RGBWW PM Five Channel DIN rail Mountable Smart Controller

Contents [hide]

1 Wiring Diagram

2 Legend

3 User And Safety Guide

4 Product Description

5 Installation Instructions

6 Specifications

7 Shelly Cloud Inclusion

8 Troubleshooting

9 Declaration of Conformity

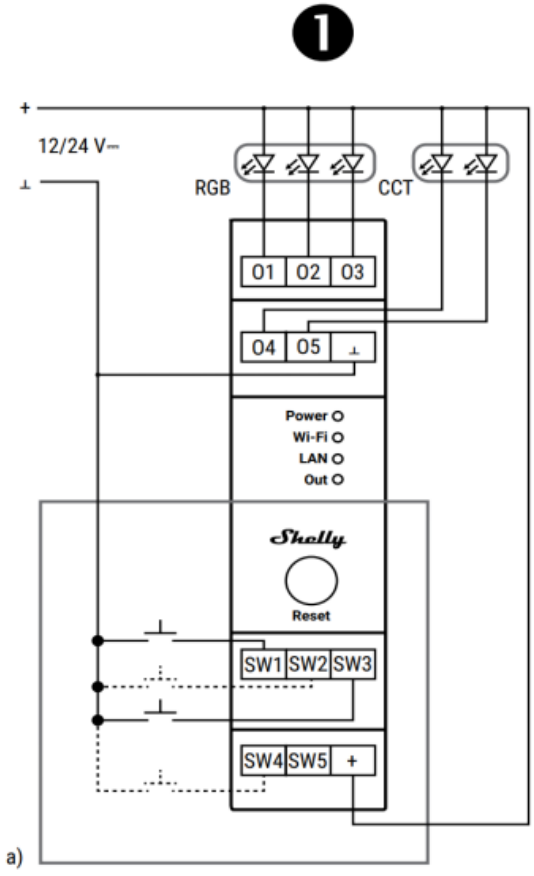
10 Customer Support

11 Documents / Resources

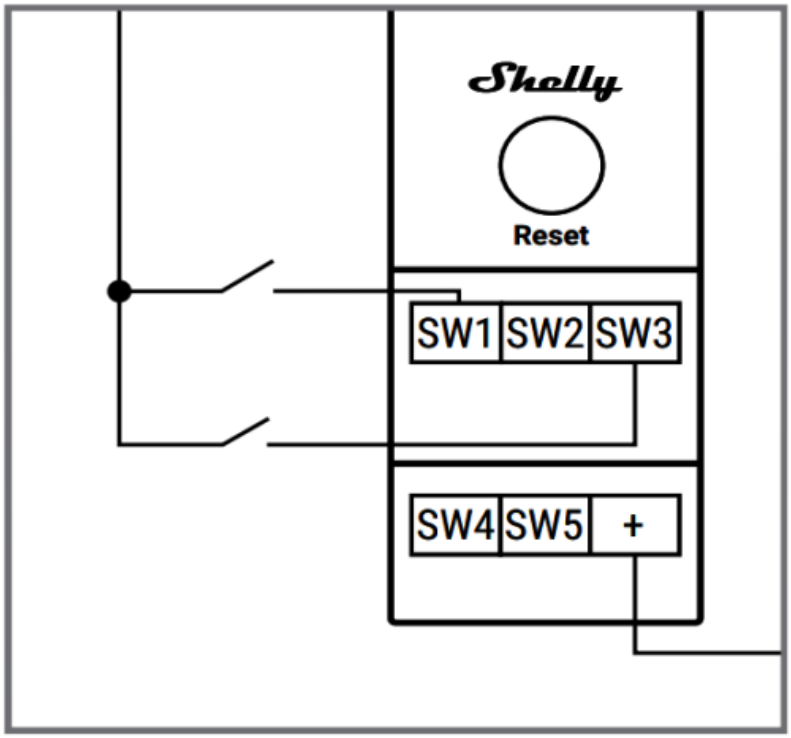
11.1 References

Wiring Diagram

Fig. 1 – RGB and CCT profile wiring



b)



c)

