Shelly Wave H&T EU LR

Device identification

Device: Shelly Wave H&T (EU)
EU Part number/Ordering Code: QLHT-0U2ZEU
Z-Wave Product type ID: 0x0100
Z-Wave Product ID: 0x0083
Z-Wave Manufacturer: Shelly Europe
Z-Wave Manufacturer ID: 0x0460

This device supports both Z-Wave® (mesh) and Z-Wave® Long Range (star) network topologies. During the device inclusion process, you must select one type of network topology.

Bellow sections marked with * are valid only for Z-Wave® mesh network inclusion and are not applicable for Z-Wave® Long Range star network inclusion.

Terminology

Click here to unhide/hide

- **OTA -** Over-The-Air firmware update.
- **FW -** Firmware
- **ZAF -** Z-Wave® protocol
- **NIF -** Node Information Frame; the frame that is sent at every adding (inclusion) to present/advertise the Device's capability to the gateway, so that it may adjust its operating ability.
- **CC -** Command Class (ZAF centerpiece of interoperability). The files/processes that determine how data is sent and handled/received. Command Classes include their signatures while sending data to allow recognition of which process is sending data for the destination device.
- **Switch -** A toggle switch or a bi-stable switch.
- **Push-button -** A momentary switch or a monostable switch.
- **Switch/push-button -** It can be a switch or a push-button.
- **Double press -** If the delay between the first and the second press on the switch/push-button is less than 500 ms, this is interpreted as a double press.
- **Gateway (GW) -** A Z-Wave® gateway, also referred to as a Z-Wave® controller, Z-Wave® main controller, Z-Wave® primary controller, or Z-Wave® hub, etc., is a device that serves as a central hub for a Z-Wave® smart home network. The term "**gateway"** is used in this document.
- **Mesh network -** devices can communicate with each other in addition to the gateway. Devices (only mains powered) can act as repeaters to extend network.

- **Long range network -** devices can communicate only with gateway (no repeater function).
- **S button -** The Z-Wave® Service button, located on Z-Wave® devices and is used for various functions such as adding (inclusion), removing (exclusion), resetting the device to its factory default settings and to switch power output on/off (valid only for Wave Plugs). The term "**S button**" is used in this document.
- **Device -** In this document, the term "**Device**" is used to refer to the Shelly Wave device that is a subject of this guide.
- **End device -** Z-Wave end devices are nodes in a Z-Wave network that are not gateways, such as switches, door locks, sensors, etc.
- **Node ID -** The Z-Wave **Node ID** is a unique identifier assigned at the adding (inclusion) to each device in a Z-Wave network, allowing the network to identify and communicate with this device.
- **HOME ID -** The Z-Wave **Home ID** is a unique identifier assigned to each Z-Wave network and each device in that network. It distinguishes your Z-Wave network from other networks and ensures that your Z-Wave devices only communicate with devices in your own network.
- **Adding/Inclusion -** The process of adding Z-Wave device to a Z-Wave network - gateway. The words **included, added,** etc. are used in this regard.
- **Removing/Exclusion -** The process of removing Z-Wave device from a Z-Wave network - gateway. The words **excluded, removed,** etc. are used in this regard.
- **Factory reset -** After Factory reset, all custom parameters and stored values (kWh, associations, routings, etc.) will return to their default state. The HOME ID and NODE ID assigned to the Device will be deleted. Use this reset procedure only when the gateway is missing or otherwise inoperable.
-
- **Normal mode -** Is the state of the device which refers to the operational state of a device when it is functioning under regular conditions (switching on/off, dimming, etc.) either during active usage or while in standby mode but still powered.
- **SmartStart -** SmartStart enabled devices can be added (included) to a Z-Wave network by scanning the Z-Wave QR code on the device with a Gateway that supports SmartStart inclusion. The SmartStart enabled device will be automatically added within 10 minutes of being switched on in the vicinity of the Z-Wave network.
- **MUST -** MUST be implemented
- **OPTIONAL -** implement it if time/budget allows
- **Associations -** Associations are used for direct communication between the Device and other devices within your Z-Wave network without the need of the Z-Wave gateway.
- **Power cycle -** Reboot the Device/power supply On/Off of the Device
- **Blind -** Refers to any kind of window treatment, such as venetian blinds, roller blinds (screens), roller shutters, vertical window blinds, curtains, integral venetian blinds, pleated blinds, awnings, etc. Additionally, Wave Shutter can also control window motors, projector screens, or any type of bi-directional AC motor.
- **Power consumption (W) -** refers to the rate at which energy is consumed or used by an electrical device or system. It is measured in watts (W).
- **Energy consumption (kWh) -** refers to the total amount of electrical energy consumed by a device or system over a specific period of time. It is measured in kilowatt-hours (kWh).
- **Ordering code -** The ordering code is the same as the Part number (PN). Where there is not enough space to write the Ordering code, abbreviation PN is used. The PN is written on the DSK label on each device.

