

Temperature & Humidity Sensor Z-Wave Plus

Installation & Operation Guide



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1. Included in delivery

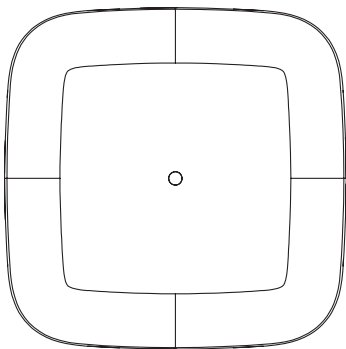
1 x Temperature & Humidity Sensor Z-Wave Plus

2 x Sticky tape

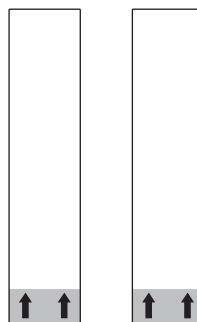
2 x AAA Batteries

1 x Quick Start Manual

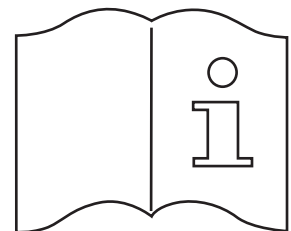
NOTE! The following figures are for illustration purposes only and may differ from the actual product.



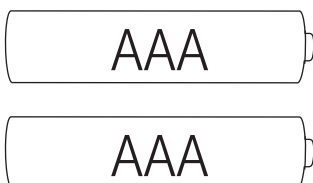
**Temperature & Humidity Sensor
Z-Wave Plus**



2x Sticky tape



Quick Start Manual



2x AAA Batteries

NOTE! Please check the scope of delivery for completeness and intactness.

2. Safety Instructions

Avoid potential dangers by reading the following safety instructions carefully.

SAFETY INSTRUCTIONS

- Temperature & Humidity Sensor Z-Wave Plus is designed for use in buildings.
- Operate Temperature & Humidity Sensor Z-Wave Plus only as described in the user manual.
- Temperature & Humidity Sensor Z-Wave Plus should only be put to use in a dry and dust-free place, away from direct sunlight.
- Do not keep using the device when there is obvious damage.
- Temperature & Humidity Sensor Z-Wave Plus may not be rebuilt, modified or opened.

IMPORTANT!

Do not open the device; it does not contain any parts which can be serviced by the user. In the event of any faults, send the device to the Service Department.

Never attempt to recharge non-rechargeable batteries and do not short circuit or open them. This could result in the risk of overheating, fire or bursting. Never throw batteries in a fire or water. The batteries could explode.

Leaking batteries could damage the device. Be particularly careful when handling damaged or leaking batteries and wear protective gloves.

Switch the device off and remove the batteries if the device will not be used for a longer period.

WARNING!

Risk of fatal injury and accidents to infants and children! The packaging material represents a risk of suffocation. Never leave children unattended when the packaging material is nearby. Children often underestimate the risks involved. Always keep children away from the packaging material. The device is not a toy.

3. Intended use

The product is suitable for the measurement of temperature and humidity changes and can be used for the evaluation of the dew point (as a mold detector in apartments).

For reasons of safety and approval (CE), you must not modify and/or alter the product. If you use the product for purposes other than those described, the product may be damaged. In addition, improper use may result in hazards such as short circuits, fire, electric shock, etc.

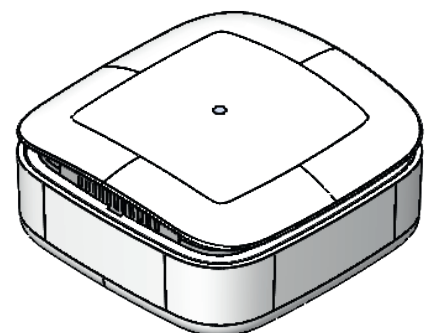
Read the operating instructions carefully and keep them in a safe place. Only pass the product on to third parties together with the operating instructions.

