With glass breakage detector, hidden mounting

KNX RF / ENO Window Sensor 490 *secure*

Operation and installation manual



(Art. # 5545)

WEINZIERL ENGINEERING GmbH
Achatz 3-4
84508 Burgkirchen an der Alz
GERMANY

Tel.: +49 8677 / 916 36 – 0
E-Mail: info@weinzierl.de
Web: www.weinzierl.de

© 2026 WEINZIERL ENGINEERING GmbH

Content

1 Application ... 3

2 Installation and connection ... 3

2.1 KNX programming mode ... 4

2.2 Manual operation and status display ... 4

2.3 Delivery ... 6

2.4 Test template ... 7

2.5 Mounting ... 8

2.6 Calibration ... 11

3 Reset to factory default settings ... 12

4 Operation as EnOcean device ... 12

5 Battery and battery change ... 13

6 Dimensions ... 14

6.1 Window sensor ... 14

6.2 Window frame ... 15

7 KNX Security ... 16

8 ETS database ... 17

8.1 Secure commissioning ... 17

8.2 Secure group communication ... 19

8.3 Description ... 21

8.4 General settings ... 22

8.5 Alarm settings ... 25

8.6 Diagnostic ... 28

9 Alarm information ... 29

10 Battery information ... 30

© 2026 WEINZIERL ENGINEERING GmbH

1 Application

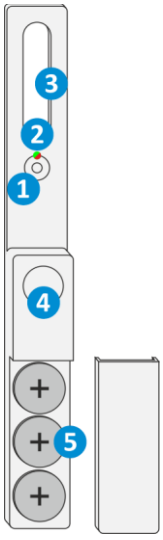
The KNX RF / ENO Window Sensor 490 *secure* is a compact, discreet window sensor designed to detect the state of a window. It uses optical sensors to detect whether the window is open, closed, or tilted.

An integrated alarm indicates forced entry and broken glass. The window state is transmitted via KNX RF or EnOcean.

The device supports KNX Data Security and EnOcean Security.

2 Installation and connection

The KNX RF / ENO Window Sensor 490 *secure* is glued into the window frame.
The window sensor features the following controls and displays:



1. Button for programming mode / calibration / EnOcean Security
2. Programming LED (red) / Sending and state display (green/orange)
3. Optical sensors
4. Acoustic sound generator (multitone)
5. Battery compartment

© 2026 WEINZIERL ENGINEERING GmbH

2.1 KNX programming mode

The KNX programming mode is activated/deactivated by pressing the button 1.
When the programming mode is active, the LED 2 light up red.

2.2 Manual operation and status display

2.2.1 Common

Press long (1 sec.) on button 1 to start the calibration of the device.
The end of the calibration is indicated by a brief green flash of the LED 2 and a short beep from the buzzer 3. If the device is not calibrated, the LED 2 will flash slowly in orange.

Press short on button 1 to acknowledge an active alarm.
Acknowledgment via the button can be enabled or disabled for KNX mode in ETS®.
If no alarm is active, the KNX programming mode is turned on or off.
An alarm is indicated by the LED 2 flashing red slowly.

If the position of the locking pin cannot be detected clearly, the LED 2 flashes orange fast.

Summery of the states of the LED 2:

LED Status	Meaning
LED briefly green	Calibration done.
LED flashes orange (slow)	The device is not calibrated.
LED flashes orange (fast)	Position locking pin not detected clearly.
LED lights red	The programing mode is active.
LED flashes red (slow)	An alarm is active.
LED flashes red (fast)	The device is not loaded correctly, e.g. after aborting a download.
LED flashes green (slow)	The device is currently loaded by the ETS.

To save battery power, the LED is off during normal operation.
Flashing patterns are displayed for 5 seconds after the last movement.

© 2026 WEINZIERL ENGINEERING GmbH

2.2.2 EnOcean mode

After inserting the battery, the device indicates that it is operating in EnOcean mode by lighting up the LED 2 in green for 2 seconds.

When an EnOcean telegram is sent, the LED 2 briefly lights up green.

Pressing long (1 sec.) on button 1 triggers a Teach-In telegram. This is done simultaneously with the calibration process.When the telegram is sent, the LED 2 briefly lights up green.

Pressing button 1 very long (5 sec.) activates EnOcean Security. This triggers the Security Teach-In telegram sequence. To prevent accidental activation of EnOcean Security, activation is only possible up to 5 minutes after inserting the battery. Activation is indicated by a short beep from the acoustic signal generator 3.

When EnOcean Security is active, the Security Teach-In telegram sequence for synchronization can be triggered at any time by pressing and holding button 1 for a very long time (5 sec.).

Summery of the states of the LED 2:

LED Status	Meaning
LED lights green (2 sec) after inserting the battery	The unit operates in EnOcean mode.
LED briefly green	EnOcean telegram was sent.

2.2.3 KNX mode

After inserting the battery, the device indicates that it is operating in KNX mode by lighting up the LED 2 in orange for 2 seconds.

When a KNX telegram is sent, the LED 2 briefly lights up orange.

Summery of the states of the LED 2:

LED Verhalten	Bedeutung
LED lights orange (2 sec) after inserting the battery	The unit operates in KNX mode.
LED briefly orange	KNX telegram was sent.
LED flashes 1x orange (10 sec) after a download	The device is awake and can receive KNX telegrams.

© 2026 WEINZIERL ENGINEERING GmbH

2.3 Delivery

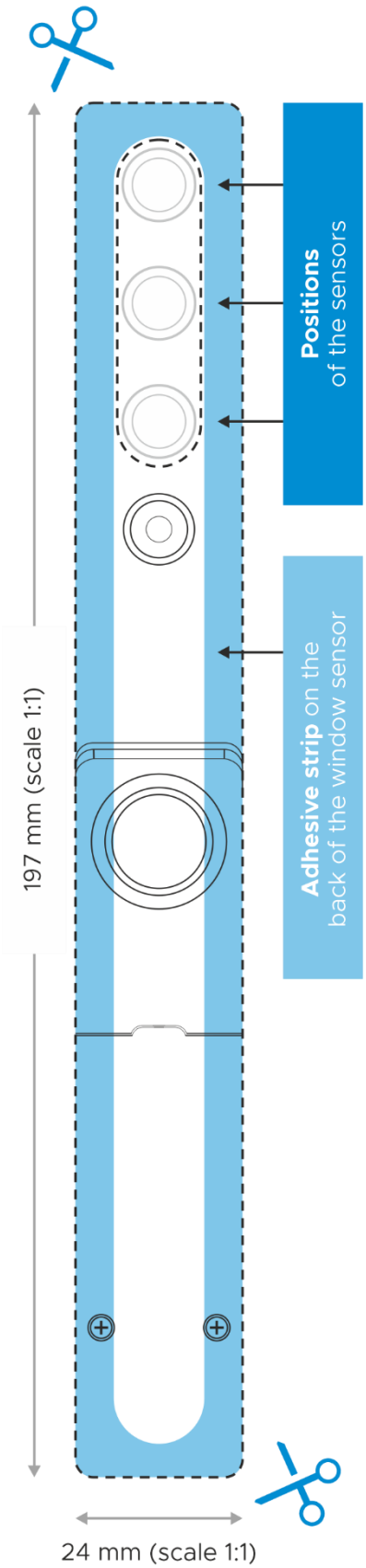
KNX RF / ENO Window Sensor 490 *secure* (Art. # 5545):



- Window sensor ①
- Positioning tool (locking pin: 8 mm) ②
- Positioning tool (locking pin: 11 mm) ③
- Screwdriver (Torx: T6) ④
- Alcohol wipe ⑤

© 2026 WEINZIERL ENGINEERING GmbH

2.4 Test template



This template shows the actual size of the window sensor.

