User and safety guide

Shelly 1 Gen4

Smart switch with potential-free contacts

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 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.

⚠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! 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.

⚠**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. 16A 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

Shelly 1 Gen4 is a Matter-compatible smart switch with potential-free contacts. It operates on both, AC and DC power. Its small form factor allows retrofitting into standard electrical wall boxes, behind power sockets, light switches, or other places with limited space.

The Device has an embedded web interface used to monitor, control, and adjust the Device. 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 you and the Device are connected to 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.

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 in a timely manner.

Wiring diagram

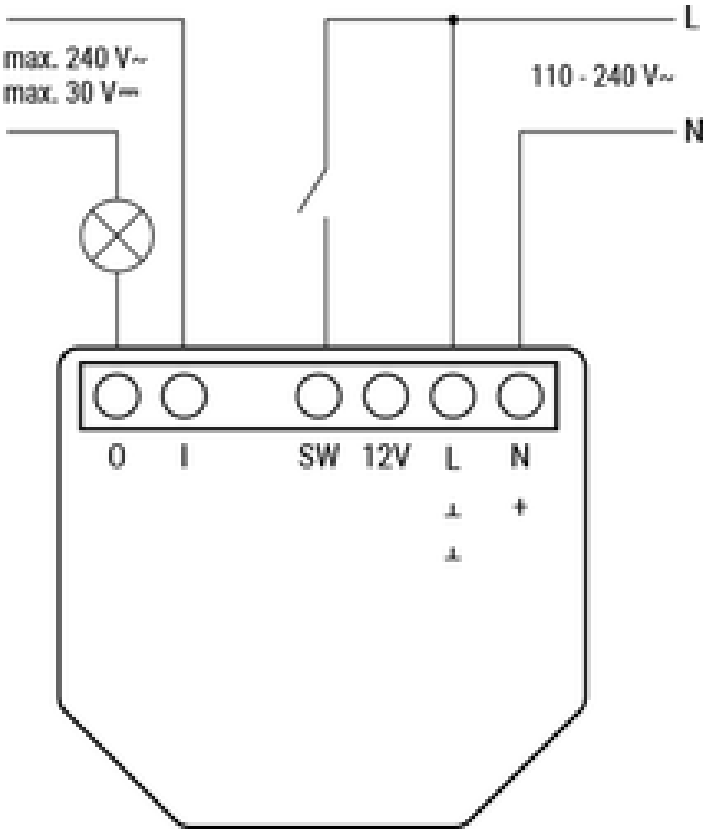

Fig. 1. 110-240 V~ power supply

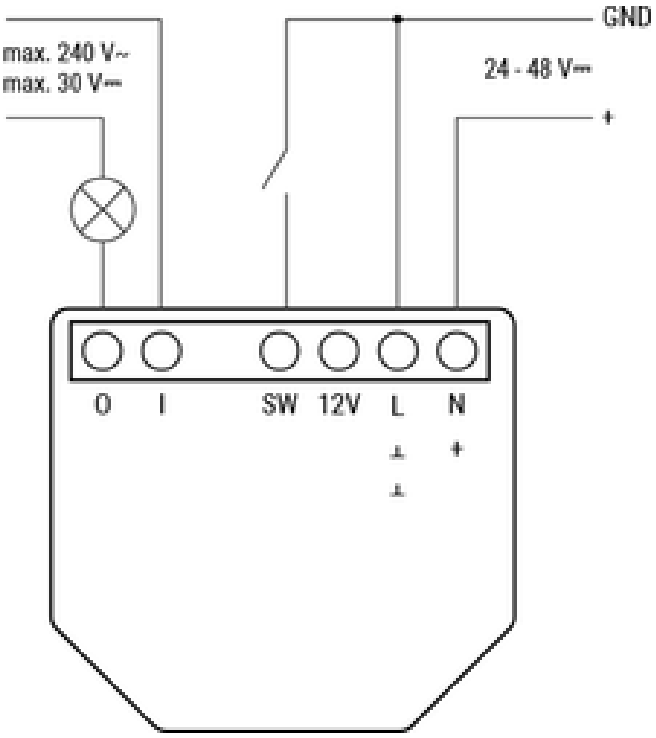

Fig. 2. 24-48 V⎓ power supply

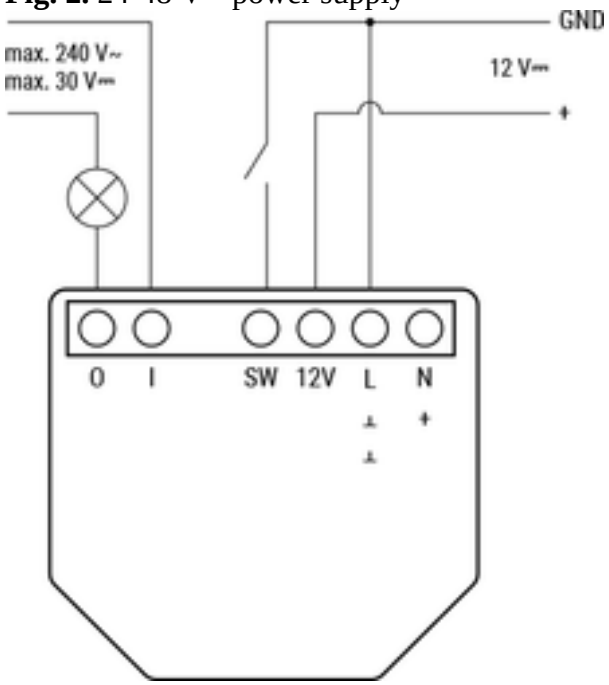

Fig. 3. 12 V⎓ stabilized power supply

Legend

Device terminals

O: Load circuit output terminal

I: Load circuit input terminal

SW:

Switch input terminal (controlling O)

+12V:12 V⎓ positive terminal

L:Live terminal (110-240 V~)

N: Neutral terminal

+:24-48 V⎓ positive terminal

⊥:12/24-48V⎓ ground terminal

Wires

L: Live wire (110-240 V~)

N: Neutral wire

+: 12/24-48V ⎓ positive wire

GND:12/24-48V⎓ ground wire

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 T105°C (221°F).

ⓘ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 enable the access point and the Bluetooth connection of the Device, press and hold the Reset/control button for 5 seconds.

ⓘTo perform a factory reset of the Device, press and hold the Reset/control button for 10 seconds.

ⓘTo put the Device in Zigbee Inclusion mode, press 3 times the Reset button located on its back side. The Device stays in this mode for 2 minutes and you can find it in the Home Automation platform through the Zigbee Hub. If you want to remove the Device, go to its page and delete it from the Home Automation environment.

Connect the load circuit to the the **I** and **O** terminals of the Device.

If you are using 110-240 V~ power supply (Fig. 1):

