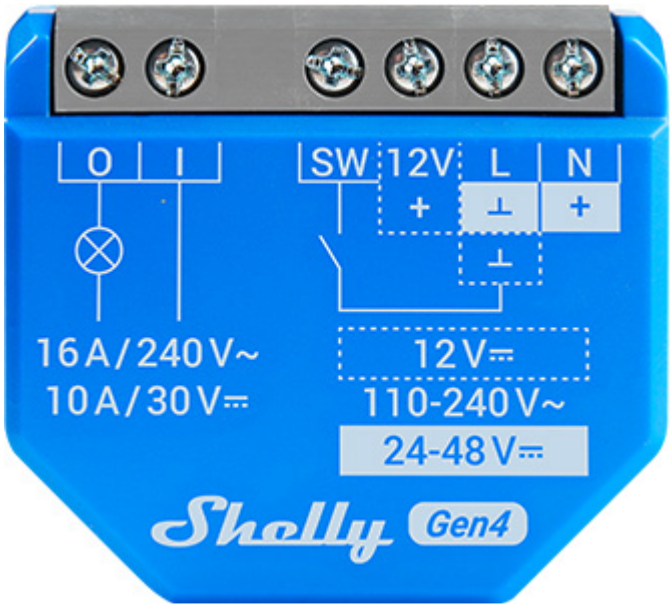
Shelly 1 Gen4



Device identification

- Device name: **Shelly 1 Gen4**
- Device model: **S4SW-001X16EU**
- Device SSID: **Shelly1G4-XXXXXXXXXXXX**
- Device Bluetooth ID: **0x1028**

Short description

Shelly 1 Gen4 is a small form factor smart switch with potential-free contacts, 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.

Shelly 1 Gen4 can be accessed, controlled and monitored remotely from any place where t 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 1 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 provides Zigbee and Bluetooth connectivity, ensuring a secure connection.

This device is compatible with Matter.

Main features

- **Wi-Fi Connectivity:** The device can connect to your home Wi-Fi network, allowing you to remotely monitor humidity and temperature data through a smartphone app or other compatible devices.
- **Integration with Smart Home Platforms:** You can integrate the Shelly 1 Gen4 with popular smart home platforms, including Google, Alexa, and Samsung SmartThings. This enables voice control and automation capabilities through these platforms.
- **Local and Cloud Control:** Can function independently in a local Wi-Fi network and can also be operated through cloud home automation services.
- **Bluetooth Connectivity:** Bluetooth and BLE gateways are available for inclusion purposes, which may be useful during the setup process.
- **Zigbee Connectivity:** Zigbee is available for inclusion purposes, which may be useful during the setup process.
- **User-Friendly Interface:** The device provides a user-friendly interface with a reset button for manual interactions.
- **Improved Processor:** Upgraded with an improved processor and support for Zigbee connectivity.
- **Embedded Web Interface:** Features an embedded web interface for monitoring, control, and adjustment of settings.
- **Wireless Connectivity:** The device supports Wi-Fi (802.11 b/g/n) and Bluetooth 5.0 protocols with specified indoor and outdoor range capabilities.
- **Dry Contact:** Allows switching on and off of lower voltage devices.

- **BLE Gateway:** Bridge between your Shelly BLU devices and the wider Shelly ecosystem. It receives Bluetooth signals and sends them to the cloud or locally to another non-Bluetooth device.
- **Wi-Fi Range extender for IoT devices:** A Wi-Fi extender is employed to expand the reach of your Wi-Fi network by receiving your current Wi-Fi signal, enhancing its strength, and then transmitting the enhanced signal over a wider area.
- **Zigbee Range extender for IoT devices:** A Zigbee extender is employed to expand the reach of your Zigbee network by receiving your Zigbee signal, enhancing its strength, and then transmitting the enhanced signal over a wider area.
- **Scripting:** https://shelly-api-docs.shelly.cloud/gen2/Scripts/ShellyScriptLanguageFeatures/
- **Wide range of integrations:** The device can be integrated with 3rd party home systems, documented HTTP API, MQTT(s), Web Hooks over HTTP and HTTPS, UDP
- **Schedules:** Allows scheduling of complex operations to be executed in predefined time window. Users can specify time windows based on date, time of day, weekdays, hours, minutes and seconds.
- **Virtual Components:** https://shelly-api-docs.shelly.cloud/gen2/DynamicComponents/Virtual/
- **KNX net/IP support:** https://shelly-api-docs.shelly.cloud/gen2/Integrations/KNX/

Use cases

- **Remote Appliance Control:** Turn on or off electric appliances remotely using your mobile phone, tablet, PC, or home automation system.
- **Internet-Connected Convenience:** Access and control devices from anywhere with internet connectivity, as long as the Shelly 1 Gen4 is connected to a Wi-Fi router.
- **Home Automation:** Shelly 1 Gen4 enables automatic control of power appliances for more relaxing and enjoyable experience.

