



Security Tech Germany

SHBW10000

ABUS Z-Wave 4in1 Sensor



Important information and FAQs about this product and other products can be found on the website

www.abus.com

Version 1.3

*Original operating instructions in English.
Keep for future use!*



Introduction

Dear customer,

We are pleased that you have chosen our product and thank you for your trust! You made a good choice.

This 4in1 Sensor (hereinafter referred to as the "device") has been developed and manufactured with the utmost care. Please read these operating instructions completely and observe all operating and safety instructions, as this ensures the best possible handling of the device. This document is an installation and maintenance manual.

**If you have any questions, please contact your specialist trade partner
or contact our customer service:**

Mail: ABUS Support, Linker Kreuthweg 5, 86444 Affing, Germany

E-mail: support@abus-sc.com

Phone: +49 8207 959 90 888

Hotline opening hours: Mon-Thu: 08 - 17 h; Fri: 08 - 14 h

ABUS Security-Center hereby declares that the enclosed product comply with the requirements of the following directives

RED Directive (2014/53/EU), EMC Directive (2014/30/EU), Low Voltage Directive (2014/35/EU) and RoHS Directive (2011/65/EU). The full EU Declaration of Conformity text can be found at:

www.abus.com/product/SHBW10000

It can also be obtained at the following adress:

**ABUS Security-Center GmbH & Co. KG,
Linker Kreuthweg 5, 86444 Affing, GERMANY**

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The contents of this manual are subject to change without notice.

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Important Safety Informations

Intended Use

Only use the device for the purpose for which it was built and designed. Any other use is considered unintended.

All guarantee claims are invalid in the event of damage caused by non-compliance with this safety information. We cannot be held liable for resulting damage.

Unboxing

Handle the device with extreme care when unpacking it.

Packaging and packaging aids can be reused and, as far as possible, should be sent for recycling.

If the original packaging has been damaged, inspect the device first. If the device shows signs of damage, return it in the original packaging and inform the delivery service.



Please ensure that the package also contains the DSK (Z-Wave Device Specific Key) – Card. This card shows the DSK of your ABUS Z-Wave Multisensor. Please keep it in a safe place. Any S2 (Security 2) certified Z-Wave Gateway will require this DSK to program your sensor.

Installation location / operating environment

Do not place any heavy objects on the device. The device is only designed for operation in spaces with appropriate temperatures or humidity (e.g. not for bathrooms). Do also not place the device in areas with excessive accumulation of dust. Please refer to the individual devices' technical data for more detailed information. Ensure that: adequate ventilation is always guaranteed; no direct sources of heat can affect the device; interior devices are not exposed to direct sunlight or strong artificial light; the device is not in the immediate vicinity of magnetic fields (e.g. loudspeakers); no naked flames (e.g. lit candles) are placed on or next to the device; sprayed or dripping water is prevented from coming into contact with interior devices and caustic fluids are avoided; the device is not operated in the vicinity of water, in particular, the device should never be submerged (do not place objects containing fluids, e.g. vases or drinks, on or near the device); no foreign bodies penetrate the device; the device is not exposed to wide temperature variations, as otherwise there may be condensation from humidity causing electrical short circuits; the device is not exposed to excessive shock or vibration.

Children

Keep electrical devices out of reach of children. Never allow children to use electrical devices unsupervised. Children may not always properly identify possible hazards. Small parts may be fatal if swallowed. Keep packaging film away from children. There is a risk of suffocation. This device is not intended for children. If used incorrectly, parts under spring tension may fly out and cause injury to children (e.g. to eyes).

Information on handling batteries

- Make sure that batteries are kept away from small children. Children may put batteries in their mouths and swallow them. This can cause serious harm to their health. If this happens, consult a doctor immediately.
- Do not charge normal batteries, heat them up or throw them into naked flames (they may explode).
- The battery must not be directly exposed to heat or sunlight, and must not be stored in a place with a very high temperature.
- The battery must not come into contact with water.
- The battery must not be dismantled, pierced or otherwise damaged.
- The battery contacts must not be short-circuited.
- Change low batteries in good time.
- Always change all the batteries at the same time and use batteries of the same type.
- Leaky or damaged batteries can cause chemical burns on contact with the skin. In this case, wear protective gloves. Clean the battery compartment with a dry cloth.