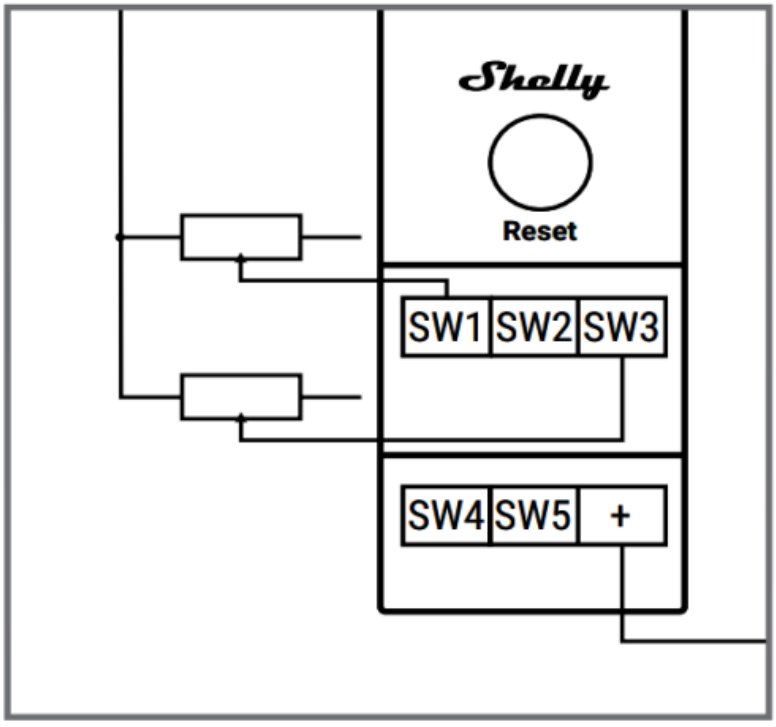
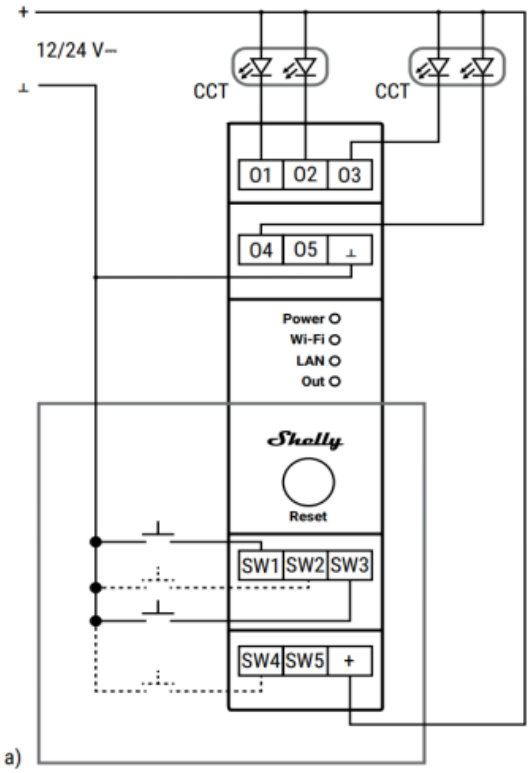
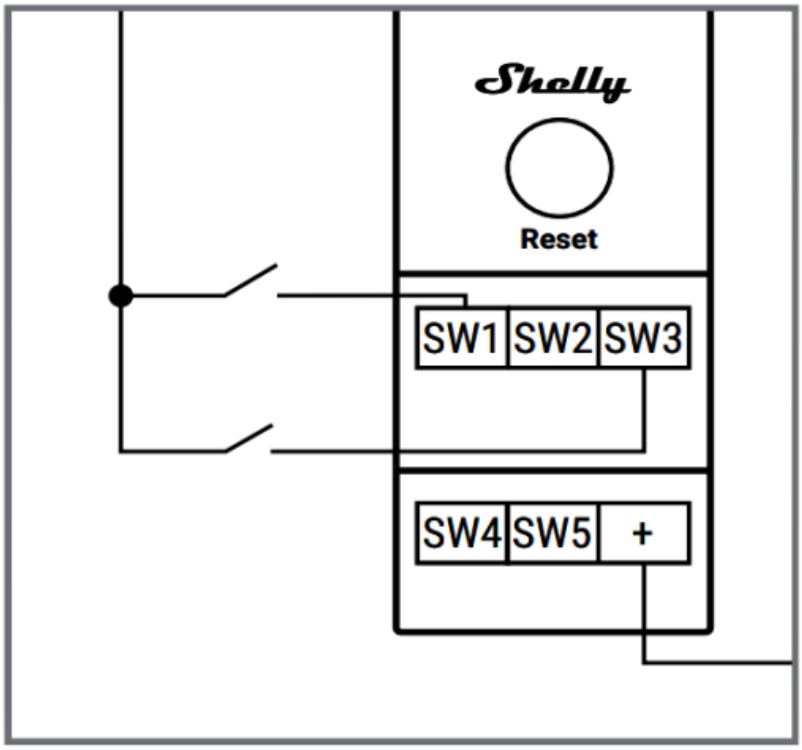