Cut out the template and hold it up to your installation location to check whether the sensor fits your window.

1

Cut out

Cut along the dotted line following the outline.

2

Placing

Hold the cut out template against the window frame.

3

Check

Make sure the window sensor can be taped in place here and that it does not block any moving parts.

Printing instructions:

When printing, please make sure to use the correct print settings.

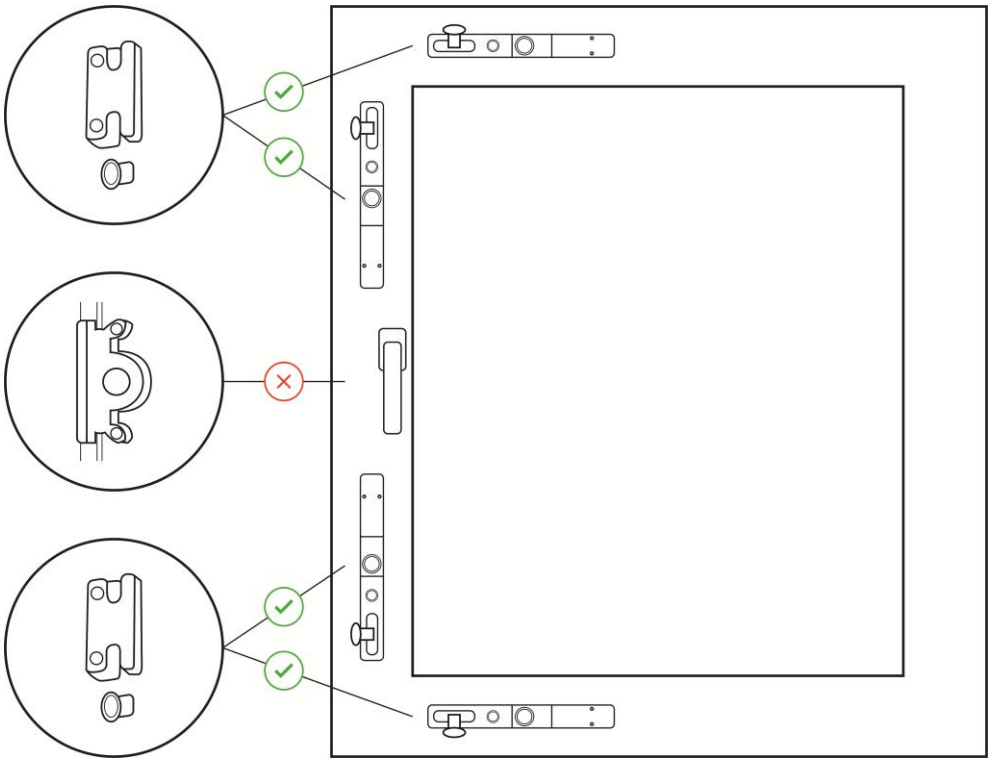
*Print this template only at its original size, or **actual size**.*

***Do not adjust** it to fit the page size or **scale it**.*

© 2026 WEINZIERL ENGINEERING GmbH

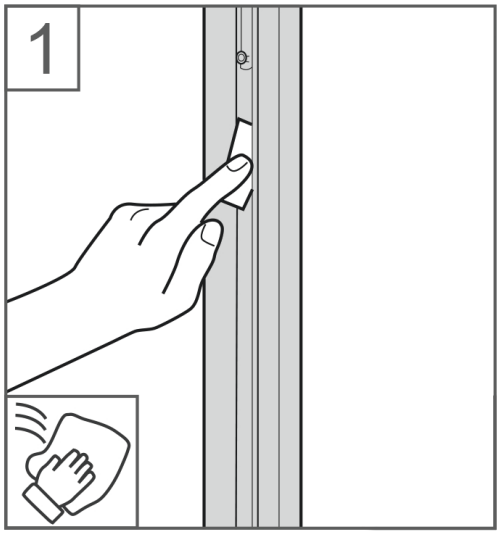
2.5 Mounting

The window sensor is compatible with almost all standard window frames. If in doubt, test compatibility and functionality before installation. Especially when installing large quantities, make sure before installation that all devices are compatible with the window frames.



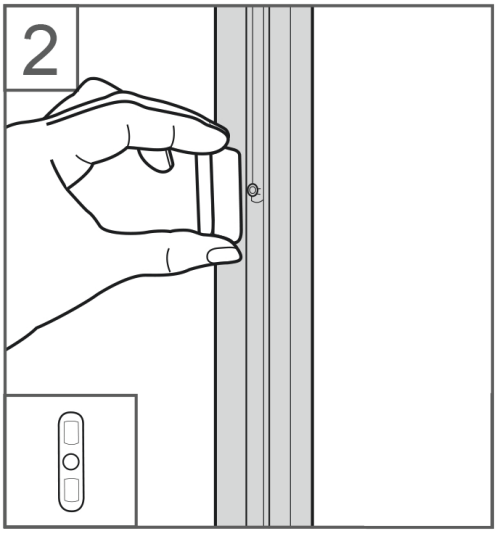
Mounting of the KNX RF / ENO Window Sensor 490 *secure* ①:

- Clean the window frame with the included alcohol wipe ⑤.

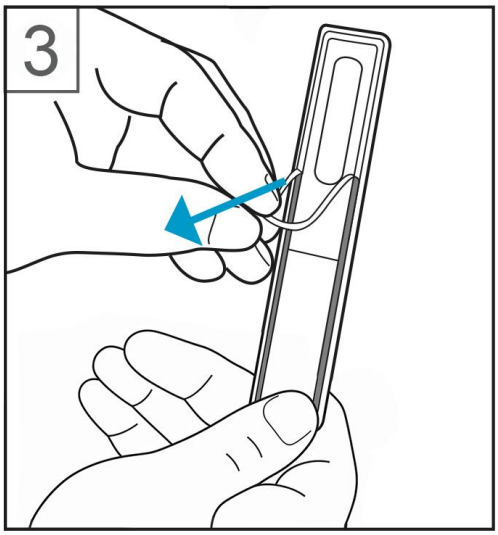


© 2026 WEINZIERL ENGINEERING GmbH

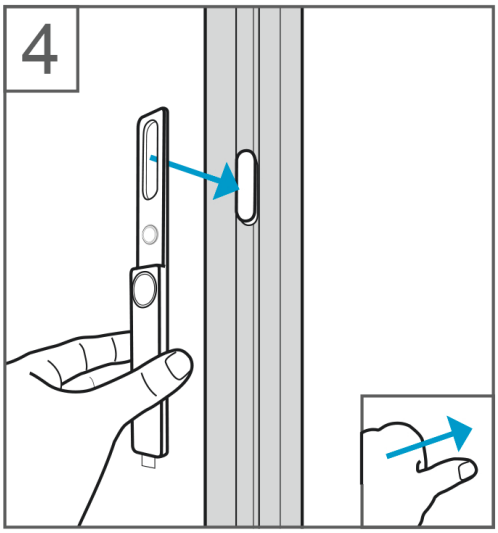
- Place the positioning tool ②/③ on the pin.



