Shelly Pro 1PM DIN Mountable WiFi Smart Relay with Power Measurement Functionality User Guide

USER AND SAFETY GUIDE
DIN MOUNTABLE WI-FI SMART RELAY WITH POWER MEASUREMENT FUNCTIONALITY
SHELLY® PRO 1 PM

Read before use
This document contains important technical and safety information about the device, its safe use, and its installation.
⚠ **CAUTION!**
Before beginning the installation, please read this guide and any other documents accompanying the device carefully and completely. Failure to follow the installation procedures could lead to malfunction, danger to your health and life, violation of the law, or refusal of legal and/or commercial guarantee (if any). Allterco Robotics EOOD is ot 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.

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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 local Wi-Fi network or they can also be operated through cloud home automation services. Shelly Cloud is a service that can be accessed using either Android or iOS mobile application, or with any internet browser at **https://home.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 Allterco Robotics EOOD. 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, Allterco Robotics EOOD will provide the updates free of charge through the device embedded Web Interface or 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. Allterco Robotics EOOD shall not be liable for any lack of conformity of the device caused by the failure of the user to install the provided updates in a timely manner.

Control your home with your voice

Shelly® devices are compatible with Amazon Alexa and Google Home-supported functionalities. Please see our step-by-step guide on: **https://shelly.cloud/support/compatibility/**.

Shelly® Pro Series

Shelly® Pro series is a line of devices suitable for homes, offices, retail stores, manufacturing facilities, and other buildings. Shelly® Pro devices are DIN mountable inside the breaker box, and highly suitable for new building construction. All Shelly® Pro devices can be controlled and monitored through Wi-Fi and LAN connections. Bluetooth connection can be used for the inclusion process. Shelly® Pro line offers PM products capable of real-time precise power measurement. Shelly® Pro 1 PM (the Device) is a DIN rail mountable smart relay with power measurement functionality. Enhanced with the second generation firmware flexibility and LAN connectivity, it provides the professional integrators with much more options for end customer solutions.

Schematic

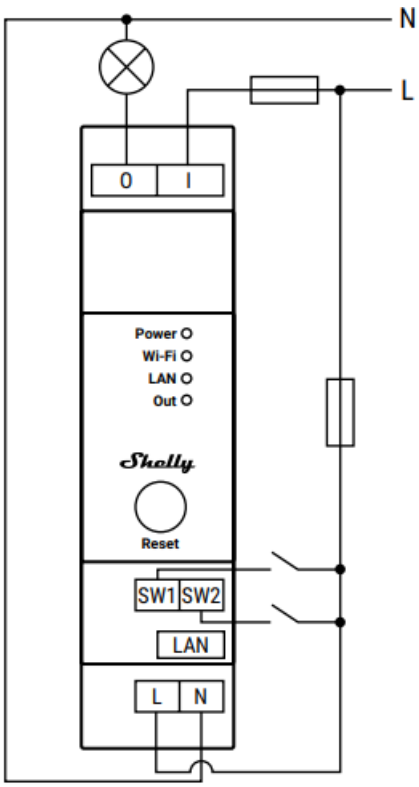

Fig. 1

Legend
Device terminals:

- O: Load output terminals
- I: Load input terminals
- SW1, SW2: Switch input terminals controlling O*
- L: Live (110-240 VAC) terminal
- N: Neutral terminal
- LAN: Local Area Network RJ 45 connector

Cables:

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

  * Can be reconfigured in the Device settings

Installation Instructions

⚠ **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!** Use the Device only with a power grid and appliances which comply with all applicable regulations. A short circuit in the power grid or any appliance connected to the Device may damage the Device.
⚠ **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 install the device at a place that is possible to get wet.
⚠ **CAUTION!** Allow at least 10 mm of space around each Pro device if you expect currents higher than 5 A per

channel.
⚠ **RECOMMENDATION** Connect the Device using solid single-core cables with increased insulation heat resistance not less than PVC T105°C.