Short description

The Device is a smart Z-Wave® humidity and temperature sensor featuring long battery life.

Use cases

Click to unhide/hide

- **Climate control:** Adjust the heating, ventilation, and air conditioning system based on current temperature and humidity levels to maintain a comfortable indoor environment.
- **Prevent mold and mildew:** Monitor humidity levels to prevent the growth of mold and mildew in spaces like basements and bathrooms. The Device can activate ventilation or de-humidification devices when needed.
- **Alerts and notifications:** Receive alerts or notifications when the temperature or humidity reaches predefined thresholds and prevent issues like frozen pipes in cold weather or excessive moisture.
- **Optimizing greenhouse conditions:** Optimize conditions for greenhouse plants by adjusting watering systems and ventilation based on humidity and temperature levels.
- **Security enhancement:** Increase your home protection by detecting unusual temperature changes that might indicate fire or flood.
- **Appliance control:** Adjust operation of dehumidifiers, humidifiers, and fans based on the current temperature and humidity conditions.

Basic Functions

- **SmartStart**
- **Assocciations**
- **Air temperature and humidity reporting**
- **OTA - Over-The-Air firmware update**

Operational Instructions

Click here to unhide/hide

Air temperature and humidity reporting

The device will transmit information about temperature and humidity, according to the threshold defined in parameters 161 (temperature) and 163 (humidity).

OTA - Over-The-Air firmware update

OTA stands for Over-The-Air, and it refers to the wireless firmware update to end devices

Z-Wave Security communication protocols supported

Unsecure, S0 Security, S2 Unauthenticated Security, S2 Authenticated Security

FW version

FW version is stored in the Device, also if it is updated by OTA. Firm version is possible to read by the Gateway.

Device serial number

Device serial number is stored in the Device after testing in production. Device serial number is possible to read by the Gateway.

Device PART number (PN)

Device Part number is stored in the Device after testing in production. Device Part number is possible to read by the Gateway.

Main applications

- Residential
- MDU (Multi Dwelling Units - apartments, condominiums, hotels, etc.)
- Light commercial (small office buildings, small retail/restaurant/gas station, etc.)
- Government/municipal
- University college

Integrations

Shelly Wave devices are developed on the **world's leading technology for smart homes – Z-Wave**.

This means Shelly Wave works with all **certified** gateways supporting Z-Wave communication protocol.

To make sure the functions of Shelly Wave products are supported on your gateway, we are regularly executing compatibility tests of our devices with different Z-Wave gateways.

Connectivity

Z-Wave - Unsecure, S0 Security, S2 Unauthenticated Security, S2 Authenticated Security

User interface

S button and operating modes

- Single press (<0,5s):

1. Device wake up
2. Device not included, Blue led blink once
3. Device included, Green led blink once if GW respond with "Wake Up No More Information"
4. Device included, Green led blinks for 10s if GW doesn’t respond with "Wake Up No More Information"

- Settings mode:

Is required to start the desired procedure, for example: adding (inclusion (*not available for Long Range)), removing (exclusion), factory reset, etc. It has a limited operating time. After completing the procedure in Setting mode, the Device automatically switches to Normal mode.

- Entering Setting mode:

1. Press the S button (>0,5s)
2. Device NOT included: LED is solid blue.
3. Device included: LED is solid green for 0,5s then blue
4. An additional quick press on the S button changes the menu in an infinite loop.
5. The Settings mode has a timeout of 10s before entering again into Normal mode.

S button’s functions

- Manually adding the Device to a Z-Wave network (*not available for Long Range inclusion)
- Manually removing the Device from a Z-Wave network
- Factory Reset the Device
- Wake-up

LED Signalisation

Click here to unhide/hide

General rules

- Switching between Normal and Settings mode is done by press and hold the S button.
- **Solid LED** means that you are in the **Settings mode**. Once in settings mode, switch to normal mode goes automatically after 10s.
- Press on the S button wake up LED for 1s, and device power cycle wakes up LED for 10s.
- During module boot up LED will blink in mode 5 (0,2s On blue/0,2s On red) for 4-5 s.

Normal mode LED status: Normal mode is defined by stable device function that can remain for an infinite time.

LED type: RGB dimmable
Normal mode

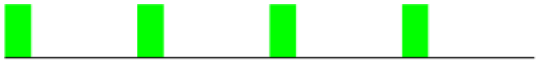
Removed/Excluded

The LED will be blinking **blue** in Mode 1 for 30s after every power cycle and 30s after S button pressed.

Mode 1 LED 0,5s On / 2s Off

Added/Included

The LED will be blinking **green** in Mode 1 for 10sec after every power cycle and 1sec after S button pressed.



