SHELLY Pro Dual Cover And Shutter PM Smart Controller User Guide

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Contents

Read before use

This document contains important technical and safety information about the device, its safe use and installation.

CAUTION! Before beginning the installation, please read carefully and entirely this guide and any other documents accompanying the device. Failure to follow the installation procedures could lead to malfunction, danger to your health and life, violation of law or refusal of legal and/or commercial guarantee (if any). Allterco Robotics EOOD is not responsible for any loss or damage in case of incorrect installation or improper operation of this device due to failure of following the user and safety instructions in this guide.

Product Introduction

Shelly® is a line of innovative microprocessor-managed devices, which allow remote control of electric circuits through a mobile phone, tablet, PC, or home automation system. Shelly® devices can work standalone in a local Wi-Fi network or they can also be operated through cloud home automation services. Shelly Cloud is a service that can be accessed using either an Android or iOS mobile application or with any internet browser at **https://control.shelly.cloud/**. Shelly® devices can be accessed, controlled, and monitored remotely from any place where the user has internet connectivity, as long as the devices are connected to a Wi-Fi router and the Internet. Shelly® devices have an Embedded Web Interface accessible at **http://192.168.33.1** when connected directly to the device access point, or at the device IP address on the local Wi-Fi network. The embedded Web Interface can be used to monitor and control the device, as well as adjust its settings.
Shelly® devices can communicate directly with other Wi-Fi devices through HTTP protocol. An API is provided by Allterco Robotics EOOD.
For more information, please visit: **https://shelly-api-docs.shelly.cloud/#shelly-family-overview**

Shelly® devices are delivered with factory-installed firmware. If firmware updates are necessary to keep the devices in conformity, including security updates, Allterco Robotics EOOD will provide the updates free of charge through the device Embedded Web Interface or the Shelly mobile application, where the information about the current firmware version is available. The choice to install or not the device firmware updates is the user's sole responsibility. Allterco Robotics EOOD shall not be liable for any lack of conformity of the device caused by failure of the user to install the provided updates in a timely manner.

Shelly® Pro Series
Shelly® Pro series is a line of devices suitable for homes, offices, retail stores, manufacturing facilities, and other buildings. Shelly® Pro devices are DIN mountable inside the breaker box, and highly suitable for new building construction. All Shelly® Pro devices can be controlled and monitored through Wi-Fi and LAN connections. Bluetooth connection can be used for the inclusion process.
Shelly Pro Dual Cover PM (the Device) is a DIN rail mountable dual cover smart controller with power measurement functionalities.

Installation Instructions

CAUTION! Danger of electrocution. Mounting/installation of the Device to the power grid has to be performed with caution, by a qualified electrician.

CAUTION! Danger of electrocution. Every change in the connections has to be done after ensuring there is no voltage present at the Device terminals.

CAUTION! Use the Device only with 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 may damage it.

CAUTION! Do not connect the Device to appliances exceeding the given max load!

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

CAUTION! Do not install the Device where it can get wet.

CAUTION! Allow at least 10 mm (0.4 in) of space around each Pro device if you expect currents higher than 5 A per channel.

CAUTION! Plug in or unplug the LAN cable only when the Device is powered off! The LAN cable must not be metallic in the parts touched by the user to plug it in or unplug it.

RECOMMENDATION: Connect the Device using solid single-core cables or stranded cables with ferrules. The cables should have insulation with increased heat resistance, not less than PVC T105°C (221°F).

CAUTION! The load current circuit has to 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).

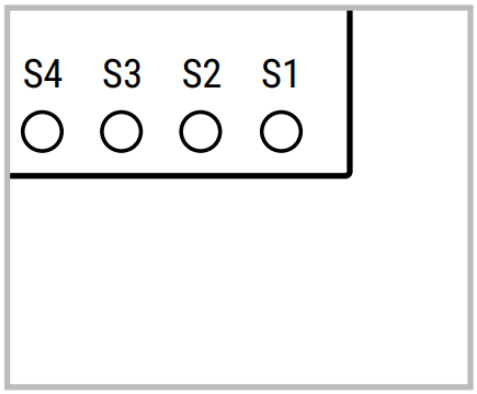
Before starting the mounting/installation of the Device, check that the breakers are turned off and there is no voltage on their terminals. This can be done with a phase tester or multimeter. When you are sure that there is no voltage, you can proceed to connecting the cables.

