



Wave 1PM

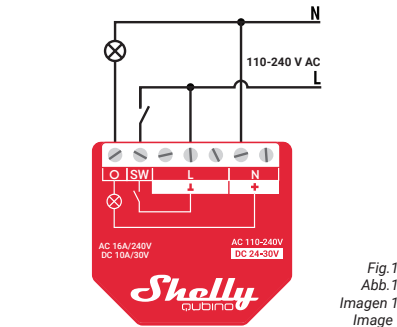


Fig. 1/ Abb. 1/ Imagen 1

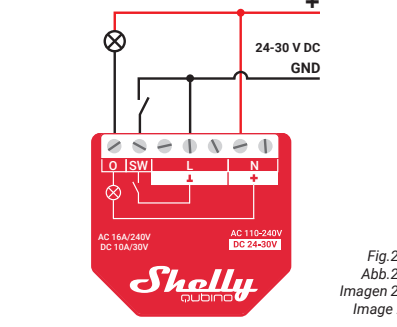


Fig. 2/ Abb. 2/ Imagen 2

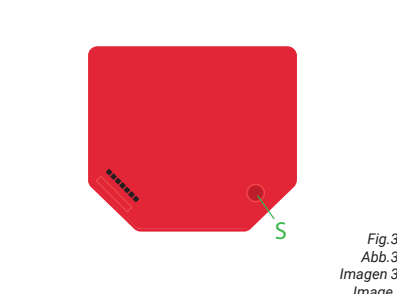


Fig. 3/ Abb. 3/ Imagen 3

EN

LEGEND
Device terminals:
• **N:** Neutral terminal
• **L:** Live terminal (110–240 V AC)
• **SW:** Switch/push-button input terminal (controlling O)
• **O:** Load circuit output terminal
• **+:** 24–30 V DC positive terminals
• **-:** 24–30 V DC ground terminals
• **S:** S button (Fig. 3)
Wires:
• **N:** Neutral wire
• **L:** Live wire (110–240 V AC)
• **+** 24–30 V DC positive wire
• **GND:** 24–30 V DC ground wire

DE

LEGENDE
Geräteanschlüsse:
• **N:** Klemme für Neutralleiter
• **L:** Klemme für Phase (110–240 V AC)
• **SW:** Schalter-/Tasterangabeingangs (Steuerung O)
• **O:** Ausgangsklemme des Lastkreises
• **+** 24–30 V DC positive Anschlussklemmen
• **-:** 24–30 V DC Erdungsklemmen
• **S:** Die S-Taste (Abb. 3)
Kabel:
• **N:** Neutralleiter
• **L:** Phasenleiter (110–240 V AC)
• **+** 24–30 V DC Pluskabel
• **GND:** 24–30 V DC Massekabel

IT

LEGENDA
Terminali del Dispositivo:
• **N:** Terminale neutro
• **L:** Terminale sotto tensione (110–240 V CA)
• **SW:** Terminale di ingresso interruttore/pulsante (controllo O)
• **O:** Terminale di uscita del circuito di carico
• **+** Terminali positivi 24–30 V CC
• **-:** Terminale di terra 24–30 V CC
• **S:** Pulsante S (Fig. 3)
Fili:
• **N:** Filo neutro
• **L:** Filo sotto tensione (110–240 V CA)
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EN

USER AND SAFETY GUIDE

Z-Wave™ smart switch with power measurement

READ BEFORE USE

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

CAUTION! Before beginning the installation, please read carefully and entirely this guide and any other documents accompanying the device. Failure to follow the installation procedures could lead to malfunction, danger to your health and life, violation of law or refusal of legal and/or commercial guarantee (If any). Shelly Europe Ltd. is not responsible for any loss or damage caused by use of incorrect installation or improper operation of this Device due to failure of following the user and safety instructions in this guide.

TERMINOLOGY

Gateway – 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.

S button – The Z-Wave™ Service button, which is located on Z-Wave™ devices and is used for various functions such as adding (inclusion), removing (exclusion), and resetting the device to its factory default settings. The term “S button” is used in this document.

Device – In this document, the term “Device” is used to refer to the Wave 1PM device.

ABOUT SHELLY QUBINO

Shelly Qubino is a line of innovative microprocessor-managed devices, which allow remote control of electric circuits with a smartphone, tablet, PC, or home automation system. They work on Z-Wave™ wireless communication protocol, using a gateway. When the gateway is connected to the internet, you can control Shelly Qubino devices remotely from anywhere. Shelly Qubino devices can be operated in any Z-Wave™ network with other Z-Wave™ certified devices from other manufacturers. All mains operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network. Devices are designed to work with older generations of Z-Wave™ devices and gateways.

ABOUT THE WAVE 1PM

The Wave 1PM (Device) is a single product that enables the control of the on/off function of one electrical device such as bulb, ceiling fan, IR heater. It measures power consumption of the connected device. The Device is compatible with push-buttons and switches (default).