Mode 1 LED 0,5s On / 2s Off

Settings in progress

Factory reset and reboot

During factory reset, the LED will turn solid **green** for approx. 500ms, then the **blue** LED will be blinking in Mode 1.

Adding / Removing

During adding or removing, the LED will be blinking **blue** in Mode 2.

Mode 2 LED 0,5s On / 0,5s Off

OTA firmware updating

During the OTA update, the LED will be blinking **blue** and **red** in Mode 2.

Mode 2 LED 0,5s On / 0,5s Off

Settings mode with S button

Adding / Removing menu selected (*adding not available for Long Range inclusion)

When the menu is selected the LED will be on **blue**, for maximum of 10 seconds.

Adding / Removing menu - while pressing S- button - Add/Remove process selected (*adding not available for Long Range inclusion)

When the menu is executing the LED will be blinking **blue** in Mode 3.


Mode 3 LED 0,1s On / 0,1s Off

Factory reset menu selected

When the menu is selected the LED will be on **red**, for maximum of 10 seconds.

Factory reset - while pressing S - button - Factory reset process selected

When the menu is executing the LED will be blinking **red** in Mode 3.


Mode 3 LED 0,1s On / 0,1s Off

Alarm Mode

NA

LED blinking modes

Click here to unhide/hide

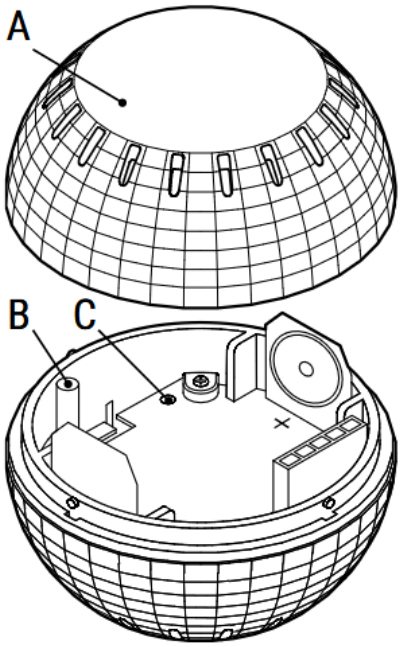
LED blinking modes	
Mode 1	0,5s On/2s Off
Mode 2	0,5s On/0,5s Off
Mode 3	0,1s On/0,1s Off
Mode 4	(1x to 6x - 0,2s On/0,2s Off) + 2s Off
Mode 5	0,2s On blue/0,2s On red

Technical Specifications

Power supply		1x 3 V CR123A battery
Battery life		Up to 2 years
Humidity sensor		Yes
Temperature sensor		Yes
Long range network	Distance (depends on local condition)	Up to 80 m indoors (262 ft.) or up to 1000 m outdoors (3281 ft.)
	Z-Wave® repeater	No
	Z-Wave® frequency bands	864 MHz
Mesh network	Distance (depends on local condition)	Up to 40 m indoors (131 ft.)
	Z-Wave® repeater	No
	Z-Wave® frequency bands	868.4 MHz
CPU		Z-Wave® S800
Maximum radio frequency power transmitted in frequency band(s)		< 25 mW

Size (H x W x D)	35x46 mm / 1.38x1.81 in
Weight	16 g without battery 33 g with battery
Shell material	Plastic
Color	Black or White
Ambient temperature	-20°C to 40°C / -5°F to 105°F
Humidity	30% to 70% RH
Max. altitude	N/A