Fig. 2 – CCT x 2 profile wiring

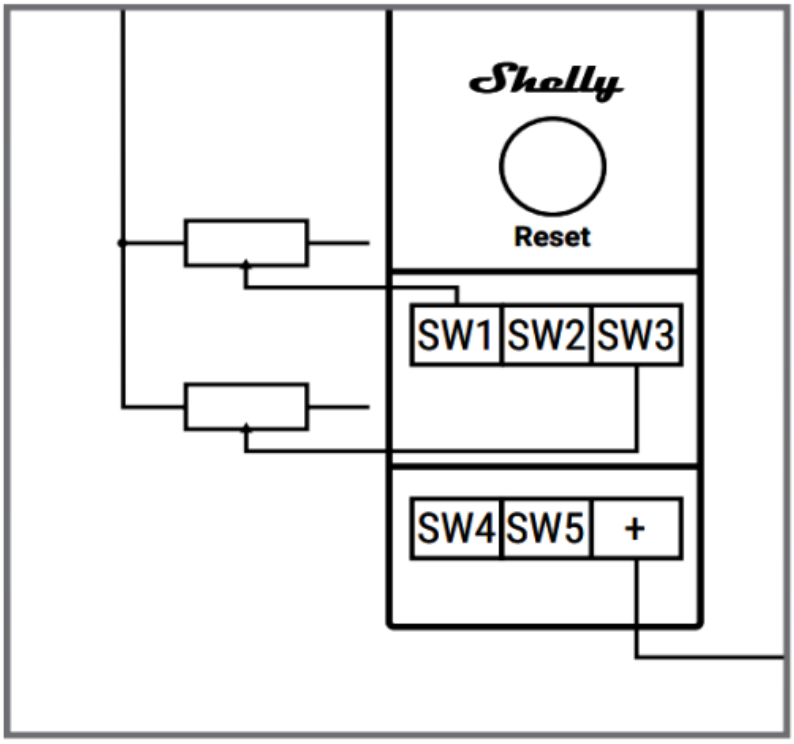
❷


+
12/24 V⎓
⊥
CCT
CCT
O1
O2
O3
O4
O5
⊥
Power
Wi-Fi
LAN
Out
Shelly
Reset
SW1
SW2
SW3
SW4
SW5
+

a)

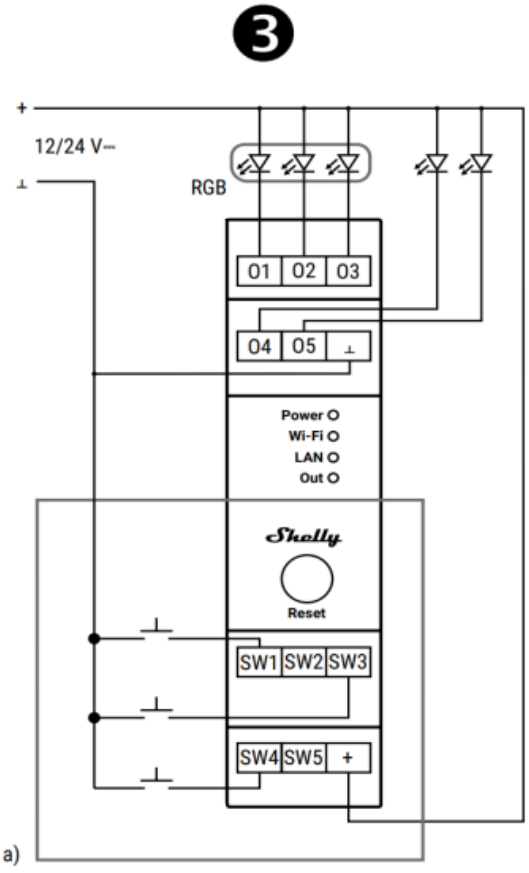

Shelly
Reset
SW1
SW2
SW3
SW4
SW5
+

b)