Important information on battery disposal



Batteries with this label do not contain harmful substances such as cadmium, lead and mercury. However, used batteries must not be disposed of along with household waste in accordance with the battery directive. To protect natural resources and promote the recycling of materials, separate the batteries from other waste and deposit them at a local recycling center. An additional label with the chemical symbols for Hg, Cd or Pb means that the batteries contain quantities of mercury, cadmium or lead which exceed the restrictions set by the EU Directive 2006/66/EG. If batteries are not disposed of properly, these substances can cause harm to human health or the environment

Cleaning

- Dusty devices must be cleaned. You can clean dust from the air vents using a vacuum cleaner or compressed air. If necessary, you can remove the dust with a brush.
- You can clean the surface using a cloth slightly dampened in soapy water. Only use suitable microfiber cloths for high-gloss surfaces.
- Do not allow water to penetrate the device.
- Do not clean the device in a dishwasher.
- Do not use sharp, pointed, abrasive or corrosive cleaning materials or hard brushes.
- Do not use chemicals.
- Do not use flammable liquids for cleaning the device.

Information on device disposal



Important: The EU Directive 2012/19/EU regulates the proper return, treatment and recycling of used electronic devices. This symbol means that in the interest of environmental protection the device must be disposed of separately from household or industrial waste at the end of its service life in accordance with applicable local legal guidelines. Disposing of used devices can be done at official recycling centers in your country. Obey local regulations when disposing of material. Further details on returns (also for non-European countries) can be obtained at your local authority. Separate collection and recycling saves natural resources and ensures that all the provisions for protecting health and environment are observed when recycling the product.

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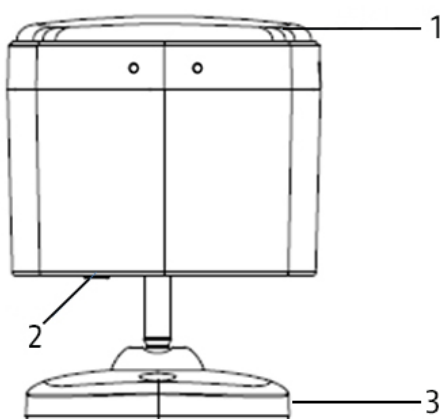
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1. Product introduction

1.1. Scope of Delivery

- ABUS Z-Wave Multisensor including Battery
- Quickguide & Safety instructions
- Screws & dowels

1.2. Device features



Nr	Label	Comment
1	LED Indicator	Status displayed for various processes (inclusion, exclusion, reset)
2	Network-Button	For inclusion / exclusion of the detector in a gateway, factory reset
3	Mounting Plate	For wall-mounting

1.3. Operating principle

The SHBW10000 was developed for use in home automation systems that use the Z-Wave wireless standard. The multisensor has the following sensors:

- PIR
- temperature
- atmospheric humidity
- lights

The motion sensor lets you know when something moves within a certain range and can then trigger various scenes/actions. The device also reports the current room temperature, humidity and illuminance.

In conjunction with configurable scenes, smart functions can also be initiated in addition to monitoring, e.g. if temperature <20 degrees, heating on.

1.4. Performance Features

The ABUS Z-Wave SHBW10000...:

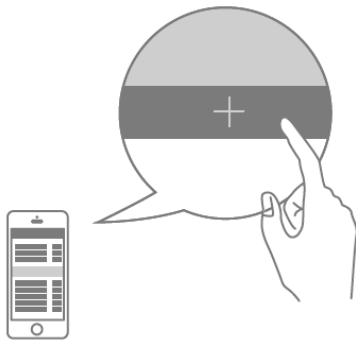
- ...is a battery-operated 4in1-Multisensor
- ...is Z-Wave PLUS compatible & certified
- ...supports the Z-Wave S2 Standard (Security 2)
- ...detects/measures motion/PIR, brightness, temperature and humidity
- ...has a recognition range of max. 5 meters
- ...has a battery-empty warning function
- ...was developed for indoor installation

1.5. Use in systems of different manufacturers

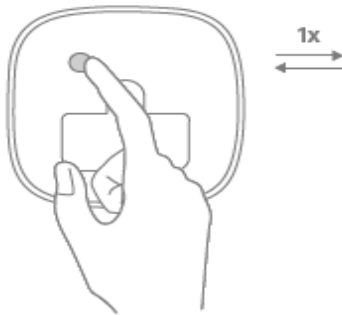
Communication is via the Z-Wave EU frequency (868.42 Mhz). You can integrate the device into any Z-Wave network with a certified Z-Wave gateway, regardless of manufacturer. All non-battery powered nodes in the network act as repeater to increase the durability of the network.