4. Product description

The Temperature & Humidity Sensor Z-Wave Plus is a temperature and humidity sensor for living and working rooms that is compatible with the Z-Wave wireless standard.

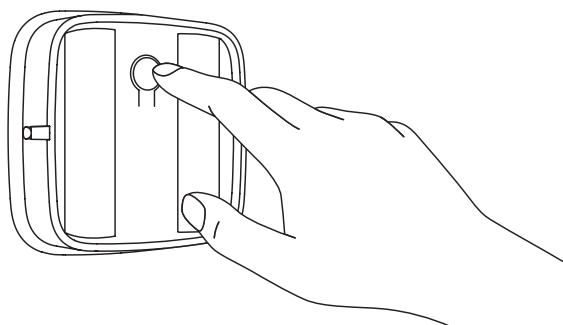
The new Z-Wave sensor in a particularly small design housing provides information on room temperature and humidity in rooms. It can thus be used perfectly as an external temperature and humidity sensor for climate and heating control. All supported gateways can use the sensor as a data source for graphical display of temperature and humidity changes or for evaluation of the dew point (as a mold detector in apartments).

- Extra small design housing
- Use of high-precision, Swiss sensor technology
- Multicolor LED
- Returns the measured temperature (°C) and humidity (%) as well as the dew point (°C)
- Supports Z-Wave Plus S2 security (encryption)
- Battery operation with 2x AAA batteries, Micro (LR03)



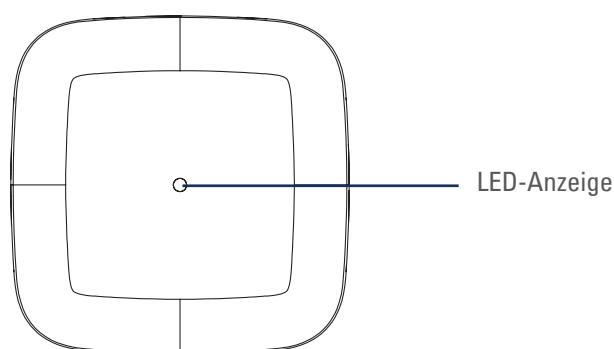
5. Operating the device

5.1 Button



| Button | Interaction | Result/Behavior |
|---------|-----------------------------------|--|
| Network | Press once | Temperature & Humidity Sensor Z-Wave Plus will send a Wake Up Notification to the Z-Wave Controller. |
| Network | press three times within 1 second | Temperature & Humidity Sensor Z-Wave Plus will react to inclusion or exclusion commands. |
| Network | hold for 10 seconds | Factory resets the Temperature & Humidity Sensor Z-Wave Plus. |

5.2 LEDs



| Color | State | Meaning |
|-----------------|---------------------------------|---|
| red | lights constantly for 5 seconds | A task has failed. |
| green | blinking | Device is ready to be included or excluded. |
| green | lights constantly for 5 seconds | A task was completed successfully. |
| 2x red 3x green | blinking pattern | Temperature & Humidity Sensor Z-Wave Plus is reset to factory default settings. |
| 3x red | blinking | Batterie insufficient. |

6. Network behavior

On factory default the device does not belong to any Z-Wave network. Temperature & Humidity Sensor Z-Wave Plus needs to be added to an existing wireless network to communicate with the devices of this network. This process is called Inclusion.

Temperature & Humidity Sensor Z-Wave Plus can also be removed from a network. This process is called Exclusion. Both processes are initiated by the primary controller of the Z-Wave network. This controller is turned into exclusion respective inclusion mode. Please consult the manual of your Z-Wave Controller how to activate Inclusion or Exclusion mode.

If Temperature & Humidity Sensor Z-Wave Plus has been added to a network, it has to be removed prior to be added to another wireless network.

Interoperability

This product can be operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

Security

Temperature & Humidity Sensor Z-Wave Plus supports secure communication. Temperature & Humidity Sensor Z-Wave Plus will communicate with other devices secure as long as this device provides the same or a higher level of security. Otherwise Temperature & Humidity Sensor Z-Wave Plus will automatically turn into a lower level of security.