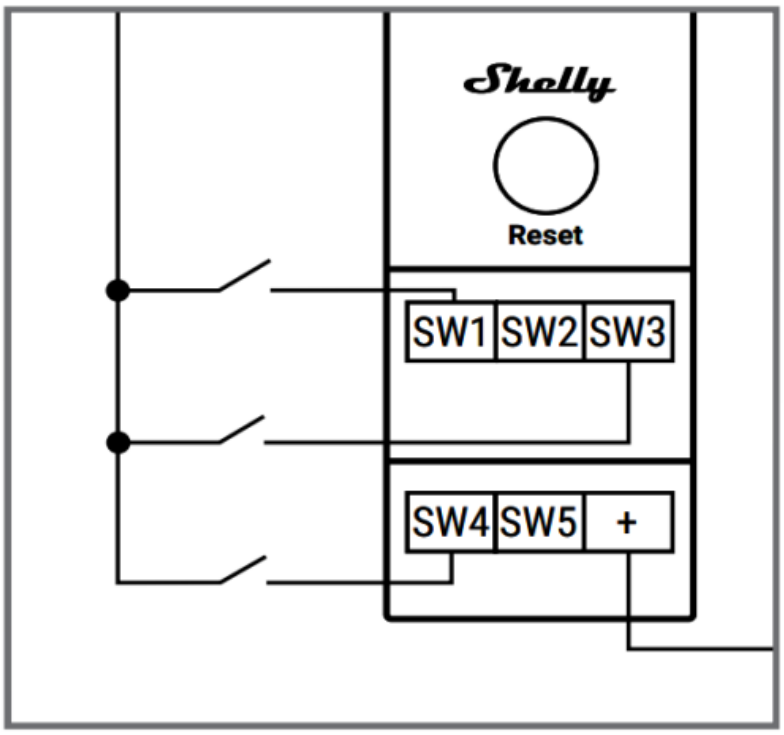
c)

Fig. 3 – RGB and lights x 2 profile wiring



a)

b)



c)

