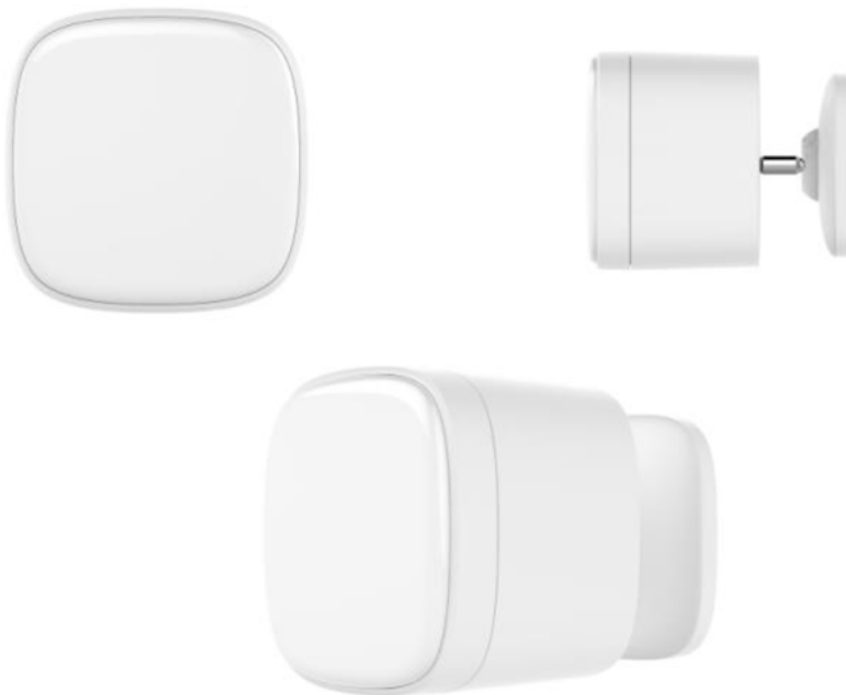




Security Tech Germany

# 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](http://www.abus.com)

Version 1.2

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



# Summary

1. Introduction.....	3
1.1. Declaration of Conformity .....	3
1.1. Disclaimer of Liability .....	3
2. Important Safety Informations .....	4
2.1. Intended Use .....	4
2.2. Unboxing.....	4
2.3. Installation location / operating environment .....	4
2.4. Children .....	4
2.1. Information on handling batteries .....	5
2.1. Important information on battery disposal .....	5
2.2. Cleaning.....	5
2.3. Information on device disposal .....	6
3. Product introduction .....	6
3.1. Scope of Delivery.....	6
3.2. Device features.....	6
3.3. Operating principle.....	7
3.4. Performance Features .....	7
3.5. Use in systems of different manufacturers .....	7
4. Overview of functions .....	7
4.1. Inclusion / Add Device .....	7
4.2. Mounting & Installation .....	8
4.3. Exclusion / Remove Device .....	9
4.4. Reset (Factory-Reset) .....	10
4.5. Wake-up .....	10
5. Advanced Z-Wave Parameter .....	10
5.1. Association Group Information .....	10
5.2. Overview Configuration Parameter .....	11
5.3. Command Classes .....	12
6. Technical Specifications.....	13

## 1. 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.

All contained company names and product designations are trademarks of the respective owners. All rights reserved.

If you have any questions, please contact your specialist installer or specialist trade partner!

### 1.1. Declaration of Conformity

**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](http://www.abus.com/product/SHBW10000)

It can also be obtained at the following address:

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

### 1.1. Disclaimer of Liability

These operating instructions have been prepared with the greatest care. Should you nevertheless notice omissions or inaccuracies, please inform us in writing at the above address.

Your rights are limited to the repair or replacement of this product as delivered. ABUS Security Center assumes no liability for any special, incidental or consequential damages, including but not limited to loss of revenue, loss of profit, restrictions in the use of the software, loss or recovery of data, costs for replacement equipment, downtime, property damage and claims of third parties, as a result of and in connection with the use of the software. a. warranty, contractual, legal or claims for damages notwithstanding other limited or implied warranty provisions or in the event that the limited warranty does not apply, the scope of liability of ABUS Security Center is limited to the purchase price of the product.

