

USER AND SAFETY GUIDE

4-CIRCUIT WI-FI SMART RELAY SWITCH WITH POWER MEASUREMENT

SHELLY® PRO 4PM



Read before use

This document contains important technical and safety information about the device, its safety use and 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 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 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 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 user's sole responsibility. Allterco Robotics EOOD 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.

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/>.

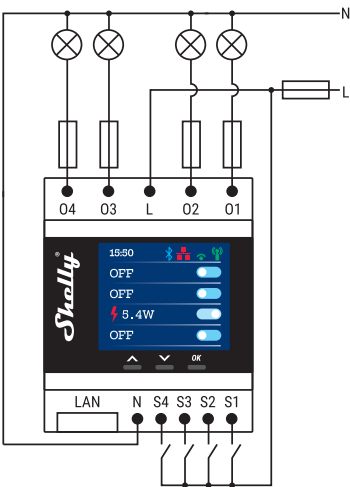
Shelly® Pro Series

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 4PM (the Device) by Allterco Robotics is a 4-channel single-phase smart relay featuring power measurement for individual each channel. It is designed for installation in switchboards on a DIN rail. Enhanced with the second generation firmware flexibility and LAN connectivity, it provides the professional integrators with much more options for end customer solutions.

Schematic



Legend

Device terminals:

- **O1, O2, O3, O4:** Load output terminals
- **S1, S2, S3, S4:** Switch input terminals controlling O1, O2, O3, O4
- **L:** Live (110-240V) terminal
- **N:** Neutral terminal
- **LAN:** Local Area Network RJ 45 connector

Cables:

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

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 where it can get wet.

⚠ CAUTION! Plug in or unplug the LAN cable only when the Device is powered off! The LAN cable must not be metallic in the parts touched by the user to plug in or unplug the cable.

⚠ CAUTION! Allow at least 10 mm of space around each Pro device if you expect currents higher than 10 A per channel.

⚠ RECOMMENDATION Connect the Device using solid single-core cables with increased insulation heat resis-

tance not less than PVC T105°C.

Before installing/mounting 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 multi-meter. When you are sure that there is no voltage, you can proceed connecting the cables.

Connect the four load circuits to the O1, O2, O3, O4 terminals and the Neutral wire as shown on Fig. 1. Connect the Device L terminal to a 40 A (max amperage) circuit breaker. Connect the Device N terminal to the Neutral wire. Finally connect the four switch circuits to the S1, S2, S3, S4 input terminals and the 40 A 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 / 100Ω / 1/2W / 600V AC) should be connected parallel to the appliance. The RC snubber can be purchased at <https://shop.shelly.cloud/rc-snubber-wi-fi-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.

Display

The LCD displays a top bar with short status information:

- Time
- Bluetooth connection status:
 - Disabled - no icon
 - Enabled - blue icon (📶)
- LAN status:
 - Disabled - no icon
 - Enabled, but not connected - red icon (🔴)
 - Connected - green icon (🟢)
- Wi-Fi STA status:
 - Disabled - no icon
 - Enabled, but not connected - red icon (🔴)
 - Connected - green icon (🟢)
- Wi-Fi AP status:
 - Disabled - no icon
 - Connected - green icon (🟢)
- Cloud status:
 - Disabled - no icon
 - Enabled, but not connected - red icon (🔴)
 - Connected - green icon (🟢)

The main part of the LCD displays the Device menu screens:

- Main (default) screen:
 - Output 1 OFF or displays power in Watts, when on.
 - Output 2 OFF or displays power in Watts, when on.
 - Output 3 OFF or displays power in Watts, when on.
 - Output 4 OFF or displays power in Watts, when on.
- Network:
 - Wi-Fi AP enable/disable
 - Wi-Fi STA enable/disable
 - Ethernet enable/disable
 - Bluetooth enable/disable
- Status - Displays complete status information
- Maintenance
 - Wi-Fi reset
 - Factory reset
 - Reboot

User buttons

Press the **UP**(^) or the **DOWN**(v) button to scroll through the currently displayed menu.

Press the **OK** button to wake up the Device display or to select a menu item.

Press and hold the **OK** button to get into the menu screen. Press and hold the **OK** button while in a sub menu to move to the Main menu.

Specification

- Dimensions (HxWxD): 96x53x59 mm / 3.78x2.01x2.32 inch
- Mounting: DIN rail
- 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: < 4 W
- Max switching voltage AC: 250 V
- Max switching voltage DC: N/A
- Max switching current AC: 16 A per channel, 40 A total
- Max switching current DC: N/A
- Power metering: Yes
- Overpower protection: Yes
- Overcurrent protection: Yes
- Overvoltage protection: Yes
- Overtemperature Protection: Yes
- Wi-Fi protocol: 802.11 b/g/n
- Wi-Fi frequency: 2412 - 2472 MHz (Max. 2483 MHz)
- Wi-Fi max RF output power: 13.83 dBm
- Wi-Fi operational range (depending on local construction):
 - up to 50 m / 160 ft outdoors,
 - up to 30 m / 100 ft indoors
- Bluetooth protocol: BLE 4.1
- Bluetooth frequency: 2402 - 2480 MHz (Max. 2483.5 MHz)
- Bluetooth operational range (depending on local construction):
 - up to 30 m / 100 ft outdoors,
 - up to 10 m / 33 ft indoors
- Bluetooth max. RF output power: 4.97 dBm
- CPU: ESP32
- Flash: 8 MB
- Schedules: 20
- Webhooks (URL actions): 20 with 5 URLs per hook
- Scripting: mJS
- MQTT: Yes

Declaration of conformity

Hereby, Allterco Robotics EOOD declares that the radio equipment type Shelly Pro 4PM 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-4pm/>

Manufacturer: Allterco Robotics EOOD

Address: Bulgaria, Sofia, 1407, 103 Cherni vrah Blvd.

Tel.: +359 2 988 7435

E-mail: support@shelly.cloud

Internet: <https://www.shelly.cloud>

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

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