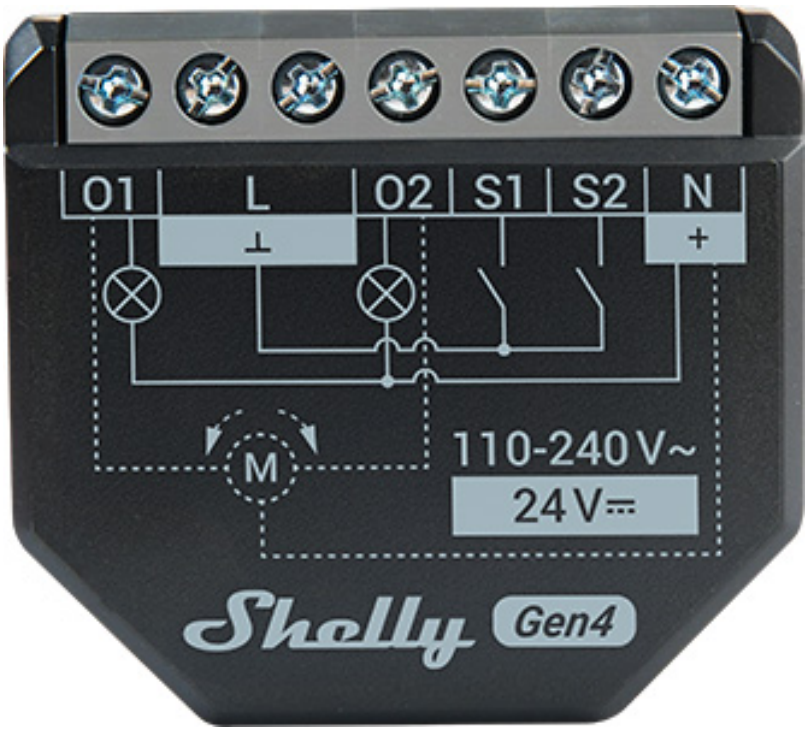

Shelly 2PM Gen4

User and safety guide

Rev. 1
Nov. 6, 2025

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Graphical symbols

⚠ This sign indicates safety information.

ⓘ This sign indicates an important notice.

Safety information

For safe and proper use, please read this guide and any accompanying documents. Keep them for future reference. To avoid possible harm or property damage:

- Only a qualified electrician is allowed to install the Device.
- Connect the Device only in the way shown in these instructions.
- Secure the Device by a cable protection switch in accordance with EN 60898-1 (tripping characteristic B or C, max. 16 A rated current, min. 6 kA interrupting rating, energy limiting class 3).
- Do not use the Device if it shows any sign of damage or defect.
- Do not attempt to repair the Device yourself.
- Use the Device only indoors.
- Keep the Device away from dirt and moisture.

Device identification

- Device name: Shelly 2PM Gen4
- Device model: S4SW-002P16EU
- Device SSID: Shelly2PMG4-XXXXXXXXXXXX
- BLE Model ID: **0x1032**

Short description

Shelly 2PM Gen4 is a small form factor 2-channel smart switch with power measurement and cover control, which allows remote control of electric appliances through a mobile phone, tablet, PC, or home automation system. It can work standalone in a local Wi-Fi network, or it can also be operated through cloud home automation services. The device also has improved processor and increased memory compared to its predecessor. The device supports Venetian blinds similar to its predecessor Shelly 2PM Gen3.

Shelly 2PM Gen4 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.

It can be retrofitted into standard electrical wall boxes, behind power sockets and light switches or other places with limited space.

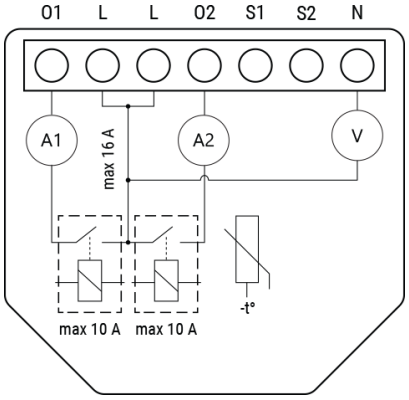
Shelly 2PM Gen4 has embedded Web Interface which can be used to monitor and control the device, as well as adjust its settings. The device has multi-protocol wireless MCU which provide Zigbee and Bluetooth connectivity ensuring a secure connection.

This device is compatible with Matter (default device profile is Switch).