Shelly Pro Dual Cover PM can control each cover independently in 3 modes: detached, single input, or dual input.

For simplicity, in this manual, all modes will be explained for both covers operating in the same mode.

In reality, you can set up one of the covers to operate for example in detached mode, and the other in single input mode.

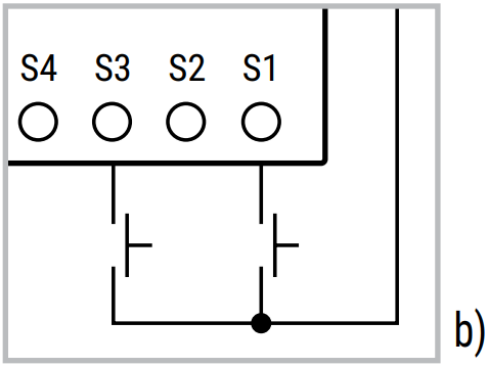
In detached mode, the Device outputs can be controlled through its Web Interface and a mobile application only. Even if buttons or switches are connected to the Device, they will not be allowed to control the motor rotation in detached mode, but they can be used for URL actions. If you want to use the Device in detached mode connect the device as shown in **Fig. 1 a).**



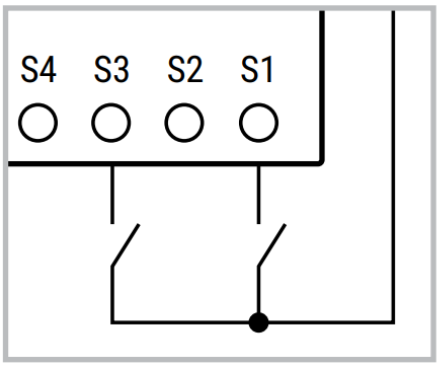
a)

Connect the N terminal to the Neutral cable and the L terminal to the power supply circuit breaker. Connect the common motor terminal/cable to the Neutral cable. Connect through circuit breakers motor direction terminals/cables to the ▲ and ▼ direction terminals* for each cover

If you want to use the Device in single input mode connect the device as shown in **Fig. 1 b)** for a button input or **Fig. 1 c)** for a switch input.



b)



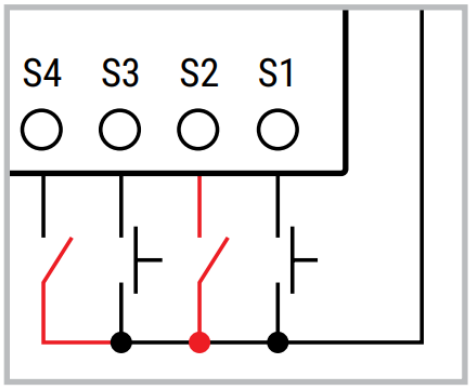
c)

Connect the N terminal to the Neutral cable and the L terminal to the power supply circuit breaker. Connect the common motor terminal/cable to the Neutral cable. Connect through circuit breakers motor direction terminals/cables to the ▲ and ▼ direction terminals* for each cover. Connect the buttons or the switches to the S1 and S3 terminals and the circuit breaker protecting the button/switch circuits.

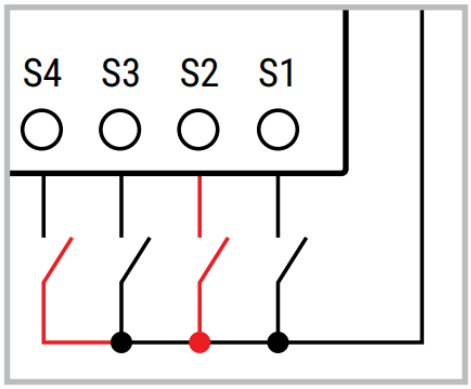
If the input is configured as a button in the Device settings, each button press cycles open, stop, close, stop, etc.