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

© ABUS Security-Center GmbH & Co. KG, 09/2018

## 2. Important Safety Informations

### 2.1. 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.**

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

### 2.3. 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.

### 2.4. 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).

## 2.1. 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.

## 2.1. 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

## 2.2. 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.

### 2.3. 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.

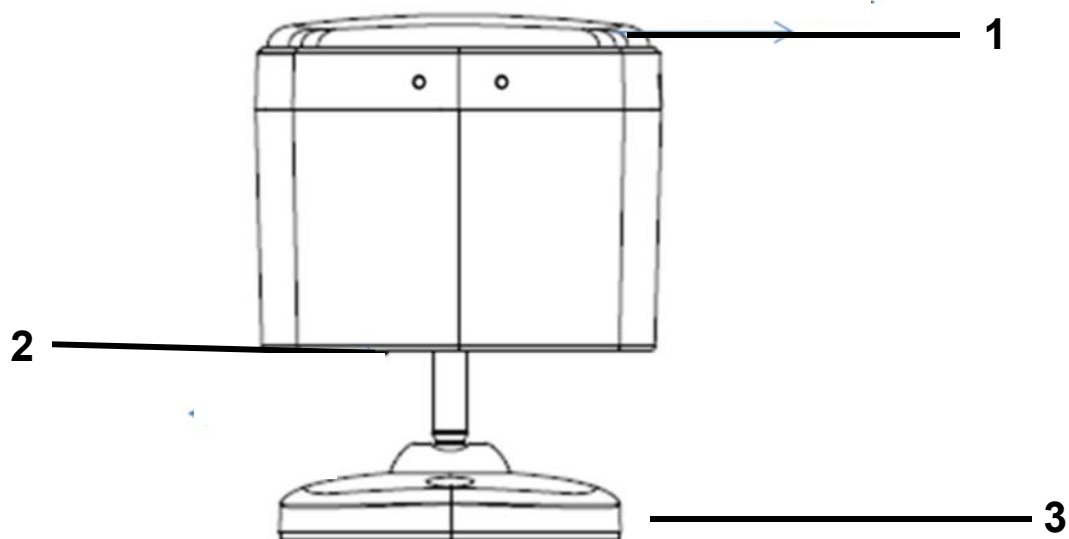
Disposing of used devices can be done at official recycling centers in your country. Obey local regulations when disposing of material. Further details on returns (also for non-European countries) can be obtained at your local authority. Separate collection and recycling saves natural resources and ensures that all the provisions for protecting health and environment are observed when recycling the product.

## 3. Product introduction

### 3.1. Scope of Delivery

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

### 3.2. 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

### 3.3. 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.

### 3.4. Performance Features

The ABUS Z-Wave SHBW10000...:

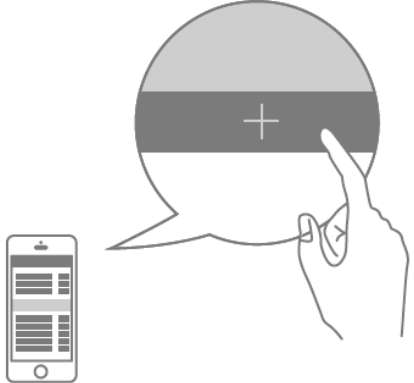
- ...is a battery-operated 4in1-Multisensor
- ...is Z-Wave PLUS compatible & certified
- ...supports the Z-Wave S2 Standard (Security 2)
- ...detects/measures motion/PIR, brightness, temperature and humidity
- ...has a recognition range of max. 5 meters
- ...has a battery-empty warning function
- ...was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

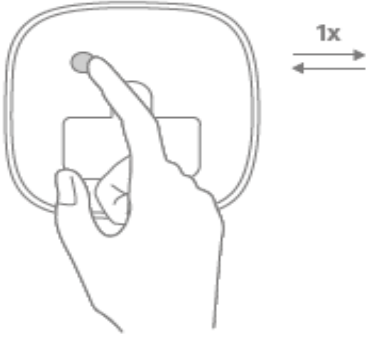
### 3.5. Use in systems of different manufacturers

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.

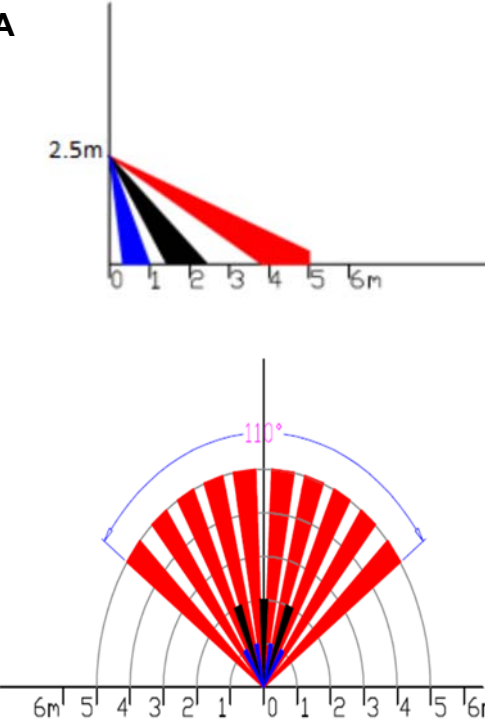
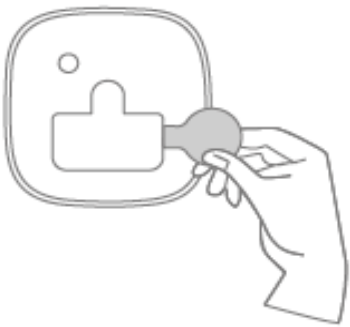
## 4. Overview of functions