- Uncover the adhesive strip on the window sensor ①.

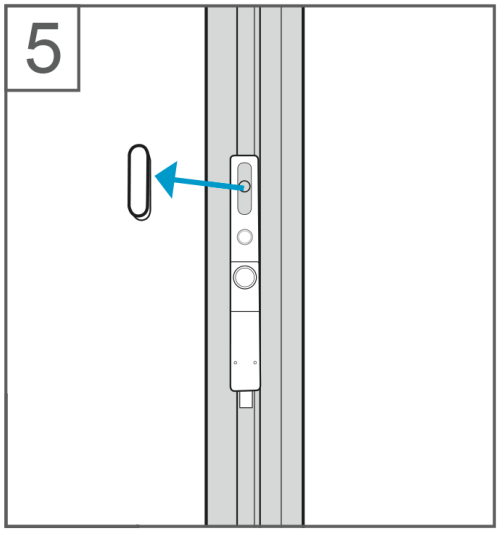


- Apply the window sensor ① and press it firmly into place.

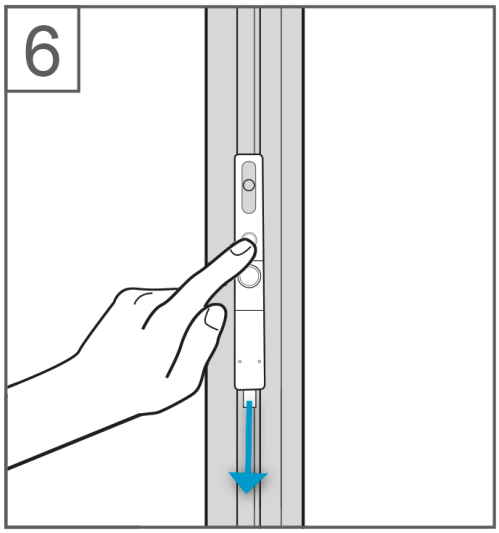


© 2026 WEINZIERL ENGINEERING GmbH

- Remove the positioning tool ②/③.



- Pull out the separation strip from the battery compartment.



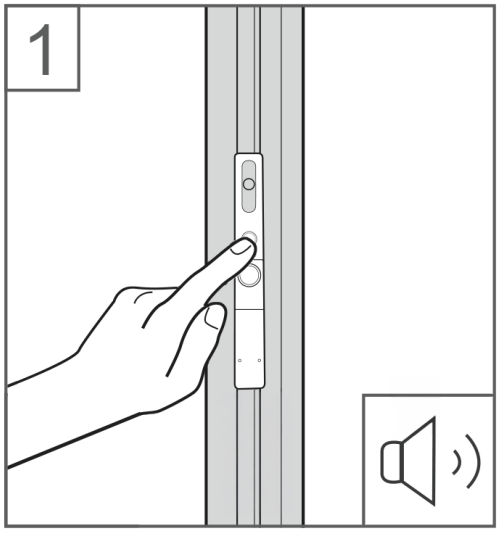
© 2026 WEINZIERL ENGINEERING GmbH

2.6 Calibration

Once the window sensor has been mounted in the window frame, the calibration can be done.

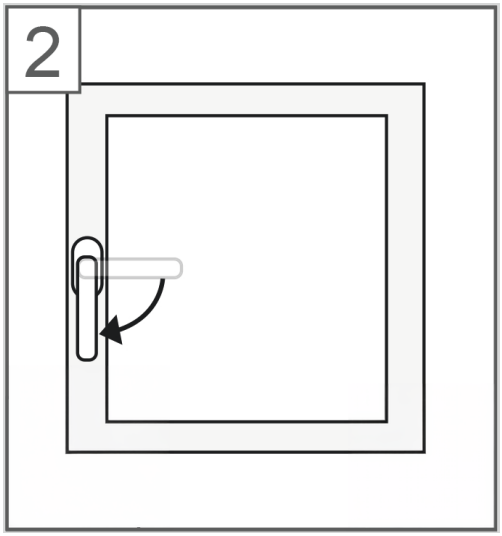
Calibration of the KNX RF / ENO Window Sensor 490 *secure* ①:

- Start the calibration by long pressing (1 sec.) button ❶.



The end of the calibration is indicated by a brief green flash of the LED ❷ and a short beep from the buzzer ❸.

- Close the window (handle down).
  To clearly define the installation position of the window sensor, the window handle must be in the closed position immediately after calibration. This must be done within 60 seconds after the calibration.



- The window sensor ① is ready for use.

© 2026 WEINZIERL ENGINEERING GmbH

3 Reset to factory default settings

It is possible to reset the device to its factory default settings.
The battery voltage has to be more than 2.6 V.

- Remove the battery from the device.
- Press the button 1 to discharge all capacitors.
- Press the button 1 and keep it pressed down.
- Insert the battery into the device.
- Keep the button 1 pressed for at least another 6 seconds..
- A short red flashing of the LED 2 visualizes the successful reset of the device to factory default settings.

In the factory default settings, the device has the physical address 15.15.255 and no group addresses are connected. Also, KNX Data Security is disabled and the initial key (FDSK) must be used for secure commissioning.

The device can be used as an EnOcean window sensor.

4 Operation as EnOcean device

In the factory default settings, the device can be operated as an EnOcean window sensor (EEP A5-14-0A). In this case the device operates unencrypted.

After configuration via ETS, the EnOcean protocol is deactivated. It can be reactivated by resetting to factory default settings.

To trigger a Teach-In telgram from the device, button 1 has to be pressed long (1 sec). When the telegram is sent, the LED 2 briefly lights up green.

EnOcean encryption can be activated by pressing the button 1 very long (5 sec.). This only works within 5 minutes after inserting the battery. You can disable the EnOcean encryption by resetting the device to factory default settings. The device uses a 24-bit implicit RLC (Rolling Code) and a 32-bit CMAC (Cipher-Based Message Authentication Code).

© 2026 WEINZIERL ENGINEERING GmbH

5 Battery and battery change

The window sensor is powered by 3 standard CR2032 batteries. Pay attention to the correct polarity when inserting the battery (the positive terminal must be visible). The polarity can be seen through the corners of the battery compartment. To remove the battery, use a suitable object to lift it out from the side.

If the batteries need to be replaced, all 3 batteries must be replaced at the same time. Use identical batteries.

