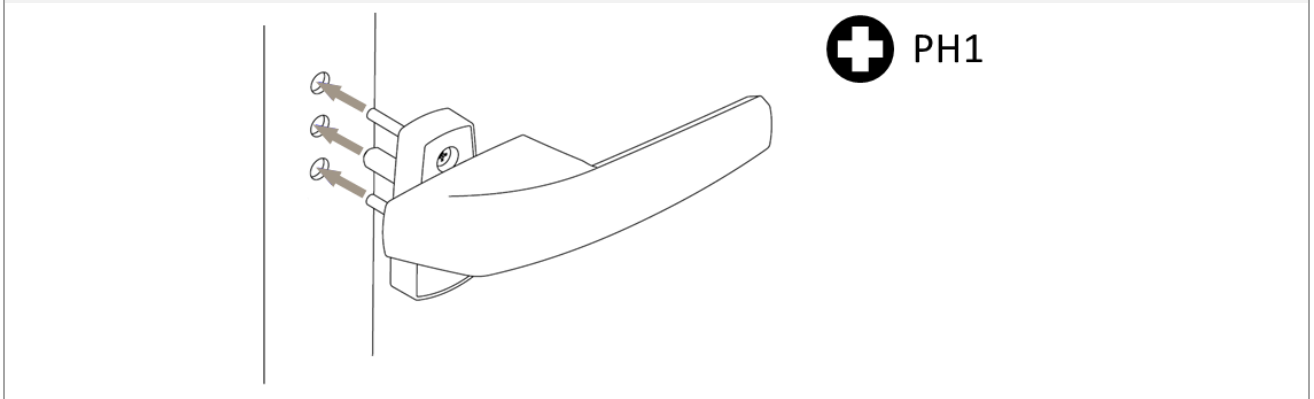
3. Remove the HELIH® from the packaging.

4. Turn the handle section 90° by hand opposite the mounting plate so that the screw holes are visible.



5. Insert the screws into the two openings of the HELIH®.

6. Insert the HELIH® with its square spindle into the centre opening of the window and continue to hold the handle with one hand.



7. Tighten the screws by hand using a screwdriver.



Avoid contact between the screw head and the housing of the HELIH®. This can lead to visible scratches and damage.

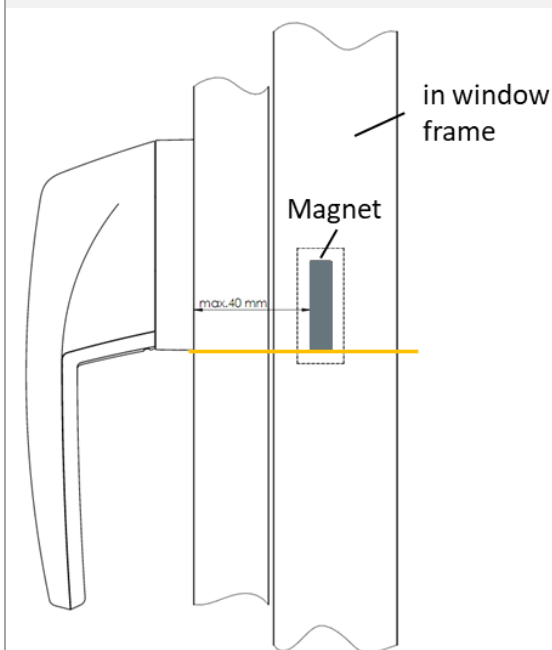
5.4 Mount magnet on window

The magnet supplied is required to recognise the window opening. Ideally, the magnet should be installed in the window frame without a surface-mounted housing so that it is not visible from the outside. If installation in the window frame is not possible, the magnet can also be installed on the window frame (surface-mounted). For safe operation, the magnet must be installed as follows:

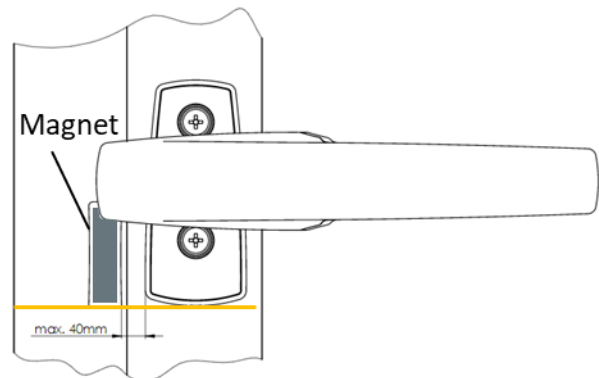


The maximum distance between HELIH® and the magnet must not exceed 40 mm. It must also be ensured that there are no magnetic / magnetisable parts in the vicinity of the magnet. The lower edge of the magnet must be level with the lower edge of the mounting plate of the HELIH®.

Magnet in the window frame: The magnet is attached in the gap between the window frame and the window sash. It must lie flat against the frame. The long side must be parallel to the frame and the lower edge of the magnet must be level with the lower edge of the mounting plate of the HELIH®.



Magnet on window frame ("surface-mounted"): The magnet is visibly attached to the frame. It must lie flat against the frame. The long side must be parallel to the frame and the lower edge of the magnet must be level with the lower edge of the mounting plate of the HELIH®.



Make sure that the magnet leaves enough space next to the window sash to be able to attach the surface-mounted housing. A gap of 5 mm is sufficient for this.

The surface-mounted housing can simply be plugged on after the magnet has been attached.

The magnet can either be screwed or glued to the window frame.



BSS recommends screwing the magnet in place, as the adhesive strength can diminish over time. UV radiation can also reduce the adhesive strength.

Two $\varnothing 1.5$ mm holes must be drilled 20 ± 1 mm apart for the screw connection. The magnet can then be fastened using the enclosed self-tapping DIN 7982 ST2.2x9.5 screws. The screws of the magnet may be tightened to a maximum of 0.3 Nm.

6 Commissioning

The commissioning of the HELIH® is divided into four parts:

1. The battery must be connected and inserted.
2. The HELIH® checks the battery and depassivates ("refreshes") it if necessary.
3. The handle positions and the window open are taught-in or already taught-in states are loaded.
4. Activate KNX programming mode.