ELECTRICAL DIAGRAM (110–240 V AC / 24 V DC)

Connecting to the power grid with power supply 110–240 V AC (Fig. 1), or 24–30 V DC (Fig. 2).

INSTALLATION INSTRUCTIONS

The Device can control a various type of loads (e.g., bulbs) in one electrical circuit up to 3.5 kW / 240 V AC. It can be retrofitted into standard electrical wall boxes, behind power sockets and light switches or other places with limited space.

CAUTION! Danger of electrocution. Mounting/installation of the Device to the power grid has to be performed with caution, by a qualified electrician.

WARNING! Danger of electrocution. Every change in the connections has to be done after ensuring there is no voltage present at the Device terminals.

CAUTION! Use the Device only with a power grid and appliances that comply with all applicable regulations. A short circuit in the power grid or any appliance connected to the Device may damage it.

CAUTION! Do not connect the Device to appliances exceeding the given max. load.

CAUTION! Do not shorten the antenna.

RECOMMENDATION: Place the antenna as far away as possible from metal elements as they can cause signal interference.

CAUTION! Connect the Device only in the way shown in these instructions. Any other method could cause damage and/or injury.

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!

RECOMMENDATION: Connect the Device using solid single-core wires with increased insulation heat resistance not less than PVC T105°C (221°F).

CAUTION! Before starting the mounting/installation of the Device, check that the breakers are turned off and there is no voltage on their terminals. This can be done with a phase tester or multimeter. When you are sure that there is no voltage, you can proceed to connecting the wires.

If you are using AC power supply you need to connect the load to the O terminal of the Device and the Neutral wire, as shown on Fig. 1. Connect the Live wire to an L terminal of the Device.

Connect the Neutral wire to a N terminal of the Device. Connect a switch or a push-button to the Device SW terminal and any of the unused L terminals of the Device.

If you are using DC power supply, connect the wires as shown on Fig. 2. Connect the load to the O terminal of the device and the + wire. Connect the GND wire to a - terminal of the Device.

Connect the + wire to a + terminal of the device. Connect the switch/push-button to the SW and any of the unused L terminals of the Device.

CAUTION! Use only one phase AC circuit. Do not use mixed AC and DC circuits.

RECOMMENDATION: For inductive appliances that cause voltage spikes during switching on/off, such as electrical motors, fans, vacuum cleaners and similar ones, RC snubber (0.1 µF / 100 Ω / 1/2 W / 600 V AC) should be connected parallel to the appliance.

CAUTION! Do not allow children to play with the push-buttons/ switches connected to the Device. Keep the devices for remote control of Shelly Qubino (mobile phones, tablets, PCs) away from children.

Z-WAVE™ ADDING/REMOVING (INCLUSION/EXCLUSION)

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 within 10 minutes of being switched on 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. Connect the Device to a power supply.
3. Check if the blue LED is blinking in Mode 1. If so, the Device is not added to a Z-Wave™ network.
4. Adding will be initiated automatically within a few seconds after connecting the Device to a power supply, 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 load connected to O will be blinking 1s on/1s off/1s on/1s off if the Device is successfully added to a Z-Wave™ network.
7. The green LED will be blinking in Mode 1 if the Device is successfully added to a Z-Wave™ network.

Adding (inclusion) with a switch/push-button:

1. Connect the Device to a power supply.
2. Check if the blue LED is blinking in Mode 1. If so, the Device is not added to a Z-Wave™ network.
3. Enable add/remove mode on the gateway.
4. Toggle the switch/push-button connected to the SW terminal 3 times within 3 seconds (this procedure puts the Device in LEARN MODE*). The Device must receive on/off signal 3 times, which means pressing the push-button 3 times, or toggling the switch on and off 3 times.
5. The blue LED will be blinking in Mode 2 during the adding process.
6. The load connected to O will be blinking 1s on/1s off/1s on/1s off if the Device is successfully added to a Z-Wave™ network.
7. 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:

1. Connect the Device to a power supply.
2. Check if the blue LED is blinking in Mode 1. If so, the Device is not added to a Z-Wave™ network.
3. Enable add/remove mode on the gateway.
4. To enter the Setting mode, quickly press and hold the S button on the Device until the LED turns Solid blue.
5. Quickly 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.
6. The blue LED will be blinking in Mode 2 during the adding process.
7. The load connected to O will be blinking 1s on/1s off/1s on/1s off if the Device is successfully added to a Z-Wave™ network.
8. The green LED will be blinking in Mode 1 if the Device is successfully added to a Z-Wave™ network.

