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Shelly 2 PM Gen4 Relay Switch with Power

Product Specifications

Physical

- Size (HxWxD): 37x42x16 mm/ 1.46×1.65xo.63 in

- Weight: 30 g/ 1,06 oz
- Screw terminals max torque:0.4 Nm / 3.5 Ibin
- Conductor cross section:0.2 to 2.5mm²2 / 24 to 14 AWG (solid, stranded, and bootlace ferrules)
- Conductor stripped length to 7 mm / 0.24 to 0.28 in

Mounting: Wall console / In-wall box

- Shell material: Plastic
- Shell color: Black

Environmental

- Ambient working temperature:-200C to 400C / -50F to 1050F
- Humidity: to RH
- Max. altitude:2000 m / 6562 ft
- **Electrical**
- **Power supply:**
  - 110-240V&
  - 24 v—
- Power consumption: < I, 4 W
- Output circuits ratings
- Max. switching voltage:
  - 240
  - 30 v—
- Max. switching current:
  - 10 A (per channel)
  - 16 A (total)
- Sensors, meters
- Internal-temperature sensor: Yes
- Voltmeter (AC): Yes
- Ammeter (AC): Yes

Safety functions

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

Radio

- **Wi-Fi**
- Protocol: 802.11 b/g/n
- RF band: 2412 – 2472 MHz
- Max. RF power: < 20 dBm
- Range: Up to 50 m/ 164 ft outdoors, up to 30 m / 98 ft indoors (depending on local conditions)

Bluetooth

- Protocol: 4.2
- RF band: 2402 – 2480 MHz
- Max. RF power: <4 dBm
- Range Up to 30 m/ 98 ft outdoors, up to 10 m/ 33 ft indoors (depending on local conditions)

Zigbee

- Protocol: 802.15,4
- RF bands: 2400 to 2483.5 MHz
- Max. RF power. < 20 dBm
- Range: Up to 100 m / 328 ft indoors and 300 m /984 ft outdoors (Depends on local conditions)

Microcontroller unit

- CPU: ESP-Shelly-C68F

- Flash: 8 MB

Firmware capabilities

- Schedules: 20
- Webhooks (URL actions):20 with 5 URLs per hook
- Wi-Fi range extender: Yes
- BLE Gateway: Yes
- Scripting: Yes
- MQTT: Yes

Product Usage Instructions

Initial Setup:

1. Ensure the input voltage is within the range of 110-240 V~.
2. Identify the components: O1, O2, S1, S2, N.

Connecting the Components:

Follow the steps below to connect the components:

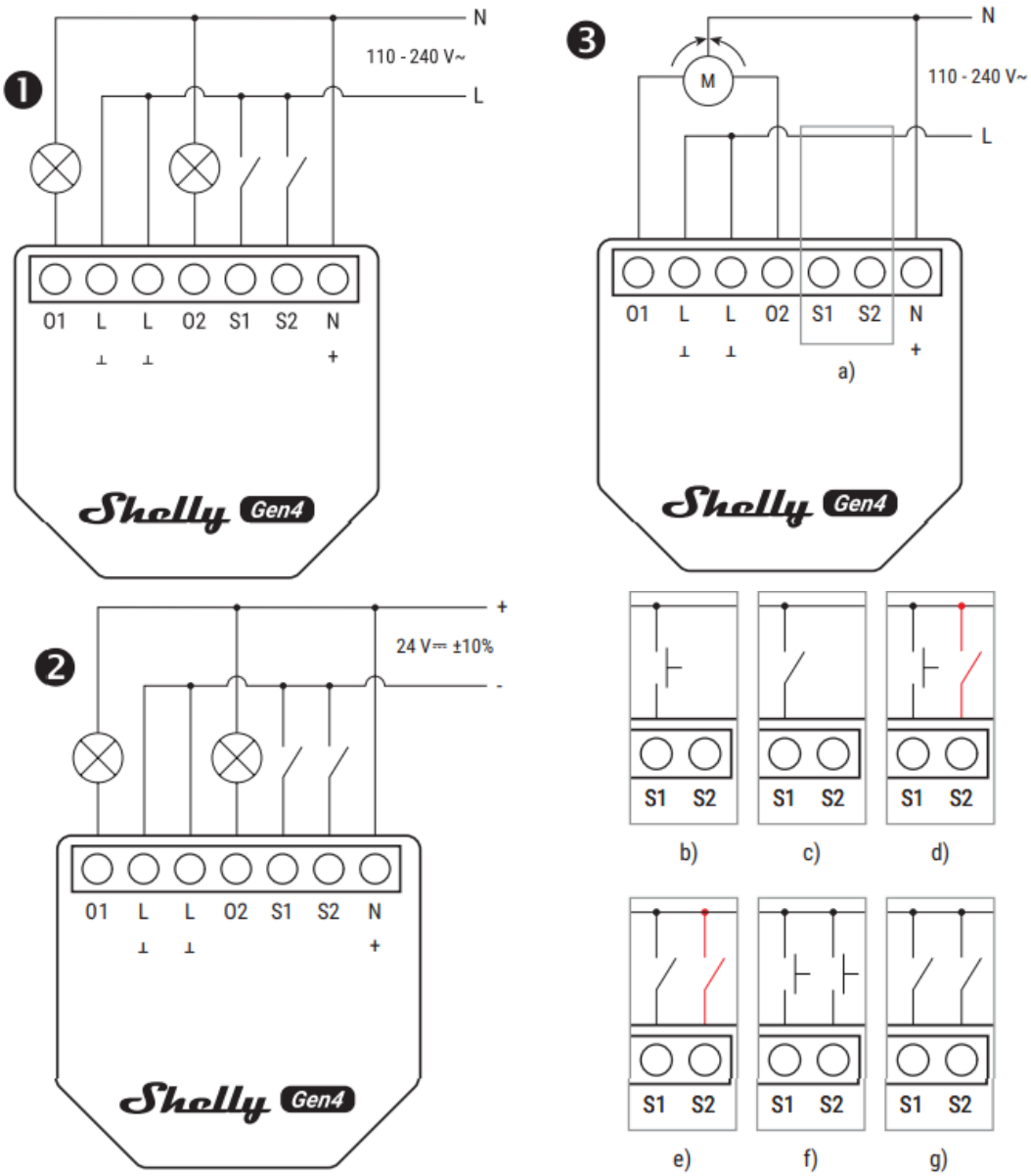
1. Connect O1 to L.
2. Connect L to O2.
3. Connect S1 to S2.
4. Connect N+ to the designated terminal.