A Security Enabled Z-Wave Controller must be used to fully utilize the Temperature & Humidity Sensor Z-Wave Plus.

Communication to a Sleeping device (Wakeup)

This device is battery operated and turned into deep sleep state most of the time to save battery life time. Communication with the device is limited. In order to communicate with the device, a static controller is needed in the network. This controller will maintain a mailbox for the battery operated devices and store commands that can not be received during deep sleep state. Without such a controller, communication may become impossible and/or the battery life time is significantly decreased.

This device will wakeup regularly and announce the wakeup state by sending out a so called Wakeup Notification. The controller can then empty the mailbox. Therefore, the device needs to be configured with the desired wakeup interval and the node ID of the controller. If the device was included by a static controller this controller will usually perform all necessary configurations.

Wakeup

The wakeup interval is a tradeoff between maximal battery life time and the desired responses of the device. To wakeup the device please perform the following action: A single click on the network button will wakeup the device.

The wakeup interval can be configured in 2 minute steps with a minimum wakeup interval of 10 minutes and a maximum wake up interval of 24 hours. The default setting is 60 minutes.

7. Commissioning

7.1 Recommended mounting locations

Attach your Temperature & Humidity Sensor Z-Wave Plus to the wall.

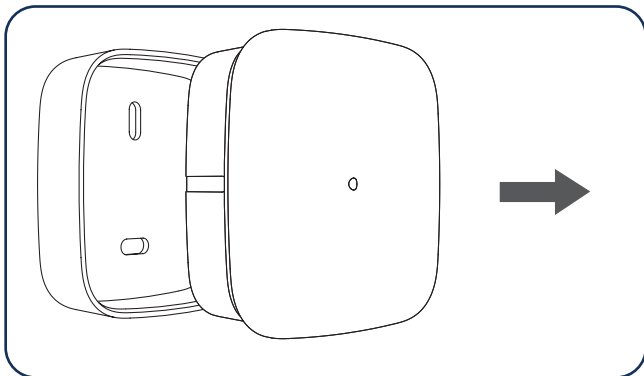
The optimum installation height is 1.50 m above the ground.

Do not install the Temperature & Humidity Sensor Z-Wave Plus:

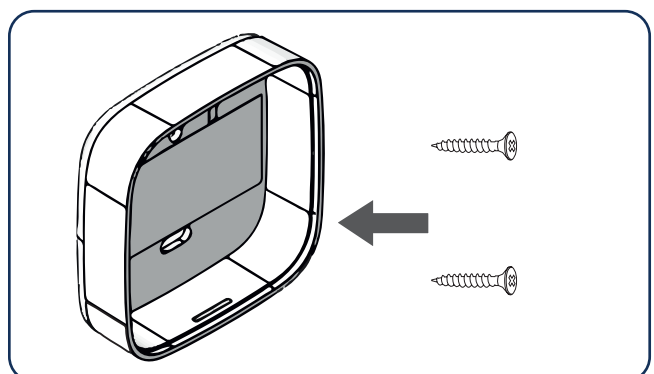
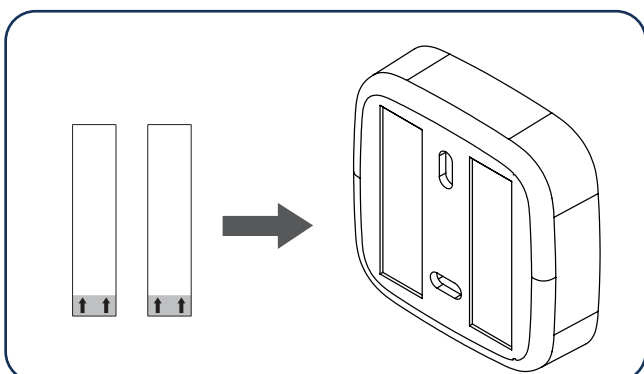
- on exterior walls.
- near windows and doors.
- radiators or in the vicinity of other heat sources.
- where it is exposed to direct sunlight.

