

Eurotronic

Air Quality Sensor Z-Wave Plus

SKU: EURE700088



Quickstart

This is a **secure Measuring Sensor Device** for **Europe**. To run this device please connect it to your mains power supply. 1. Connect the Micro-USB cable to an AC adapter and to the air quality sensor and afterwards to a power outlet.

2. Start inclusion mode of your primary Z-Wave Controller.

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

4. 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.

Important safety information

Please read this manual carefully. Failure to follow the recommendations in this manual may be dangerous or may violate the law. The manufacturer, importer, distributor and seller shall not be liable for any loss or damage resulting from failure to comply with the instructions in this manual or any other material. Use this equipment only for its intended purpose. Follow the disposal instructions. Do not dispose of electronic equipment or batteries in a fire or near open heat sources.

What is Z-Wave?

Z-Wave is the international wireless protocol for communication in the Smart Home. This device is suited for use in the region mentioned in the Quickstart section.

Z-Wave ensures a reliable communication by reconfirming every message (**two-way communication**) and every mains powered node can act as a repeater for other nodes (**meshed network**) in case the receiver is not in direct wireless range of the transmitter.

This device and every other certified Z-Wave device can be **used together with any other certified Z-Wave device regardless of brand and origin** as long as both are suited for the same frequency range.

If a device supports **secure communication** it will communicate with other devices secure as long as this device provides the same or a higher level of security. Otherwise it will automatically turn into a lower level of security to maintain backward compatibility.

For more information about Z-Wave technology, devices, white papers etc. please refer to www.z-wave.info.



Product Description

The brand new Z-Wave sensor in an ultra slim design housing provides comprehensive information on indoor air quality. Based on these information it is possible to always ensure a healthy living climate.

- Ultra-flat design housing
- Use of high-precision, Swiss sensor technology
- Multicolor LED for signalling ventilation recommendations
- Returns the following values:
 - VOC value (volatile organic compounds) in ppm
 - CO2 value (as CO2 equivalent) in ppm
 - Temperature (°C) and humidity (%)
 - Dew point (°C)
- Supports Z-Wave Plus S2 security (encryption)
- Z-Wave repeater function
- Operation with plug-in power supply unit

Prepare for Installation / Reset

Please read the user manual before installing the product.

In order to include (add) a Z-Wave device to a network it **must be in factory default state**. Please make sure to reset the device into factory default. You can do this by performing an Exclusion operation as described below in the manual. Every Z-Wave controller is able to perform this operation however it is recommended to use the primary controller of the previous network to make sure the very device is excluded properly from this network.

Reset to factory default

This device also allows to be reset without any involvement of a Z-Wave controller. This procedure should only be used when the primary controller is inoperable.

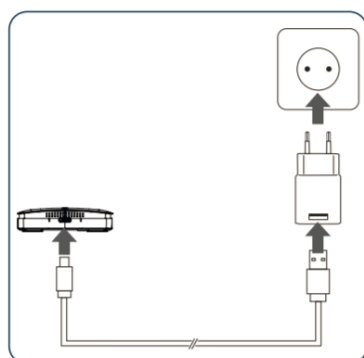
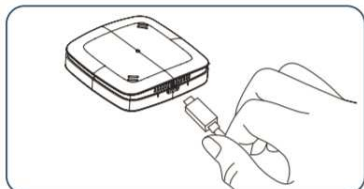
Press and hold the network button for at least 10 seconds. The Air Quality Sensor Z-Wave Plus will indicate the reset blinking pattern once the reset is completed.

Safety Warning for Mains Powered Devices

ATTENTION: only authorized technicians under consideration of the country-specific installation guidelines/norms may do works with mains power. Prior to the assembly of the product, the voltage network has to be switched off and ensured against re-switching.

Installation

Connect the Micro-USB cable to a AC adapter and to the air quality sensor and afterwards to a power outlet.



Inclusion/Exclusion

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

Devices 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. Inclusion and Exclusion is then performed doing a special manual action right on the device.

Inclusion

Press the network button three times within 1 second.

Exclusion

Press the network button three times within 1 second.

Product Usage

LEDs

Color	State	Meaning
red	permanently illuminated	Air quality is bad. (LED signaling can be disabled via Configuration Command Class)
orange	permanently illuminated	Air quality is average. (LED signaling can be disabled via Configuration Command Class)
green	permanently illuminated	Air quality is good. (LED signaling can be disabled via Configuration Command Class)
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	LGS Z-Wave Plus is reset to factory default settings.

Troubleshooting:

red LED lights constantly for 5 seconds

- Z-Wave Controller out of range.
- Repeat the task as needed.

Quick trouble shooting

Here are a few hints for network installation if things dont work as expected.