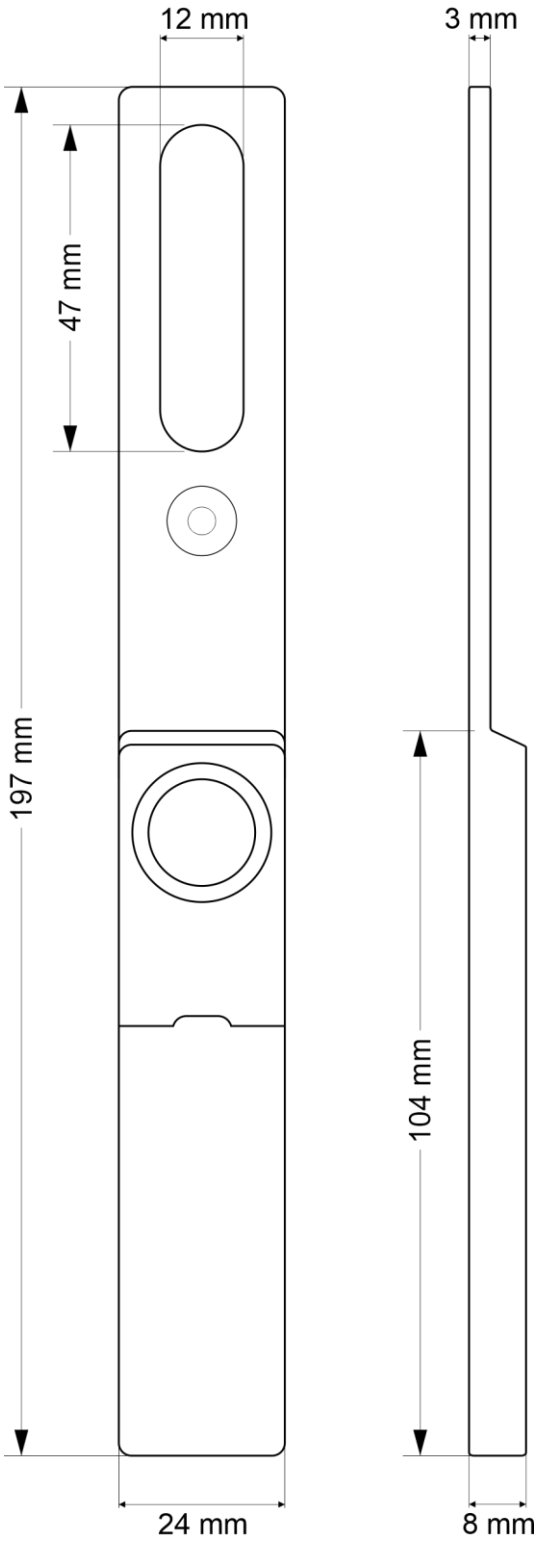
The object should not be conductive or have sharp edges, otherwise there is a risk of a short circuit.



© 2026 WEINZIERL ENGINEERING GmbH

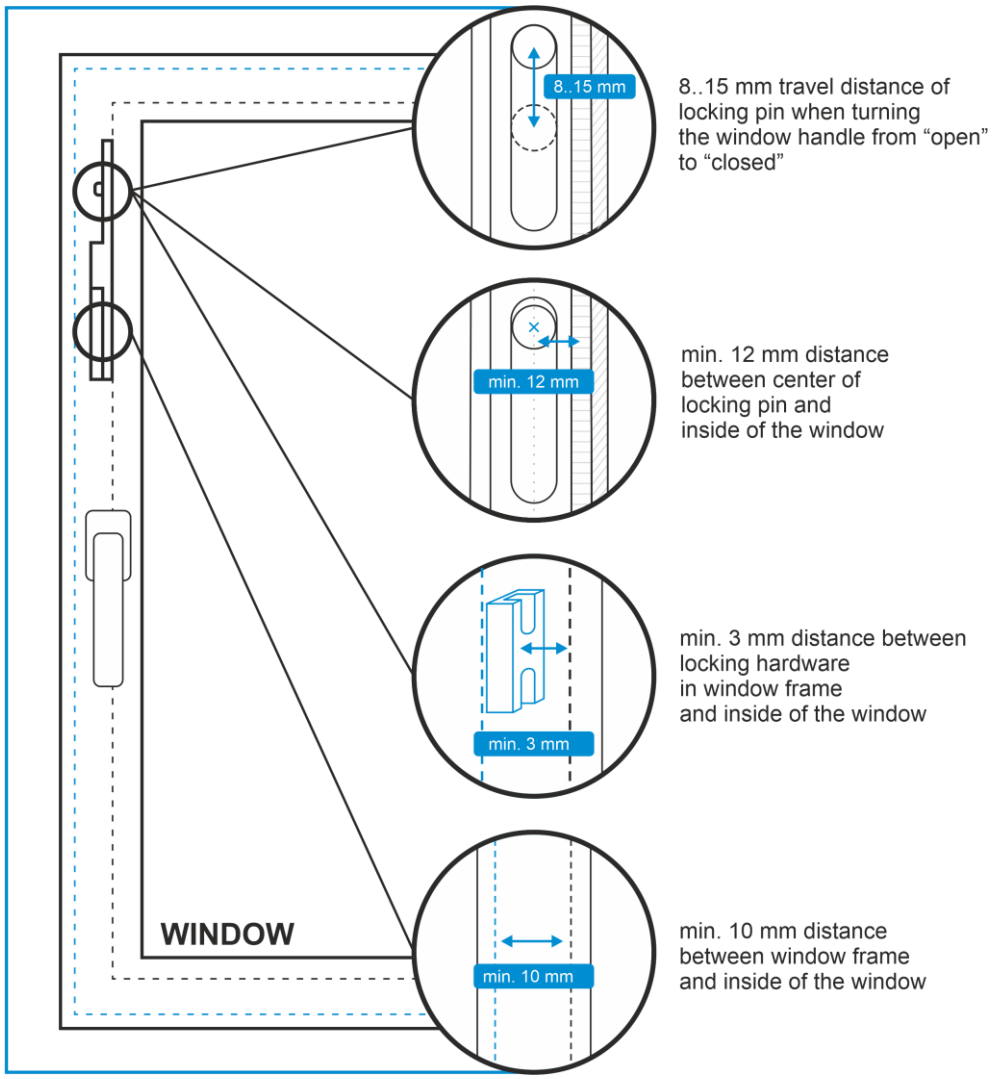
6 Dimensions

6.1 Window sensor



© 2026 WEINZIERL ENGINEERING GmbH

6.2 Window frame



WINDOW FRAME

© 2026 WEINZIERL ENGINEERING GmbH

7 KNX Security

The KNX standard was extended by KNX Security to protect KNX installations from unauthorized access. KNX Security reliably prevents the monitoring of communication as well as the manipulation of the system.

The specification for KNX Security distinguishes between KNX IP Security and KNX Data Security. KNX IP Security protects the communication over IP while on KNX TP the communication remains unencrypted. Thus, KNX IP Security can also be used in existing KNX systems and with non-secure KNX TP devices.

KNX Data Security describes the encryption on telegram level. This means that the telegrams on the twisted pair bus or via RF (radio frequency) are also encrypted.



Encrypted telegrams are longer than the previously used unencrypted ones. For secure programming via the bus, it is therefore necessary that the interface used (e.g. USB) and any intermediate line couplers support the so called KNX Long Frames.