2. Overview of functions

2.1. Inclusion / Add Device



Click the + (Add) button in your Z-Wave App and follow the further instructions

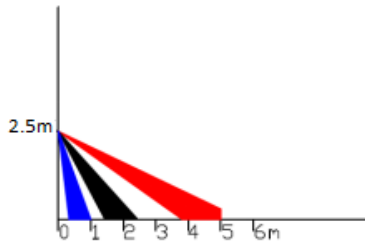


Press the Button on the device once.

The App will show if the Add device process was successful. The Status LED will light up for 2 seconds.

Repeat the inclusion process if it was not successful.

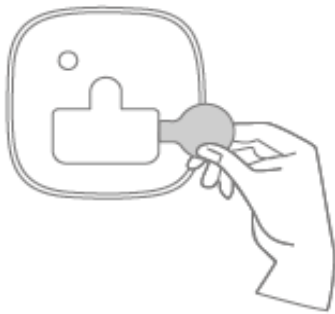
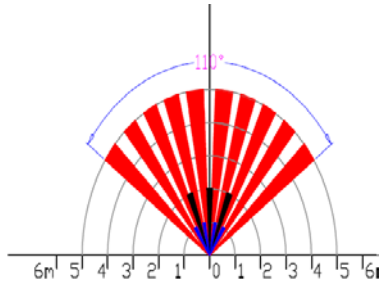
2.2. Mounting & Installation



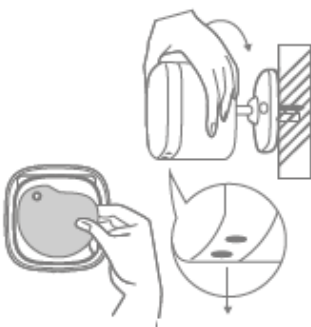
Test the release behaviour at the desired mounting position in advance.

Installation site:

Optimum detection at an installation height of 180-240 cm.



Remove the safety strip from the battery compartment.



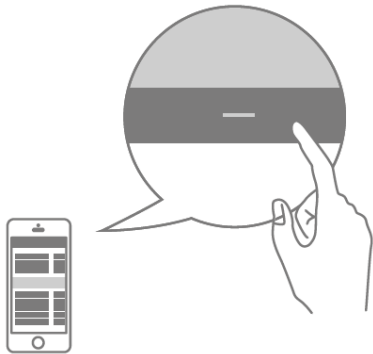
Fix the Mounting plate on the wall by screws (recommended) or adhesive tape. Screw the detector onto the mounting plate and ensure that the two holes on the housing point downwards.

Note:

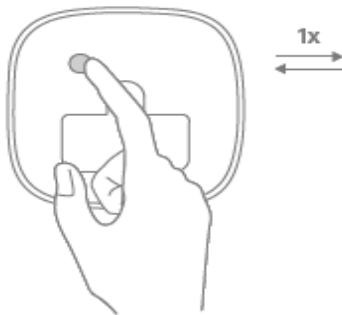
Do not mount the detector...

- ...opposite heat sources or windows
- ...less than 1m away from power or gas lines
- ...near electronic or wireless devices
- ...above heaters
- ...next to the floor
- ...near large metal structures

2.3. Exclusion / Remove Device



Click the - (Remove) button in your Z-Wave App and follow the further instructions

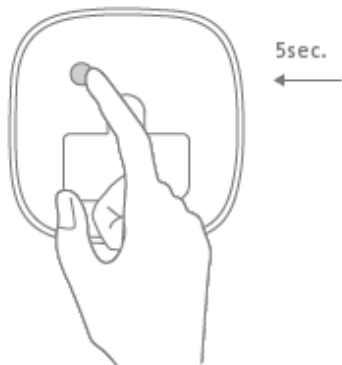


Press the Button on the device once.

The App will show if the Remove device process was successful.

Repeat the exclusion process if it was not successful.