### 4.1. Inclusion / Add Device

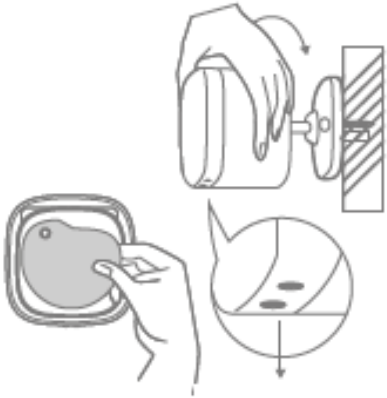
<p><b>A</b></p> 	<p>Click the + (Add) button in your Z-Wave App and follow the further instructions</p>
---	--

<p><b>B</b></p> 	<p>Press the Button on the device once.</p> <p>The App will show if the Add device process was successful. The Status LED will light up for 2 seconds.</p> <p>Repeat the inclusion process from step B if it was not successful.</p>
---	--

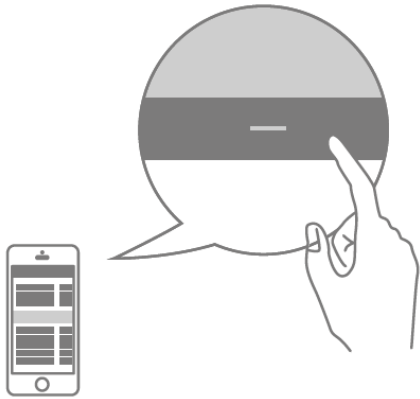
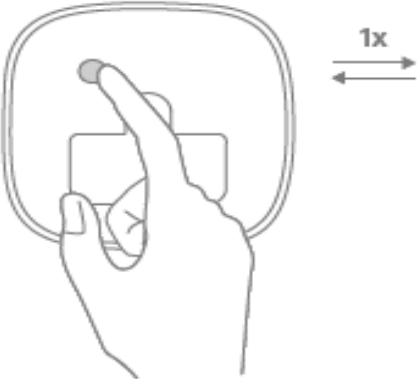
#### 4.2. Mounting & Installation

<p><b>A</b></p> 	<p>Test the release behaviour at the desired mounting position in advance.</p> <p><b>Installation site:</b> Optimum detection at an installation height of 180-240 cm.</p>
<p><b>B</b></p> 	<p>Remove the safety strip from the battery compartment.</p>

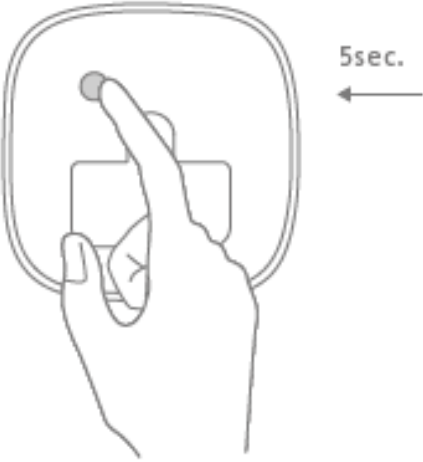


<p><b>c</b></p> 	<p>Fix the Mounting plate on the wall by screws (recommended) or adhesive tape. Screw the detector onto the mounting plate and ensure that the two holes on the housing point downwards.</p> <p><b>Note:</b>  Do not mount the detector...  ...opposite heat sources or windows  ...less than 1m away from power or gas lines  ...near electronic or wireless devices  ...above heaters  ...next to the floor  ...near large metal structures</p>
---	---

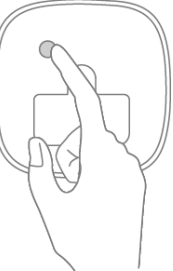
#### 4.3. Exclusion / Remove Device

<p><b>A</b></p> 	<p>Click the - (Remove) button in your Z-Wave App and follow the further instructions</p>
<p><b>B</b></p> 	<p>Press the Button on the device once.</p> <p>The App will show if the Remove device process was successful.</p> <p>Repeat the exclusion process from step A if it was not successful.</p>