Operating the Product:

Once all components are connected, you can start using the product by following these steps:

1. Switch on the power source (110-240 V~).
2. Refer to the specific functions denoted by letters a) to g) for operation.

Wiring diagram



- Fig. 1. Dual-channel switch, 110-240 Vp• power supply
- Fig. 2. Dual-channel switch, 24-30 power supply
- Fig. 3. Cover control profile

Legend

Device terminals

- 01, 02: Load circuit output terminals
- L: Live terminal (110-240 VN)
- Sl, S2: Switch input terminals
- N: Neutral terminal
- +: positive terminal
- I: 24V— negative terminal

Wires

- L: Live wire (1 10-240 VN)
- N: Neutral wire
- +: 24 V— positive wire
- – 24 V— ground wire

User and safety guide

Shelly2 PMM Gen4

- 2-channel Smart switch with Power measurement
- Referred to in this document as “the Device”

Safety information

For safe and proper use, read this guide and any other documents accompanying this product. Keep them for future reference. Failure to follow the installation procedures can lead to malfunction, danger to health and life, violation of law, and/or refusal of legal and commercial guarantees (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 to follow the user and safety instructions in this guide.

This sign indicates safety information.
This sign indicates an important note.

WARNING! Risk of electric shock. Installation of the Device to the power grid must be performed carefully by a qualified electrician.

WARNING!

Before making any changes to the connections, ensure there is no voltage present at the Device terminals.

CAUTION! Connect the Device only to 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 can cause fire, property damage, and electric shock.

CAUTION!

Connect the Device only to 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 can cause fire, property damage, and electric shock.

CAUTION!

The Device may be connected to and control only electric circuits and appliances that comply with the applicable standards and safety norms.

CAUTION!

Do not connect the Device to appliances that exceed the specified maximum electric load.

CAUTION!

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

WARNING!

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. When you are sure that there is no voltage, proceed to the installation.

CAUTION!

The Device and the appliances connected to it must be secured by a cable protection switch in accordance with EN60898-1 (tripping characteristic B or C, max. 16 A rated current, min. 6 kA interrupting rating, energy limiting class 3).

CAUTION!

Do not use the Device if it shows any sign of damage or defect.

CAUTION!

Do not attempt to repair the Device yourself.

CAUTION!

The Device is intended only for indoor use.

CAUTION!

Keep the Device away from dirt and moisture.

CAUTION!