Motion description



Legend

A: Bottom shell

B: S button

C: LED indication

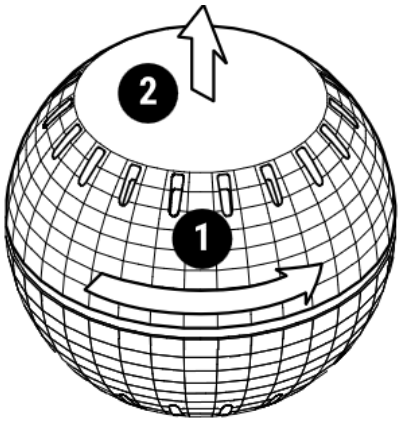


Fig.1

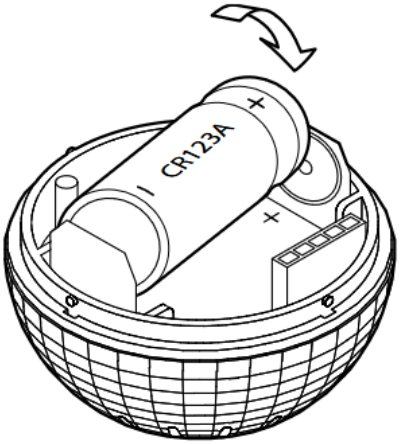


Fig.2

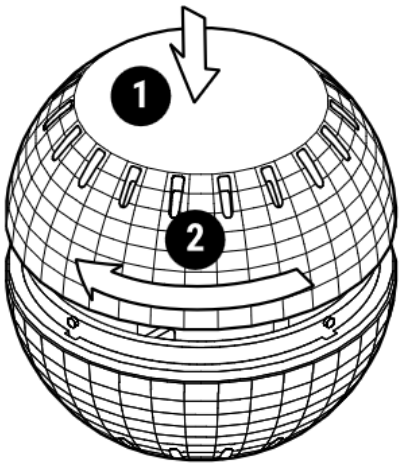


Fig.3

Inserting/Replacing the battery

1. Remove the Device bottom shell by turning it counterclockwise as shown on Fig. 1.
2. Insert the battery as shown on Fig. 2.
3. The LED indication should start flashing slowly, indicating the Device is awake. Attach the bottom shell to Device by turning it clockwise as shown on Fig. 3.

Device can be also power supplied through a USB power adapter. Device USB adapter is available for purchase separately at:https://shelly.link/HT-adapter

About Z-Wave®

Click to unhide/hide

The Z-Wave® protocol is an interoperable, wireless, RF-based communications technology designed specifically for control, monitoring, and status reading applications in residential and light commercial environments. Mature, proven, and broadly deployed, Z-Wave® is by far the world market leader in wireless control, bringing affordable, reliable, and easy-to-use 'smart' products to millions of people in every aspect of daily life.

Interoperability has always been at the core of the Z-Wave® protocol, alongside the features like backward compatibility, security, and reliability. All Z-Wave® devices can be operated in any Z-Wave® network with other Z-Wave® certified devices, regardless of brand or manufacturer. All mains operated nodes within the network will act as repeaters regardless of vendor to increase the reliability of the network. There are 4000+ Z-Wave® certified products that are backwards- and forwards-compatible in the Z-Wave® ecosystem and well over 100 million devices currently in the market.

With over 20 years in the marketplace, Z-Wave® technology has best-in-class security measures to keep your home network smarter and safer.

Source: www.z-wavealliance.org, http://www.z-wave.com

Adding and removing the Device to a Z-Wave® network

Click here to unhide/hide

Adding the Device to a Z-Wave® network (inclusion)

Note! *In case of Security 2 (S2) adding (inclusion), a dialog will appear asking you to enter the corresponding PIN Code (5 underlined digits) that are written on the Z-Wave® DSK label on the side of the Device and on the Z-Wave® DSK label inserted in the packaging.*
IMPORTANT: The PIN Code must not be lost.

SmartStart adding (inclusion)

SmartStart enabled products can be added into a Z-Wave® network by scanning the Z-Wave® QR Code present on the Device with a gateway providing SmartStart inclusion. No further action is required, and the SmartStart device will be added automatically once the battery device wakes up in the network vicinity.

1. With the gateway application scan the QR code on the Device label and add the Security 2 (S2) Device Specific Key (DSK) to the provisioning list in the gateway.
2. Wake up the device
3. Check if the blue LED is blinks once. If so, the Device is not added to a Z-Wave® network.
4. Adding will be initiated automatically within a few seconds after device wake's up and the Device will be added to a Z-Wave® network automatically.
5. The blue LED will be blinking in Mode 2 during the adding process.
6. The green LED will be blinking in Mode 1 if the Device is successfully added to a Z-Wave® network.

Adding (inclusion) with the S button (*not available for Long Range inclusion)

1. Single press and check if the blue LED blinks once. If so, the Device is not added to a Z-Wave® network.
2. Enable add/remove mode on the gateway.
3. To enter the Setting mode, press the S button (>0,5s) on the Device until the LED turns solid blue.
4. Release and then press and hold (> 2s) the S button on the Device until the blue LED starts blinking in Mode 3. Releasing the S button will start the Learn mode.
5. The blue LED will be blinking in Mode 2 during the adding process.
6. Once the device has been successfully added into a Z-Wave® network, the LED will remain off. To confirm the inclusion of the device, press the S-button again; the green LED will blink once as a signal of successful inclusion.

Note! *In Setting mode, the Device has a timeout of 10s before entering again into Normal mode.*

Removing the Device from a Z-Wave® network (exclusion)

Note! *The Device will be removed from your Z-Wave® network, but any custom configuration parameters will not be erased.*

Removing (exclusion) with the S button

1. Single press and check if the green LED blinks once. If so, the Device is added to a Z-Wave® network.
2. Enable add/remove mode on the gateway.
3. To enter the Setting mode, press the S button (>0,5s) on the Device until the LED turns solid blue.
4. Release and then press and hold (> 2s) the S button on the Device until the blue LED starts blinking in Mode 3. Releasing the S button will start the Learn mode.
5. The blue LED will be blinking in Mode 2 during the removing process.
6. The blue LED will be blinking in Mode 1 if the Device is successfully removed from a Z-Wave® network.