1. Connect the **Live** wire to the **L** terminal and the **Neutral** wire to the **N** terminal.
2. Connect the switch to the **SW** terminal of the Device and the **Live** wire.

If you are using 24-48 V⎓ power supply (Fig. 2):

ⓘThe voltage on the **I** and **O** terminals of the Device should not exceed 30 V⎓.

1. Connect the **DC+** wire to the **+** terminal and the **GND** wire to the ⏚ terminal.
2. Connect the switch to the **SW** terminal and the **GND** wire.

If you are using stabilized 12V⎓ power supply (Fig. 3):

Complete the previous two steps. Instead of connecting the **12V+** to the **+** terminal, connect it to the **12V** terminal.

Setting up the Device via Matter

ⓘBefore you start, make sure you have:

- 2.4 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.

Specifications

Physical

Size (HxWxD): 37x42x16 mm / 1.46x1.65x0.63 in
Weight: 26 g / 0.92 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 console / In-wall box
Shell material: Plastic
Shell color: Blue

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~
- 24-48 V⎓
- 12 V⎓

Power consumption:

< 1.2 W

Output circuits ratings

Max. switching voltage:

- 240 V~
- 30 V⎓

Max. switching current:

- 16 A (240 V~)
- 10 A (30 V⎓)

Sensors, meters

Internal-temperature sensor:Yes

Radio

Wi-Fi

Protocol: 802.11 b/g/n/ax
RF band: 2400-2483.5MHz
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: 5.0
RF band: 2400 - 2483.5 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 meters / 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
Encryption:Yes

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.

The Shelly mobile application and Shelly Cloud service are not conditions for the Device to function properly. This Device can be used standalone or with various other home automation platforms.

Troubleshooting

In case you encounter problems with the installation or operation of the Device, check its knowledge base page:

https://shelly.link/1_Gen4

Declaration of Conformity

Hereby, Shelly Europe Ltd. declares that the radio equipment type Shelly 1 Gen4 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.link/1_Gen4_DoC

Manufacturer: Shelly Europe Ltd.
Address: 103 Cherni Vrah Blvd., 1407 Sofia, Bulgaria
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.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

FCC Warning

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.

Note: 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.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.