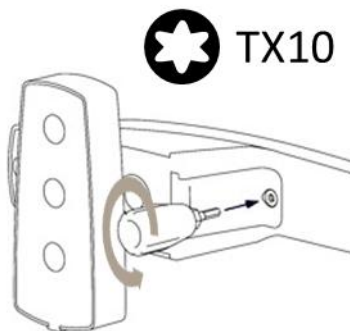
During commissioning, it is essential to follow the correct sequence and only operate the touch sensor when necessary.

6.1 Connect the battery

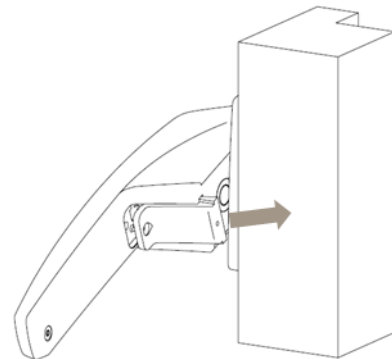
The HELIH® is powered by a ½ AA lithium thionyl chloride (LiSOCl₂, 3.6V) battery. The following steps must be carried out to insert the battery:

1. Turn the handle to the side handle position

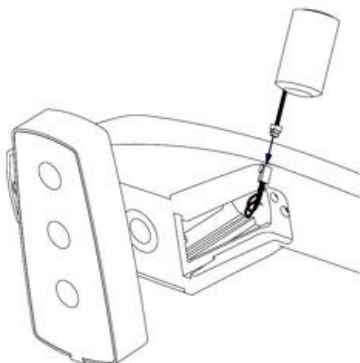
2. Loosen the screw connection on the battery compartment cover.



3. Slide the battery compartment cover towards the window and remove it.



4. Carefully pull out the cable in the battery compartment until it is visible.



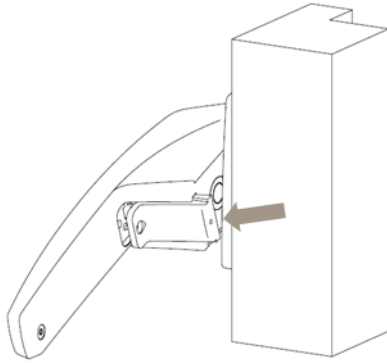
5. Insert the battery according to the plug and cable colour (red to red & black to black).



The LED flashes red rapidly after connecting the battery.

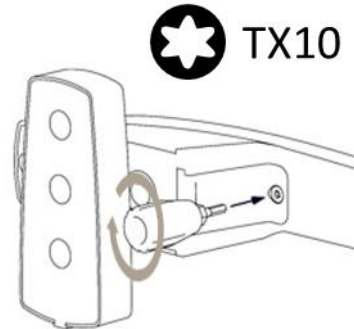
6. Push the battery and the cable completely into the battery compartment.

7. Place the battery compartment cover flat on the battery and slide it into the HELIH®.



The HELIH® flashes white (=depassivating) or blue (=learning) after the battery compartment cover has been inserted.

8. Screw on the battery compartment cover.



The HELIH® must only be operated with the batteries specified by BSS (item no. 106001.0). Only use unused cells to ensure the specified battery life. The use of batteries from other manufacturers voids the warranty.

6.2 Checking and depassivate battery

After connecting and inserting the battery compartment cover and every 12 hours, the HELIH® checks the battery used for suitability. As the cell chemistry of the battery passivates when not in use, i.e. forms an insulating layer, the HELIH® carries out depassivation (refreshing) if necessary. During this process, the LED alternates between pulsing and flashing white. Depending on the degree of passivation of the cell, this process can take up to 20 minutes. If the depassivation was successful, the HELIH® can continue to be used normally.

If the battery is already heavily discharged, this is recognised during depassivation and the communication object BATTERY LOW is set to 1. The HELIH® can then continue to be operated for another 30 days. After the 31st day, the HELIH® will unlock.



Replace the battery within 30 days.

If the battery is too discharged, the HELIH® switches off immediately after depassivation and the communication object BATTERY LOW is set to 1.

If the battery is OK, the HELIH® sends the communication object BATTERY LOW = 0 (0 = battery OK).

6.3 Teach-in

The HELIH® recognises its handle position based on the acceleration due to gravity, which is tamper-proof, but requires the various handle positions to be defined during commissioning.

This "teach-in" process teaches the HELIH® where the handle positions are located and when the window is open. This enables a high degree of adaptability to the place of use so that, for example, deviations from the vertical can be compensated for without compromising tamper resistance.

6.3.1 Relearning

The HELIH® indicates which step is to be carried out by the number of blue flashing signals . Each step or each handle and window position must be confirmed by touching the touch sensor - the HELIH® briefly flashes yellow  and green . As soon as the blue LED flashes again, the next step can be carried out.



During the teach-in process, the touch area may only be touched to confirm the step. When turning the HELIH® in particular, make sure that the touch area is not touched. Otherwise, the handle and window position may be misinterpreted.

To start the teach-in process, carry out the following steps: Teach-in procedure (symbolic for a DIN right window)

1. Turn the handle to the side handle position

2. Connect the battery:

The LED flashes red quickly 

3. Insert the battery compartment cover:

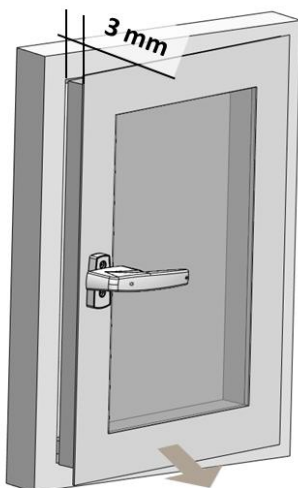
The LED now flashes blue more slowly 

4. Touch sensor area to start



(Touch)

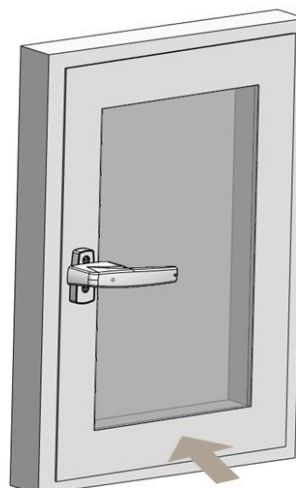
5. Open window 3mm & handle position sideways



Confirmation:



