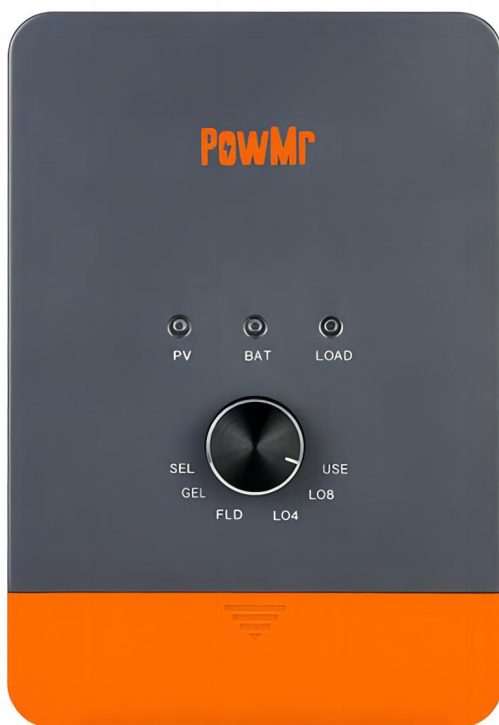


Product Model

POW-RV1225A

POW-RV1235A

POW-RV1245A



POWMr

SOLAR CHARGE CONTROLLER

User Manual

Important Safety Instructions

WARNING: Carefully read and adhere to all safety instructions.

- Before installing and operating the controller, please read the user manual thoroughly and keep it for future reference.
- The installation or operation of the controller should only be performed by individuals who have received proper training and supervision.
 - a. Anyone lacking the necessary knowledge, experience, or capabilities for the safe installation and operation requirements.
 - b. Individuals (including children) who may have physical, sensory, or intellectual impairments that could affect the safe installation and operation.

Controller Installation and Operation

- a. This controller product does not have user-serviceable components; do not disassemble or attempt to repair the controller yourself.
- b. Install the controller in a well-ventilated environment with adequate clearance around it.
- c. Install the controller on non-combustible walls and ensure there are no flammable materials nearby; it is normal for the controller to generate heat during operation.
- d. Place the controller in an environment that is protected from direct sunlight, rain, humidity, and dust, and keep it away from any flammable liquids or gases. The controller is for indoor use only.
- e. Do not install or operate the controller on top of, directly above, or in an enclosed space above batteries, as batteries emit explosive gases.
- f. Do not place any objects on top of the controller.

Battery Installation and Charging

- a. Install and charge batteries in well-ventilated or exhaust-ventilated environments.
- b. Ensure there are no open flames in the vicinity of the batteries, as batteries emit explosive gases.
- c. Battery acid is corrosive; if battery acid comes into contact with the skin, rinse immediately with clean water.

- d. Do not charge non-rechargeable batteries. Do not charge lithium batteries when the temperature is below 0°C. Charging frozen batteries is prohibited.
- e. Ensure that the equipment is properly configured for the type of battery connected to it.

DC Battery Connections

- a. Ensure that the DC system is fully off/powering down by disconnecting all cables and/or new ports from the battery/DC system.
- b. Use flexible, multi-strand copper cables with an appropriate cross-sectional area, and connect them to matching fuses or circuit breakers.
- c. Connecting the PV array to the controller is prohibited until the battery is connected first.

Controller Configuration

- a. Refer to the battery manufacturer's guide and specifications to ensure the battery is suitable for the controller and confirm the recommended charging settings.
- b. Integrated charging modes include adaptive charging logic, which is suitable for most battery types.

Warranty Services

Dear Customer,

Thank you for choosing the POW-RV series solar controller.

Please carefully read this manual as it will help you maximize the many advantages the controller offers for your solar system.

This manual provides important recommendations regarding installation and usage. For your own benefit, please read and pay close attention to the safety advice within.

In accordance with the instructions, repair services may be provided to users for any damaged units resulting from incorrect installation, disassembly, or improper use of this product.

