



**CMU R1 WIFI Smart Gateway
Product Manual**

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1. Scope of Application and Intended Use

The CMU R1 WIFI Smart Gateway is a Wi-Fi communication gateway designed specifically for smart power applications. Its primary function is to collect and transmit data from downstream connected smart circuit breakers. Through the built-in Wi-Fi module, it reliably uploads key data such as device power consumption status and load information to a cloud platform or local management system.

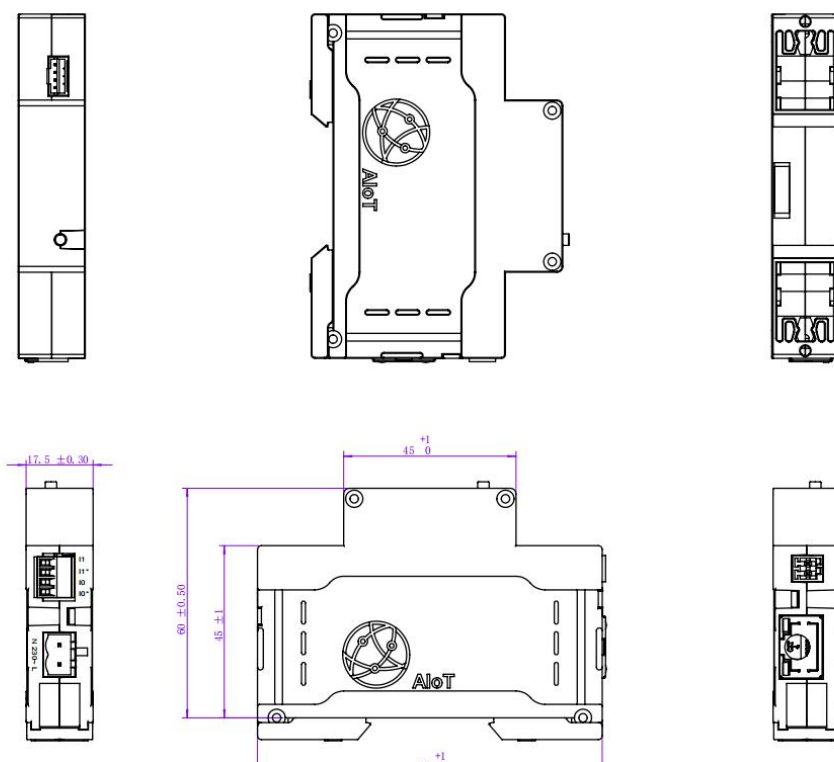
In addition to data acquisition and communication, the gateway integrates a DO (Digital Output) interface. Based on cloud control commands, local control strategies, or acquired device status, it can output switching control signals to control contactors, relays, and other external devices that support digital control, enabling complete closed-loop control from status acquisition, data analysis, and control decision-making through device actuation.

The gateway is suitable for a variety of environments, including smart homes, building automation, and industrial electrical monitoring. It enables real-time status monitoring, remote control, automated linkage, and centralized management of electrical devices in a circuit. Through the DO output, it can further enable load start/stop control, device linkage, and automatic control under abnormal conditions, effectively improving electrical safety, automation, and management efficiency.

2. Product Appearance and Dimensions



Gateway Appearance



Gateway Dimensions

3. Technical Specifications

Technical Specifications	Description
Power Supply	AC185V~265V
Standby Power Consumption	<3W
Uplink Communication	Wi-Fi 2.4 GHz
Uplink Protocol	MQTT / Modbus-TCP / Transparent Transmission
Downlink Communication	RS485, 1-channel relay DO output (optional)
Downlink Protocol	Modbus-RTU / Modbus-TCP
Maximum Number of Connected Devices	32 smart circuit breakers
Firmware Upgrade	Supported
Automatic Device Discovery	Supported
Default IP	10.10.10.1

Technical Specifications	Description
Indicator Status	Solid red: The product is in Wi-Fi AP mode. Flashing green: The product is in Wi-Fi STA mode and is connecting to the router. Solid green: The product is in Wi-Fi STA mode and has successfully connected to the router.
Button Operation	Press and hold (2–5 s): Enter/exit Wi-Fi AP mode.
Configuration	Built-in web page
Pole Configuration	1P
Installation	35 mm DIN rail mounting
Flame Retardancy	V0
Altitude Requirement	2500m
Operating Temperature	-20 °C to 65 °C
Accessories	Communication Cascade Cable × 1 Power Terminal × 1

4. Configuration

After the product is powered on, the indicator remains solid red. If the indicator is not solid red, press and hold the product button for more than 2 seconds. Release the button after the indicator starts flashing; the indicator will then remain solid red.

Use a computer or mobile phone to connect to the product hotspot. The hotspot name is "polycent" followed by the last four characters of the product MAC address. No password is required.

After successfully connecting to the hotspot, open a browser and enter 10.10.10.1 to access the product configuration page.

Enter the Wi-Fi SSID, Wi-Fi password, IP settings, uplink service information (MQTT, Modbus-TCP, TCP), RS485 communication parameters, and other required settings.
(DHCP automatic IP address assignment is supported.)

Click the "Save All Setting" button.

When the gateway indicator turns green, the Wi-Fi connection has been established successfully.

To reconfigure the product, press and hold the product button for more than 2 seconds. When the indicator remains solid red, the product can be configured again.

5. Installation

Port Definitions:

Port	Description
L	Live (Line)
N	Neutral
A1	RS485 A
B1	RS385 B
C	DO relay output common terminal
O	DO relay normally open output terminal; when the relay is energized, it is electrically connected to terminal C.

6. Firmware Upgrade

The product has a built-in web page. In a LAN environment, firmware packages can be imported for offline upgrades; with Internet access, online upgrades are supported.

7. Precautions

Personnel Qualifications: Installation personnel must hold an electrician qualification or a fire protection system training certificate.

Pre-power-on Check: Confirm that there are no short circuits or open circuits and that the supply voltage is within the rated range.