© 2026 WEINZIERL ENGINEERING GmbH

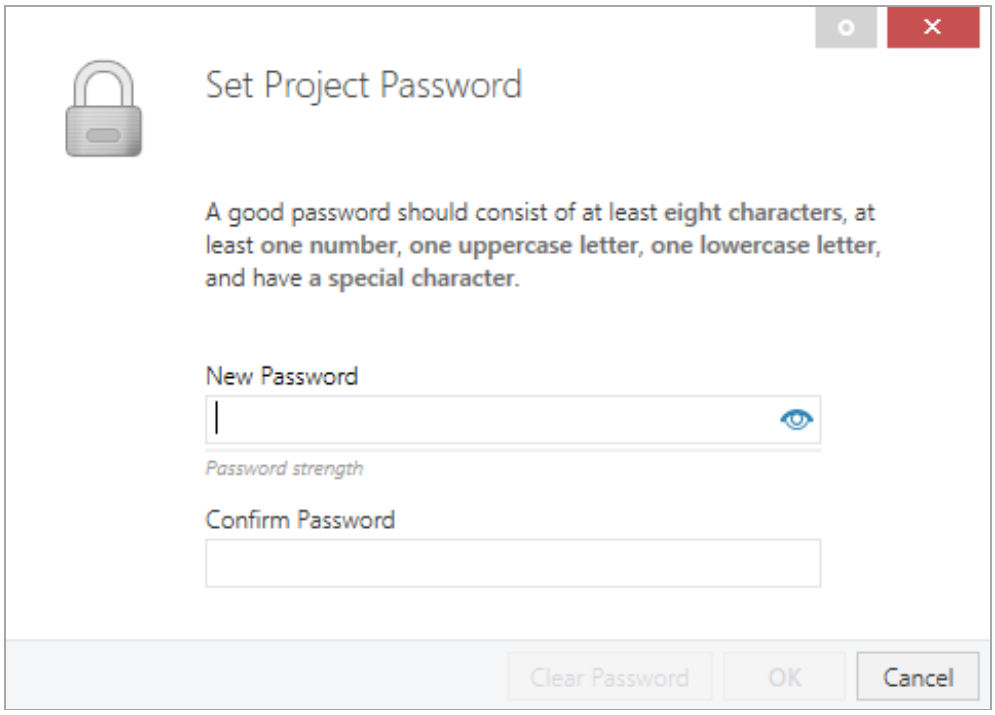
8 ETS database

The ETS 5 database (for ETS 5.7 or newer) can be downloaded from the product website of the KNX RF / ENO Window Sensor 490 *secure* (www.weinzierl.de) or from the ETS online catalogue.

The KNX RF / ENO Window Sensor 490 *secure* supports KNX Data Security to protect the device against unauthorized access from the KNX bus. If the device is programmed via the KNX bus, this is done with encrypted telegrams.

8.1 Secure commissioning

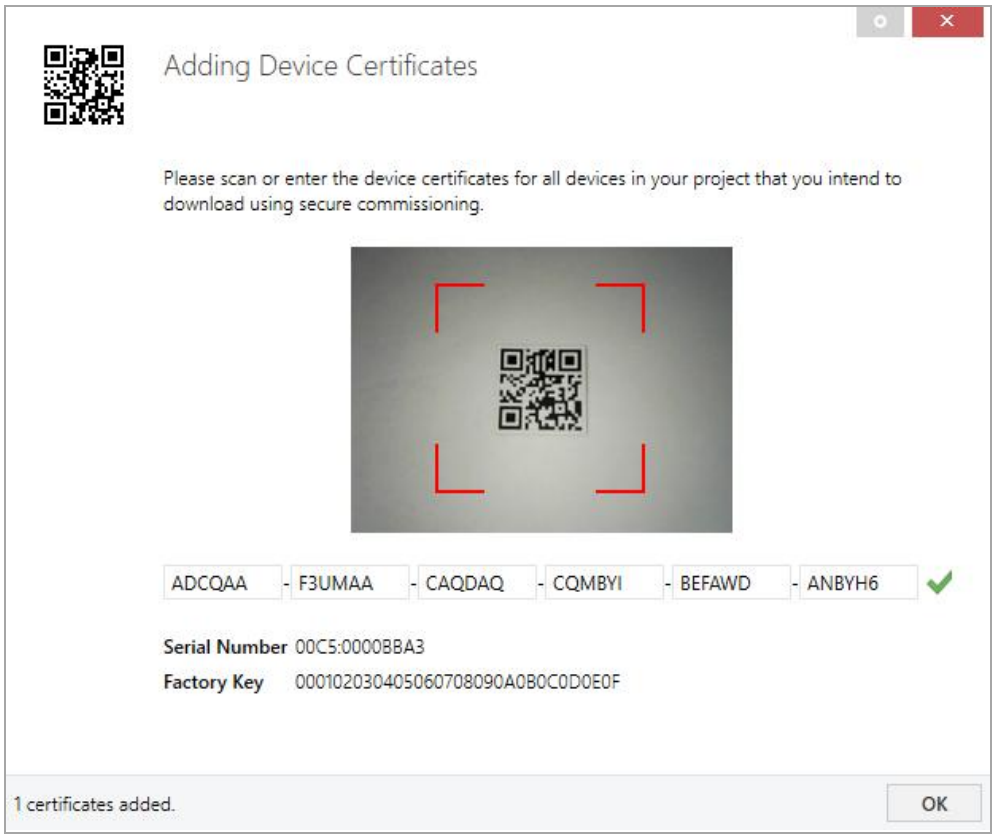
If the first product is inserted into a project with KNX Security, the ETS prompts you to enter a project password.



This password protects the ETS project from unauthorized access. This password is not a key that is used for KNX communication. The entry of the password can be bypassed with "Cancel", but this is not recommended for security reasons.

ETS requires a device certificate for each device with KNX Security that is created in the ETS. This certificate contains the serial number of the device as well as an initial key (FDSK = Factory Default Setup Key).

© 2026 WEINZIERL ENGINEERING GmbH



The certificate is printed as text on the device. It can also be scanned from the printed QR code via a webcam.

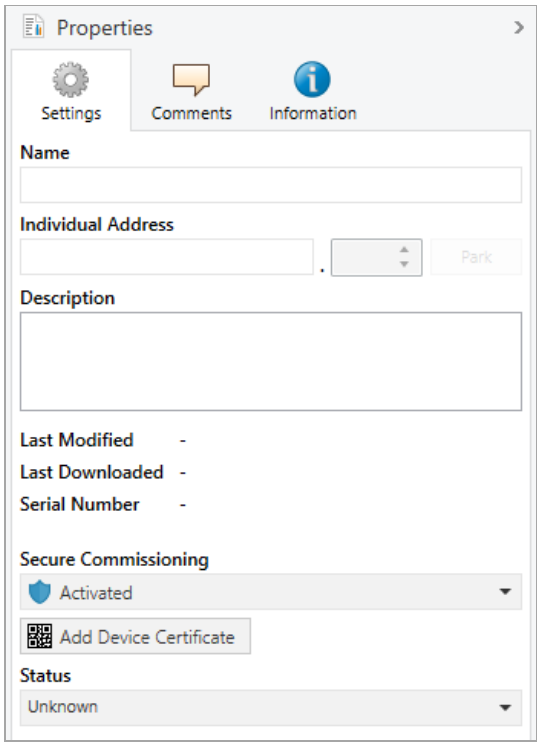
The list of all device certificates can be managed in the ETS panel Reports – Project Security.