Integrations

Amazon Alexa supported capabilities	Google Smart Home supported traits	Samsung SmartThings supported capabilities
Turn On/Off	Turn On/Off	Turn On/Off

Simplified internal schematics



Device electrical interfaces

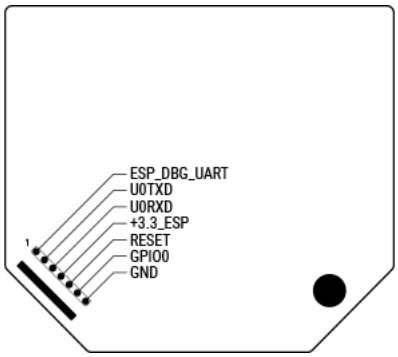
Inputs

- 2 switch/button inputs on screw terminal: S1 and S2
- 3 power supply inputs on screw terminals: 1 N (+) and 2 L (⊥)

Outputs

- 2 relay outputs with power measurement on screw terminal

Add-on interface



Shelly proprietary serial interface

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

Safety functions

- Overheating protection
- Overvoltage protection
- Overcurrent protection
- Overpower protection
- Obstacle detection (cover mode)
- Safety switch (cover mode)

Supported load types

- Resistive (incandescent bulbs, heating appliances)
- Capacitive (capacitor banks, electronic equipment, motor starting capacitors)
- Inductive with RC Snubber (LED light drivers, transformers, fans, refrigerators, air-conditioners, washing machines, tumble dryers)

User interface

Inputs

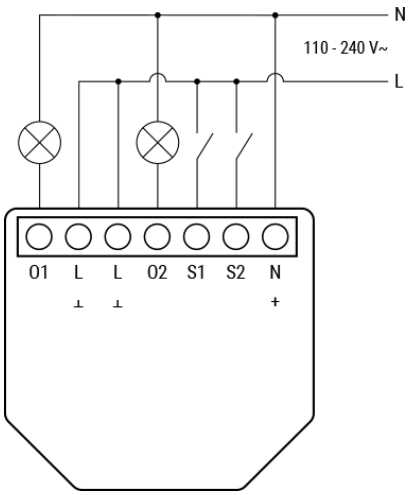
- One (Control) button
  - Press and hold for 5 seconds to enable Device access point and Bluetooth connection.
  - Press and hold for 10 seconds to factory reset the Device.
  - Press 5 consecutive times to switch the Device from Matter firmware (default) to Zigbee.
  - Press 3 consecutive times to put the Device in Zigbee inclusion mode. The Device stays in this mode for 2 minutes and you can find it in the Home Automation platform through the Zigbee Hub.

Outputs

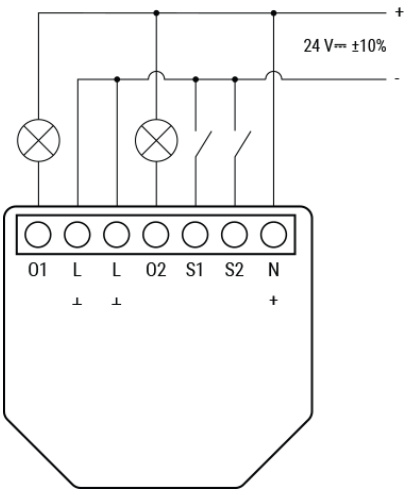
- LED (Monocolor) indication
  - AP (Access Point) enabled, and Wi-Fi disabled: 1 second ON / 1 second OFF
  - Wi-Fi enabled, but not connected to a Wi-Fi network: 1 second ON / 3 seconds OFF
  - Connected to a Wi-Fi network: Constantly ON
  - Cloud is enabled, but not connected: 1 second ON /5 seconds OFF
  - Connected to Shelly Cloud: Constantly ON
  - OTA (Over the Air Update): ½ sec ON / ½ second OFF
  - Button pressed and held for 5 seconds: ½ second ON / ½ second OFF
  - Button pressed and held for 10 seconds: ¼ second ON / ¼ second OFF

The list above starts with the initial device status and the lowest priority. Every next state cancels the previous one.