Note! *In Setting mode, the Device has a timeout of 10s before entering again into Normal mode.*

Factory reset

Factory reset general

After Factory reset, all custom parameters and stored values (kWh, associations, routings, etc.) will return to their default state. HOME ID and NODE ID assigned to the Device will be deleted. Use this reset procedure only when the gateway is missing or otherwise inoperable.

Factory reset with the S button

Note! *Factory reset with the S button is possible anytime.*

1. To enter the Setting mode, press the S button (>0,5s) on the Device until the LED turns solid blue.
2. Press the S button until the LED turns solid red.
3. Press and hold (> 2s) S button on the Device until the red LED starts blinking in Mode 3. Releasing the S button will start the factory reset.
4. During factory reset, the LED will shortly turn solid green.
5. The blue LED will be blinking in Mode 1 if the Factory reset is successful.

Remote factory reset with parameter with a gateway

Factory reset can be done remotely with the settings in Parameter No. 120.

Z-Wave® Security and Device Specific Key (DSK)

Click here to unhide/hide

The Device supports the latest Security 2 (S2) feature. S2 is handled by the strong AES 128 Encryption protocol, which means that the S2 makes Z-Wave® the most secure IoT (Internet of Things) security platform out there. To fully utilize the product and its Security 2 feature, a Security 2-enabled Z-Wave® gateway must be used.

Authenticated Control

- Out-Of-Band DSK for adding (inclusion)
- May be used by most implementations

The Device also supports Security 2 Authenticated, Unauthenticated, and Unsecure adding (inclusion).

Note! When adding the Device to a Z-Wave® network with a gateway supporting Security 2 (S2), the PIN Code of the Z-Wave® Device Specific Key (DSK) is required. You can find it on the label on the side of the Device and a copy is inserted in the packaging, which must not be lost. Do not remove the Z-Wave® DSK label from the Device. As a backup measure, use the label in the packaging.

The first five digits of the key are highlighted or underlined to help the user identify the PIN Code part of the DSK text. The DSK is additionally represented with a QR Code as shown on the image.

Z-Wave® DSK label and QR code (example)

A joining node requesting to join the S2 Access Control Class or the S2 Authenticated Class will obfuscate its Public Key by setting the bytes 1..2 to zeros (0x00) before transferring its key via RF.

The DSK may be used for out-of-band (OOB) authentication.

- The including gateway may use a QR code scanning device to read the entire DSK of the joining device and match it with the obfuscated public key received via RF from the joining device.

Z-Wave® Parameters

Click here to unhide/hide

Parameter No. 117 - Remote Device reboot

This parameter enable restarting or rebooting the Device without physical intervention. Use this parameter only for troubleshooting scope. After device reboot the parameter value will be set to default.

Values size: 1 Byte

Default value: 0

Values & descriptions:

- 0 - function inactive
- 1 - Remote device reboot

Parameter No. 119 - Power source selection

This parameter specifies whether the device is powered by an internal battery or an external power supply.

Values size: 1 Byte

Default value: 0

Values & descriptions:

- 0 - battery
- 1 - external

Parameter No. 120 - Factory Reset

Reset to factory default settings and removed from the Z-Wave network.

The parameter is Advanced and may be hidden under the Advanced tag.

Values size: 1 Byte

Default value: 0

Values & descriptions:

- 0 - No action
- 1 - Factory reset

NOTE: After factory reset is performed, the parameter value is automatically set to 0.

Parameter No. 161 - Temperature threshold

The temperature value is reported if the measured difference is higher to defined threshold value.

Values size: 1 Byte

Default value: 5

Values & descriptions:

- 1 - 50 (1 stands for 0.1°C and 50 stands for 5.0°C)

Parameter No. 162 - Temperature offset

Set value by this parameter is added to or subtracted from the actual measured value to adjust the temperature report.

Values size: 2 Byte

Default value: 0

Values & descriptions:

- Min. value: -500
- Max. value: +500

NOTE: 1=1/10° [°C/°F]. The value is added to the currently measured value for the purpose of sensor calibration.

Parameter No. 163 - Humidity treshold

The humidity value is reported if the measured difference is higher to defined treshold value.

Values size: 1 Byte

Default value: 1

Values & descriptions:

- 1 - 50 (1 stands for 1% RH and 50 stands for 50% RH)

Parameter No. 164 - Humidity offset

Set value by this parameter is added to or subtracted from the actual measured value to adjust the humidity report.