This initial key is required to safely put a device into operation from the start. Even if the ETS download is recorded by a third party, the third party has no access to the secured devices afterwards. During the first secure download, the initial key is replaced by the ETS with a new key that is generated individually for each device. This prevents persons or devices who may know the initial key from accessing the device. The initial key is reactivated after a reset to factory default settings.

The serial number in the certificate enables the ETS to assign the correct key to a device during a download.

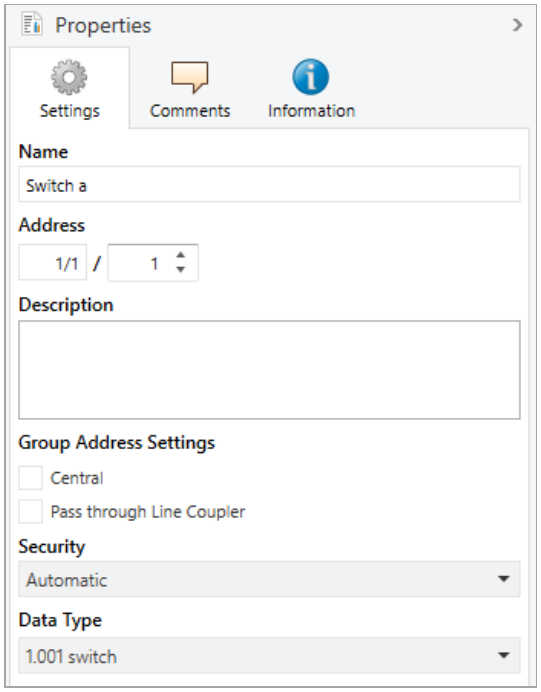
© 2026 WEINZIERL ENGINEERING GmbH

In the ETS project in the properties of the device, secure commissioning can be activated and the device certificate can be added:



8.2 Secure group communication

Each object of the device can communicate either encrypted or unencrypted. The encryption is set under "Security" in the properties of the used group address:



© 2026 WEINZIERL ENGINEERING GmbH

The setting "Automatic" activates encryption if both objects to be connected can communicate encrypted. Otherwise encrypted communication between the objects is not possible.

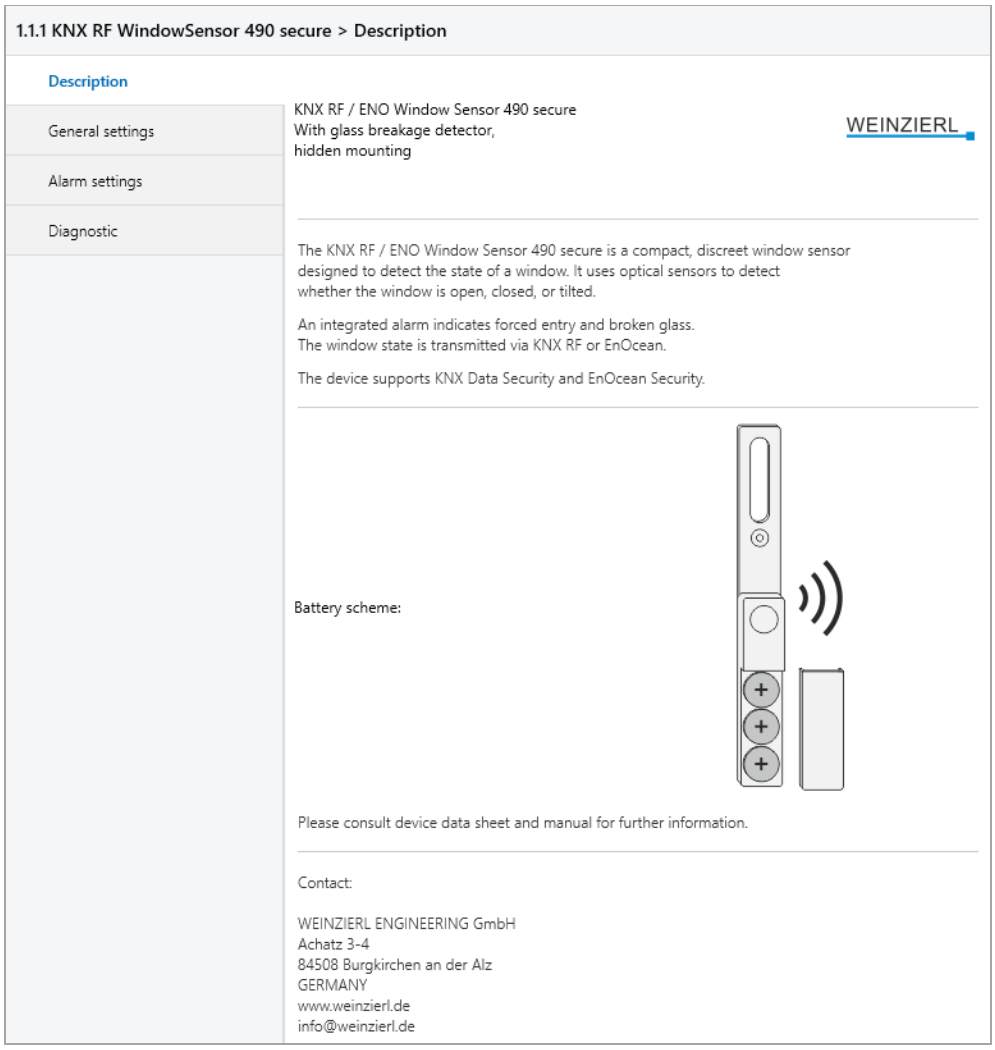
In the overview of communication objects in the ETS project, secured objects can be recognized by a shield symbol:

	Security	Number ▲	Name	Object Function	Description	Group Address
	🛡	11	Button A0: Object a	Switch	Switch a	1/1/1
		12	Button A0: Object b	Switch	Switch b	1/1/2
	🛡	21	Button A1: Object a	Switch	Switch a	1/1/1
		22	Button A1: Object b	Switch	Switch b	1/1/2

A separate key is automatically generated by the ETS for each secured group address. These keys can also be checked in the ETS panel Reports – Project Security. To enable all devices to communicate with a secure group address, the keys must be known to all. Therefore a download must be made into all devices that use this group address when a key is created or changed. A key is changed by the ETS e.g. when the encryption of a group address is switched off and on again.