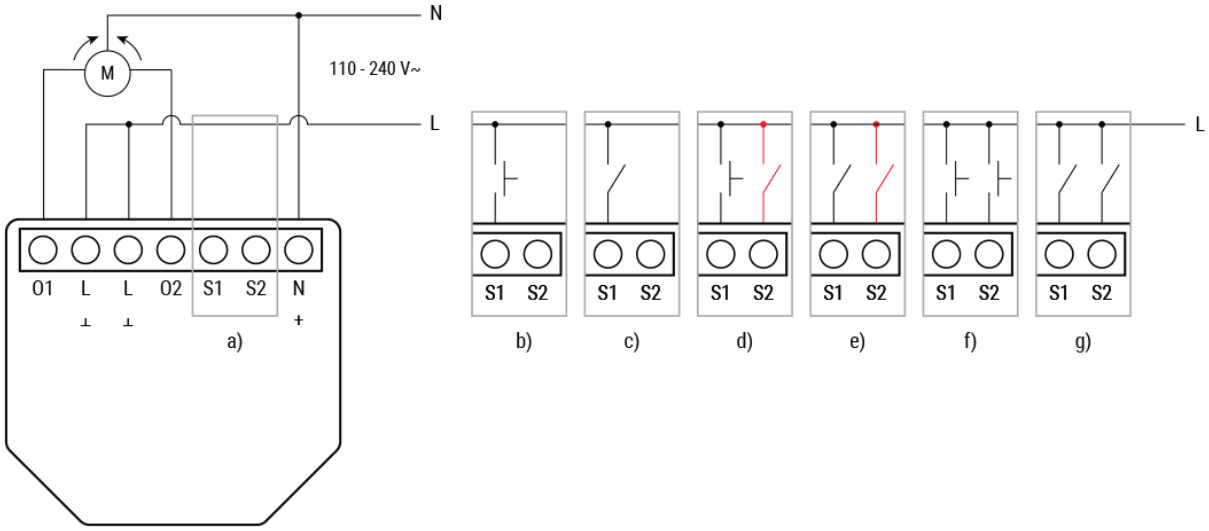
Basic wiring diagrams



Dual-channel switch mode, AC power supply



Dual-channel switch mode, DC power supply



Cover mode

Legend

Terminals		Wires	
O1, O2:	Load circuit output terminals	**N:**	Neutral wire
L:	Live terminal (110-240 V~)	**L:**	Live wire (110-240 V~)
S1, S2:	Switch input terminals	**+:**	24 V⎓ positive wire
S1, S2:	Switch input terminals	**-:**	24 V⎓ negative wire
+:	24V⎓ positive terminal		
⊥:	24V⎓ negative terminal		

Installation instructions

WARNING! RISK OF ELECTRIC SHOCK.

- Before installing the Device, turn the circuit breakers off. Use a suitable test device to make sure there is no voltage on the wires you want to connect.
- Before making any changes to the connections, ensure there is no voltage present at the Device terminals.

For AC circuits, connect both L terminals to the Live wire and the N terminal to the Neutral wire. Connect the first load circuit to the O1 terminal and the Neutral wire. Connect the second load circuit to the O2 terminal and the Neutral wire. Connect the first switch to the S1 terminal and the Live wire. Connect the second switch to the S2 terminal and the Live wire.

For DC circuits, connect both ⊥ terminals to the Negative wire and the + terminal to the Positive wire. Connect the first load circuit to the O1 terminal and the Positive wire. Connect the second load circuit to the O2 terminal and the Positive wire. Connect the first switch to the S1 terminal and the Negative wire. Connect the second switch to the S2 terminal and the Negative wire.

NOTE

For inductive appliances that cause voltage spikes during switching on/off, such as electrical motors, fans, vacuum cleaners and similar ones, an 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.

As a cover controller, Shelly 2PM Gen4 can work in 3 modes: detached, single input, or dual input.

In detached mode, the Device can be controlled through its Web Interface and the App only. Even if buttons or switches are connected to the Device, they will not be allowed to control the motor rotation in detached mode.

If you want to use the device in detached mode, connect the device as shown on **Fig. a)**: Connect both L terminals to the Live wire and the N terminal to the Neutral wire. Connect the common motor terminal/wire to the Neutral wire. Connect the motor direction terminals/wires to the O1 and O2 terminals.

If you want to use the device in single input mode connect the device as shown on **Fig. b)** for a button input or **Fig. c)** for a switch input. Connect both L terminals to the Live wire and the N terminal to the Neutral wire. Connect the common motor terminal/wire to the Neutral wire. Connect the motor direction terminals/wires to the O1 and O2 terminals.

Connect the button or the switch to the S1 or the S2 terminal and the Live wire.

If the input is configured as a button in the device settings, each button press cycles open, stop, close, stop, etc.

If the input is configured as a switch each switch toggle cycles open, stop, close, stop, etc.

In single input mode Shelly 2PM Gen4 provides safety switch functionality. To utilize it, connect the device as shown on **Fig. d)** for a button input or **Fig. e)** for a switch input. Connect both L terminals to the Live wire and the N terminal to the Neutral wire. Connect the common motor terminal/wire to the Neutral wire. Connect motor direction terminals/wires to the O1 and O2 terminals. Connect the safety switch to the S2 terminal and the Live wire.

The safety switch can be configured to:

- Stop the movement until the safety switch is disengaged or until a command is sent and, if allowed in the Device settings, the movement is resumed in the opposite direction until the end position is reached.
- Stop and immediately reverse the movement until the end position is reached. This option requires reverse movement to be allowed in the Device settings.