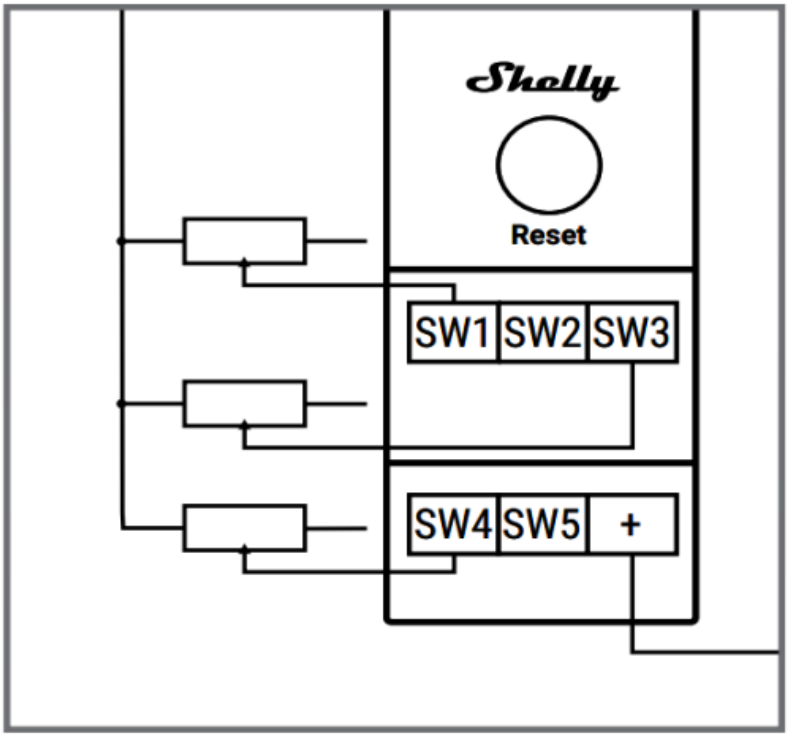
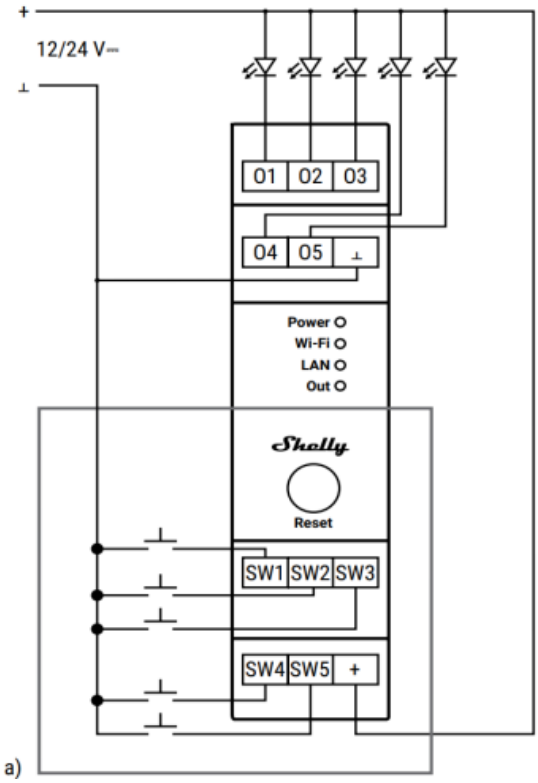
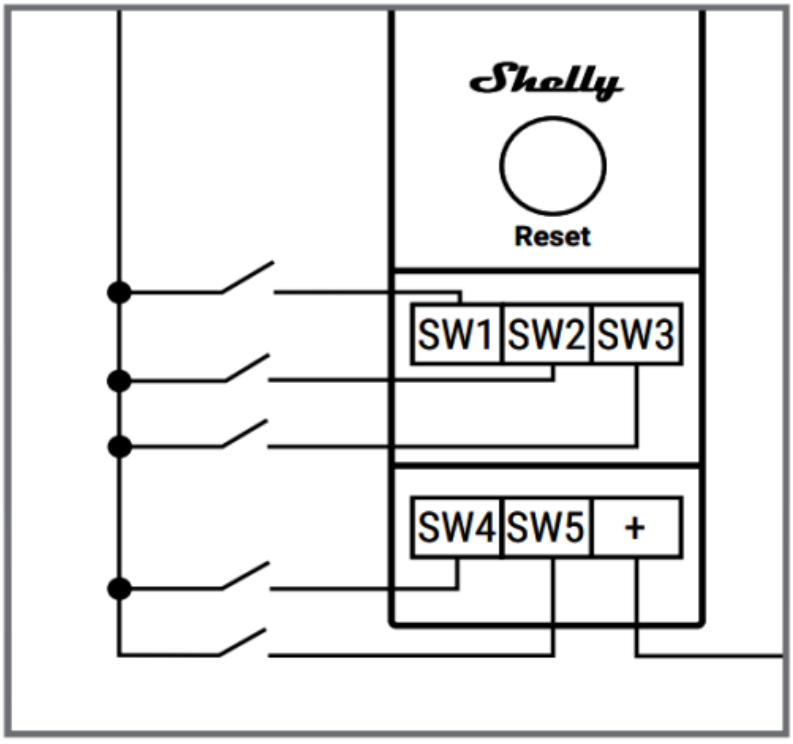