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

Product description

- Shelly2 PMM Gen4 (the Device) is a Matter-compatible small form factor 2-channel smart switch with power measurement and cover control. Equipped with a multi-protocol wireless MCU, it supports Zigbee and Bluetooth connectivity for a secure connection. The Device can control 2 electrical circuits, including a bi-directional AC motor, motorized blinds, Venetian blinds, and roller shutters. Each circuit can be loaded up to 10 A (16 A total for both circuits,s) and its power consumption can be measured individually (AC only). The Device can be retrofitted into standard electrical wall boxes, behind power sockets and light switches, or in places with limited space.
- The Device has an embedded web interface to monitor, control, and adjust its settings. The web interface is accessible at http://192.168.33.1 when connected directly to the Device access point or at its IP address when accessed from the same network.
- The Device can access and interact with other smart devices or automation systems if they are in the same network infrastructure. Shelly Europe Ltd. provides APIs for the devices, their integration, and cloud control. For more information, visit https://shelly-api-docs.shelly.cloud.
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- The Device comes with factory-installed firmware. To keep it updated and secure, Shelly Europe Ltd. provides the latest firmware updates free of charge. Access the updates through either the embedded web interface or the Shelly Smart Control mobile application. Installation of firmware updates is the user's responsibility. Shelly Europe Ltd. shall not be liable for any lack of conformity of the Device caused by the failure of the user to install the available updates ipromptly

Installation instructions

- To connect the Device, we recommend using solid single-core wires or stranded wires with ferrules. The wires should have insulation with increased heat resistance, not less than PVC TI (221 OF).
- Do not use buttons or switches with built-in LED or neon glow lamps.
- When connecting wires to the Device terminals, consider the specified conductor cross-section and stripped length. Do not connect multiple wires into a single terminal.
- For security reasons, after you successfully connect the Device to the local Wi-Fi network, we recommend that you disable or password-protect the Device AP (Access Point).
- To perform a factory reset of the Device, press and hold the Reset/control button for 10 seconds.
- To enable the access point and the Bluetooth connection of the Device, press and hold the Reset/control button for 5 seconds.
- Do not use the L terminal(s) of the device to power other devices

The Device has two operation profiles:

- Switch control profile
- Cover control profile

Switch control profile:

If you want to use the Device as a switch to control 2 load circuits, connect the device as described below.

For AC circuits (Fig. 1):

1. Connect the two L terminals to the Live wire and the N terminal to the Neutral wire,
2. Connect the first load circuit to the 01 terminal and the Neutral wire.
3. Connect the second load circuit to the 02 terminal and the Neutral wire.
4. Connect the first switch to the Sl terminal and the Live wire.
5. Connect the second switch to the S2 terminal and the Live wire.

For DC circuits (Fig. 2):

1. Connect the two I terminals to the Negative wire.
2. Connect the + terminal to the Positive wire.
3. Connect the first load circuit to the 01 terminal and the Positive wire.
4. Connect the second load circuit to the 02 terminal and the Positive wire.
5. Connect the first switch to the Sl terminal and the 5. Negative wire,
6. Connect the second switch to the S2 terminal and the Negative wire.

Note that power measurement is not available in DC power.

Cover control profile

As a cover controller, the Shelly 2 PM has the following Control button modes:

Single input mode
Dual input mode
Detached mode
To use the Device in Single input mode, connect it as shown in Fig. 3 b) for a Button input or Fig. 3 c) for a Switch input:

1. Connect the two L terminals to the Live wire and the N terminal to the Neutral wire.
2. Connect the button or the switch to the Sl or the S2 terminal and the Live wire.
    - If the input is configured as a Button in the Device settings, each button press cycles through open, stop, close, stop, etc.

- If the input is configured as a Switch, each switch toggles through open, stop, close, stop, etc.In
- Insingle-inputt mode, Shelly2 PMM Gen4 has Safety switch functionality. To use it, connect the Device as shown in Fig.

3. **d) for a button input or Fig. 3 e) for a switch input:**
    1. Connect the two L terminals to the Live wire and the N terminal to the Neutral wire.
    2. Connect the common motor terminal/wire to the neutral wire,
    3. Connect motor direction terminals/wires to the 01 and 02 terminals*.
    4. 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**. If configured in the Device settings, the movement can resume 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 configured in the Device settings.

To use the Device in Dual input mode, connect it as shown in Fig. 3 f) for a button input or Fig. 3 g) for a switch input:

1. Connect the two L terminals to the Live wire and the N terminal to the Neutral wire.
2. Connect the common motor terminal/wire to the Neutral wire.
3. Connect motor direction terminals/wires to the 01 and 02 terminals*
4. Connect the first button/switch to the Sl terminal and the Live wire.
5. Connect the second button/switch to the S2 terminal and the Live wire.