2.4. Reset (Factory-Reset)



Keep pressing the Button on the device for more than 5 seconds (the flash interval of the Status LED is now accelerated)

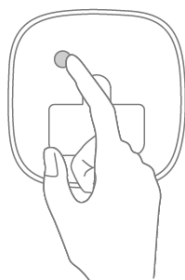
The device is now restored to factory settings

Note:

This procedure should only be used if the primary gateway is not capable of acting.

If the device is set to the factory setting, the status is set to "not included", the association settings and possible configurations are reset to default.

2.5. Wake-up



If included:

The device sends a wake up notification command to the node devices which are connected by a wake up command.

The LED will light up when information is received, and will go out when there is no exchange for 10 seconds.

If not included:

nothing

3. Advanced Z-Wave Parameter

3.1. Association Group Information

Z-Wave devices can control other devices directly. This direct control is called in Z-Wave association. For this purpose, the device ID of the device to be controlled must be stored in the controlling devices. This is done in so-called association groups. An association group is always linked to an event in the controlling device (pressing a key or triggering a sensor). When this event occurs, a control command - usually a BASIC SET - is sent to all devices stored in an association group.

The sensor supports the following association group:

Group Number	Maximum Devices	Transmitted Content
Group 1	5 (0x05)	<ul style="list-style-type: none"> ▪ Z-Wave Plus Lifeline Notification Report Sensor will send Notification Report when Motion Detection Unknown Location and (Event inactive). ▪ Multilevel Sensor Report Sensor will send Multilevel Sensor Report (Temperature, humidity, luminance) interval of 2 hours. ▪ Battery Report. Sensor will send Battery Report when the battery level is low and the battery report's value is 255 (0xFF). ▪ Device Reset Locally.
Group 2	5 (0x05)	<ul style="list-style-type: none"> ▪ Send Basic Set when PIR trigger

3.2. Overview Configuration Parameter

Z-Wave products can be used in the network immediately after inclusion. Through configuration settings, however, the behaviour of the device can be adapted even better to the requirements of the application and additional functions can be activated.

Parameter	Byte-size	Funktion	Default-Value (Decimal)	Description
10	1	Low Battery Power Level	10	Percentage value from when the low battery alarm message is to be transmitted. <ul style="list-style-type: none"> Adjustable from 10 - 50 in percent (Hexadecimal: 0x0A – 0x32)
12	1	Sensitivity PIR	10	Sensitivity value of the PIR sensor. The value 10 is the highest sensitivity. The value 0 disables the PIR sensor. <ul style="list-style-type: none"> Adjustable from 0 - 10 (Hexadecimal: 0x00 – 0x0A)
13	2	Waiting time between two PIR triggers	30	Waiting time from one PIR trigger to the next trigger. <ul style="list-style-type: none"> Adjustable from 5 - 15300 in seconds (Hexadecimal: 0x05 – 0x3BC4)
14	1	BASIC SET Command after PIR triggering	0	BASIC SET should be sent after triggering the PIR. <ul style="list-style-type: none"> 0 = Disabled 1 = Enabled (Hexadecimal: 0x00 – 0x01)
15	1	Exchange of BASIC SET value and PIR status	0	Exchange of the BASIC SET value and the PIR status should take place after a PIR triggering. <ul style="list-style-type: none"> 0 = A PIR trip sends the BASIC SET value "256", a PIR alarm termination sends the BASIC SET value "0" 1 = A PIR trip sends the BASIC SET value "0", a PIR alarm termination sends the BASIC SET value "256" (Hexadecimal: 0x00 – 0x01)
100	1	Reset 101 – 104	-	Resets parameter 101 - 104 to factory setting.
101	4	Temperature report Time	7200	The interval time of the temperature report. The value 0 disables the report. <ul style="list-style-type: none"> Adjustable from 0 - 2678400 in seconds The value is always rounded up to the full minute. (e.g. 62 seconds -> value is rounded up to 120 seconds) (Hexadecimal: 0x00 – 0x28DE80)