Fig. 4 – Lights x 5 profile wiring

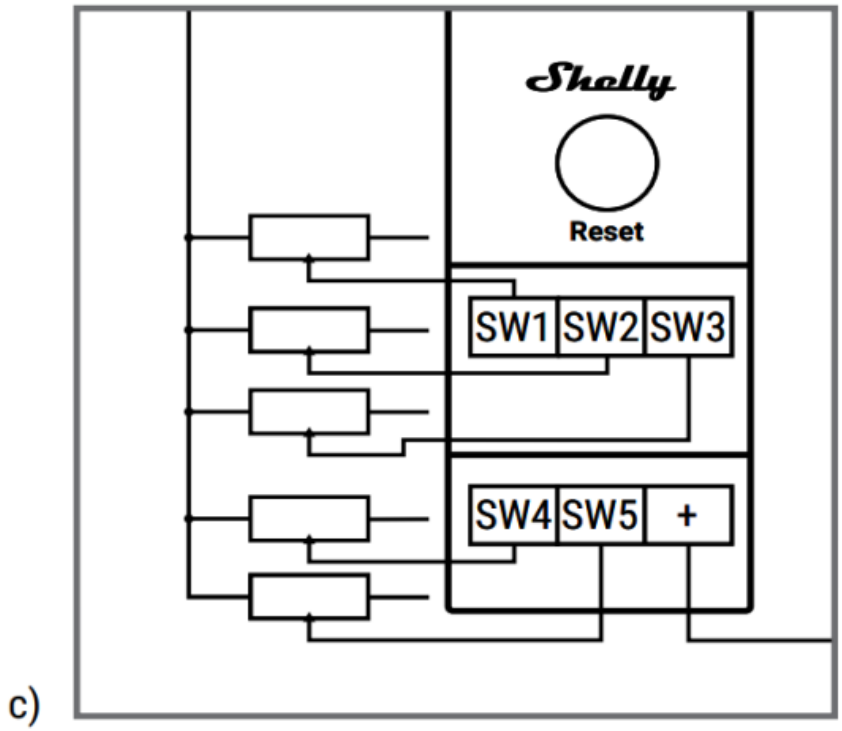
4


+
12/24 V⎓
⊥
O1
O2
O3
O4
O5
⊥
Power
Wi-Fi
LAN
Out
Shelly
Reset
SW1
SW2
SW3
SW4
SW5
+

a)


Shelly
Reset
SW1
SW2
SW3
SW4
SW5
+

b)



c)

Legend

Device terminals

- + 12/24 V positive terminal
- ⊥ 12/24 V negative terminal
- SW1 Input terminal
  - Controls O1 in Lights x 5 profile
  - Controls O1, O2 and O3 in RGB and CCT and RGB and lights x 2 profiles
  - Controls O1 and O2 in CCT x 2 profile
- SW2 Input terminal
  - Controls O2 in Lights x 5 profile
  - Controls O1, O2 and O3 in RGB and CCT profile (in dual-button dimming configuration)
  - Controls O1 and O2 in CCT x 2 profile (in dual-button dimming configuration)
  - Detached in RGB and lights x 2 profile
- SW3 Input terminal
  - Controls O3 in Lights x 5 profile
  - Controls O4 and O5 in RGB and CCT profile
  - Controls O4 in RGB and lights x 2 profile
  - Controls O3 and O4 in CCT x 2 profile

- SW4 Input terminal
  - Controls O4 in Lights x 5 profile
  - Controls O4 and O5 in RGB and CCT profile (in dual-button dimming configuration)
  - Controls O5 in RGB and lights x 2 profile
  - Controls O3 and O4 in CCT x 2 profile (in dual-button dimming configuration)
- SW5 Input terminal
  - Controls O5 in Lights x 5 profile
  - Detached in RGB and CCT, RGB and lights x 2 and CCT x 2 profiles
- O1 Output terminal
  - Light 1 in Lights x 5 profile
  - Red light in RGB and lights x 2 and RGB and CCT profiles
  - CCT1 Warm white in CCT x 2 profile
- O2 Output terminal
  - Light 2 in Lights x 5 profile
  - Green light in RGB and lights x 2 and RGB and CCT profiles
  - CCT1 Cold white in CCT x 2 profiles
- O3 Output terminal
  - Light 3 in Lights x 5 profile
  - Blue light in RGB and lights x 2 and RGB and CCT profiles
  - CCT2 Warm white in CCT x 2 profile
- O4 Output terminal
  - Light 4 in Lights x 5 profile
  - CCT Warm white in RGB and CCT profile
  - Light 1 in RGB and lights x 2 profile
  - CCT2 Cold white in CCT x 2 profile
- O5 Output terminal
  - Light 5 in Lights x 5 profile
  - CCT Cold white in RGB and CCT profile
  - Light 2 in RGB and lights x 2 profile
  - Not used in CCT x 2 profile

Wires

- + Positive (12-24 V) wire

- ⊥ Ground wire

User And Safety Guide

Shelly Pro RGBWW PM

DIN-rail mountable, five-channel smart light controller

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 guarantee (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.
⚠ **CAUTION!** Installation of the Device must be performed carefully by a qualified electrician.

⚠ **CAUTION!** Before making any changes to the connections, ensure there is no voltage present at the Device terminals.
⚠ **CAUTION!** Connect the Device only in the way shown in these instructions. Any other method could cause damage and/or injury.
⚠ **CAUTION!** Before installing the Device, check that 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!** Do not use the Device if it shows any sign of damage or defect.
⚠ **CAUTION!** The Device may be connected to and control only electric circuits and appliances that comply with the applicable standards and safety norms.
⚠ **CAUTION!** The Device is intended only for indoor use.
⚠ **CAUTION!** Keep the Device away from dirt and moisture..

