Shelly Plus 1PM Mini Wi-Fi Smart Switch with Power Measurement Functionality User Guide

USER AND SAFETY GUIDE
Wi-Fi smart switch with power measurement functionality
Shelly Plus 1PM Mini

Contents

1PM Mini Wi-Fi 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 in case of incorrect installation or improper operation of this device due to failure of following the user and safety instructions in this guide.

Product Introduction

Shelly® is a line of innovative microprocessor-managed devices, which allow remote control of electric circuits through a mobile phone, tablet, PC, or home automation system.
Shelly® devices can work standalone in a localWi-Fi network or they can also be operated through cloud home automation services.
Shelly Cloud is a service that can be accessed using either an Android or iOS mobile application or with any internet browser at **https://control.shelly.cloud/**.
Shelly® devices can be accessed, controlled, and monitored remotely from any place where the user has internet connectivity, as long as the devices are connected to a Wi-Fi router and the Internet. Shelly® devices have an Embedded Web Interface accessible at **http://192.168.33.1** when connected directly to the device access point, or at the device IP address on the local Wi-Fi network. The embedded Web Interface can be used to monitor and control the device, as well as adjust its settings. Shelly® devices can communicate directly with other Wi-Fi devices through HTTP protocol. An API is provided by Shelly Europe Ltd. For more information, please visit:
https://shelly-api-docs.shelly.cloud/#shelly-family-overview.
Shelly® devices are delivered with factory-installed firmware.
If firmware updates are necessary to keep the devices in conformity, including security updates, Shelly Europe Ltd. will provide the updates free of charge through the device Embedded Web Interface or the Shelly mobile application, where the information about the current firmware version is available. The choice to install or not the device firmware updates is the user's sole responsibility. Shelly Europe Ltd.
shall not be liable for any lack of conformity of the device caused by failure of the user to install the provided updates in a timely manner.

Schematic

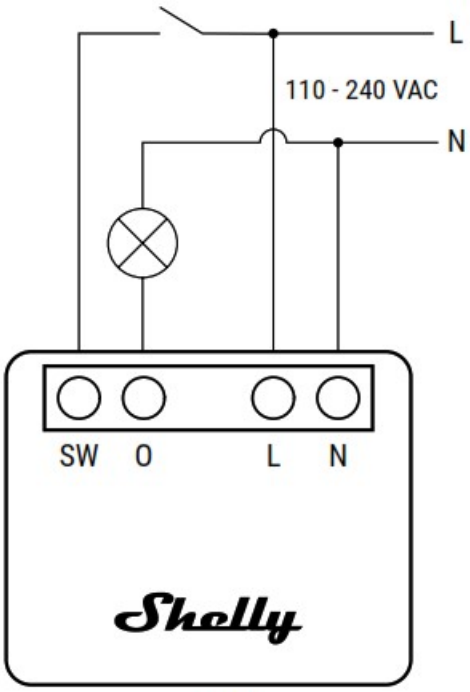

Fig. 1

Legend

Device terminals:

- SW: Switch input terminal
- O: Relay output terminal
- L: Live (110-240V) terminals
- N: Neutral terminals

Wires:

- N: Neutral wire
- L: Live wire (110 – 240 VAC)

Installation Instructions

Shelly Plus 1PM (the Device) is a small form factor smart switch with power measurement, which allows remote control of electric appliances.
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.

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

⚠ **CAUTION!** Do not open the device. It does not contain any parts that can be maintained by the user. For safety and licensing reasons, unauthorized change and/or modification
of the device is not permitted.

⚠ **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!** No SELV/PELV circuits may be connected to the terminals of the inputs and outputs, including the extension inputs.

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

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

⚠ **CAUTION!** Do not use the device if it shows signs of damage! Do not attempt to service or repair the Device yourself!

⚠ **CAUTION!** Do not install the Device where it can get wet.

⚠ **CAUTION!** The load current circuit has to be secured by a cable protection switch in accordance with EN60898-1 (tripping characteristic B or C, max. 10 A rated current, min. 6 kA interrupting rating, energy limiting class 3).

⚠ **RECOMMENDATION:** Connect the Device using solid single-core cables or stranded cables with ferrules. The cables should have insulation with increased heat resistance, not less than PVC T105°C (221°F).
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 cables. 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 an N terminal of the Device. Connect a switch or a button to the Device SW terminal and any of
the unused L terminals of the Device.

⚠ **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 VAC) should be connected parallel to the appliance.
The RC snubber can be purchased at **https://www.shelly.com/en/products/shop/rc-snubber**.

Initial Inclusion

If you choose to use the Device with the Shelly Smart Control mobile application and cloud service, instructions on how to connect the Device to the Cloud and control it through the Shelly Smart Control app can be found in the mobile application guide. The Shelly mobile application and Shelly Cloud service are not conditions for the Device to function properly.
This Device can be used standalone or with various other home automation platforms and protocols.

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

Specification

- Dimensions (HxWxD): 29x34x16 mm / 1.34×1.11×0.63 in
- Ambient temperature: -20 °C to 40 °C / -5 °F to 105 °F
- Humidity 30 % to 70 % RH
- Max. altitude 2000 m / 6562 ft
- Power supply: 110 – 240 VAC, 50/60Hz
- Electrical consumption: < 1.2 W
- Max. switching voltage: 240 VAC
- Max. switching current AC: 8 A
- Power metering: Yes
- Overpower protection: Yes
- Overcurrent protection: Yes
- Overvoltage protection: Yes
- Overtemperature Protection: Yes
- RF band: 2400 – 2495 MHz
- Max. RF power: < 20 dBm
- Wi-Fi protocol: 802.11 b/g/n
- Wi-Fi operational range (depending on local conditions):
  – up to 50 m / 160 ft outdoors
  – up to 30 m / 100 ft indoors
- Bluetooth protocol: 4.2
- Bluetooth operational range (depending on local conditions):
  – up to 30 m / 100 ft outdoors
  – up to 10 m / 33 ft indoors
- CPU: ESP32
- Flash: 4 MB
- Schedules: 20
- Webhooks (URL actions): 20 with 5 URLs per hook
- Scripting: mJS
- MQTT: Yes

Declaration of conformity

Hereby, Shelly Europe Ltd. (former Allterco Robotics EOOD) declares that the radio equipment type Shelly Plus 1PM Mini 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/plus1pmmini_DoC**

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Documents / Resources

	Shelly Plus 1PM Mini Wi-Fi Smart Switch with Power Measurement Functionality [pdf] User Guide Plus 1PM Mini Wi-Fi Smart Switch with Power Measurement Functionality, Plus 1PM Mini, Wi-Fi Smart Switch with Power Measurement Functionality, Switch with Power Measurement Functionality, with Power Measurement Functionality, Power Measurement Functionality, Measurement Functionality, Functionality

References

- Shelly Control
- Welcome to Shelly Technical Documentation | Shelly Technical Documentation
- Shelly Plus 1PM Mini
- User Manual