

Shelly Pro 1PM v.1



Shelly Pro 1PM v.1 is a modification of Shelly Pro 1PM (SPSW-001PE16EU)

Shelly Pro 1PM v.0 is now obsolete and out of sale.

[Download Shelly Pro 1PM multi-language printed user manual.](#)

Differences with Shelly Pro 1PM v.0 are marked by the ≠ symbol in the text below.

Main changes:

- Power supply: no more 12 VDC option.
- Connectors: 3-terminal connectors are replaced by 2-terminal ones.
- PCBs: relay 2-layer PCBs are replaced by 4-layer ones for better thermal performance.
- LAN: improved high voltage electrical distances.
- Plastics shell: improved dielectric performance.

Device identification (≠)

- Device name: **Shelly Pro 1PM v.1**
- Device model: **SPSW-201PE16EU**
- Device SSID: **ShellyPro1PM-XXXXXX**

Short description

Shelly Pro 1PM is a DIN rail mountable smart switch with power measurement capabilities. Enhanced with all the gen2 firmware flexibility and LAN connectivity, it provides professional integrators with many more options for end customer solutions. It can work standalone in a local Wi-Fi network or it can also be operated through cloud home automation services.

Shelly Pro 1PM can be accessed, controlled and monitored remotely from any place where the User has internet connectivity, as long as the device is connected to a Wi-Fi router and the Internet.

Shelly Pro 1PM has an embedded Web Interface which can be used to monitor and control the device as well as adjust its settings.

Main applications

- Residential

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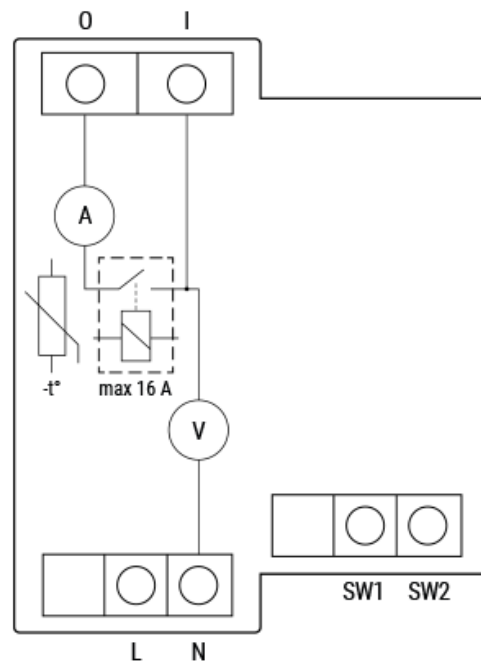
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- MDU (Multi Dwelling Units - apartments, condominiums, hotels, etc.)
- Light commercial (small office buildings, small retail/restaurant/gas station, etc.)
- Government/municipal
- University/college

Integrations

- Google
- Alexa
- Samsung SmartThings

Simplified internal schematics (≠)



Device electrical interfaces

Inputs

- 2 switch/button inputs on screw terminals: **SW1** and **SW2**
- 2 power supply inputs on screw terminals: 1 **N** and 1 **L**
- 1 relay inputs: **I**

Outputs

- 1 relay outputs: **O**

Ethernet port

- 1 RJ45 connector

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

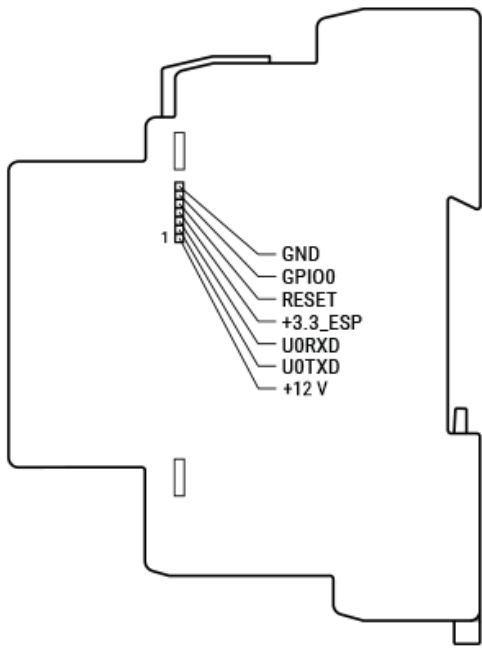
Add-on interface

- Shelly proprietary serial interface

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⚠CAUTION! High voltage on the add-on interface when the Device is powered!

Connectivity

- Ethernet
- Wi-Fi
- Bluetooth

Safety features

- Overheating protection
- Overvoltage protection
- Overcurrent protection
- Overpower protection

Supported load types

- Resistive (incandescent bulbs, heating devices)
- Capacitive (capacitor banks, electronic equipment, motor start capacitors)
- Inductive with RC Snubber (LED light drivers, transformers, fans, refrigerators, air-conditioners)

User interface

Inputs

- One tactile dome button
 - Press and hold 5 sec to reboot.
 - Press and hold 10 sec to factory reset.

Outputs

- LED indication
 - Power (red): Red light indicator will be on if power supply is connected.
 - Wi-Fi (varies):
 - 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.
 - Green light indicator will be on if in STA mode and connected to a Wi-Fi network and to Shelly Cloud.
 - The light indicator will be flashing Red/Blue if 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.