Before starting installing/mounting the Device, wire check that the breakers are turned off and there is no voltage on their terminals. This can be done with a phase meter or multimeter. When you are sure that there is no voltage, you can proceed to connect the cables. Connect the N terminal to the Neutral cable and the L terminal to the Device power supply circuit breaker as shown on Fig.1. Connect the load circuit to the O terminal and the Neutral cable. Connect the I terminal to the load circuit breaker. Connect a switch/button to the S1 terminal and the Device power supply circuit breaker. If you need another switch/button, connect it to the S2 terminal and the Device power supply circuit breaker. ⚠RECOMMENDATION: For inductive appliances that cause voltage spikes during switching on/off, such as electrical motors, fans, vacuum cleaners and similar ones, RC snubber (0.1µF / 100 Ω / 1/2 W / 600 VAC) should be connected parallel to the appliance. The RC snubber can be purchased at **https://shop.shelly.cloud/rc-snubber-wifi-smart-home-automation**.

Initial Inclusion

If you choose to use the Device with the Shelly Cloud mobile application and Shelly Cloud service, instructions on how to connect the Device to the Cloud and control it through the Shelly App can be found in the “App Guide”. The Shelly Mobile Application and Shelly Cloud service are not conditions for the Device to function properly. This Device can be used stand-alone 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.

LED indication

- Power (red): Red light indicator will be on if the power supply is connected.
- **Wi-Fi (varies):**
  – The blue light indicator will be on if in AP mode.
  – Red light indicator will be on if in STA mode and not connected to a Wi-Fi network.
  – Yellow light indicator will be on if in STA mode and connected to a Wi-Fi network. Not connected to Shelly Cloud or Shelly Cloud disabled.
- The green light indicator will be on if in STA mode and connected to a Wi-Fi network and to the Shelly Cloud.
  – The light indicator will be flashing Red/Blue if an OTA update is in progress.
- LAN (green): Green light indicator will be on if LAN is connected.
- Out (red): Red light indicator will be on if the Output relay is closed.

Reset button

- Press and hold for 5 sec for AP mode.
- Press and hold for 10 sec for factory reset.”

Specification

- Mounting: DIN rail
- Dimensions (HxWxL): 68.5×18.5×89.5 mm
- Working temperature: -20°C – 40°C
- Max altitude: 2000 m
- Power supply: 110 – 240 VAC, 50/60Hz
- Electrical consumption: < 3 W
- Max switching voltage: 240 VAC

- Max switching current: 16 A
- Max RF output power Wi-Fi: 13.34 dBm
- Radio protocol: Wi-Fi 802.11 b/g/n
- Wi-Fi frequency: 2412 – 2472 MHz (Max. 2483 MHz)
- Operational range (depending on local construction):
  – up to 50 m outdoors,
  – up to 30 m indoors
- Bluetooth: v.4.2
- Bluetooth modulation: GFSK, π/4-DQPSK, 8-DPSK
- Bluetooth frequency: TX/RX – 2402 – 2480MHz
- Max RF output power Bluetooth: 3.75 dBm
- LAN/Ethernet (RJ45): Yes
- Potential-free contacts: No
- Power metering: Yes
- Overpower protection: Yes
- Overcurrent protection: Yes
- Overvoltage protection: Yes
- Overtemperature Protection: Yes
- Scripting (JMS): Yes
- MQTT: YES
- Webhooks (URL actions): 20 with 5 URLs per hook
- Schedules: 20
- CPU: ESP32
- Flash: 8 MB

Declaration of conformity

Hereby, Allterco Robotics EOOD declares that the radio equipment type Shelly Pro 1 PM 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.cloud/knowledge-base/devices/shelly-pro-1pm/**

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E-mail: **support@shelly.cloud**
Official website: **https://www.shelly.cloud**
Changes in the contact data are published by the Manufacturer at the official website.

Documents / Resources

	Shelly Pro 1PM DIN Mountable WiFi Smart Relay with Power Measurement Functionality [pdf] User Guide Pro 1PM, DIN Mountable WiFi Smart Relay with Power Measurement Functionality, Pro 1PM DIN Mountable WiFi Smart Relay with Power Measurement Functionality
	Shelly PRO 1PM DIN Mountable WiFi Smart Relay [pdf] User Guide PRO 1PM DIN Mountable WiFi Smart Relay, PRO 1PM, PRO 1PM Smart Relay, DIN Mountable WiFi Smart Relay, WiFi Smart Relay, DIN Mountable Smart Relay, Smart Relay, Relay

References

- Shelly Home
- Welcome to Shelly Technical Documentation | Shelly Technical Documentation
- Shelly Smart Control
- Shelly Cloud - Shelly
- Shelly - Shelly