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

In single input mode, Shelly Pro Dual Cover PM provides safety switch functionality. To utilize it, connect the device as shown in **Fig. 1 d)** for a button input or **Fig. 1 e)** for a switch input. Connect the N terminal to the Neutral cable and the L terminal to the power supply circuit breaker. Connect the common motor terminal/cable to the Neutral cable. Connect through circuit breakers motor direction terminals/cables to the ▲ and ▼ direction terminals* for each cover



d)

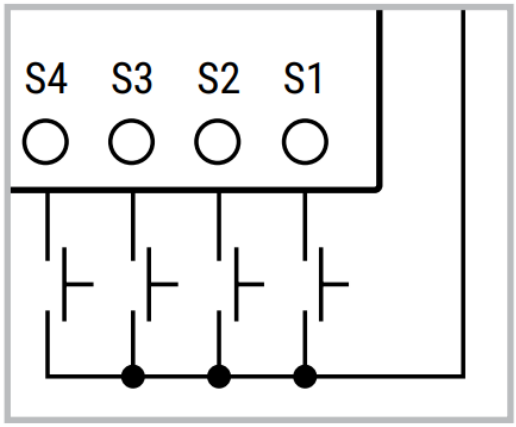


e)

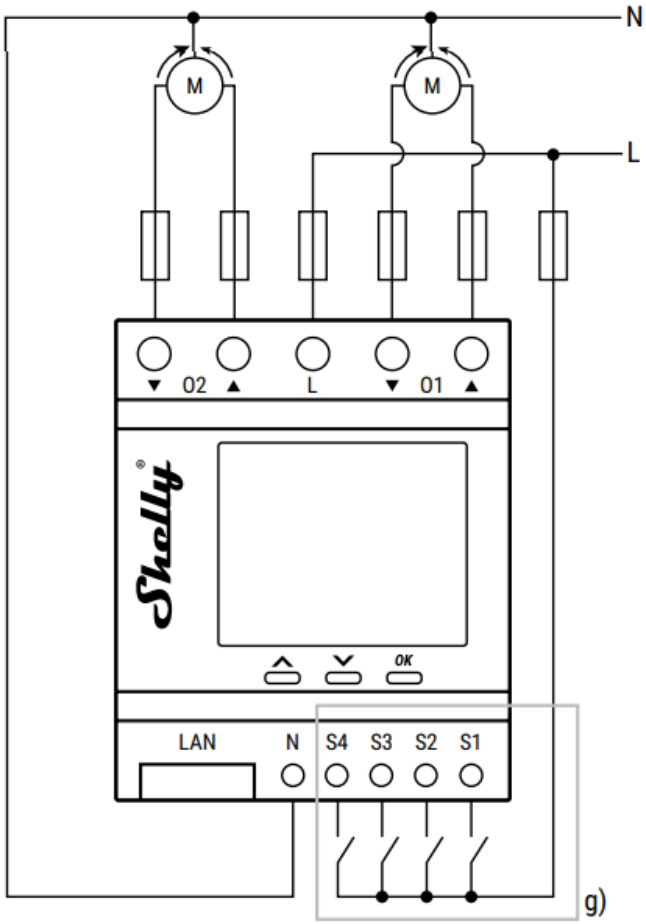
Connect the controlling buttons or switches to the S1 and S3 terminals and the circuit breaker for the button/switch circuit. Connect the safety switches to the S2 and S4 terminals and the circuit breaker protecting the button/switch circuits.

The safety switches 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 switches 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 in **Fig. 1 f)** for button inputs or **Fig. 1 g)** for switch inputs. Connect the N terminal to the Neutral cable and the L terminal to the power supply circuit breaker. Connect the common motor terminal/cable to the Neutral cable. Connect through circuit breakers motor direction terminals/cables to the ▲ and ▼ direction terminals* for each cover. Connect buttons or switches to the S1, S2, S3, and S4 terminals and the circuit breaker protecting the button/switch circuits



f)



In case the inputs are configured as buttons:
Pressing a 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 the switches for both directions are turned on at the same time, Shelly Pro Dual Cover PM will respect the last engaged switch. Turning off the last engaged switch stops the cover movement, even if the opposite direction switch is still on. To move the cover in the opposite direction, the corresponding switch has to be turned off and on again.
Shelly Pro Dual Cover PM 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 only one of the directions or for both. Obstacle detection sensitivity is configurable through device settings and depends on your cover.

CAUTION! Even with obstacle detection enabled, we recommend operating the Device while having direct visual contact with the cover.