Specifications (≠)

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Type	Value
Physical	
Size (HxWxD):	94x19x69 mm±0.5 mm / 3.70x0.75x2.71 ±0.02 in
Weight:	65 g
Mounting:	DIN rail
Screw terminals max torque:	0.4 Nm / 3.54 lbin
Conductor cross section:	0.5 to 2.5 mm² / 20 to 14 AWG (green connector) 0.5 to 1.5 mm² / 20 to 16 AWG (blue connectors)
Conductor stripped length:	6 to 7 mm / 0.24 to 0.28 in (green connector) 5 to 6 mm / 0.20 to 0.24 in (blue connectors)
Shell material:	Plastic
Color:	Red
Environmental	
Ambient temperature:	-20 °C to 50 °C / -5 °F to 122 °F
Humidity	10 % to 90 % RH
Max. altitude	2000 m / 6562 ft
Electrical	
Power supply voltage AC:	110 - 240 V
Power supply voltage DC:	N/A
Min. operating voltage AC:	90 V
Max. operating voltage: AC	264 V
Power consumption:	< 3 W
Neutral not needed:	No
Output circuits ratings	
Max switching voltage AC:	240 V
Max switching voltage DC:	N/A
Max switching current AC:	16 A
Max switching current DC:	N/A
Sensors, meters	
Voltmeter (AC)	Yes
Ammeter (AC)	Yes
Internal-temperature sensor:	Yes
Radio	
RF band:	2400 - 2495 MHz
Max. RF power:	<20 dBm
Wi-Fi protocol:	802.11 b/g/n
Wi-Fi Range:	Up to 30 m / 100 ft indoors and 50 m / 160 ft outdoors

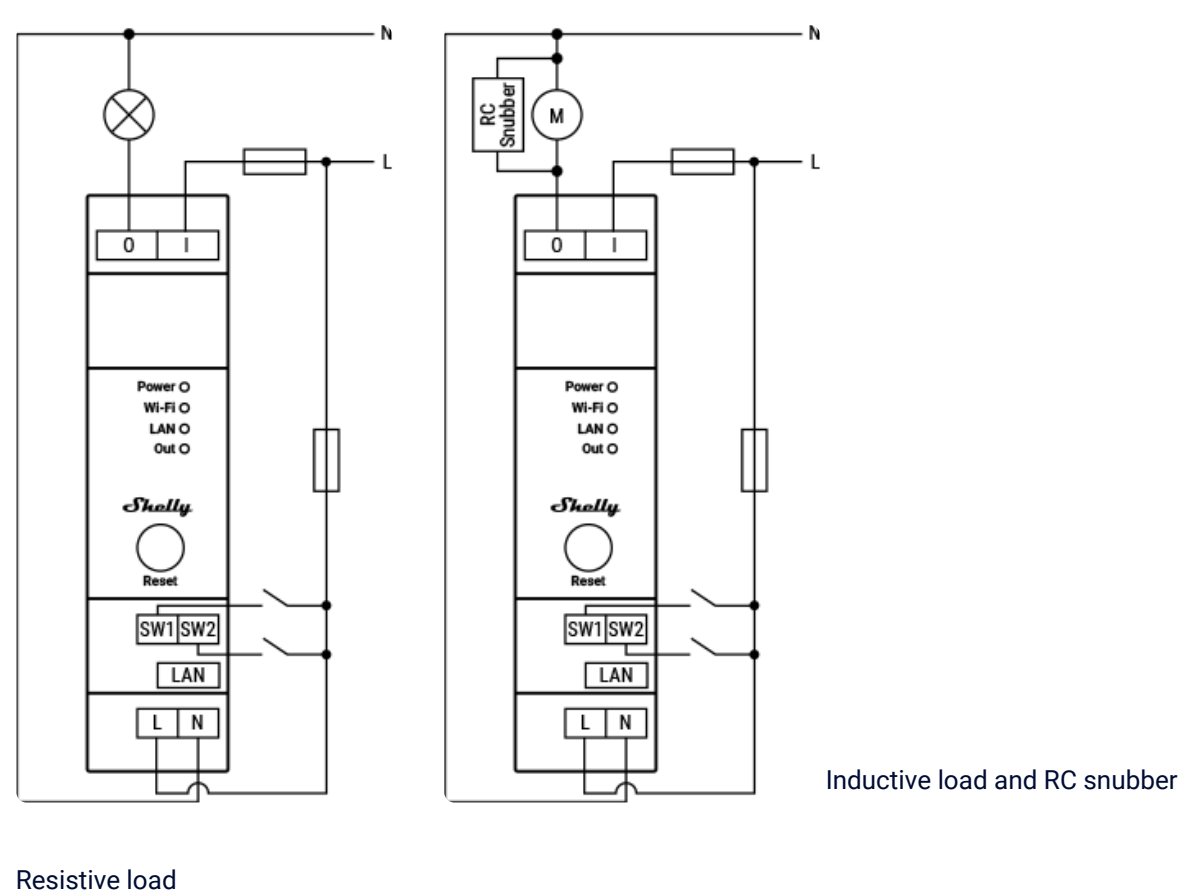
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	(Depends on local conditions)
Bluetooth Protocol:	4.2
Bluetooth Range:	Up to 10 m / 33 ft indoors and 30 m / 100 ft outdoors (Depends on local conditions)
MCU	
CPU:	ESP32-D0WDQ6
Flash:	8 MB
Firmware capabilities	
Schedules:	20
Webhooks (URL actions):	20 with 5 URLs per hook
Scripting:	Yes
MQTT:	Yes
CoAP:	No

Basic wiring diagram (≠)



Legend



Terminals		Wires	
I	Load circuit input terminal	L	Live (110-240 V) wire
O	Load circuit output terminal	N	Neutral wire
SW1, SW2	Switch/button input terminals		
L	Live (110-240 V) terminal		
N	Neutral terminal		
LAN	Local Area Network RJ 45 connector		

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