Product Description

Shelly Pro RGBWW PM (the Device) is a DIN-rail mountable, five-channel smart light controller. It has 5 inputs (button, switch or analog), and five outputs. The Device is commonly used with LED strips. It supports 4 profiles – RGB and CCT (default), CCT x 2, RGB and lights x 2 and Lights x 5. In Lights x 5 profile, 5 different LED strips can be controlled individually.

Power measurement functionality allows real time track of the voltage, current and power consumption.

The Device can work standalone in a local Wi-Fi network or it can also be operated through cloud home automation services. It can be accessed, controlled, and monitored remotely from any place where the User has internet connectivity, as long as it is connected to the Internet. Shelly Pro RGBWW PM has an embedded Web Interface which can be used to monitor and control the Device, as well as adjust its settings.

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.

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).

ⓘ 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 buttons or switches with built-in LED or neon glow lamps.

Connect the + wire to the + terminal and the – wire to the terminal of the Device.

Lights x 5 profile:

In Lights x 5 profile, the Device can control up to 5 different LED lights individually.
Connect the positive wire of each LED strip to the positive terminal of the power supply and connect the other wires each to the corresponding Device outputs O1, O2, O3, O4 and O5, as shown in Fig. 4 a).
Connect either a button (single-button dimming only possible) as shown in Fig. 4 a), a switch as shown in b), or a potentiometer as shown in c) to each input SW1, SW2, SW3, SW4, and SW5 which controls the corresponding outputs O1, O2, O3, O4, and O5.

RGB and CCT profile:

In RGB and CCT profile, the Device can control a RGB + CCT LED strip (or one RGB and one CCT LED strip).
Connect the positive wire of the RGB CCT LED strip (or the positive wires of the RGB and the CCT LED strips) to the positive terminal of the power supply and connect each one of the wires (red, green, blue, warm white and cold white) to the corresponding Device outputs O1, O2, O3, O4 and O5 as shown in Fig. 1 a).
You can use either single or dual-button dimming to control the brightness of the RGB and/ or CCT individually, as shown in Fig. 1 a).
For single-button dimming, connect a button to SW1 for the RGB strip and a button to SW3 for CCT.
For dual-button dimming, connect 2 buttons to SW1 and SW2 for the RGB light, and 2 buttons to SW3 and SW4 for CCT.
Pressing the buttons connected to SW1 and SW3 increases the brightness, and of the ones connected to SW2 and SW4 decreases it.
If you just want to turn the RGB or CCT on/off, connect a switch to SW1 and SW3 respectively, as shown in Fig. 1 b).
If you want to use potentiometers to smoothly control the brightness of the RGB and/or CCT, connect SW1 and SW3 respectively, as shown in Fig. 1 c).
The RGB and CCT are dimmable by the potentiometer individually.

RGB and lights x 2 profile:

In RGB and lights x 2 profile, the Device can control one RGB LED strip and two individual lights (two individual LED strips). This profile can be used for RGBW LED strips also or RGBW + one more separate LED strip. In this case white can be connected to O4 or O5, and the other LED strip – to O5 or O4 respectively.
Connect the positive wires of the RGB and of the two individual LED strips to the positive terminal of the power supply and connect the other wires (red, green, blue and lights) to the corresponding Device outputs O1, O2, and O3 for the RGB strip, O4 and O5 for light 1 and 2, as shown in Fig. 3 a).
For single-button dimming, connect a button to SW1 for the RGB strip, SW3 for light 1, and SW4 for light 2.
If you want to turn the RGB strip or light 1 and/or light 2 on/off, connect a switch to SW1 for the RGB strip, to SW3 for light 1, and to SW4 for light 2, as shown in Fig 3. b).
If you want to use a potentiometer* to smoothly control the brightness of the RGB strip and/or light 1 & 2, connect one to SW1 for the RGB strip, to SW3 for light 1, and to SW4 for light 2, as shown in Fig 3. c).