Main applications

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

- Government/municipal
- University/college

Integrations

Amazon Alexa supported capabilities

Yes

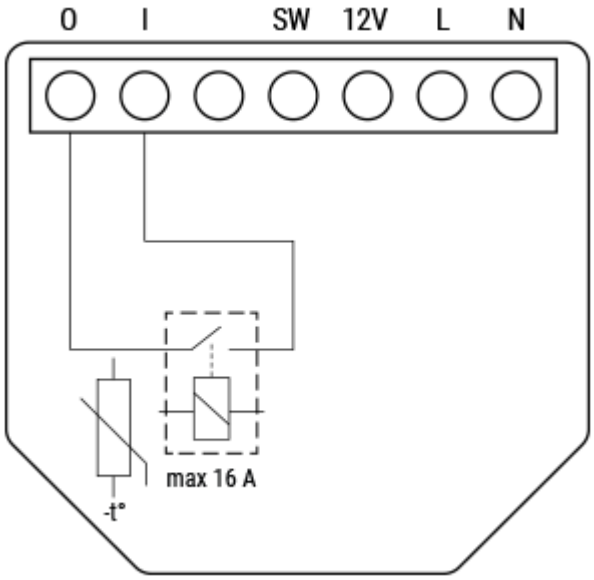
Google Smart Home supported traits

Yes

Samsung SmartThings supported capabilities

Yes

Simplified internal schematics



Device electrical interfaces

Inputs

- 1 switch/button input on screw terminal

- 1 potential-free contacts relay input on screw terminal
- 2 power supply inputs on screw terminals: N and L

Outputs

- 1 potential-free contacts relay output on screw terminal

Connectivity

- Wi-Fi
- Bluetooth
- Zigbee

Safety function

- Overheating protection

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 presses 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.

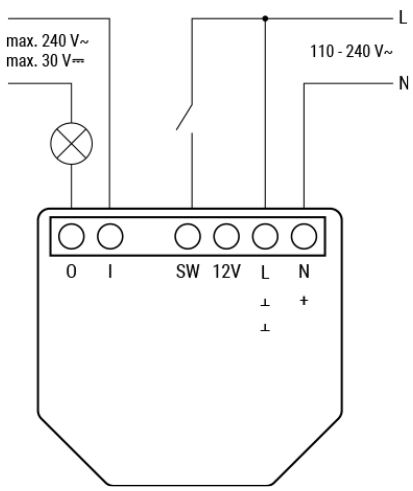
Specifications

Quantity	Value
Physical	
Size (HxWxD):	37x42x16 mm / 1.46x1.65x0.63 inch
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
Shell material:	Plastic
Shell color:	Blue
Terminals color:	Grey (Mouse Grey RAL7005, R(106) G(110) B(106), HEX #6A6E6A, LRV 15.19.)
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~

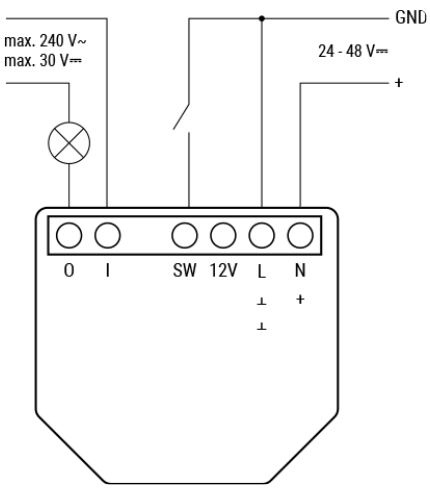
	• 24-48 V⎓ • 12 V⎓
Power consumption:	< 1 W
Neutral not needed:	No
External protection:	Cable protection switch in accordance with EN60898-1 (tripping characteristic B or C, max. 16 A rated current, min. 6 kA interrupting rating, energy limiting class 3)
Output circuits ratings	
Max. switching voltage:	• 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
RF band:	2412 - 2472 MHz
Max. RF power:	< 20 dBm
Range:	Up to 30 m / 100 ft indoors and 50 m / 160 ft outdoors (Depends on local conditions)

Bluetooth	
Protocol:	4.2
RF band:	2402 - 2480 MHz
Max. RF power:	< 4 dBm
Range:	Up to 10 m / 33 ft indoors and 30 m / 100 ft outdoors (Depends on local conditions)
Zigbee	
Protocol:	802.15.4
Zigbee repeater:	Yes
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:	8MB
Firmware capabilities	
Schedules:	20
Webhooks (URL actions):	20 with 5 URLs per hook
Scripting:	Yes
MQTT:	Yes

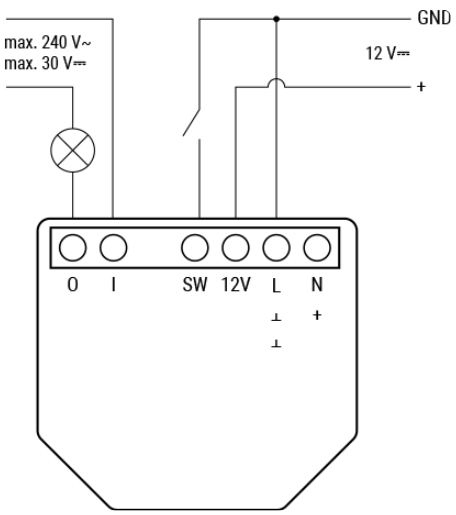
Basic wiring diagrams



110-240 V~ power supply



24-48 V⎓ power supply



12 V⎓ stabilized power supply

Legend

Terminals		**Wires**	
I	Load circuit input terminal	**L**	Live wire (110-240 V~)
O	Load circuit output terminal	**N**	Neutral wire
SW	Switch (controlling O) input terminal	**+**	12/24-48V ⎓ positive wire
+12V	12 V⎓ positive terminal	**GND**	12/24-48V⎓ ground wire
L	Live terminal (110-240 V~)		
N	Neutral terminal		
+	24-48 V⎓ positive terminal		
⊥	12/24-48V⎓ ground terminal		

Components and APIs

- This device
- All Shelly devices and services

Compliance

- Shelly 1 Gen4 multilingual EU declaration of conformity.pdf
- Shelly 1 Gen4 UK PSTI ACT Statement of compliance.pdf

Printed user guide

- Shelly 1 Gen4 multilingual printed user and safety guide.pdf

Installation guides