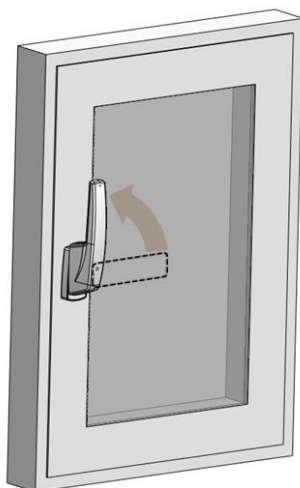
6. Ajar window & handle position sideways



Confirmation:



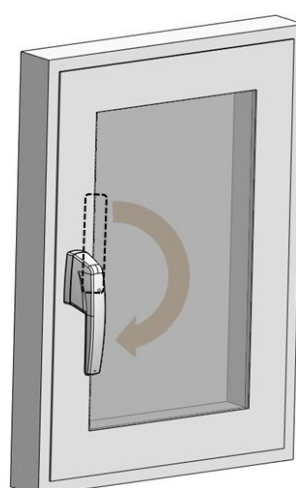
7. Ajar window & handle position up
(handle rotation without touch sensor contact)



Confirmation:



8. Window closed & handle position down
(handle rotation without touch sensor contact)



Confirmation:



9. Teach-in successful: The LED lights up green for 3 seconds



If an error is detected during the teach-in process, the LED lights up red. In this case, the teach-in process must be started again from the beginning.

If no error has been detected, the LED lights up green for three seconds and the states that have just been taught in are saved permanently.

6.3.2 Use already learned states

To load values that have already been taught in, carry out the following steps:

1. Turn the handle to the upper handle position
2. Connect the battery: The LED flashes red quickly 
3. Insert battery compartment cover: memorised values are loaded
4. Teach-in successful: The LED lights up green for 3 seconds 

If no values have been saved, the HELIH® flashes blue and must be reprogrammed as described in chapter 6.3.1.



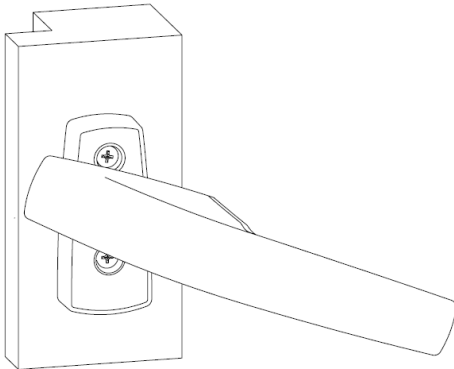
BSS recommends carrying out the teach-in process again after every regular battery change in order to compensate for a long-term change to the window. If the window is reset, a new teach-in process is absolutely necessary.

6.4 KNX programming mode

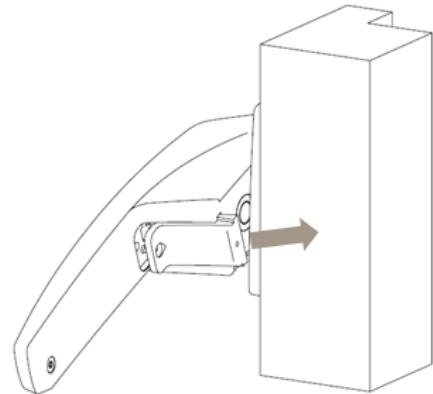
To assign the HELIH® its physical address and domain address, it must be set to KNX programming mode. There are two ways to do this:

a) Open the battery compartment cover

1. Turn the HELIH® to an undefined handle position. (approx. 4 or 7 o'clock or approx. 2 or 10 o'clock)



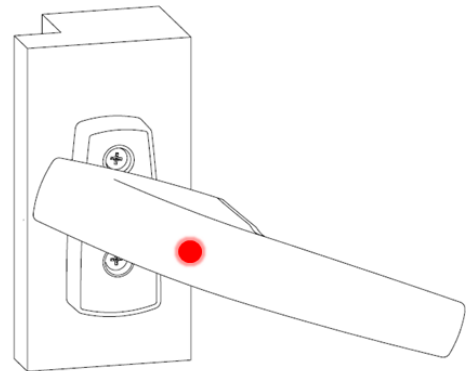
2. Slide out the battery compartment cover.



3. Touch



4. The LED then lights up red



LED red = KNX programming mode is active



If no programming is carried out within one minute, programming mode is automatically cancelled and the red LED goes out. To return to programming mode, the touch can be touched again.

b) Touch

Alternatively, the KNX programming mode can also be activated purely via the touch. To do this, the touch surface must be touched and held continuously for longer than the set parameter "Touch time (s)" plus 20 seconds. If this time is exceeded, the handle automatically switches to KNX programming mode. Tapping the touch again briefly exits programming mode.

7 Communication objects

No.	Name	Object function	Length	Data type	Datatype	Priority	C	R	W	T	U
1	Handle lock (bolt feedback)	0 = Unlocked 1 = Locked	1 bit	Custom bit	-	Low	C	R	-	T	-
2	Handle touch sensor	0 = Touch not detected 1 = Touch detected	1 bit	Boolean	1.002	Low	C	R	-	T	-
3	Handle touch sensor - long touch without handle rotation	0 = Long touch not detected 1 = Long touch detected	1 bit	Boolean	1.002	Low	C	R	-	T	-
4	Window contact	0 = Closed 1 = Open	1 bit	Window/door	1.019	Low	C	R	-	T	-
5	Window in tilt position	0 = Not tilted 1 = Tilted	1 bit	Boolean	1.002	Low	C	R	-	T	-
6	Handle position	Down, sideways, up or undefined	1 byte	Custom Enum	-	Low	C	R	-	T	-
7	Window condition	Derived from the combinations window contact, window tilt position, handle lock (bolt feedback) and handle position	1 byte	Custom Enum	-	Low	C	R	-	T	-
20	Set handle lock	0 = Unlocked 1 = Locked	1 bit	Boolean	1.002	Low	C	-	W	-	-
21	Set handle lock - status	0 = Unlocked 1 = Locked	1 bit	Boolean	1.002	Low	C	R	-	T	-
22	Auto re-locking mode	0 = Deactivated 1 = Activated	1 bit	Boolean	1.002	Low	C	-	W	-	-
23	Auto re-locking mode - status	0 = Deactivated 1 = Activated	1 bit	Boolean	1.002	Low	C	R	-	T	-
24	Reset glass-break detector	Reset command	1 bit	Trigger	1.017	Low	C	-	W	-	-
30	Battery Low	0 = Battery O.K. 1 = Battery low	1 bit	Custom bit	-	Low	C	R	-	T	-
31	Diagnostic message Heartbeat	1 = Heartbeat	1 bit	Trigger	1.017	Low	C	-	-	T	-
33	Handle lock cycle count	Locking cycle counter	4 byte	Counter pulses (unsigned)	12.001	Low	C	R	-	-	-
34	Malfunction	0 = O.K. 1 = Malfunction	1 bit	Alarm	1.005	High	C	R	-	T	-