Warranty Terms:

- Within 30 days from the date of purchase, a malfunctioning controller will be replaced at no charge, provided that it has been used under normal circumstances and authorized by the company's technical personnel.
- Within 2 years from the date of purchase, a malfunctioning controller will be repaired at no charge.

NOTE

- Unauthorized disassembly voids the warranty.

Declaration

Under the following circumstances, our company reserves the right not to assume any quality warranty responsibilities:

- Damage caused by improper transportation.
- Damage resulting from incorrect storage, installation, or usage.
- Damage caused by non-professionals or untrained personnel installing and operating the equipment.
- Damage resulting from non-compliance with the instructions and safety warnings in this document.
- Damage caused by operation in environments that do not meet the requirements specified in this document.
- Damage due to operation beyond the parameter ranges specified in applicable technical specifications.
- Damage resulting from unauthorized disassembly, product alteration, or software code modification.
- Damage caused by abnormal natural conditions (force majeure), such as lightning, earthquakes, fires, storms, etc.
- Any damage resulting from failure to adhere to local standards and regulations during the installation and operation processes.
- Products outside the warranty period.

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1 Product Overview

Thank you for choosing the POW-RV series solar controller. This high-efficiency controller is designed to enhance the performance and intelligent management of photovoltaic systems. The POW-RV series integrates advanced MPPT technology and multiple intelligent control functions, enabling precise tracking of the maximum power point of the solar array even in fluctuating lighting conditions. The tracking efficiency reaches up to 99%, with peak conversion efficiency as high as 98%, effectively improving overall energy utilization.

The carefully designed POW-RV series controller features a unique rotary knob for battery type selection, making the setup more intuitive and convenient, significantly enhancing the user experience. In addition, the controller supports an external remote monitoring screen (POW-Meter), allowing users to monitor the system's operating status in real-time, remotely set charging strategies, and use the intelligent alarm function to quickly detect system abnormalities and protection states, ensuring the safety and stability of system operation.

The POW-RV series excels not only in performance but also in its structural design, achieving the perfect balance of safety and convenience. Its compact and durable housing structure, combined with natural heat dissipation, enhances the product's stability and environmental adaptability. Whether you are building an off-grid power system or deploying a small to medium-sized solar project, the POW-RV series provides efficient, reliable, and intelligent charging solutions, making it an ideal choice for solar energy management.

1.1 Features

● Rotary Knob Design

The rotary knob design allows you to easily select the battery type by turning the knob on the controller. No complex operations are required, and the setup process is intuitive and straightforward. Compared to traditional button operations, the rotary knob design is easier to identify and switch, reducing the risk of misoperation while improving setting efficiency and user experience.

- **Integrated Charging Presets**

The integrated charging modes include adaptive charging logic, suitable for most battery types, such as flooded lead-acid batteries, gel sealed lead-acid batteries, and lithium batteries.

- **Flexible Application**

Compatible with 12V/24V system voltages.

- **Multi-stage Charging Algorithm**

The multi-stage charging algorithm is specifically designed to optimize each charging cycle and maintain long-term charging.

- **Maximum Power Point Tracking (MPPT) Technology**

The MPPT technology tracks the maximum power point voltage (V_{mp}) of the array, which changes with weather conditions, ensuring that the maximum power is collected from the array throughout the day.

- **Efficient Charging**

The innovative MPPT technology achieves up to 99% tracking efficiency and up to 98% peak conversion efficiency, reducing power consumption, minimizing heat generation, and lowering operating temperature.

- **Adaptive Boost Charging**

During the initial charging phase, the adaptive boost charging monitors the battery's response and automatically determines the duration of the boost phase for each independent charging cycle, based on the discharge level. This ensures that the battery is fully charged at any discharge level or capacity and prevents excessive charging time during the boost phase (helping to extend battery life).

- **Durable and Safe**

- a. Charging Current Limitation – Protects the battery and extends its lifespan.
- b. Photovoltaic Array Short-circuit Protection
- c. Photovoltaic Input Overcurrent Protection
- d. Load Short-circuit Protection
- e. Photovoltaic Reverse Polarity Protection – Does not damage the controller.
- f. Battery Reverse Polarity Protection
- g. Over-temperature Protection – When the controller heatsink temperature exceeds 65°C, the

controller will automatically reduce the charging current. If the temperature exceeds 80°C, the controller will shut down.