7.2 Mounting

1. Open the device.

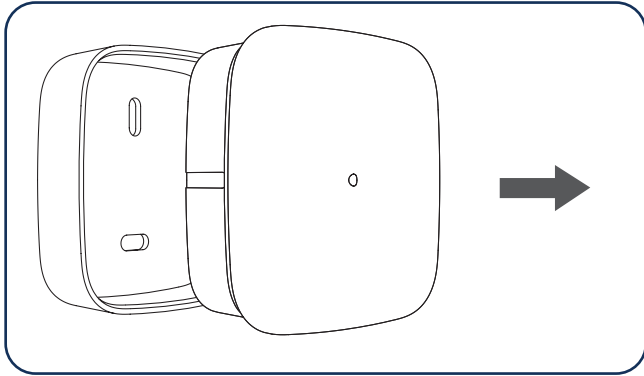


2. Fasten the lower part to the wall with the adhesive tape. Alternatively, you can use 2 screws (not part of delivery scope) to fasten the sensor at the wall.

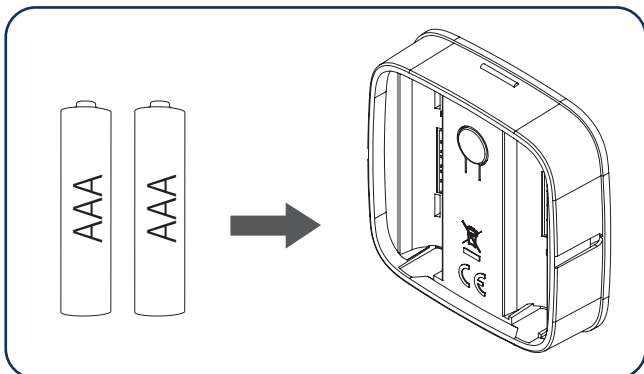


7.3 Inserting batteries

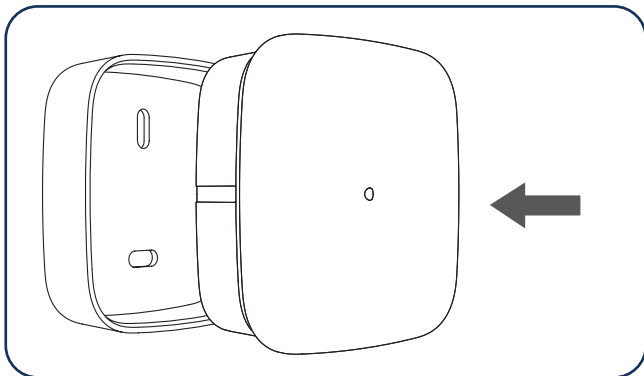
1. Open the device.



2. Insert the batteries. **Pay attention to the correct polarity!**



3. Close the device again.



7.4 Add Temperature & Humidity Sensor Z-Wave Plus to a Z-Wave network (Inclusion)

Start inclusion mode of your primary Z-Wave Controller.

Press the network button **three times within 1 second**.

While the inclusion is active, the LED is blinking green. If the inclusion was successful the green LED will light up for 5 seconds. Otherwise the red led will light up for 5 seconds to indicate failure.

7.5 Remove Temperature & Humidity Sensor Z-Wave Plus from a Z-Wave network (Exclusion)

Start Exclusion mode of your primary Z-Wave Controller.

Press the network button **three times within 1 second**.

While the inclusion is active, the LED is blinking green. If the inclusion was successful the green LED will light up for 5 seconds. Otherwise the red led will light up for 5 seconds to indicate failure.

7.6 Factory reset

Press and hold the network button for at **least 10 seconds**. The Temperature & Humidity Sensor Z-Wave Plus will indicate the reset blinking pattern once the reset is completed.