#### 4.4. Reset (Factory-Reset)

	<ol style="list-style-type: none"> <li>1. Keep pressing the Button on the device for more than 5 seconds (the flash interval of the Status LED is now accelerated)</li> <li>2. The device is now restored to factory settings</li> </ol> <p><b>Note:</b></p> <ol style="list-style-type: none"> <li>1, This procedure should only be used if the primary gateway is not capable of acting.</li> <li>2, If the multi-sensor is set to the factory setting, the status is set to "not included", the association settings and possible configurations are reset to default.</li> </ol>
---	--

#### 4.5. Wake-up

<p>Press 3 times within 1.5 seconds</p> 	<p><b>If included:</b></p> <p>The multi-sensor sends a wake up notification command to the node devices which are connected by a wake up command.</p> <p>The LED will light up when information is received, and will go out when there is no exchange for 10 seconds.</p> <p><b>If not included:</b></p> <p>nothing</p>
---	--

### 5. Advanced Z-Wave Parameter

#### 5.1. 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	0x05	Z-Wave Plus Lifeline 1. Notification Report. Sensor will send Notification Report when Motion Detection Unknown Location and (Event inactive). 2. Multilevel Sensor Report Sensor will send Multilevel Sensor Report (Temperature, humidity, luminance) interval of 2 hours. 3. Battery Report. Sensor will send Battery Report when the battery level is low and the battery report's value is 0xFF. 4. Device Reset Locally.
Group 2	0x05	Send Basic Set when PIR trigger

## 5.2 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 / Size	Parameter Name	Default value Decimal (Hex)	Description
10 / 1	Low Battery Power Level	10 (0x0A)	10 - 50 = Low Battery Power Level of alarm threshold values (default)
12 / 1	Turn on/off PIR	10 (0x0A)	0 – 10 / 10 indicates the highest sensitivity, 0 means PIR = off
13 / 2	PIR triggers the waiting time value	30 (0x1e) *equals ½ min	5 – 15300 the waiting time between the PIR triggering in seconds. (values > 255 be converted)
14 / 1	Whether the BASIC SET command is sent after the PIR is triggered	0 (0x00)	0 = Disabled 1 = Enabled
15 / 1	PIR triggers the correspondence between the value of the Basic set and the PIR state	0 (0x00)	0 = PIR triggers Send the basic set command 0xff PIR alarm release send the basic set command 0x00 1 = PIR triggers send the basic set command 0x00 PIR alarm release send the basic set command 0xff.
100 / 1	Set 101 ~ 104 to default.	NA	Set 101 ~ 104 to default. (value 0)
101 / 4	The interval time of sending the temperature reporting	7200 (0x1C20) *equals 2 hours	0 = the temperature reporting is disabled 1 – 2678400 = The interval time of sending the temperature reporting is 1 sec. to 31 days

102 / 4	The interval time of sending the humidity reporting.	7200 (0x1C20)  *equals 2 hours	0 = the humidity reporting is disabled 1 – 2678400 = The interval time of sending the humidity reporting is 1 sec. to 31 days
103 / 4	The interval time of sending the luminance reporting.	7200 (0x1C20)  *equals 2 hours	0 = the luminance reporting is disabled 1 – 2678400 = The interval time of sending the luminance reporting is 1 sec. to 31 days
104 / 4	The interval time of sending the battery level reporting.	86400 (0x15180)  *equals 24hours	0 = battery level reporting is disabled 1 – 2678400 = The interval time of sending the battery level reporting is 1 sec. to 31 days
110 / 1	Enable 111 ~ 114 temperature/ humidity/ luminance/ battery level change reporting.	0	0 = Disabled 1 = Enabled
111 / 2	Configuration temperature change threshold.	10 (0x0A)  *equals 1°C	1 – 500 = the temperature change threshold value(unit 0.1°C)
112 / 1	Configuration humidity change threshold.	5 (0x05)  *equals 5%	1 – 32 = humidity change threshold value (unit %)
113 / 2	Configuration luminance change threshold.	150 (0x0096)	0 – 32766 = luminance change threshold is 0 to 32766 -32767 - -1 = luminance change threshold is 32767 to 65528 (default 150)
114 / 1	Configuration battery level change threshold.	10 (0x0A)  *equals 10%	1 – 100 = battery level change threshold value(unit %)

### 5.3 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

**6. 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