- **Silent Operation**

The device operates almost silently due to the absence of a heat dissipation fan or movable parts. It uses natural convection for heat dissipation.

- **Lithium Battery Activation**

The controller is compatible with lithium batteries. When the battery type parameter is set to lithium, the charging cycle is adjusted to accommodate the lithium battery's charging requirements. Additionally, when the connected lithium battery is in protection mode, the controller will use energy from the solar panels to activate the lithium battery within the protection voltage and current limits.

Warning: Do not charge lithium batteries when their temperature is below 0°C.

- **Alarm Function**

The battery controller is equipped with an intelligent alarm function. Please refer to “5.2 Troubleshooting” for details on protection and fault alarms.

- **Remote Control Function**

The controller supports remote monitoring via a remote control screen, allowing users to view real-time system parameters, such as photovoltaic, battery, load, and other data. It also allows for remote adjustment of user-define charging parameters, enhancing the convenience and flexibility of system management.

1.2 Product Appearance



1	Indicator Light	7	Load Port (+)
2	Battery Type Selection Knob	8	Load Port (-)
3	PV Input Port (+)	9	RS485 Port
4	PV Input Port (-)	10	Heat Sink
5	Battery Port (+)	11	Mounting Holes
6	Battery Port (-)		

2 Installation Guide

2.1 Unboxing and Inspection

Before unboxing, check if the packaging is damaged. After unboxing, check if any items inside the packaging are damaged or missing. The following items will be included in the package:

- Controller x 1
- User Manual x 1
- Mounting Screws x 4

2.2 Installation Location

Before installation, consider the following factors to determine and provide a suitable and safe installation location:



Install the controller in an area with good natural ventilation/airflow.



Avoid direct sunlight.



Ensure sufficient space around the controller. The minimum spacing for the top, bottom, and sides of the controller is 75mm.



Install the controller on a non-combustible wall and ensure there are no flammable materials nearby. It is normal for the controller to heat up during operation.



Install the controller in an environment that avoids direct sunlight, rain, humidity, and dust, and keep it away from any flammable liquids or gases. The controller is for indoor use only.

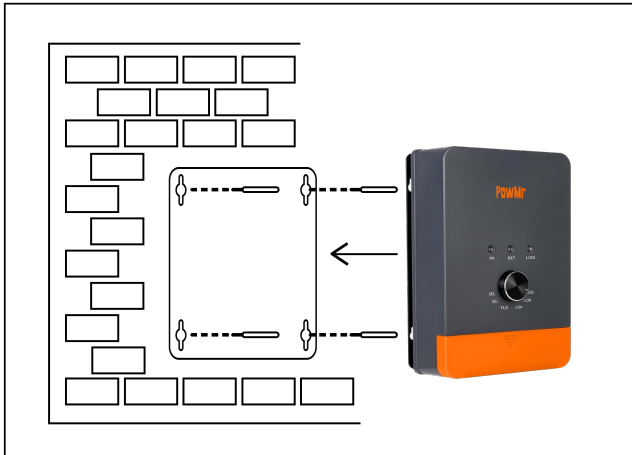


Do not install, place, or operate the controller directly above the battery, on top of the battery, or in a confined space where batteries are stored, as batteries release explosive gases.

2.3 Installation Process

The controller must be installed vertically with the ports facing downwards to prevent dust or liquid from entering. The installation steps are as follows:

- Step 1: Use the provided mounting screws to first secure the upper two screws onto the wall or bracket, and hang the controller temporarily.
- Step 2: Align the lower mounting holes, insert and tighten the remaining screws to ensure the controller is securely fastened without any wobble.
- Step 3: Check if all screws are tightened properly to prevent loosening due to vibrations.