102	4	Humidity report Time	7200	<p>The interval time of the humidity report. The value 0 disables the report.</p> <ul style="list-style-type: none"> Adjustable from 0 - 2678400 in seconds <p>The value is always rounded up to the full minute. (e.g. 62 seconds -> value is rounded up to 120 seconds)</p> <p>(Hexadecimal: 0x00 – 0x28DE80)</p>
103	4	Brightness report Time	7200	<p>The interval time of the brightness report. The value 0 disables the report.</p> <ul style="list-style-type: none"> Adjustable from 0 - 2678400 in seconds <p>The value is always rounded up to the full minute. (e.g. 62 seconds -> value is rounded up to 120 seconds)</p> <p>(Hexadecimal: 0x00 – 0x28DE80)</p>
104	4	Battery report Time	86400	<p>The interval time of the battery report. The value 0 disables the report.</p> <ul style="list-style-type: none"> Adjustable from 0 - 2678400 in seconds <p>The value is always rounded up to the full minute. (e.g. 62 seconds -> value is rounded up to 120 seconds)</p> <p>(Hexadecimal: 0x00 – 0x28DE80)</p>
110	1	Enable/Disable Report 111-114	0	<p>Enable or disable reports 111-114.</p> <ul style="list-style-type: none"> 0 = Reports are disabled 1 = Reports are enabled <p>(Hexadecimal: 0x00 – 0x01)</p>
111	2	Temperature report Threshold	10	<p>The threshold value serves as an additional condition for the time-based report. If the threshold value was not exceeded, the time-based report is not sent.</p> <ul style="list-style-type: none"> Adjustable from 1 - 500 in 0,1°. (e.g. 25 = 2.5°) <p>(Hexadecimal: 0x01 – 0x1F4)</p>
112	1	Humidity report Threshold	5	<p>The threshold value serves as an additional condition for the time-based report. If the threshold value was not exceeded, the time-based report is not sent.</p> <ul style="list-style-type: none"> Adjustable from 1 - 32 in percent <p>(Hexadecimal: 0x01 – 0x20)</p>

113	2	Brightness report Threshold	150	<p>The threshold value serves as an additional condition for the time-based report.</p> <p>If the threshold value was not exceeded, the time-based report is not sent.</p> <ul style="list-style-type: none"> ▪ Adjustable from 1 - 65528 in Lux (Hexadecimal: 0x01 – 0xFFFF8)
114	1	Battery report Threshold	10	<p>The threshold value serves as an additional condition for the time-based report.</p> <p>If the threshold value was not exceeded, the time-based report is not sent.</p> <ul style="list-style-type: none"> ▪ Adjustable from 1 - 100 in percent (Hexadecimal: 0x01 – 0x64)

3.3. Command Classes

Supported:

1. Association Group Information V1
2. Association V2
3. Battery V1
4. Configuration V1
5. Device Reset Local V1
6. Firmware Update MD V4
7. Manufacturer Specific V2
8. Notification V8
9. Power level
10. Security S2
11. Security V1
12. Sensor Multilevel V5
13. Supervision
14. Transport Service V2
15. Version V2
16. Wake-Up V2
17. Z-Wave Plus Info V2

Controlled:

1. Basic V1

4. Technical Specifications

Parameters	Unit	SHBW10000
Dimensions	mm	51 x 51 x 68
Weight	g	68
Operating Temperature	°C	0 – 40
Max. Humidity	%	90
IP Class		20
Radio frequency	MHz	868,42 (Z-Wave PLUS, Europe)
Modulation		FSK (BFSK/GFSK)
Transmission power	db	< 4,5
Power supply		3 V DC
Battery type		CR123
Power consumption standby	mA	0,015
Power consumption trigger	mA	38
Battery-life		2 years (12 Multisensor-Trigger+50 PIR Trigger+24 times wakeup per day)
Range (open field)	m	100
Range (building)	m	20, related to material of walls
Temperature Measuring range	°C	0-40
Humidity Measuring range	%	0-90
Light sensor Measuring range	Lux	0-65528
measurement accuracy	±	1
Tamper protection		Nein
Firmware upgradeable		Yes
Support Z-Wave Beaming		No
SmartStart supported		Yes
Z-Wave Network Security		Yes
Z-Wave AES-128 Security		Yes
Z-Wave Plus		Yes
Security S2 Classes		Yes
Z-Wave Chip Generation		500
Z-Wave Sensor-Typ		Open/Closed (Binary)
Z-Wave library type		Enhanced 232 Slave
Device Type / Role type		Notification sensor / Reporting sleeping slave