© 2026 WEINZIERL ENGINEERING GmbH

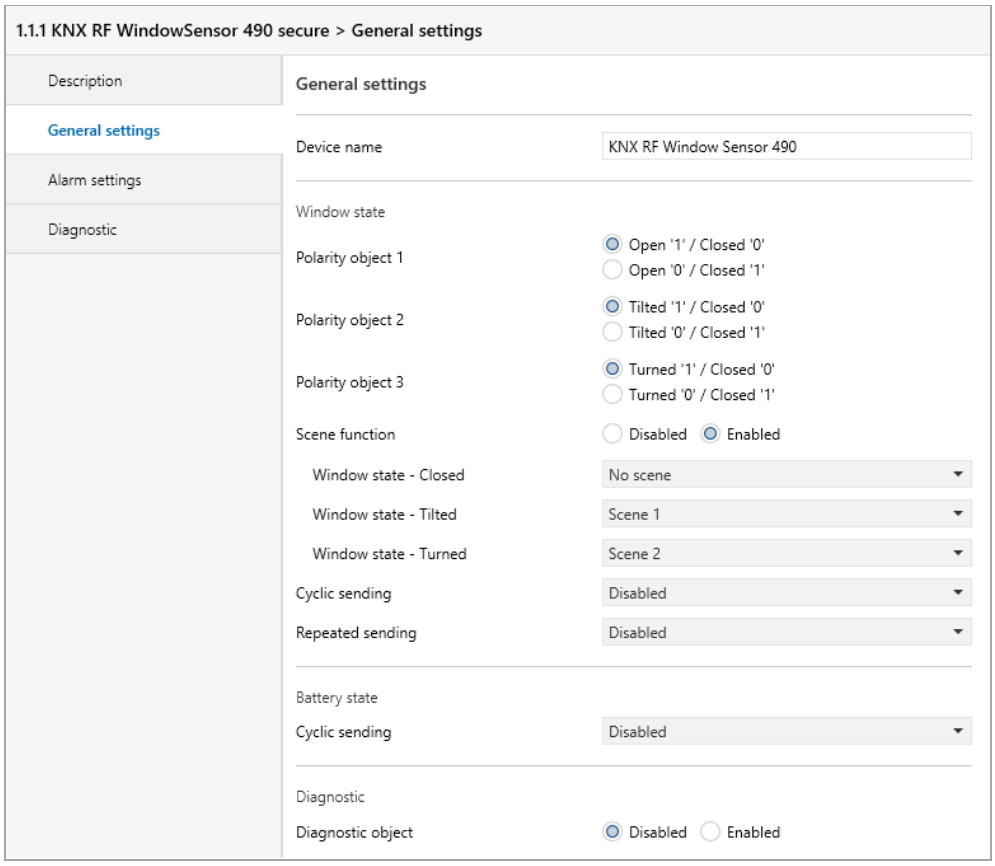
8.3 Description



This page shows the device description and a diagram illustrating how to insert the batteries.

© 2026 WEINZIERL ENGINEERING GmbH

8.4 General settings



Device name

An arbitrary name can be assigned for the KNX RF / ENO Window Sensor 490 *secure*. The device name should be meaningful, e.g. “Living Room“. This helps the clarity of the ETS project.

Polarity object 1

Here the polarity of the object can be set for the open/closed window state.
The following options are available:

- Open ‘1‘ / Closed ‘0‘
- Open ‘0‘ / Closed ‘1‘

Group object	Type KNX	Size	Direction
GO 1 Window state 1 – Open	1.019	1 bit	To KNX

© 2026 WEINZIERL ENGINEERING GmbH

Polarity object 2

Here the polarity of the object can be set for the tilted/closed window state.
The following options are available:

- Tilted ‘1‘ / Closed ‘0‘
- Tilted ‘0‘ / Closed ‘1‘

Group object	Type KNX	Size	Direction
GO 2 Window state 2 – Tilted	1.019	1 bit	To KNX

Polarity object 3

Here the polarity of the object can be set for the turned/closed window state.
The following options are available:

- Turned ‘1‘ / Closed ‘0‘
- Turned ‘0‘ / Closed ‘1‘

Group object	Type KNX	Size	Direction
GO 3 Window state 3 – Turned	1.019	1 bit	To KNX

Scene function

Here the scene function can be enabled or disabled. The window status is sent on a scene object.

Group object	Type KNX	Size	Direction
GO 4 Window state – Call scene	17.001	1 byte	To KNX

Window state – Closed *(only for scene function)*

Here the scene number can be set for window state closed.

Window state – Tilted *(only for scene function)*

Here the scene number can be set for window state tilted.

Window state – Turned *(only for scene function)*

Here the scene number can be set for window state turned.

© 2026 WEINZIERL ENGINEERING GmbH

Cyclic sending *(window state)*

Here the cyclic sending for the window state can be configured.
The following options are available:

- Disabled
- 1 h
- 6 h
- 12 h
- 24 h

Repeated sending *(window state)*

Here the repeated sending for the window state can be configured.
The telegram for the window state is repeaded 1x. The following options are available:

- Disabled
- 1 s
- 2 s
- 5 s
- 10 s
- 20 s
- 30 s
- 1 min

Cyclic sending *(battery state)*

Here the cyclic sending for the battery state can be configured.
The following options are available:

- Disabled
- 1 h
- 6 h
- 12 h
- 24 h

Group object	Type KNX	Size	Direction
GO 5 Battery state – State good	1.001	1 bit	To KNX

Diagnotic object

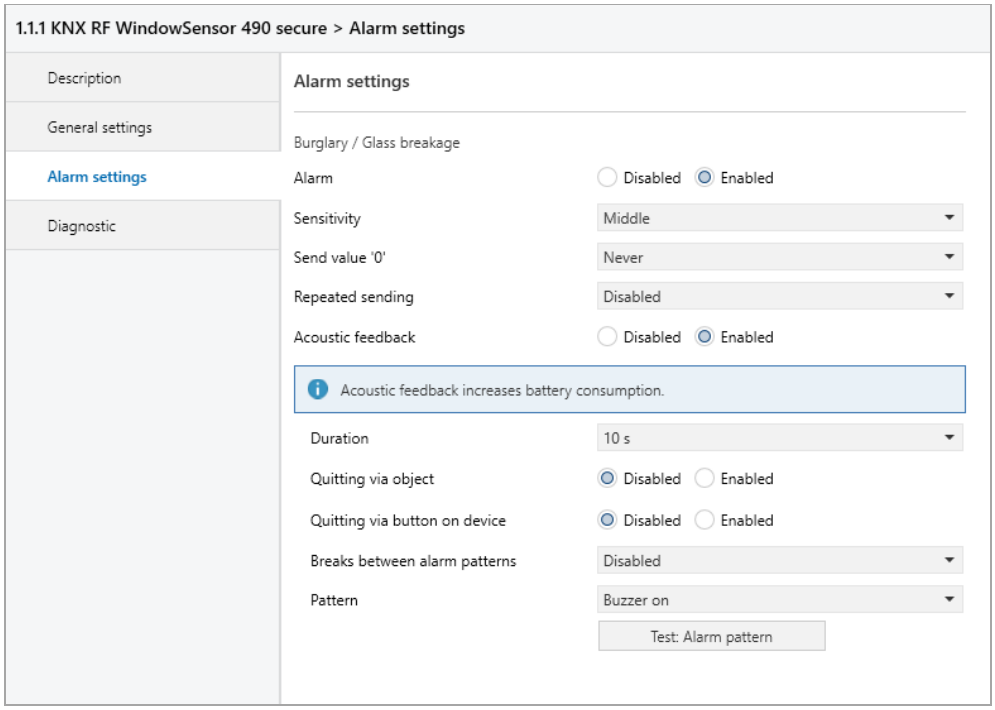
Here the object for diagnostic can be configured.
If the device is in an error state, a ‘1’ is sent on the object.
The following error states may occur:

- The device is not calibrated
- Position of the locking pin is not detected clearly

Group object	Type KNX	Size	Direction
GO 6 Diagnostic – Error state	1.001	1 bit	To KNX

© 2026 WEINZIERL ENGINEERING GmbH

8.5 Alarm settings



The alarm is triggered when the sensors in the device detect a vibration typical of a break-in (e.g., caused by a window being forced open) or a glass breakage.