RECOMMENDATION: To avoid potential voltage spikes during switching on/off the cover bi-directional motor, two RC snubbers (0.1µF / 100Ω /1/2W / 600V AC) should be connected between the common and the two direction terminals/cables of the cover motor as shown in **Fig. 2.**

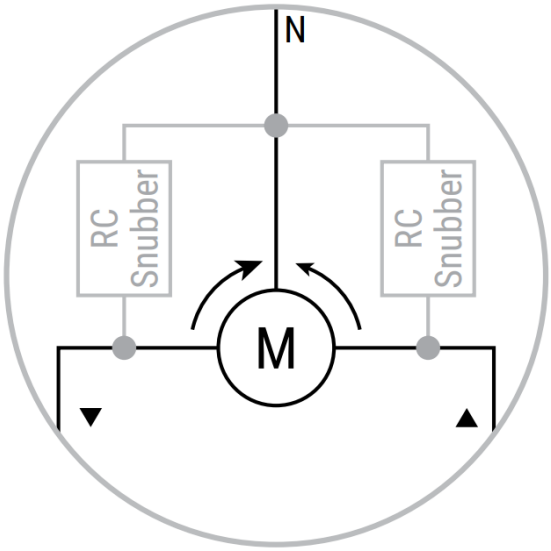


fig.2

The RC snubbers can be purchased at
www.shelly.cloud/en/products/product-overview/rc-snubber

Initial Inclusion

If you choose to use the Device with the Shelly Smart Control mobile application and cloud service, instructions on how to connect the Device to the Cloud and control it through the Shelly Smart Control app can be found in the mobile application 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 and protocols.

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

Display (fig. 3)

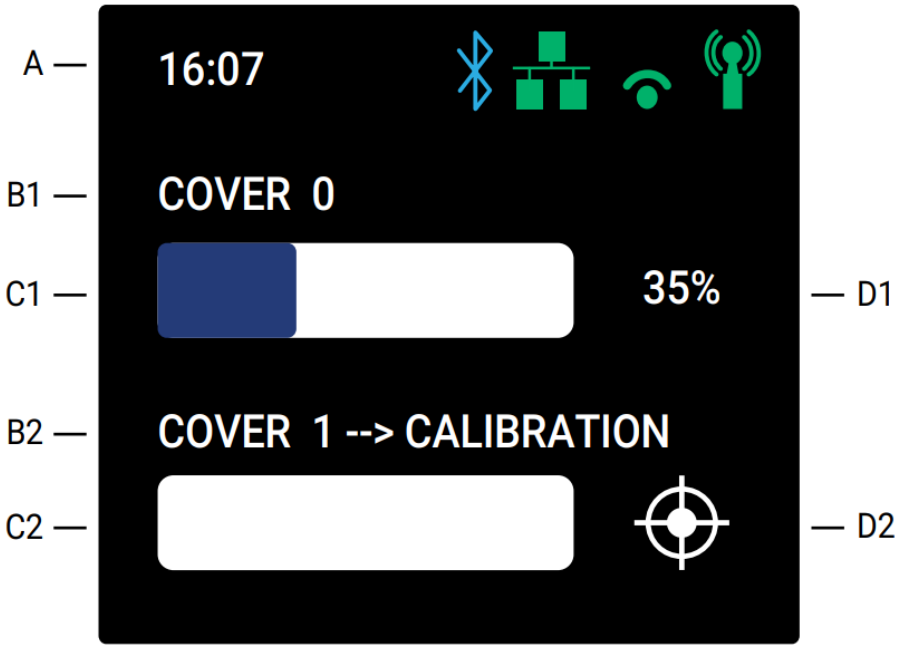


fig.3

The top bar (Fig. 3 A) of the LCD shows brief status information:

- Time
- Bluetooth connection status:
  - Disabled – no icon
  - Enabled – blue icon
- LAN status:
  - Disabled – no icon
  - Enabled, but not connected – red icon
  - Connected – green icon
- Wi-Fi STA status:
  - Disabled – no icon
  - Enabled, but not connected – red icon
  - Connected – green icon
- Wi-Fi AP status:
  - Disabled – no icon
  - Enabled – green icon
- Cloud status:
  - Disabled – no icon
  - Enabled, but not connected – red icon
  - Connected – green icon

The main part of the LCD depicts the status of the two covers.
Each cover is represented by a name (Fig. 3 B1/B2), a slider (Fig. 3 C1/C2), and a notification area (Fig. 3 D1/D3).
The cover names can be changed in the device settings.
The sliders visualize the position of the covers.
The notification areas contain the position of the covers in percentage (Fig. 3 D1) or an icon (Fig. 3 D2) indicating an event (calibration, obstruction, overvoltage, overcurrent, or overpower).
The events are also transcribed next to the cover names (Fig. 3 B2).