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

Removing (exclusion) with a switch/push-button:

1. Connect the Device to a power supply.
2. Check if the blue LED is blinking in Mode 1. If so, the Device is not added to a Z-Wave™ network.
3. Enable add/remove mode on the gateway.
4. To enter the Setting mode, quickly press and hold the S button on the Device until the LED turns Solid blue.
5. Quickly 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.
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3. Enable add/remove mode on the gateway.
4. To enter the Setting mode, quickly press and hold the S button on the Device until the LED turns Solid blue.
5. Quickly 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.
6. The blue LED will be blinking in Mode 2 during the adding process.
7. The load connected to O will be blinking 1s on/1s off/1s on/1s off if the Device is successfully added to a Z-Wave™ network.
8. The green LED will be blinking in Mode 1 if the Device is successfully added to a Z-Wave™ network.

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

Removing (exclusion) with a switch/push-button:

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2. Check if the blue LED is blinking in Mode 1. If so, the Device is not added to a Z-Wave™ network.
3. Enable add/remove mode on the gateway.
4. To enter the Setting mode, quickly press and hold the S button on the Device until the LED turns Solid blue.
5. Quickly 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.
6. The blue LED will be blinking in Mode 2 during the adding process.
7. The load connected to O will be blinking 1s on/1s off/1s on/1s off if the Device is successfully added to a Z-Wave™ network.
8. The green LED will be blinking in Mode 1 if the Device is successfully added to a Z-Wave™ network.

2. Check if the green LED is blinking in Mode 1. If so, the Device is added to a Z-Wave™ network.

3. Enable add/remove mode on the gateway.

4. Toggle the switch/push-button connected to the SW terminal 3 times within 3 seconds (this procedure puts the Device in LEARN MODE*). The Device must receive on/off signal 3 times, which means pressing the push-button 3 times, or toggling the switch on and off 3 times.

5. The blue LED will be blinking in Mode 2 during the removing process.

6. The load connected to O will be blinking 1s on/1s off/1s on/1s off if the Device is successfully removed from a Z-Wave™ network.

7. The blue LED will be blinking in Mode 1 if the Device is successfully removed from a Z-Wave™ network.

Removing (exclusion) with the S button:

1. Connect the Device to a power supply.

2. Check if the green LED is blinking in Mode 1. If so, the Device is added to a Z-Wave™ network.

3. Enable add/remove mode on the gateway.

4. To enter the Setting mode, quickly press and hold the S button on the Device until the LED turns Solid blue.

5. Quickly 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.

6. The blue LED will be blinking in Mode 2 during the removing process.

7. The load connected to O will be blinking 1s on/1s off/1s on/1s off if the Device is successfully removed from a Z-Wave™ network.

8. 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

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 a switch/push-button:

Note! Factory reset with the switch/push-button is only possible with in the first minute after the Device is connected to a power supply.

1. Connect the Device to a power supply.

2. Toggle the switch/push-button connected to the SW terminal 5 times within 3 seconds. The Device must receive on/off signal 5 times, which means pressing the push-button 5 times, or toggling the switch on and off 5 times.

3. During factory reset, the LED will turn solid green for about 1s, then the blue and red LED will start blinking in Mode 3 for approx. 2s.

4. The blue LED will be blinking in Mode 1 if the Factory reset is successful.

Factory reset with the S button:

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

1. To enter the Setting mode, quickly press and hold the S button on the Device until the LED turns Solid blue.

2. Press the S button multiple times 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 turn solid green for about 1s, then the blue and red LED will start blinking in Mode 3 for approx. 2s.

5. The blue LED will be blinking in Mode 1 if the Factory reset is successful.

NOTE: For more information about this Device refer to the Extended User Guide available at <https://kb.shelly.cloud/>.

LED SIGNALIZATION

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	

Normal mode

Normal mode	Colour	LED mode
Removed/Excluded	Blue	Mode 1
Added/Included	Green	Mode 1

Setting mode (with S button)

Adding/Removing (Inclusion/Exclusion) menu selected	Blue	Solid
Adding/Removing (Inclusion/Exclusion) menu - while pressing S button - Adding/Removing (Inclusion/Exclusion) process selected	Blue	Mode 3
Factory reset menu selected	Red	Solid
Factory reset - while pressing S button - Factory reset process selected	Red	Mode 3

Setting in progress mode

Factory reset and reboot	Blue / Red / Green	**
Adding/Removing (Inclusion/Exclusion)	Blue	Mode 2
Checking power supply 230 V AC frequency or 24 V DC voltage	Blue / Red	Mode 5
OTA firmware updating	Blue / Red	Mode 2

Alarm mode

Over-current detected O	Red	Mode 4(1x)
Overheat detected	Red	Mode 4(2x)
Power supply fault (power supply 230 V AC frequency or 24 V DC voltage fault)	Red	Mode 4(3x)

** The LED will turn solid green for about 1s, then the blue and red LED will start blinking in Mode 3 for approx. 2s.

• When you turn on the power supply, the LED will turn on for 30 minutes after the power cycle. Every time you press on the S button, the LED will turn on for 30 minutes. If alarm is active, LED will not turn off.

OPERATIONAL INSTRUCTIONS

If the SW is configured as a switch (default), each toggle of the switch will change the output O state to the opposite state - on, off, etc.