Please use this procedure only when the network primary controller is missing or otherwise inoperable.

8. Z-Wave

| Command Class | Description | Version | Control (C) Support (S) | Security * |
|-------------------------------|--|---------|----------------------------|------------|
| Association | Allows to associate with other Z-Wave devices. | 2 | S | U, S0, S2 |
| Association Group Information | Allows to group associations. | 1 | S | U, S0, S2 |
| Battery | Provides information about battery status. | 1 | S | U, S0, S2 |
| Configuration | Allows to configure the device settings. | 1 | S | U, S0, S2 |
| Device Reset Locally | Informs the Z-Wave Controller that the device was factory reset. | 1 | S | U, S0, S2 |
| Firmware Update Meta Data | Allows Over the Air Update of the device. | 3 | S | U, S0, S2 |
| Manufacturer Specific | Provides information about manufacturer and product. | 1 | S | U, S0, S2 |
| Multilevel Sensor | Provides sensor readings. | 5 | S | U, S0, S2 |
| Power Level | Used to alter the rf-power (required by Z-Wave). | 1 | S | U, S0, S2 |
| Security | Allows encrypted Z-Wave communication. | 2 | S | U |
| Supervision | Transmits Z-Wave Commands with an execution confirmation. | 1 | S | U |
| Transport Service | Handles the transmission of large telegrams. | 2 | S | U |
| Version | Returns information about the firmware. | 2 | S | U, S0, S2 |
| Wake Up | Configuration of the wakeup interval. | 2 | S | U, S0, S2 |
| Z-Wave Plus Info | Identifies the device as a Z-Wave Plus device. | 2 | S | U |

* Availability of the Command Class after adding the Temperature & Humidity Sensor Z-Wave Plus to your Z-Wave network.

U Unsecure

S0 Z-Wave Security standard S0

S2 Z-Wave Security standard S2

9. Association

Temperature & Humidity Sensor Z-Wave Plus can be associated with other devices.

| Group No. | Description | Commands | Max supported Nodes |
|-----------|-------------|--|---------------------|
| 1 | Lifeline | DEVICE_RESET_LOCALLY_NOTIFICATION, BATTERY_REPORT, SENSOR_MULTILEVEL_REPORT, | 1 |
| 2 | Temperature | SENSOR_MULTILEVEL_REPORT | 5 |

10. Battery

Temperature & Humidity Sensor Z-Wave Plus battery level can be requested.

| | |
|---------------|----------------------|
| Max value | 100% |
| Max value | 0% |
| Resolution | 25% steps |
| Warning level | 0xFF (battery empty) |

11. Configuration

Temperature & Humidity Sensor Z-Wave Plus can be configured during runtime.

| Parameter number | Size in Byte | Name | Description |
|------------------|--------------|---------------------------------|--|
| 1 | 1 | Temperature on Change Reporting | 0x00 No on change reporting (only time-based reports) 0x01 – 0x32 report if temperature changed by delta = 0,1°C...5,0°C default: 0x05 |
| 2 | 1 | Humidity on Change Reporting | 0x00 No on change reporting (only time-based reports). 0x01-0x0A report if humidity changed by delta = 1% ...10% default: 0x05 |
| 3 | 1 | Unit Temperature | 0x00 Temperature reports in Celsius 0x01 Temperature reports in Fahrenheit default: 0x00 |
| 4 | 1 | Resolution Temperature | 0x00 No resolution (example 22°C) 0x01 1/10 resolution (example 22.3°C) 0x02 1/100 resolution (example 22.35°C) default: 0x01 |
| 5 | 1 | Resolution Humidity | 0x00 No resolution (example 33%) 0x01 1/10 resolution (example 33.4%) 0x02 1/100 resolution (example 33.45%) default: 0x00 |

12. Multilevel Sensor

Temperature & Humidity Sensor Z-Wave Plus measures the room temperature and automatically reports sensor readings to associated devices.