Button input configuration:

Pressing a button when the cover is static: Moves the cover in the corresponding direction until the endpoint is reached.

- Pressing the button in 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.

Switch input configuration:

- Turning the switch on: Moves the cover in the corresponding direction until the endpoint is reached. Turning the switch off: Stops the cover movement. Both switches turned on: The Device respects 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, turn the other switch off and on again.
- In Dual input mode, the Device supports Slat control that allows for precise adjustment of slats in Venetian blinds.

This function has the following settings:

- Open time – the duration in seconds for the slats to transition from fully open to fully closed position.
- Close time – the duration in seconds for the slats to transition from fully closed to fully opened position:
- Default: 1.5 seconds
- Accepted range: 0.5-10 seconds

Step – controls the incremental movement of the slats in percent between the two endpoints:

- Fully closed position (0%)
- Fully opened position (100%)

Button input configuration:

- Pressing a button when the cover is static: Moves the slats in the corresponding direction by the predefined step.
- Pressing the button in 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.
- Pressing and holding the button moves the slats and the cover in the corresponding direction until the endpoint is reached.

Switch input configuration:

- Turning the switch on: Moves the slats and the cover in the corresponding direction until the endpoint is reached.
- Turning the switch off: Stops the cover movement. Both switches turned on: The Device respects 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, turn the other switch off and on again.

In Detached mode, the Device can only be controlled through its web interface and its app. Buttons or switches connected to the Device will not control the motor rotation,

To use the Device in Detached mode, connect it as shown in Fig. 2a.

- Connect the two 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 01 and 02 terminals*.

Obstacle detection

- Shelly 2 PM Gen4 can detect obstacles. If an obstacle is present, the cover movement stops. If configured in the Device settings, the movement changes its direction until the endpoint is reached. Obstacle detection can be enabled or disabled for one or both directions.
- The Device outputs can be reconfigured to match the required rotation direction.
- Interaction with the button, the switch, or a control in the Web Interface or in the App (has to command the cover in the opposite direction to the direction before the safety switch- engagement).

Adding Zigbee Device

- To switch the Device from Matter firmware (default) to Zigbee, press 5 times the Reset button. The Device stays in pairing mode for 2 minutes, and you can find it in your home automation platform through the Zigbee Hub. If you cannot find the Device, press the Reset button 3 times. To remove the Device, go to its page and delete it

from your home automation platform.
- In Zigbee mode, the AP of the Device is not available by default. To enable it, you should hold the Reset button for 5 seconds.

Setting up the Device via Matter

Before you start, make sure you have:

- 24 GHz Wi-Fi network
- A Matter-compatible hub connected to the Internet
- A mobile device with Bluetooth enabled and a Matter-compatible app installed
    1. Enable the access point of the Device by pressing and holding the Reset/control button for 5 seconds.
    2. Scan the Matter QR code inside the box.
    3. Follow the instructions that appear on your screen to complete the process.
- Keep the QR code for future reference. If you reset the device, you will need that code again.

Shelly Cloud inclusion

- The Device can be monitored, controlled, and set up through our Shelly Cloud home automation service. You can use the service through either our Android, iOS, or Harmony OS mobile application or through any internet browser at https://control.shelly.cloud/.
- If you choose to use the Device with the application and Shelly Cloud service, you can find instructions on how to connect the Device to the Cloud and control it from the Shelly app in the application guide: https://shelly.link/app-guide.

Troubleshooting

In case you encounter problems with the installation or operation of the Device, check its knowledge base page: https://shelly.link/2PM-Gen4.

Declaration of Conformity

Hereby, Shelly Europe Ltd. declares that the radio equipment type for Shelly 2 PM Gen4 complies with Directive 2014/53/EU, 2014/35/EU, 2014/30/EU, and 2011/65/EU. The full

text of the EU declaration of conformity is available at the following internet address: https://shelly.link/2PM-Gen4-DoC.

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- Tel.: +359 2 988 7435
- E-mail: support@shelly.cloud
- Official website: https://www.shelly.com
- Changes in contact information are published by the Manufacturer on the official website.

FAQs

Q: How do I change the settings of the product?

A: Refer to the user manual for specific instructions on adjusting settings for functions a) to g).

Documents / Resources

	Shelly 2PM Gen4 Relay Switch with Power [pdf] User Guide 2PM Gen4 Relay Switch with Power, Relay Switch with Power, Switch with Power, with Power

References

- User Manual

2PM Gen4 Relay Switch with Power, Relay Switch with Power, Shelly, Switch with Power, with Power

Shelly

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