

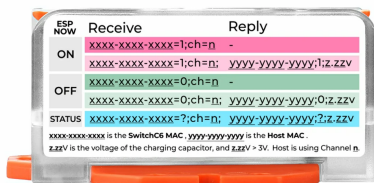
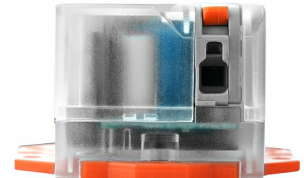
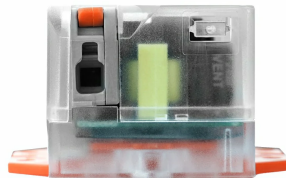
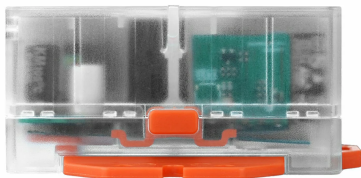
SwitchC6

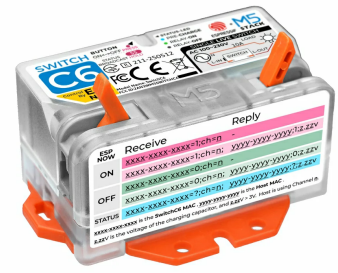
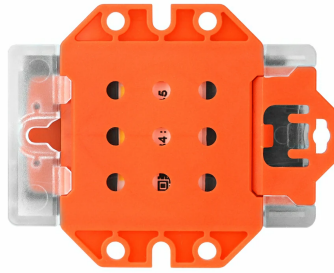
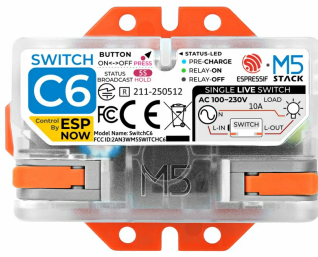
SKU:K140

IoT SwitchC6

SINGLE LIVE
CONTROL BY **ESP-NOW**

ESP32-C6
100~230V@10A

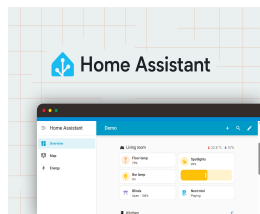




Description

SwitchC6 is an IoT single-live wire switch controller. It integrates the ESP32-C6-MINI-1 core controller and a magnetic latching relay, supports connecting to electrical load circuits of AC 100 ~ 230V, and helps quickly build IoT smart homes. The controller comes pre-installed with ESP-NOW control firmware, and provides related control protocols and SDKs, allowing users to wirelessly control it with any ESP32 device. The back adopts a rail clip design, making it easy to install on DIN rails, suitable for embedded smart home control, upgrading single-live wire lighting circuits, and other application scenarios.

Tutorial



Home Assistant

This tutorial explains how to integrate the SwitchC6 single-live-wire switch controller into Home Assistant.

Features

- Single-live wire switch controller
- Based on ESP32-C6-MINI-1 wireless SoC
- Suitable for tungsten filament bulbs and lamps with SCR dimming support
- 2.4 GHz Wi-Fi 6

- Integrated magnetic latching relay
- Wide voltage design: compatible with AC 100 ~ 230V electrical loads
- ESP-NOW wireless communication protocol
- Status indicator light
- DIN rail mounting

Includes

- 1 x SwitchC6

Applications

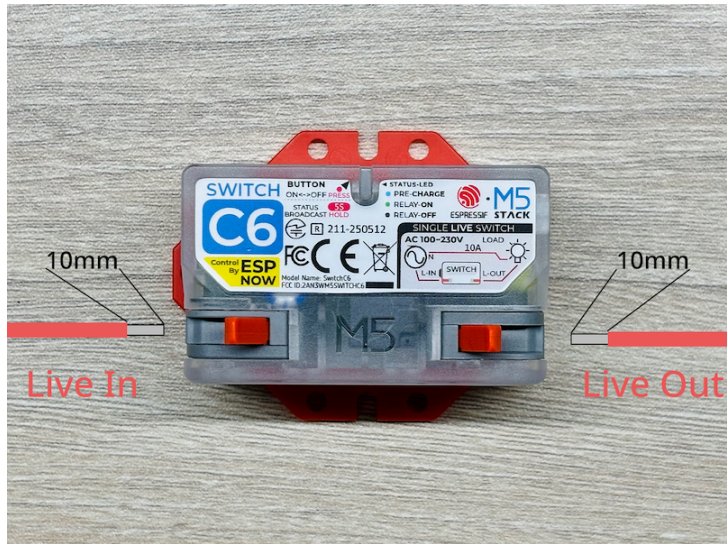
- Smart home control
- Single-live wire lighting renovation