CCT x 2 profile:

In CCT x 2 profile, the Device can control two individual CCT lights.
Connect the positive wire of the two individual CCT LED lights to the positive terminal of the power supply and connect the corresponding warm white and cold white wires to the corresponding Device outputs O1 and O2 for CCT 1, and O3 and O4 for CCT 2, as shown in Fig. 2 a).
You can use either single or dual-button dimming to control the brightness of the two CCT individually, as shown in Fig. 2 a).
For single-button dimming, connect a button to SW1 and SW3 for CCT 1 and CCT 2 respectively, as shown in Fig. 2 b).
For dual-button dimming, connect two buttons to SW1 and SW2 for CCT 1, and two buttons to SW3 and SW4 for CCT 2.
Pressing the buttons connected to SW1 and SW3 increases the brightness, and of the ones connected to SW2 and SW4 decreases it.
If you want to turn CCT 1 or CCT 2 on/off, connect a switch to SW1 and SW3 respectively, as shown in Fig. 2 b)

If you want to use a potentiometer* to smoothly control the brightness of CCT 1 and/or CCT 2, connect SW1 and SW3 respectively, as shown in Fig. 2 c).
Both CCT lights are dimmable by the potentiometer individually.
Resistance value of the potentiometer: 10 kΩ analog input.

Specifications

Physical

- **Size (HxWxD):** 94x19x69 mm / 3.70×0.75×2.71 ±0.02 in
- **Weight:** 61 g / 2.15 oz
- **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) (solid, stranded, and bootlace ferrules)
- **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)
- **Mounting**: DIN rail
- **Shell material**: Plastic
- **Shell color**: Yellow

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: 12/24 V
- Power consumption: < 1.5 W

Output circuits ratings

- Max. control voltage: 24 V
- Max. switching current: 16 A
- Max. control current: 16 A total, 6 A per channel
- CCT range 2700K – 6500K (<- default, configurable to any range in between 1000K and 10000K)

Sensors, meters

- **Voltmeter (DC):** 12 V – 24 V
- **Voltmeter accuracy:** +/-10% (12V-24V)
- **Ammeter (DC):** 0 mA – 6 A
- **Ammeter accuracy:** +/-10%
- **Power and energy meters:** Power measurement
- **Measurement data storage:** No
- **Internal-temperature sensor:** Yes

Radio Wi-Fi

- **Protocol:** 802.11 b/g/n
- **RF band**: 2401 – 2495 MHz
- **Max. RF power**: < 20 dBm
- **Range**: Up to 30 m / 98 ft indoors and 50 m / 164 ft outdoors (Depends on local conditions)

Bluetooth

- **Protocol**: 4.2
- **RF band**: 2400 – 2483.5 MHz
- **Max. RF power**: < 4 dBm
- **Range**: Up to 10 m / 33 ft indoors and 30 m / 98 ft outdoors (Depends on local conditions)

Microcontroller unit

- **CPU**: ESP32-D0WDQ6
- **Clock frequency:** 40 Mhz
- **Flash**: 8 MB

Firmware capabilities

- **Schedules:** 20
- **Webhooks (URL actions):** 20 with 5 URLs per hook
- **Scripting:** Yes
- **MQTT:** Yes

- **Encryption:** Yes
- **Advanced schedules**: Yes
- **KVS (Key-Value Store):** 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/pro_rgbww_pm

Declaration of Conformity

Hereby, Shelly Europe Ltd. declares that the radio equipment type Shelly Pro RGBWW PM is in compliance with Directive 2014/53/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/pro_rgbww_pm_DoC

Manufacturer: Shelly Europe Ltd.
Address: 51 Cherni Vrah Blvd., bldg. 3, fl. 2-3, 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.

Device belong to Shelly Europe Ltd.

Customer Support

For UP PSTI Act Statement of Compliance scan the QR code

Documents / Resources

	Shelly RGBWW PM Five Channel DIN rail Mountable Smart Controller [pdf] User Guide Shelly Pro RGBWW PM, RGBWW PM Five Channel DIN rail Mountable Smart Controller, RGBWW PM, Five Channel DIN rail Mountable Smart Controller, DIN rail Mountable Smart Controller, Mountable Smart Controller, Smart Controller, Controller

References

- User Manual

Shelly

controller, DIN rail Mountable Smart Controller, Five Channel DIN rail Mountable Smart Controller, Mountable Smart Controller, RGBWW PM, RGBWW PM Five Channel DIN rail Mountable Smart Controller, Shelly, Shelly Pro RGBWW PM, Smart Controller

Leave a comment

Your email address will not be published. Required fields are marked *

Comment *

Name

Email

Website

Save my name, email, and website in this browser for the next time I comment.

Post Comment

Search:

e.g. whirlpool wrf535swhz

Search