C...Communication R...Read W...Write T...Transfer U...Update

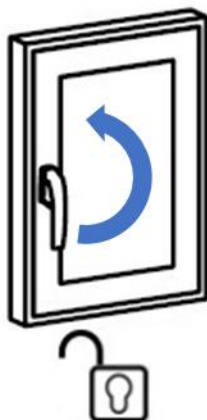
No.	Name	Object function	Length	Data type	Datatype	Priority	C	R	W	T	U
35	Alarm	0 = O.K. 1 = Alarm	1 bit	Alarm	1.005	High	C	R	-	T	-
36	Alarm source	Alarm type	1 byte	Custom bit field	-	Low	C	R	-	T	-
37	Sabotage	0 = O.K. 1 = Sabotage	1 bit	Alarm	1.005	High	C	R	-	T	-
38	Sabotage source	Sabotage type	1 byte	Custom bit field	-	Low	C	R	-	T	-
50	Cold warning	1 = Set temperature (°C) fallen below	1 bit	Boolean	1.002	Low	C	-	-	T	-
51	Heat warning	1 = Set temperature (°C) exceeded	1 bit	Boolean	1.002	Low	C	-	-	T	-
52	Temperature	Temperature (°C)	2 byte	Temperature (°C)	9.001	Low	C	R	-	T	-

C...Communication R...Read W...Write T...Transfer U...Update

7.1 Handle locking (bolt feedback)

The HELIH® has an electromechanical handle lock with bolt feedback. The communication object HANDLE LOCK (BOLT FEEDBACK) can be used to evaluate the position of the bolt and thus recognise whether the handle is locked or unlocked. The HELIH® can be locked/unlocked in the bottom handle position and top handle position.

0 = Unlocked



1 = Locked



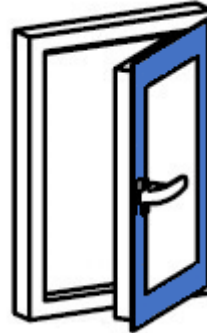
7.2 Window contact

The position of the window can be recognised via the WINDOW CONTACT communication object. The threshold at which the window is considered open or closed is determined during teach-in.

0 = Closed



1 = Open



7.3 Window in tilt position

The communication object WINDOW IN TILT POSITION can be used to recognise whether the window is tilted or not tilted.

0 = Not tilted



1 = Tilted



7.4 Handle position

The HANDLE POSITION communication object can be used to evaluate the position of the handle. The bottom, top and side handle positions are saved during teach-in. All handle positions that do not correspond to these three memorised positions are output as undefined.

**0 = Handle position
undefined**

**1 = Handle position
down**

**2 = Handle position
up**

**3 = Handle position
sideways**



(For DIN left windows mirror-inverted)

7.5 Window condition

The WINDOW CONDITION communication object is a combination of the communication objects WINDOW CONTACT, WINDOW IN TILT POSITION, HANDLE LOCK (BOLT FEEDBACK) and HANDLE POSITION.

**0 = Window condition
undefined**

**1 = Window open, handle
unlocked**

**2 = Window ajar, handle
sideways, handle unlocked**



Handle position undefined

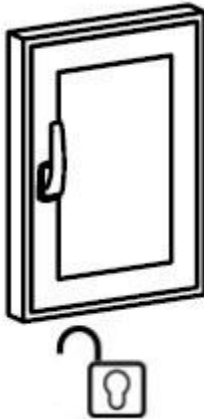


*Window contact open &
handle position sideways &
handle unlocked*



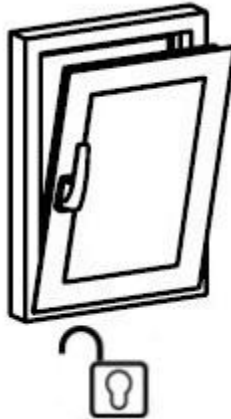
*Window contact closed &
handle position sideways &
handle unlocked*

3 = Window ajar, handle up, handle unlocked



Window contact closed & handle position up & handle unlocked

4 = Window tilted, handle unlocked



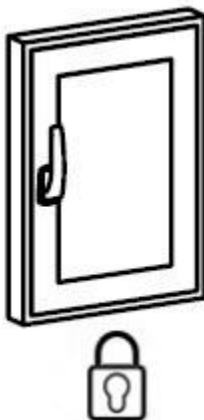
Window tilted & handle position up & handle unlocked

5 = Window closed, handle unlocked



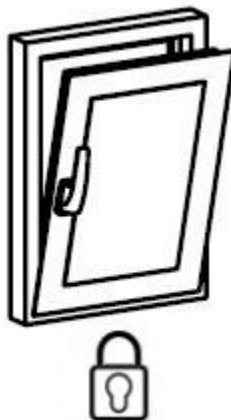
Window contact closed & handle position down & handle unlocked

6 = Window ajar, handle up, handle locked



Window contact closed & handle position up & handle locked

7 = Window tilted, handle locked



Window contact open & window tilted & handle position up & handle locked

8 = Window closed, handle locked



Window contact closed & handle position down & handle locked

7.6 Set handle lock

The HELIH® can permanently lock the handle lock via the input of the SET HANDLE LOCK communication object. If the SET HANDLE LOCK is active, the integrated bolt extends in the upper and lower handle position and locks the HELIH®. The handle lock can also no longer be opened by touching the touch and the HELIH® can no longer be turned. The LED briefly lights up red after touching the touch sensor area, signalling that the handle is locked.

 Touching the touch sensor area

 Window handle is locked

The status can be read out using the corresponding status communication object SET HANDLE LOCK - STATUS.

7.7 Auto re-locking mode

The HELIH® can automatically extend and retract the handle lock via the input of the AUTO RE-LOCKING MODE communication object. If AUTO RE-LOCKING MODE is active, the handle lock automatically extends in the upper and lower handle position and locks the HELIH®. Only after touching the touch sensor area and moving the bolt does the LED light up green and the handle position can then be changed.