3 Wiring Guide

3.1 Wiring Precautions

1. The installation and wiring must be performed by a licensed electrician.
2. Before wiring, install circuit breakers with the correct specifications on the photovoltaic, battery, and load terminals, and ensure that all circuit breakers are in the OFF position.
3. Follow the wiring sequence: Battery > PV Input > Load; Disconnecting sequence: Load > PV Input > Battery.
4. To avoid short circuits and reverse polarity, ensure that the positive (+) cables are connected to the positive (+) terminals of the devices, and the negative (-) cables to the negative (-) terminals.
5. Using cables that are too thin or loose connections can cause the cables or terminals to overheat. Therefore, ensure all cables are securely connected to minimize transition resistance. Use cables of the appropriate size according to the current requirements of the specific circuit.
6. After installation, check if all wiring connections are secure to avoid overheating caused by loose connections.
7. Do not connect an inverter to the load terminal of the controller, as this could cause irreversible damage to the equipment. If an inverter needs to be connected, it should be connected to the battery. Please refer to section 3.7 for detailed instructions.

3.2 Wiring Specifications

➤ PV Wiring Specifications

The output current of the photovoltaic array is affected by the type of photovoltaic modules, the connection method, and the angle of sunlight. Therefore, the minimum wire gauge for the photovoltaic array is calculated based on the short-circuit current of the array. Please refer to the short-circuit current value in the photovoltaic module specification sheet (the short-circuit current remains unchanged when the modules are connected in series; in parallel, the short-circuit current is the sum of the short-circuit currents of all parallel modules). The short-circuit current of the array must not exceed the maximum input current of the controller's PV terminal. The maximum

input current of the controller’s PV terminal and the maximum wire gauge for the PV terminal are provided in the table below:

Model	PV Max Input Current	Wire Gauge	Recommended Circuit Breaker Model
POW-RV1225A	25A	10mm ² /8AWG	32A-2P
POW-RV1235A	35A	10mm ² /8AWG	40A-2P
POW-RV1245A	45A	16mm ² /6AWG	50A-2P

Note

- When PV modules are connected in series, the total open-circuit voltage must never exceed the maximum open-circuit voltage of the controller's photovoltaic array.
- The wire gauge is provided as a reference. If the distance between the PV array and the controller, or between the controller and the battery, is relatively long, larger gauge cables must be used to reduce voltage loss in the circuit and ensure system efficiency.

➤ **Battery Wiring Specifications**

The battery wiring specifications must be selected according to the rated charging current. Please refer to the table below for the recommended wire gauge:

Model	Rated Charging Current	Wire Gauge	Recommended Circuit Breaker Model
POW-RV1225A	25A	10mm ² /8AWG	32A-2P
POW-RV1235A	35A	10mm ² /8AWG	40A-2P
POW-RV1245A	45A	16mm ² /6AWG	50A-2P

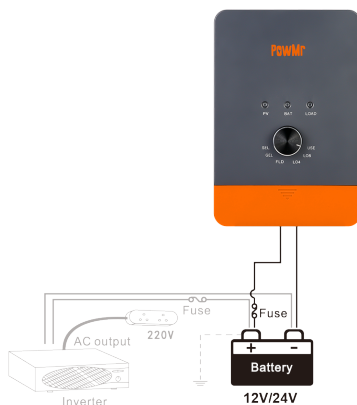
➤ **Load Wiring Specifications**

The load wiring specifications must be selected according to the rated output current. Please refer to the table below for the recommended wire gauge:

Model	Rated Output Current	Wire Gauge	Recommended Circuit Breaker Model
POW-RV1225A	15A	6mm ² /10AWG	20A-2P
POW-RV1235A	20A	6mm ² /10AWG	25A-2P
POW-RV1245A	25A	10mm ² /8AWG	32A-2P

3.3 Battery Wiring

Use a screwdriver to loosen the fixed screws on the controller's battery port. After connecting the cables to the ports, tighten the screws to ensure a secure connection.