1. Make sure a device is in factory reset state before including. In doubt exclude before include.
2. If inclusion still fails, check if both devices use the same frequency.
3. Remove all dead devices from associations. Otherwise you will see severe delays.
4. Never use sleeping battery devices without a central controller.
5. Dont poll FLIRS devices.
6. Make sure to have enough mains powered device to benefit from the meshing

Association - one device controls an other device

Z-Wave devices control other Z-Wave devices. The relationship between one device controlling another device is called association. In order to control a different device, the controlling device needs to maintain a list of devices that will receive controlling commands. These lists are called association groups and they are always related to certain events (e.g. button pressed, sensor triggers, ...). In case the event happens all devices stored in the respective association group will receive the same wireless command wireless command, typically a 'Basic Set' Command.

Association Groups:

Group Number	Maximum Nodes	Description
1	5	Lifeline
2	5	Air - Temperature

Configuration Parameters

Z-Wave products are supposed to work out of the box after inclusion, however certain configuration can adapt the function better to user needs or unlock further enhanced features.

IMPORTANT: Controllers may only allow configuring signed values. In order to set values in the range 128 ... 255 the value sent in the application shall be the desired value minus 256. For example: To set a parameter to 200 it may be needed to set a value of 200 minus 256 = minus 56. In case of a two byte value the same logic applies: Values greater than 32768 may needed to be given as negative values too.

Parameter 1: Temperature on Change Reporting

Size: 1 Byte, Default Value: 5

Setting	Description
0	No on change reporting (only time-based reports)
1 - 50	Report if temperature changed by delta = 0,1°C - 5,0°C

Parameter 2: Humidity on Change Reporting

Size: 1 Byte, Default Value: 5

Setting	Description
0	No on change reporting (only time-based reports)
1 - 10	Report if humidity changed by delta = 1% 10%

Parameter 3: Unit Temperature

Size: 1 Byte, Default Value: 0

Setting	Description
0	Celsius
1	Fahrenheit

Parameter 4: Resolution Temperature

Size: 1 Byte, Default Value: 1

Setting	Description
0	No resolution (example 22°C)
1	Resolution (example 22.3°C)
2	1/100 resolution (example 22.35°C)

Parameter 5: Resolution Humidity

Size: 1 Byte, Default Value: 0

Setting	Description
0	No resolution (example 33%)
1	1/10 resolution (example 33.4%)
2	1/100 resolution (example 33.45%)

Parameter 6: VOC-on Change Reporting

Size: 1 Byte, Default Value: 5

Setting	Description
0	No on change reporting (only time-based reports)
1 - 10	Report if VOC reading changed by 100ppb - 1000ppb

Parameter 7: CO2eq on Change Reporting

Size: 1 Byte, Default Value: 5

Setting	Description
0	No on change reporting (only time-based reports)
1 - 10	Report if CO2eq reading changed by 100ppm - 1000ppm

Parameter 8: Air quality indication via LED

Size: 1 Byte, Default Value: 1

Setting	Description
0	No air quality indication via LEDs
1	Indicate measured air quality via LEDs

Technical Data

Dimensions	68 x 68 x 17 mm mm
Weight	47 gr
Hardware Platform	ZM5101
EAN	4260012711264
IP Class	IP 20
Voltage	5V
Device Type	Routing Multilevel Sensor
Generic Device Class	Multilevel Sensor
Specific Device Class	Routing Multilevel Sensor
Firmware Version	00.01
Z-Wave Version	05.03
Z-Wave Product Id	0148.0005.0001
Frequency	Europe - 868,4 Mhz
Maximum transmission power	5 mW

Supported Command Classes

- Basic
- Sensor Multilevel

- Association Grp Info
- Device Reset Locally
- Zwaveplus Info
- Supervision
- Configuration
- Alarm
- Manufacturer Specific
- Powerlevel
- Firmware Update Md
- Association
- Version
- Security
- Transport Service
- Security 2

Controlled Command Classes

- Transport Service
- Security 2

Explanation of Z-Wave specific terms

- **Controller** — is a Z-Wave device with capabilities to manage the network. Controllers are typically Gateways, Remote Controls or battery operated wall controllers.
- **Slave** — is a Z-Wave device without capabilities to manage the network. Slaves can be sensors, actuators and even remote controls.
- **Primary Controller** — is the central organizer of the network. It must be a controller. There can be only one primary controller in a Z-Wave network.
- **Inclusion** — is the process of adding new Z-Wave devices into a network.
- **Exclusion** — is the process of removing Z-Wave devices from the network.
- **Association** — is a control relationship between a controlling device and a controlled device.
- **Wakeup Notification** — is a special wireless message issued by a Z-Wave device to announces that is able to communicate.
- **Node Information Frame** — is a special wireless message issued by a Z-Wave device to announce its capabilities and functions.