 Touching the touch sensor area

 Window handle is unlocked

The status can be read out using the corresponding status communication object AUTOMATIC RELOCKING - STATUS.

7.8 Temperature

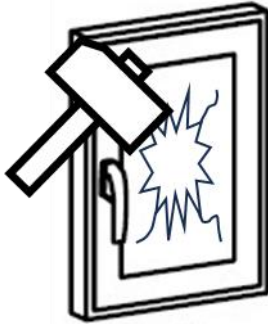
The HELIH® has an integrated temperature sensor and outputs its value rounded to 0.5 °C via the TEMPERATURE communication object. Each time the touch sensor is touched, the temperature is measured and the cyclical sampling time is restarted. If the newly measured temperature differs from the previous one, the updated value is transmitted via the TEMPERATURE communication object.

The sampling time can be used to define the cyclical measurement of the temperature, whereby this parameter has an effect on the battery life: The handle must wake up more often from its sleep mode to determine the temperature. However, the temperature is only sent when the newly measured temperature deviates from the old temperature.

The sensor is located in the mounting plate and therefore close to the window surface. Therefore, the value measured by the HELIH® may deviate from the actual room temperature due to the heat or cold transfer from the window. An offset of up to ± 5 K can be set with the temperature parameter → Adjustment, see chapter 9.6.

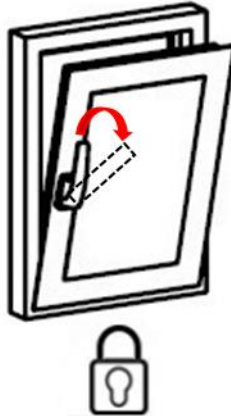
7.9 Alarm source

b0 = Glass break detection



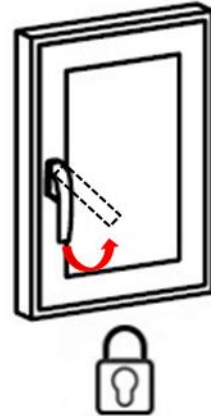
Glass breakage detector triggered

b1 = Handle levered open in tilt position



Window contact open & window tilted & handle locked & handle position undefined

b2 = Handle levered open in locked position



Window not tilted & handle locked & handle position undefined

b3 = Window levered open in closed position



Window contact open & window not tilted & handle position down

b4 = Window levered open in ajar position



Window contact open & window not tilted & handle position up

0 = No, 1 = Yes

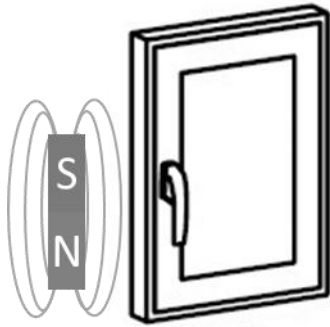


Depending on the window mechanism, alarm source b3 = "Window levered open in closed position" and b4 = "Window levered open in ajar position" can also be generated artificially by turning the handle when the window is open.

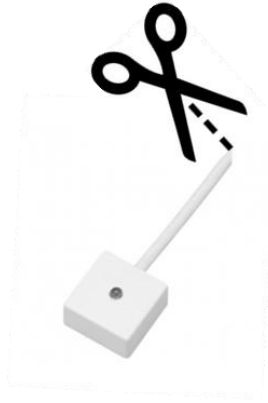
These two alarm sources can also be deactivated via the Alarming parameter, see chapter 9.5.

7.10 Sabotage source

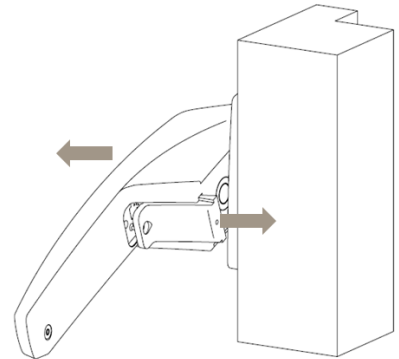
b0 = external magnetic field



**b1 = Manipulation/
connection fault to the glass
breakage detector**



**b2 = Remove of the handle
from the window or of the
battery compartment cover**



0 = No, 1 = Yes

8 Commissioning

Default Settings:

- Individual physical address: 15.15.255
- Domain address: FFFF:FFFFFFFF

8.1 KNX Secure

KNX Secure protects KNX installations against unauthorised access and prevents eavesdropping on communication as well as manipulation. KNX Data Security describes the encryption of telegrams, which are encrypted via TP and RF (radio). Due to the encryption, these telegrams are longer than the previously used unencrypted telegrams. Consequently, the interfaces used must support KNX long frames.

8.2 Project planning

Project planning is carried out in the ETS software (Engineering Tool Software), which is available from the KNX Association (www.knx.org).

All of the following descriptions for project planning in the ETS refer to the "ETS Professional" variant from v6.2.0 and are intended for a KNX Secure connection between *ise Multi media coupler* and HELIH®.

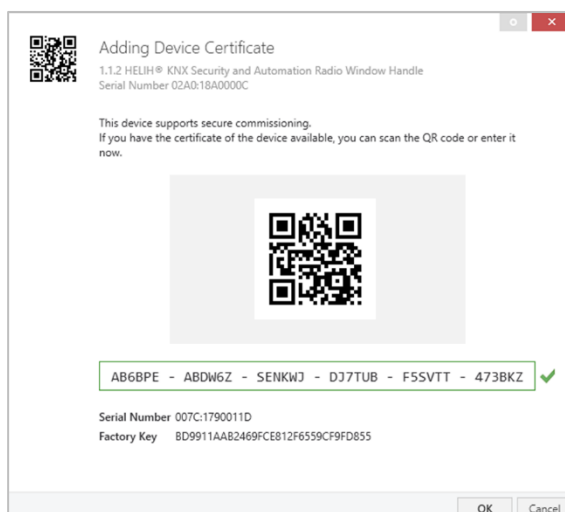
1. HELIH® Select product database entry from catalogue or download from the [BSS homepage](#).
2. *ise KNX RF Multi/TP media coupler* 3-0002-005 with the application program *RF Multi/TP media coupler* from the catalogue or download from the [ise homepage](#):