Per default the reporting threshold is $\pm 0.5^{\circ}\text{C}$. This parameter can be altered via configuration command class.

Sensor type: „Air Temperature“
Scale: Celsius and Fahrenheit
Precision: 0,1 and 2

Temperature & Humidity Sensor Z-Wave Plus measures the humidity and automatically reports sensor readings to associated devices.

Per default the reporting threshold is $\pm 5\%$. This parameter can be altered via configuration command class.

Sensor type: „Humidity“
Scale: Prozent and absolut
Precision: 0,1 and 2

Temperature & Humidity Sensor Z-Wave Plus measures the dewpoint and automatically reports sensor readings every 30 minutes to associated devices .

Sensor type: „Dewpoint“
Scale: Celsius and Fahrenheit
Precision: 1

13. Wake Up

Temperature & Humidity Sensor Z-Wave Plus wake up interval can be configured.

Min interval: 10 Minutes
Max interval: 24 hours
Default interval: 60 Minutes
Resolution: 2 Minutes

14. Troubleshooting

| Problem | Reason | Solution |
|---|-------------------------------------|--|
| red LED blinking three times | Batteries do not have enough power. | Replace batteries. |
| red LED lights constantly for 5 seconds | A task has failed. | <ul style="list-style-type: none">• Z-Wave Controller out of range.• Repeat the task as needed. |
| | | |

15. Cleaning

NOTE: RISK OF DAMAGE! Improper handling of the Temperature & Humidity Sensor Z-Wave Plus can lead to damage.

- Do not immerse the Temperature & Humidity Sensor Z-Wave Plus in water or other liquids.
- Do not use aggressive cleaning agents, brushes with metal or nylon bristles or sharp or metallic cleaning objects such as knives, hard spatulas and the like. These can damage the surfaces.
- Clean the Temperature & Humidity Sensor Z-Wave Plus with a soft, dry cloth.

16. Technical specifications

| | | | |
|--------------------|---|------------------------|-------------------------|
| Device description | Temperature & Humidity Sensor Z-Wave Plus | Method of operation | Type 1 |
| EAN | 42 600 127 112 57 | Dimensions (W x H x D) | 56 x 56 x 24 mm |
| Article Number | 700087 | Weight | 53,3g (incl. batteries) |
| Supply Voltage | 2 x 1,5V LR03/Micro/AAA | Degree of protection | IP20 |
| Radio Frequency | 868,42MHz | Degree of pollution | 2 |
| Output Power | +4dBm | Signalisierung | Multicolor-LED |
| | | Color | white |

Technical modifications are subject to change. All descriptions for compatibility are without engagement.

17. Disposal

Advice on environmental protection:



From the date of implementation of European guidelines 2002/96/EC and 2006/66/EC, into national law, the following applies: Electric and electronic devices and batteries may not be disposed of in household waste. The consumer is obliged to return electric and electronic devices and batteries to the public collection points established for them or to the point of sale. The particulars of this are regulated by the applicable state laws. The symbol on the product, operation instructions or packaging points to these provisions. You make an important contribution to the protection of the environment by reusing or recycling old equipment/batteries or making use of them in other ways.

Declaration of conformity:



Hereby, Eurotronic Technology GmbH declares that the Temperature & Humidity Sensor Z-Wave Plus is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: <https://eurotronic.org/service/downloads/>.

18. Warranty

The 24-months warranty period begins at the day of purchase. Please keep the receipt as evidence of purchase. During the warranty period, defective radiator thermostats may be sent to your dealer or the address below. Please ensure sufficient postage is paid. A new or repaired device will then be sent to you free of charge. No new warranty period begins with the repair or replacement of the device.

After the warranty period has expired, you also have the option of sending the defective device to the specified address with sufficient postage for repair. Repairs after the warranty period have expired are subject to a charge. Your statutory rights are not limited by this warranty.

19. Contact information

If you wish to receive further technical Support or information, please contact us via E-Mail or telephone.

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