Values size: 2 Byte

Default value: 0

Values & descriptions:

- Min. value: -50
- Max. value: +50

NOTE: 1=1% [RH]. The value is added to the currently measured value for the purpose of sensor calibration.

Parameter No. 201 - Serial Number 1

This parameter contains a part of device’s serial number.

The parameter is Read-Only and cannot be changed.
The parameter is Advanced and may be hidden under the Advanced tag.

Values size: 4 Byte

Default value: Device specific

Values & descriptions:

· 0x00000000 - 0x7FFFFFFF

Parameter No. 202 - Serial Number 2

This parameter contains a part of device’s serial number.

The parameter is Read-Only and cannot be changed.
The parameter is Advanced and may be hidden under the Advanced tag.

Values size: 4 Byte

Default value: Device specific

Values & descriptions:

· 0x00000000 - 0x7FFFFFFF

Parameter No. 203 - Serial Number 3

This parameter contains a part of device’s serial number.

The parameter is Read-Only and cannot be changed.
The parameter is Advanced and may be hidden under the Advanced tag.

Values size: 4 Byte

Default value: Device specific

Values & descriptions:

· 0x00000000 - 0x7FFFFFFF

Z-Wave® Command Classes

Click here to unhide/hide

1. ASSOCIATION_V2 [S2]*
2. ASSOCIATION_GRP_INFO_V3 [S2]*
3. BATTERY_V3 [S2]*
4. CONFIGURATION_V4 [S2]*
5. DEVICE_RESET_LOCALLY_V1 [S2]*
6. FIRMWARE_UPDATE_MD_V5 [S2]*
7. INDICATOR_V3 [S2]*
8. MANUFACTURER_SPECIFIC_V2 [S2]*
9. MULTI_CHANNEL_ASSOCIATION_V3 [S2]*
10. POWERLEVEL_V1 [S2]*
11. SECURITY_2_V1
12. SENSOR_MULTILEVEL_V11 [S2]*
13. SUPERVISION_V1
14. TRANSPORT_SERVICE_V2

15. VERSION_V3 [S2]*
16. WAKE_UP_V2 [S2]*
17. ZWAVEPLUS_INFO_V2

Battery Command Class

The Device use Battery Command Class to manage the reporting of the battery's power level.

With the use of a Battery Get command we can get a report, in percentage, of the battery's power level. These values are from 0x00 to 0x64 in hexadecimal or in decimal, from 0 to 100.

Low-Battery warning

When the battery level is close to 0, the device will send an unsolicited / automatic report to the controller with a value 0xFF representing a low-battery warning.

⚠ **NOTE!** Because it is impossible to know the chemistry and discharge characteristics of each battery, and because of such low voltages, Low-battery warnings can vary widely.

Wake up Command Class

This device goes to sleep mode to limit the power consumption of the battery. With the help of this command class the device lets the controller know when it is asleep and when did it Wake up. When the device is asleep it will not receive or process any commands sent to it.

The Device wakes up on it's own to report to the gateway, that it still alive. The default interval is 43200 seconds or 12 hours meaning the Device will wake up by itself twice a day.

This interval can be set through the Wake Up Interval Set. The values that it will accept are between 0 and 86400 seconds (24 hours).

⚠ **WARNING!** Low values for the interval will cause to device to drain the battery very quickly.

When the Device wakes up, it sends a Wake up notification to the gateway, letting it know it is awake and ready to receive commands.

The Device will wake up when:

- Pressing the S button
- When the Device is powered on
- By the set wake up interval

When the device wakes up, it reset the interval timer and send a Wake Up Notification to the gateway, letting it know that it is awake. At that moment any commands that have been queued for execution will be sent to the device. Afterwards, when all commands are received by the device, the gateway will notify the Device that it may go to sleep again with a Wake Up No More Information command.

⚠ **WARNING!** If by any chance the Device does not receive a Wake Up No More Information command, the device will stay awake for at least 10 seconds before it goes to sleep by itself.

Supporting Command Class Indicator

The Device supports the Command Class Indicator V3 (ID 0x50). When the Device receives an indicator set, the LED blinks according to the received indicator set.

Refer to LED Signalization chapter.