Import

Download

	Sei	Manufacturer	Name	Order Number	Medium Type	Application
		ise GmbH	KNX RF-Multi/TP media coupler	3-0002-005	RF	RF Multi/TP media coupler
		ise GmbH	KNX RF Multi fast repeater	3-0002-005	RF	RF Multi fast repeater
		ise GmbH	KNX RF Multi slow repeater	3-0002-005	RF	RF Multi slow repeater
		ise GmbH	KNX RF Ready/TP Medienkoppler oder RF Repeater	3-0002-005	RF	RF Ready/TP Medienkoppler oder RF Repeater
		ise GmbH	KNX RF Multi/TP Medienkoppler	3-0002-005	RF	RF Multi/TP media coupler

3. Create both product database entries as devices in the ETS and add device certificates.



4. Create the topology of the KNX system and assign a domain address for each RF line.

The screenshot displays two panels from a software application. The left panel, titled 'Topology Backbone', shows a hierarchical tree with '1 IP area' expanded to reveal '1.1 RF Segment 1'. The right panel, titled 'Properties', shows the configuration for 'RF Segment 1'. It includes fields for Name, Address (set to 1.1), Description, Status (Unknown), Medium (RF), and Domain Address (00FA:BD48D0EB). A 'Generate new' button is located next to the Domain Address field.

Further information on the topology and the possibility of assigning several RF lines can be found in the product manual of the *ise KNX RF Multi/TP media coupler or RF repeater*.

5. Programming the physical address.
6. Create and link group addresses.
7. Programming the application programme.



Please note that with

- *Changing the physical address of the HELIH®,*
- *Changes to the application programme with effects on the HELIH®,*
- *Switch from Secure to Insecure from HELIH®*

the application programme must always be programmed on the ise KNX RF Multi/TP media coupler or RF repeater first.

8.3 Updating the Firmware

Download the latest firmware version using the Firmware Update App from BSS GmbH.

After commissioning:

Check whether a newer firmware version is available and update the HELIH® if necessary.

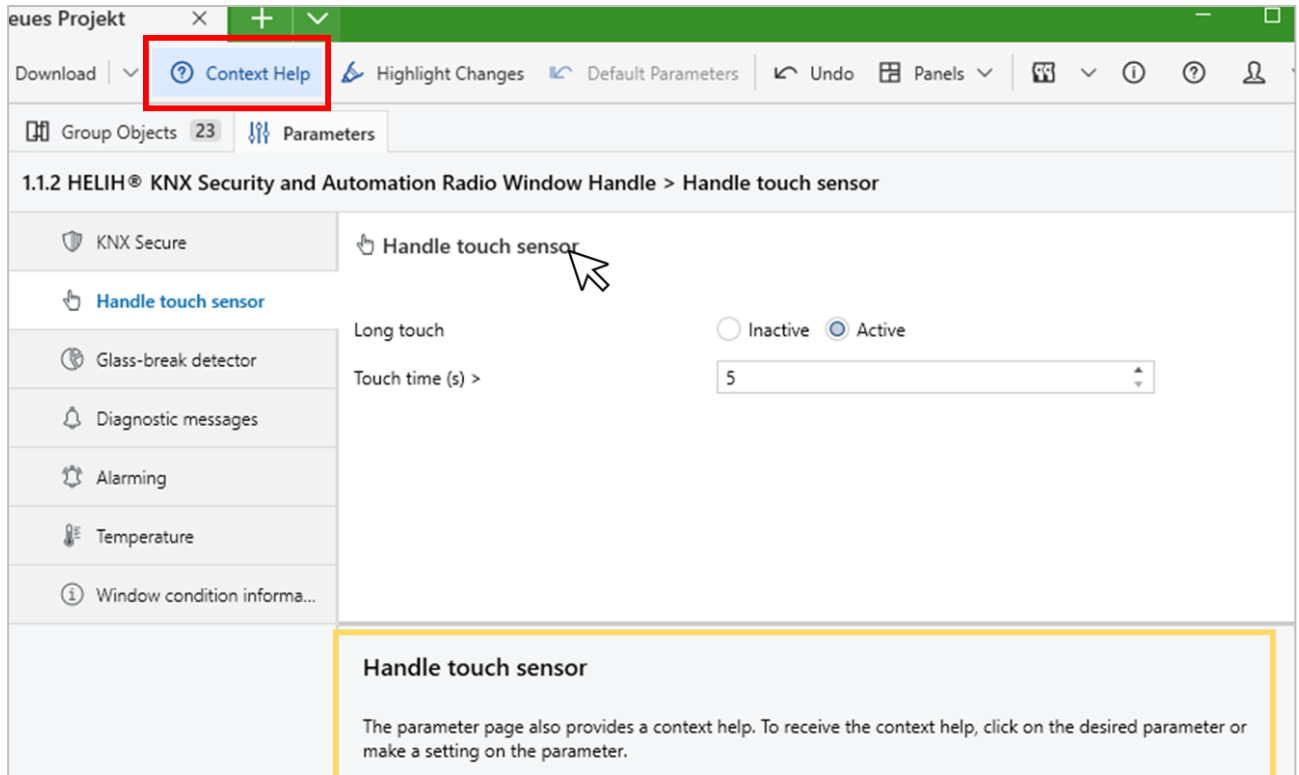
Regular maintenance:

Check regularly for available updates even during operation to benefit from new features, bug fixes, and security improvements.