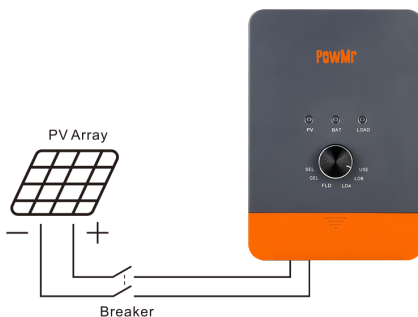


Note

- During installation, please connect a DC fuse with a current rating matching the battery and controller between the battery and controller to prevent damage to the equipment due to short circuits or overcurrent.

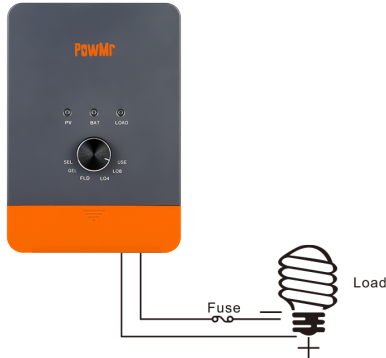
3.4 PV Wiring

Use a screwdriver to loosen the fixed screws on the controller's photovoltaic port. After connecting the cables to the ports, tighten the screws to ensure a secure connection.



3.5 DC Output Wiring

Use a screwdriver to loosen the fixed screws on the controller's load port. After connecting the cables to the ports, tighten the screws to ensure a secure connection.



3.6 RS485 Communication

This controller is equipped with an RS485 communication port, which can be used to connect a remote control screen for real-time monitoring of the system's operating status and parameter settings.

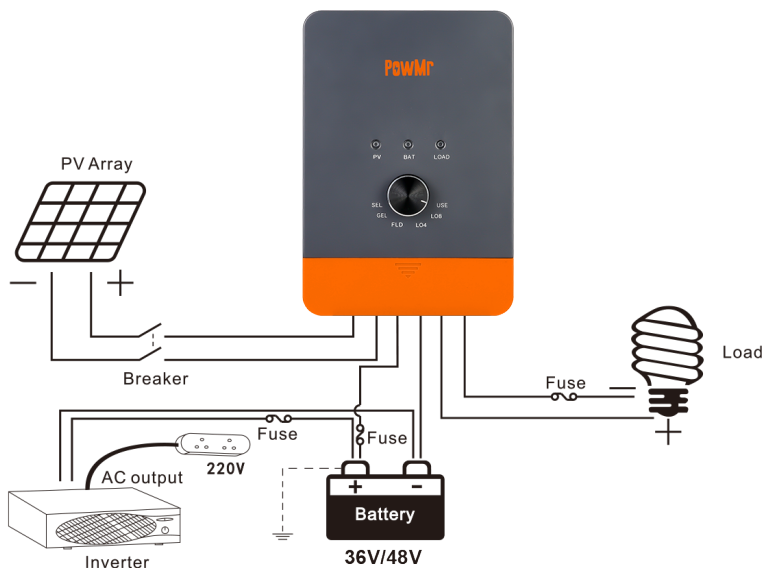


Tip

- The current version does not support firmware upgrades through the RS485 port.
- The remote control screen is an optional accessory and can be purchased separately based on your needs.

3.7 Connecting an Inverter (Optional)

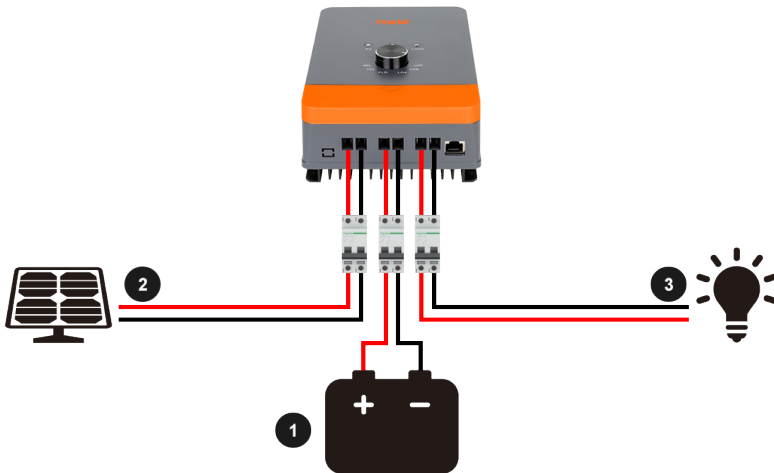
If you need to connect an inverter to this controller, please follow the correct connection sequence: first, connect the controller to the battery correctly, and then connect the inverter to the battery's output terminal. Do not connect the inverter directly to the controller's load terminal to avoid causing equipment malfunctions or system issues.