Specifications

Specification	Parameter
SoC	ESP32-C6-MINI-1, RISC-V 32-bit single-core processor, supports up to 160 MHz clock frequency
Wi-Fi	2.4 GHz Wi-Fi 6
Wireless Standard	IEEE 802.11 b/g/n/ax
Max Load	AC 220V@10A (2200W) / AC 110V@10A (1100W), max current limit 10A
Supported Voltage	AC 100 ~ 230V, 50/60Hz
Power Supply	Live wire only
Terminal Wiring Spec	Solid wire: 0.5mm ² ~ 4mm ² Stranded wire: 0.5mm ² ~ 2.5mm ²
Power-on State	Power-off state memory
Operating Temp	-10°C ~ 60°C
Product Size	58.0 x 46.0 x 27.0mm
Product Weight	40.0g
Package Size	63.0 x 48.0 x 28.5mm
Gross Weight	47.3g

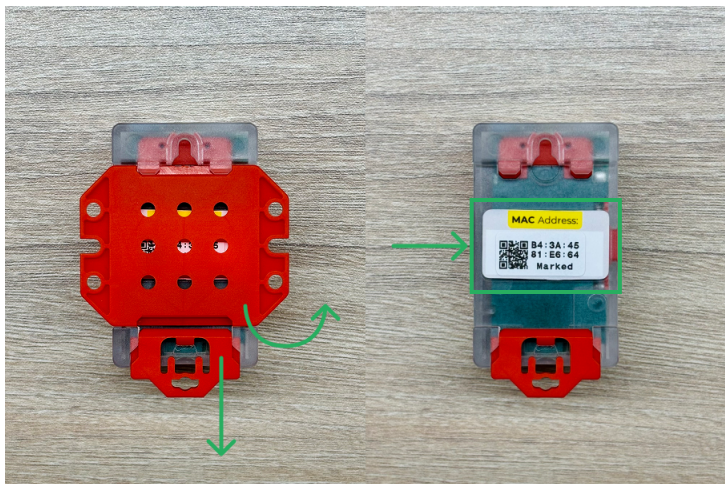
Learn

Wiring



As shown in the sticker information and the above diagram, SwitchC6, as a single-live wire switch, needs to be connected between the live wire power supply and the load appliance. The left L-IN is close to the power source, and the right L-OUT is close to the load. The wires connected to the switch need to expose 10mm of metal, and the wire gauge should match the circuit's maximum load current. When wiring, first open the buckle, fully insert the metal wire end into the opening, and press the buckle tightly.

MAC Address Acquisition



The MAC address (equivalent to the product's unique ID) is shown on the sticker on the back of the product. As shown above, pull the small hook forcefully and lift the cover to see it. In addition, you can also program the master device to scan and read the MAC address included in the status information broadcasted by SwitchC6; the specific method is described in the [Arduino development](#) section.

Please note that during development, you need to convert the sticker's XX:XX:XX:XX:XX:XX format into the XXXX-XXXX-XXXX format.

Status Indicator

	Blue Light	Green Light
ON	Charging start-up, temporarily unavailable	Switch closed, circuit connected
OFF	Charging complete, ready for normal work	Switch open, circuit disconnected

Charging Note

If the product has not been connected to the circuit for a long time, the built-in capacitor may slowly discharge until depleted. When reconnected to the circuit, it needs to complete charging before it can start working; this process may take several minutes.

Button Control

- **Short press once:** Toggle the switch state, then broadcast status information (own MAC address, channel, new switch state, capacitor voltage, etc.).
- **Long press 5s:** Broadcast status information (same as above).

Wireless Control

Program the main control device (such as M5Stack CoreS3, etc.) to communicate wirelessly with the SwitchC6 via ESP-NOW, enabling operations such as controlling switches and reading status. For detailed instructions, see [Arduino Development Section](#), [UiFlow2 Development Section](#).