Z-Wave® Notifications Command Class

N/A

Z-Wave® Associations

Click to unhide/hide

Associations are used for direct communication between the Device and other devices within your Z-Wave network without the need of the Z-Wave gateway.
Max. number of associated devices per group is 9. This value is fixed and cannot be configured.
Each association group supports the association of up to 9 devices (nodes). To avoid network delays, we recommend limiting the number of associated devices to no more than 5 per group. "Lifeline group" is reserved for controlling devices, such as Gateways and remote controllers, or devices who can interpret the reports sent.**Association group 1 –** "Lifeline group" sends to the controlling device it's command class notifications and or command class reports when said command classes are triggered. Max. 9 nodes are allowed:

Root device

Root device - Association Group 1 - Lifeline

1. INDICATOR_REPORT : LED status
2. DEVICE_RESET_LOCALLY_NOTIFICATION : triggered upon request

3. BATTERY_REPORT : This command MUST be issued periodically to report the current battery level. The frequency is up to the implementation
4. BATTERY_REPORT : "This command MUST be issued by a node when its battery becomes low and the end user needs to reload or replace the battery. The Battery Level field MUST be set to 0xFF to indicate a low battery warning."
5. SENSOR_MULTILEVEL_REPORT : temperature and humidity

Disclaimers and Warnings

READ BEFORE USE

This document contains important technical and safety information about the Device, its safe use and installation.

Click to unhide/hide

⚠CAUTION! The product is intended for indoor use only.

⚠CAUTION! Keep the Device away from liquids and moisture. The Device shouldn't be used in places with high humidity.

⚠CAUTION! Do not install the Device where it can get wet. ⚠CAUTION! Do not use the Device if it has been damaged!⚠CAUTION! Do not attempt to service or repair the Device yourself! ⚠CAUTION! The Device may be connected wirelessly and may control electric circuits and appliances. Proceed with caution! Irresponsible use of the Device may lead to malfunction, danger to your life or violation of the law.⚠RECOMMENDATION: Place the Device as far away as possible from metal elements as they can cause signal interference.

⚠WARNING! Even used batteries may cause severe injury or death. Call a local poison control center for treatment information! ⚠WARNING! Do not force discharge, recharge, disassemble, heat above manufacturer's specified temperature rating or incinerate! Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns. ⚠WARNING! Do not recharge non-rechargeable batteries!

⚠CAUTION! Remove and immediately recycle or dispose of exhausted batteries according to your local regulations! ⚠CAUTION! If the Device is not used for an extended period, remove the battery. Reuse it if it still has power or dispose of it according to local regulations if it is exhausted. ⚠CAUTION! Do not dispose of batteries in household trash or incinerate! Batteries can emit hazardous compounds or cause fire if not disposed of properly. ⚠CAUTION! Ensure the batteries are installed correctly according to polarity (+ and -).

⚠CAUTION! Use only 3 V CR123A or a compatible battery! ⚠CAUTION! Always completely secure the battery compartment! If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

Z-Wave® Important disclaimer

Z-wave® wireless communication may not always be 100% reliable. This Device should not be used in situations in which life and/or valuables are solely dependent on its functioning. If the Device is not recognized by your gateway or appears incorrectly, you may need to change the Device type manually and ensure that your gateway supports Z-wave Plus® multi-channel devices and Z-wave® Long Range capability in case of Long Range devices.

Compatibility

Wave H&T	**functions - reports**		
Gateway	Sensor 1 Temperature	Sensor 2 Humidity	Notes
Home Assistant	✅	✅	
Fibaro - HC 3 / Wave engine 3	✅	✅	
Homey	✅	✅	
Homee Gen 7	✅	✅	
Homee Gen 5	✅	✅	
Smart Things	✅	✅	
Vera Ezlo	TBD	TBD	
Cozify	TBD	TBD	
Notes	Sensor 1: Temperature Sensor 2: Humidity		

Function	**Meaning / tested**
On/Off	if device respond to the app UI On/Off command
SW On/Off	if device reports On/Off changes by SW input
Dimming	if device respond to app UI dimming command

SW Dimming	if device report dimming state change by SW input
Watts	if Watts are reported (unsolicited)
kWh	if kWh are reported (unsolicited)
Up/Down	if device respond to the app UI Up/Down command
SW Up/Down	if device reports Up/Down changes by SW input
Slats	if the slats respond to the app UI command
SW Slats	if the slats report the changes done by SW
D control	*detached mode* if device reports scene commands single press, double press,…
D Binary	*detached mode* if the device reports binary On/Off by SW input
Sensor #	Is the sensor report visualized in the gateway, type of sensor in the notes.

Legend	
Symbol	State
✅	Working / Possible
❌	Not Working / Not Possible
P	Partially
N/T	Not Tested
TBD	To be done