User buttons

Press and hold the OK button to get into the menu screen.
The available menu items are:

- MAIN – go back to the main screen
- NETWORK – enable/disable:
  - Wi-Fi AP (Access Point)
  - Wi-Fi STA (Station)
  - Ethernet
  - Bluetooth
- STATUS – check the Device status
- MAINTENANCE – perform:
  - Wi-Fi reset – reset the Wi-Fi settings
  - Factory reset

- Reboot

Press the up or the down button to scroll through the currently displayed menu.
Press the OK button to select a menu item.
Press and hold the OK button while in a sub menu to go back.

Specifications

- **Purpose of control:** Operating
- **Construction of control:** Independently mounted
- **Mounting:** Panel mounting, DIN rail
- **Size (HxWxD):** 96x53x59 mm / 3.78×2.01×2.32 in
- **Shell material:** Plastic
- **Color:** Dark gray
- **Ambient temperature:** -20 °C to 40 °C / -5 °F to 105 °F
- **Humidity:** 30 % to 70 % RH
- **Pollution Degree** 2
- **Max altitude:** 2000 m/ 6562 ft
- **Power supply voltage:** 110 – 240 VAC
- **Power consumption:** < 3 W
- **Max switching voltage:** 240 VAC
- **Max switching current per output:** 16 A
- **Controlled motor max. power:**
  - 1.0 HP @ 240 VAC
  - 0.5 HP @ 120 VAC
- **RF band:** 2400 – 2495 MHz
- **Max. RF power:** < 20 dBm
- **External protection:** 32 A, tripping characteristic B or C, 6 kA interrupting rating, energy limiting class 3
- **Wi-Fi protocol:** 802.11 b/g/n
- **Wi-Fi operational range (depending on local conditions):**
  - up to 50 m / 160 ft outdoors
  - up to 30 m / 100 ft indoors
- **Bluetooth protocol:** 4.2
- **Bluetooth operational range (depending on local conditions):**
  - up to 30 m / 100 ft outdoors
  - up to 10 m / 33 ft indoors
- **LAN/Ethernet (RJ45):** Yes
- **Potential-free contacts:** No
- **Power metering:** Yes
- **Overpower protection:** Yes
- **Overcurrent protection:** Yes
- **Overvoltage protection:** Yes
- **Overtemperature Protection:** Yes
- **Scripting (mjs):** Yes

- **MQTT:** Yes
- **Webhooks (URL actions):** 20 with 5 URLs per hook
- **Schedules:** 20
- **CPU:** ESP32
- **Flash:** 8 MB

Declaration of conformity

Hereby, Allterco Robotics EOOD declares that the radio equipment type Shelly Pro Dual Cover PM 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/ProDualCoverPM_DoC**

Disposal & Recycling

This refers to the waste of electrical and electronic equipment. It is applicable in the EU, the US and other countries with separate waste collection.

This symbol on the product or in the accompanying literature indicates that the product should not be disposed of in the daily waste. Shelly Pro Dual Cover PM must be recycled to avoid possible damage to the environment or human health from uncontrolled waste disposal and to promote the reuse of materials and resources. It is your responsibility to dispose of the device s eparately from general household waste when it is already unusable.

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Address: 103 Cherni vrah Blvd., 1407 Sofia, Bulgaria
Tel.: +359 2 988 7435
E-mail: support@shelly.cloud
Official website: https://www.shelly.cloud

Changes in the contact information data are published by the Manufacturer on the official website.

The Device outputs can be reconfigured to match the required rotation direction.
Interaction with the button, the switch or a control in the WebUI or in the App (has to command the cover in the opposite to the direction before the safety switch engagement).

Documents / Resources

	SHELLY Pro Dual Cover And Shutter PM Smart Controller [pdf] User Guide Pro Dual Cover And Shutter PM Smart Controller, Dual Cover And Shutter PM Smart Controller , Cover And Shutter PM Smart Controller, Shutter PM Smart Controller, PM Smart Controller, S mart Controller, Controller

References

- Shelly Control
- Welcome to Shelly Technical Documentation | Shelly Technical Documentation
- Shelly Pro Dual Cover/Shutter PM
- Shelly - Shelly
- User Manual