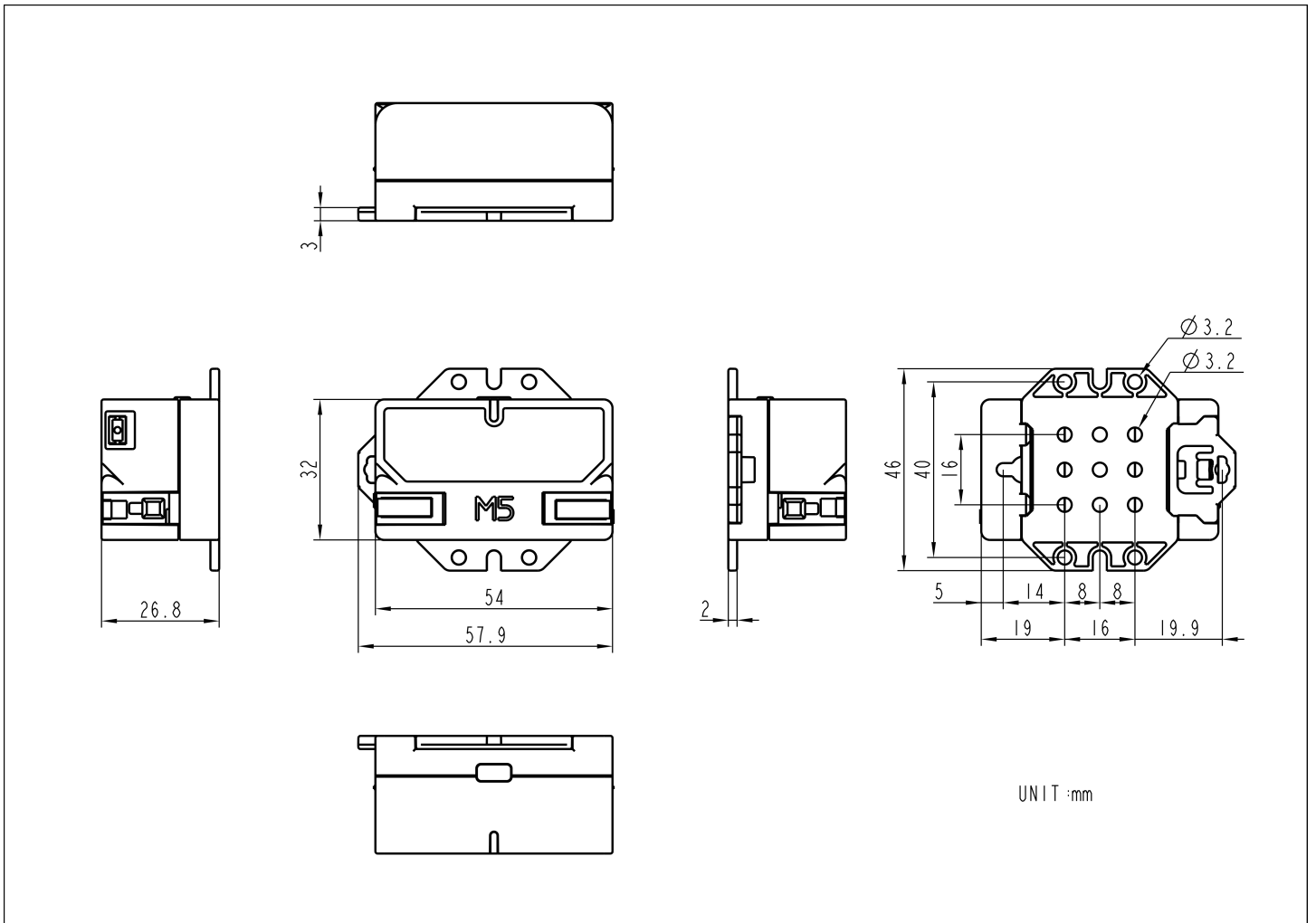
PinMap

SwitchC6

SwitchC6	G7	G14	G15	G6
User Button	Button			
Relay Pulse OFF		Relay OFF		
Relay Pulse ON			Relay ON	
EH_12V ADC				ADC

Model Size

- [SwitchC6 Model Size PDF](#)



Datasheets

- [ESP32-C6-MINI-1 Datasheet](#)

Softwares

Arduino

- [SwitchC6 Arduino Tutorial](#)
- [SwitchC6 Arduino Driver Library](#)

UiFlow2

- [SwitchC6 UiFlow2 Docs](#)

Home Assistant

- [Home Assistant Integration](#)

Protocol

- [SwitchC6 Control Protocol](#)

ESP NOW	Receive	Reply
ON	<u>xxxx-xxxx-xxxx</u> =1;ch= <u>n</u>	-
	<u>xxxx-xxxx-xxxx</u> =1;ch= <u>n</u> ;	<u>yyyy-yyyy-yyyy</u> ;1; <u>z.zzv</u>
OFF	<u>xxxx-xxxx-xxxx</u> =0;ch= <u>n</u>	-
	<u>xxxx-xxxx-xxxx</u> =0;ch= <u>n</u> ;	<u>yyyy-yyyy-yyyy</u> ;0; <u>z.zzv</u>
STATUS	<u>xxxx-xxxx-xxxx</u> =?;ch= <u>n</u> ;	<u>yyyy-yyyy-yyyy</u> ?; <u>z.zzv</u>

xxxx-xxxx-xxxx is the **SwitchC6 MAC** , yyyy-yyyy-yyyy is the **Host MAC** .
z.zzV is the voltage of the charging capacitor, and z.zzV > 3V. Host is using Channel n.

Video

- SwitchC6 Product Introduction and Use Cases

[EN-K140_SwitchC6_video.mp4](#)