Alarm

Here the alarm function is enabled or disabled.

Group object	Type KNX	Size	Direction
GO 7 Burglary alarm – Alarm state	1.005	1 bit	To KNX

© 2026 WEINZIERL ENGINEERING GmbH

Send value ‘0‘

This parameter defines when the value ‘0’ is sent on the alarm object after the value ‘1’ has been sent. The available options are:

- Never
- After 1 min
- After 5 min
- After 10 min
- After 20 min
- After 30 min
- After 1 h

Repeated sending

Here the repeated sending for the alarm can be configured.
The telegram for the alarm is repeaded 1x. The following options are available:

- Disabled
- 1 s
- 2 s
- 5 s
- 10 s
- 20 s
- 30 s
- 1 min

Acoustic feedback

Here the acoustic feedback for the alarm kann be enabled or disabled.

Acoustic feedback increases battery consumption.

Duration *(only for acoustic feedback)*

Defines the duration of the acoustic feedback.
The following options are available:

- 5 s
- 10 s
- 20 s
- 30 s
- 1 min
- 2 min
- 5 min

© 2026 WEINZIERL ENGINEERING GmbH

Quitting via object *(only for acoustic feedback)*

This parameter enables an object that can be used to acknowledge the acoustic feedback.

Group object	Type KNX	Size	Direction
GO 8 Alarm – Quitting	1.017	1 bit	To KNX

Quitting via button on device *(only for acoustic feedback)*

This parameter enables the function to acknowledge the acoustic feedback via the button on the device.

Breaks between alarm patterns *(only for acoustic feedback)*

Here it is possible to set a break between alarm patterns.
The following options are available:

- Disabled
- 2 s
- 5 s
- 10 s
- 20 s
- 30 s
- 1 min

Pattern *(only for acoustic feedback)*

The alarm pattern for this alarm can be set here.
The following options are available

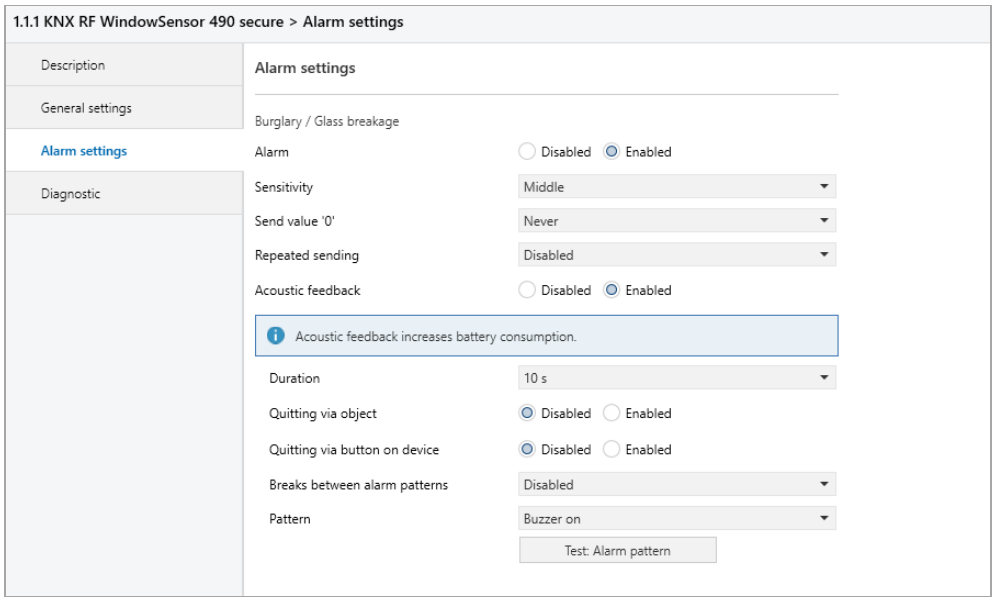
- Buzzer on
- Impulse 1x
- Impulse 2x
- Impulse 3x
- Beeping slow
- Beeping fast
- Alternating slow
- Alternating fast

Test: Alarm pattern

This button is used to test the parameterized **pattern** without having to perform an ETS download (application program). Only the individual address must be programmed. The **pattern** is audible for 30 seconds. It can be switched off by clicking the test button again.

© 2026 WEINZIERL ENGINEERING GmbH

8.6 Diagnostic



Read diagnostic data

This button can be used to read the actual window sensor data.
The following data is read:

- Data of burglary / glass breakage alarm
- Data of error state
- Battery state
- Battery voltage
- Device runtime
- Window state

© 2026 WEINZIERL ENGINEERING GmbH

9 Alarm information



INFORMATION REGARDING ALARM NOTIFICATIONS

- Due to the nature of radio transmission, transmission without interference cannot be guaranteed.
- This device is not a substitute for an alarm system designed for safety critical building functions.
- False alarms may occur, e.g., if a soccer ball is kicked against the window.



WARNING REGARDING ACOUSTIC SIGNAL

- Attention: In the event of an alarm, this device generates a very loud acoustic signal (>100 dB).
- Prolonged exposure in close proximity can cause hearing damage.
- Keep your distance and avoid intentionally triggering the alarm near your ear.
- Care must be taken to ensure that animals are not exposed to an acoustic alarm for extended periods.

© 2026 WEINZIERL ENGINEERING GmbH

10 Battery information



BATTERY WARNING

- Do not ingest battery, Chemical Burn Hazard.
- This product contains a coin cell battery. If the coin cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
- Keep new and used batteries away from children.
- If the appliance is not permanently installed, keep the product away from children.
- If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

- Improper handling of batteries can result in explosion, fire or chemical burn due to leakage.
- Do not heat or throw batteries into fire.
- Do not reverse polarity, short-circuit or recharge batteries.
- Do not deform or disassemble batteries.
- Replace batteries only with an identical or equivalent type.



DISPOSAL OF BATTERIES

- Remove empty batteries immediately and dispose of in an environmentally friendly manner.
- Do not throw batteries into household waste.
- Consult your local authorities about environmentally friendly disposal.
- Used batteries can be returned free of charge to retailers or municipal collection points.
- According to statutory provisions, the end consumer is obligated to return used batteries.

© 2026 WEINZIERL ENGINEERING GmbH

WARNING

- The device must be mounted and commissioned by an authorized electrician.
- The prevailing safety rules must be heeded.
- The device must not be opened.
- For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.

Product database for ETS 5/6
www.weinzierl.de/en/products/490/ets6

Data sheet
www.weinzierl.de/en/products/490/datasheet

CE Declaration
www.weinzierl.de/en/products/490/ce-declaration

WEINZIERL ENGINEERING GmbH
Achatz 3-4
84508 Burgkirchen an der Alz
GERMANY

Tel.: +49 8677 / 916 36 – 0
E-Mail: info@weinzierl.de
Web: www.weinzierl.de

2026-10-14

© 2026 WEINZIERL ENGINEERING GmbH