The safety switch can also be configured to stop the movement in only one of the directions or in both.

If you want to use the Device in dual input mode, connect the Device as shown on **Fig. f)** for button inputs or **Fig. g)** for switch inputs. Connect both L terminals to the Live wire and the N terminal to the Neutral wire.

Connect the common motor terminal/wire to the Neutral wire.

Connect the motor direction terminals/wires to the O1 and O2 terminals.

Connect the first button/switch to the S1 terminal and the Live wire. Connect the second button/switch to the S2 terminal and the Live wire.

In case the inputs are configured as buttons:

- Pressing the button when the cover is static moves the cover in the corresponding direction until the endpoint is reached.
- Pressing the button for the same direction while the cover is moving stops the cover.
- Pressing the button for the opposite direction, while the cover is moving, reverses the cover movement until the endpoint is reached.

In case the inputs are configured as switches:

- Turning a switch on moves the cover in the corresponding direction until an endpoint is reached.
- Turning the switch off stops the cover movement. If both switches are turned on, the Device will respect the last engaged switch. Turning off the last engaged switch stops the cover movement, even if the other switch is still on.

To move the cover in the opposite direction, the other switch has to be turned off and on again. Shelly 2PM Gen4 can detect obstacles. If an obstacle is present, the cover movement will be stopped and, if configured so in the Device settings, reversed until the endpoint is reached. Obstacle detection can be enabled or disabled for either one direction or for both.

NOTE

To avoid voltage spikes during switching on/off the cover bi-directional motor, two RC snubbers (0.1 µF / 100 Ω / 1/2 W / 600 VAC) should be connected between the two direction terminals/cables of the cover motor.

Specifications

Quantity	Value
Physical	
Size (HxWxD):	37x42x16 ±0.5 mm / 1.46x1.65x0.63 ±0.02 inch
Weight:	30 g / 1.06 oz
Screw terminals max torque:	0.4 Nm / 3.5 lbin
Conductor cross section:	0.2 to 2.5 mm² / 24 to 14 AWG (solid, stranded, and bootlace ferrules)
Conductor stripped length:	6 to 7 mm / 0.24 to 0.28 in
Mounting:	Wall box
Shell material:	Plastic
Shell color:	Black
Terminals color:	Grey (Mouse Grey)
Environmental	
Ambient working temperature:	-20°C to 40°C / -5°F to 105°F
Humidity:	30% to 70% RH
Max. altitude:	2000 m / 6562 ft
Electrical	
Power supply:	110 - 240 V~ / 24 VDC ±10%
Power consumption:	< 1.4 W
External protection:	Tripping characteristic B or C, 16A max. rated current, min. 6 kA interrupting rating, energy limiting class 3
Output circuits ratings	
Max. switching voltage:	• 240 V~ • 30 V□
Max. switching current AC:	10 A (per channel), 16 A (total), 18 A (total peak)
Max. switching current DC:	10 A
Sensors, meters	
Voltmeter (AC):	Yes
Ammeter (AC):	Yes
Internal-temperature sensor:	Yes
Radio	
Wi-Fi	
Protocol:	802.11 b/g/n/ax
RF band:	2412 - 2472 MHz
Max. RF power:	< 20 dBm
Range:	Up to 10 m / 33 ft indoors and 30 m / 100 ft outdoors (Depends on local conditions)
Zigbee	
Protocol:	802.15.4
RF bands:	2400 to 2483.5 MHz

Quantity	Value
Max. RF power:	< 20 dBm
Range:	Up to 100 m / 328 ft indoors and 300 meters / 984 ft outdoors (Depends on local conditions)
Microcontroller unit	
CPU:	ESP-Shelly-C68F
Flash:	8MB
Firmware capabilities	
Schedules:	20
Webhooks (URL actions):	20 with 5 URLs per hook
Scripting:	Yes
MQTT:	Yes

Disposal and recycling

Do not dispose of the product with household waste. Recycle the product to avoid environmental and health damage and promote resource conservation. Dispose of the product at a suitable waste collection point. Resellers from whom the equipment was purchased are obliged to accept waste electrical and electronic equipment (WEEE) free of charge for proper disposal. Reset the device to factory settings by pressing and holding the button for more than 10 seconds before disposal to ensure all personal data is erased.

Declaration of Conformity

Hereby, Shelly Europe Ltd. declares that the radio equipment type for Shelly 2PM Gen4 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: shelly.link/2PM_Gen4_DoC

For UK PSTI ACT Statement of compliance visit shelly.link/uk-psti

FCC Notes

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification or change to this equipment. Such modifications or change could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF exposure statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.