9 ETS Parameters

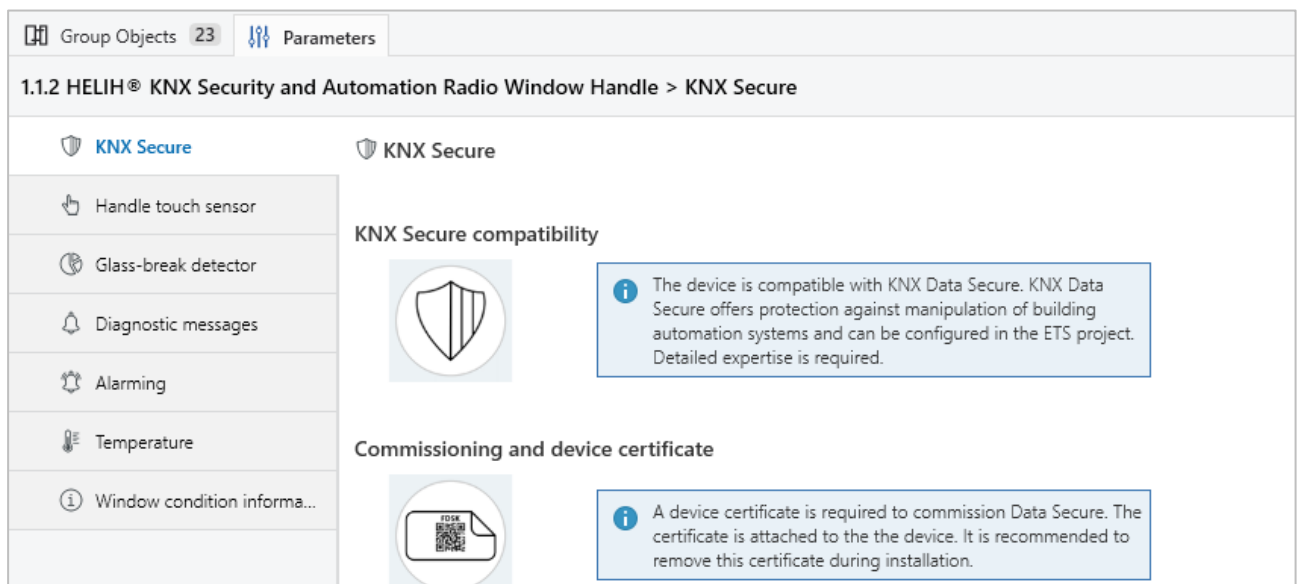
Various parameters can be defined in the parameter area of the ETS.

If you require a brief explanation of the respective parameter, activate the context help of the ETS and click on the corresponding parameter with the mouse pointer:



9.1 KNX Secure

Instructions for handling the device certificate enclosed in the packaging and affixed to the HELIH®.



9.2 Handle touch sensor

Activation or deactivation of the communication object HANDLE TOUCH SENSOR - LONG TOUCH WITHOUT HANDLE ROTATION.

ETS parameters	Settings	Description
Long touch	Inactive	• Inactivates Long touch
	Active	• Activates Long touch • [Default]
Touch time (s) >	5 ... 60	• Duration after which the communication object 3- HANDLE TOUCH SENSOR - LONG TOUCH WITHOUT HANDLE ROTATION becomes true. • 5 [Default]

9.3 Glass-break detector

Activation of the glass breakage detector and how it can be reset if triggered.

Group Objects 23 Parameters

1.1.2 HELIH® KNX Security and Automation Radio Window Handle > Glass-break detector

KNX Secure

Handle touch sensor

Glass-break detector

Diagnostic messages

Alarming

Temperature

Window condition informa...

Glass-break detector

Activation

Automatic activation

Reset

☒ Remove and reconnect battery

☐ Remove and reconnect battery OR "Reset glass-break detector" command

ETS parameters	Settings	Description
Activation	Automatic activation	• HELIH® automatically recognises whether a glass breakage detector is connected when the battery is connected. • [Default]
	Activate	• Activates the glass breakage detector
	Deactivate	• Deactivates the glass breakage detector
Reset	Remove and reconnect battery	• If a glass breakage is detected, it can only be reset by restarting the system. • [Default]
	Remove and reconnect battery OR "Reset glass-break detector" command	• If a glass breakage is detected, it can be reset via a restart or via the communication object 24 RESET GLASS-BREAK DETECTOR.



After each change to the activation of the glass breakage detector, it is essential to restart the HELIH® (remove and reconnect the battery).



After the "Reset glass-break detector" command, the SABOTAGE and SABOTAGE SOURCE communication objects should be read again.

9.4 Diagnostic messages

Group Objects 23 Parameters

1.1.2 HELIH® KNX Security and Automation Radio Window Handle > Diagnostic messages

KNX Secure	Diagnostic messages
Handle touch sensor	Heartbeat ☒
Glass-break detector	
Diagnostic messages	
Alarming	
Temperature	
Window condition informa...	

ETS parameters	Settings	Description
Heartbeat	Activate	• HELIH® signals its functionality every 24 hours via the communication object 31-DIAGNOSTIC MESSAGE HEARTBEAT. • [Default]
	Deactivate	• HELIH® does not signal functional capability.

9.5 Alarm

Switching the ALARM and ALARM SOURCE communication objects on and off.

Group Objects 23 Parameters

1.1.2 HELIH® KNX Security and Automation Radio Window Handle > Alarming

KNX Secure	Alarming
Handle touch sensor	Alarming on/off ☒
Glass-break detector	Also alarming if: Lever open the window in the...
Diagnostic messages	...tilt position (b1) ☒
Alarming	...closed position (b3) ☒
Temperature	...ajar position (b4) ☒
Window condition informa...	

ETS parameters	Settings	Description
Alarming on/off	On	- Switching on the communication objects 35-ALARM and 36-ALARM SOURCE. [Default]
	Off	Switching off the communication objects 35-ALARM and 36-ALARM SOURCE.
Also alarm if: Lever open the window in the....		
...tilted position (b1)	On/Off	- Alarm sources b1, b3 and b4 can be switched on or off individually. - On [Default]
...closed position (b3)	On/Off	
...ajar position (b4)	On/Off	

9.6 Temperature

Settings for the TEMPERATURE, COLD WARNING and HEAT WARNING communication objects.

Group Objects 23

Parameters

1.1.2 HELIH® KNX Security and Automation Radio Window Handle > Temperature

KNX Secure

Handle touch sensor

Glass-break detector

Diagnostic messages

Alarming

Temperature

Window condition informa...

Temperature

Temperature scanning

☐ Inactive
☒ Active

Adjustment value (K)

0

Sampling time

24h

Cold warning

☐ Inactive
☒ Active

Cold warning if temperature (°C) <

10

Heat warning

☐ Inactive
☒ Active

Heat warning if temperature (°C) >

30

ETS parameters	Settings	Description
Temperature scanning	Inactive	Inactivates temperature scanning
	Active	- Activates temperature scanning [Default]

Adjustment value (K)	-5 ... +5	Adjustable temperature offset in Kelvin
Sampling time	24h, 12h, 6h, 3h, 1h, 30 min, 15 min	- Cycle time in which the temperature is repeatedly measured. 24h [Default]
Cold warning	Inactive	Deactivates the cold warning
	Active	- Activates the cold warning [Default]
Cold warning if temperature (°C) <	0 ... 20	- Temperature threshold that triggers the communication object 50-COLD WARNING if the temperature falls below this threshold. 10 °C [Default]
Heat warning	Inactive	Deactivates the heat warning
	Active	- Activates the heat warning [Default]
Heat warning if temperature (°C) >	10 ... 60	- Temperature threshold that triggers the communication object 51-HEAT WARNING if the temperature rise above this threshold. 30 °C [Default]



Reducing the sampling time from 24h [default] to 15 min results in a reduction in the service life of approx. 10%.