Compliance

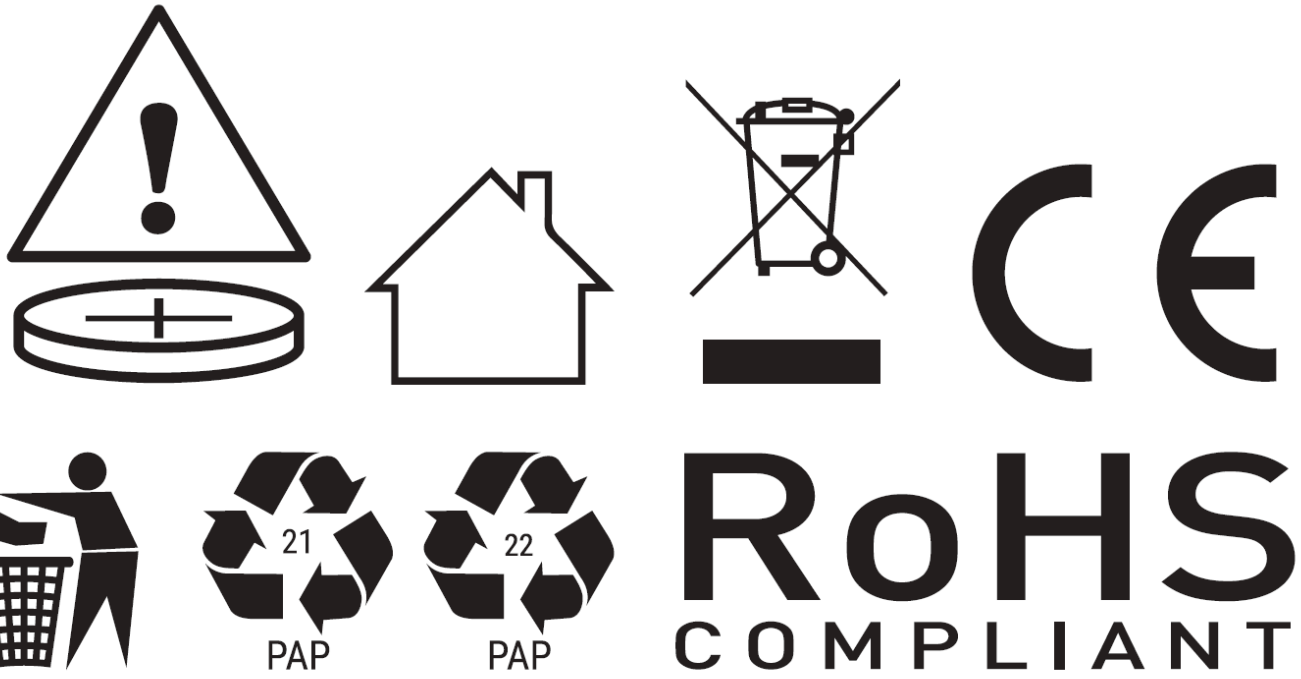
Shelly Wave H&T multilingual EU declaration of conformity 2025-07-30.pdf

Shelly Wave H&T LR UK PSTI ACT Statement of compliance.pdf

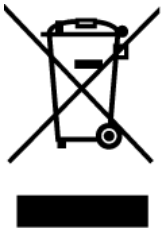
Declaration of Conformity

Hereby, Shelly Europe Ltd. declares that the radio equipment type Shelly Wave H&T is in compliance with Directive 2014/53/ EU, 2014/35/EU, 2014/30/EU, 2011/65/EU. The full text of the EU declaration of conformity is available at the following internet address: https://shelly.link/ShellyWaveH&T-DoC

For UP PSTI Act Statement of Compliance scan the QR code



Disposal & Recycling



Do not dispose of the product in household waste. Recycle the product to prevent environmental and health damage and to promote resource conservation. Dispose of the product at an appropriate waste collection point at your own responsibility.

Resellers, from which the Device was purchased are required to accept Waste Electrical and Electronic Equipment (WEEE) free of charge for proper disposal.

Some electronic products may store personal data. The user is responsible for deleting this data before disposing of the Device. For deletion reset the Device to its factory settings.

Printed User Guide

Shelly_Wave_H&T_EU_8lang_V1_B2513.pdf

Shelly_Wave_H&T_EU_LR_16-lang_eview.pdf

Wab links

Troubleshooting

Troubleshooting Guides

Gateway guides

You may find useful guides on gateways in the Z-Wave Z-Wave Gateways

Firmware

Latest firmware updates:

Stay Updated with the Firmware Releases for Shelly Wave Devices

all firmware updates:

GitHub - Shelly Wave FW OTA files

Integration

All shelly devices:

Discover Compatible Gateways for our Devices

Webpages

Product page

https://www.shelly.com/collections/all-products?sort_by=manual&filter.p.m.custom.filter_technology=Z-Wave&filter.v.price.gte=&filter.v.price.lte=

Manufacturer

Shelly Europe Ltd.

Address: Shelly Europe ltd, 51 Cherni Vrah Blvd., building 3, floor 2 and 3, Lozenetz Region, Sofia 1407, Republic of Bulgaria
Tel.: +359 2 988 7435
E-mail: zwave-shelly@shelly.cloud

Support: https://support.shelly.cloud/

Web: https://www.shelly.com

Changes in the contact data are published by the Manufacturer at the official website: https://www.shelly.com

Legal Notice