9.7 Window condition information

Illustrations and linking of the WINDOW CONDITION communication object.

Group Objects 23
Parameters

1.1.2 HELIH® KNX Security and Automation Radio Window Handle > Window condition information

KNX Secure

Handle touch sensor

Glass-break detector

Diagnostic messages

Alarming

Temperature

Window condition infor...

Window condition information

0 = Window condition undefined

1 = Window open, handle unlocked

2 = Window ajar, handle sideways, handle unlocked







Handle position undefined

Window contact open & Handle position sideways & Handle unlocked

Window contact closed & Handle position sideways & Handle unlocked

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10 Procedure in the event of a malfunction

If the HELIH® reports a malfunction, this must be dealt with immediately. Until this has been done, the status messages are not reliable. If the locking mechanism is functional, the HELIH® is unlocked in the event of a malfunction so that it can be dismantled in an emergency.

The first step is to restart the HELIH®. To do this, the battery must be disconnected and reconnected in the upper handle position.

The battery should then be replaced to rule out the possibility that it is responsible for the malfunction. If a malfunction is displayed again after replacement, the HELIH® is defective and must be replaced.

If unlocking is no longer possible due to damage to the mechanism, an emergency opening is necessary. Please contact BSS for further information:

BSS Baumann Sicherheitssysteme GmbH
Robert-Bosch-Strasse 1A
78234 Engen, Germany
Phone: +49 7733 99494 20
Fax: +49 7733 99494 21
info@bss-sdi.com

10.1 Reset to factory settings

The following steps are required to perform a factory reset:

1. Turn the handle to the side handle position
2. Remove the battery compartment cover and disconnect the battery
3. Connect the battery: The LED flashes red quickly 
4. Wait 5 seconds
5. Touch and hold for at least 10 seconds: The LED lights up yellow 
6. Teach-in process successful: the LED lights up green for 3 seconds 
7. Wait 10 seconds and then restart the handle (disconnect and reconnect the battery)

10.2 Unloading

After unloading the HELIH®, it must be relearned. The HELIH® signals this by flashing blue - see 6.3.1.

10.3 Switch from Secure to Insecure

After changing from “Secure Commissioning” from Activated to Deactivated the HELIH® must be relearned again. The HELIH® signals this by flashing blue - see 6.3.1.

10.4 FAQ

Problem	Possible cause	Solution
The window handle flashes red twice every 180 seconds.	Battery empty	• Change battery
The window handle cannot be turned.	Internal malfunction	• Disconnect and reconnect the battery.
	Direction of rotation not set.	• Setting the direction of rotation
	Handle is locked	• Touch touch • Deactivate communication object SET HANDLE LOCK
The window handle reports incorrect handle positions or incorrect window open/closed is not recognised.	Incorrectly taught-in.	• Reset factory settings • Relearning
No communication objects are sent	Media coupler fault	• Restart device • New programming
	Window handle fault	• Disconnect and reconnect the battery. • New programming
	Radio signal interference	• Remove sources of interference • Reduce the distance to the media coupler
	Incorrect media coupler	• Use <i>Multi media coupler</i> (article number: 3-0002-005).
	Group address is not sent/received	• Check group addresses in the group monitor.
	Old ETS version used	• Use ETS version v6.2.0 or higher.
ETS	Catalogue entry	• Check catalogue entry and settings for <i>ise Multi media coupler</i>
The window handle can no longer be locked	Battery empty	• Change battery
The handle can no longer be unlocked.	Internal malfunction	• Disconnect and reconnect the battery.
The last handle position sent does not match the actual position.	SET HANDLE LOCK communication object is active	• Deactivate communication object SET HANDLE LOCK
	Touch not touched	• Send current position by touching the touch screen
The application program can only be downloaded in programming mode.	Wrong catalog application	• Catalog: KNX RF-Multi/TP media coupler

10.5 Disposal

Device

At the end of its service life, the HELIH® must not be disposed of with household waste. Waste electrical and electronic equipment contains valuable materials as well as substances that can harm human health and the environment if disposed of improperly. Dispose of the device via a local collection point for electrical waste or return it to your dealer. The crossed-out wheelie bin symbol on the device indicates this separate disposal requirement.

Battery

Before disposing of the device, remove the battery (lithium thionyl chloride, ½ AA) and dispose of it separately; see Chapter 6.1 "Connect the battery" for removal instructions. Batteries must not be disposed of with household waste. Return used batteries free of charge to a public collection point or to a retailer. Batteries containing hazardous substances are additionally marked with the crossed-out wheelie bin symbol and the chemical symbol of the substance.



Used lithium batteries can react under mechanical stress. Do not open, short-circuit, deform, or incinerate the battery.



11 Technical data

Certification	KNX certified
Communication	KNX RF
Medium	KNX RF Multi
Radio frequencies used	RF1.R (Ready): 868.3 MHz RF1.M (Multi): 868.3 MHz / 868.95 MHz / 869.525 MHz / 869.85 MHz
Battery life (Valid for undisturbed normal operation)	3.2 years at 1 cycle per day 3 years at 5 cycles per day 2.7 years at 10 cycles per day 1 cycle = open + close
Bolt diameter	9 mm
Bolt Locking length	6 mm
Closing/opening time without load	0,8 s
Closing/retraction force	2 N
Environmental class (according to VdS 2110)	Class II
Operating temperature / storage temperature	0 °C ... +60 °C / -20 °C ... +70 °C
Protection class	IP67 when mounted
Housing dimensions	183 x 36.6 x 65 mm
Weight without magnet	approx. 210 g
Free field range (typical)	approx. 100 m
Housing material	PC ABS
Available colours	RAL9003 / RAL 870-20, silvergrey metallic
EMC-Directive	ETSI EN 301 489-1 V2.2.3 ETSI EN 301 489-3 V2.3.2
Radio-testing	EN 300 220-1 V3.1.1 EN 300 220-2 V3.1.1
EMF-testing	EN 62479:2011-09
RED-Directive	EN 62368-1:2021-05