3.8 Pre-Power-On Check

Ensure that all cable connections are securely fixed. Close the circuit breakers in the order of battery, PV input, and load terminals.

When powering on for the first time, observe the status of the controller's indicator light to ensure there are no abnormalities (a solid green light indicates normal operation). If any abnormality is found, immediately disconnect the power and check the wiring.



Warning: Risk of Electric Shock!

- Before wiring, ensure that all power sources are turned off and follow the appropriate inspection and operation procedures.

4 Operation Guide

4.1 LED Indicator Lights



PV



BAT

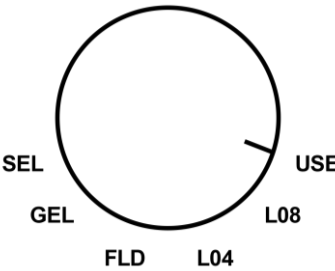


LOAD

LED Indicator	Color	Status	Description
PV	Green	Solid On	Indicates normal PV charging status.
		Slow Blink	Indicates high PV voltage.
	Red	Solid On	Indicates low PV voltage.
		Slow Blink	1. Temperature exceeds 80°C, PV stops charging, error code E60 display. 2. Charging current is too high, PV stops charging.
	/	No Display	Indicates no PV input or insufficient PV voltage.
BAT	Green	Solid On	Indicates the battery voltage is in the boosting stage.
		Slow Blink	Indicates the battery voltage is too high, error code E63 display.
		Fast Blink	Indicates the battery charging current is too high, error code E73 display.
	Yellow	Solid On	Indicates the battery voltage is too low.
	Red	Solid On	Indicates level 1 low-voltage alarm.
		Fast Blink	Indicates level 2 low-voltage alarm.
LOAD	Green	Solid On	Indicates normal output from the controller's load terminal.
		Fast Blink	Indicates overload at the controller's load terminal.
	Red	Slow Blink	Indicates load caused battery undervoltage; the controller's load terminal stops supplying power, and the battery has not yet reached the undervoltage recovery voltage.
	/	No Display	Indicates load output has been turned off.

Tip: The status of the indicator light can help you preliminarily judge the type of fault. For detailed fault codes, please refer to the remote control screen and consult section 5.2 for troubleshooting and handling.

4.2 Knob Introduction



Serial No.	Battery Type	Description
1	SEL	Sealed Lead Acid Battery
2	GEL	Gel Sealed Lead Acid Battery
3	FLD	Flooded Lead Acid Battery
4	L04	4-Cell Lithium Iron Phosphate Battery
5	L08	8-Cell Lithium Iron Phosphate Battery
6	USE	User Defined

1. The battery type can only be selected via the panel knob; the remote control screen does not support modifying this setting.
2. If SEL, GEL, FLD, F04, or F08 is selected, the controller will automatically detect the system voltage and use default charging parameters to charge the battery, without the need for manual configuration (for the charging parameters of each battery type, refer to section 4.3.2); if "USE" is selected for the battery type, charging parameters can be modified through the remote control screen.
3. When the battery type is set to "USE" mode, the system voltage (12V/24V) can be selected via the battery type settings interface on the remote control screen.





4.3 Battery Parameter Settings

Note

- Before setting the battery parameters, please turn off the photovoltaic input to ensure that the battery is in a non-charging state.

4.3.1 Charging Parameters

When the battery type is set to "USE" (i.e., user-defined), five charging parameters can be modified via the remote control screen, including: boost charging voltage, float charging voltage, low-voltage recovery voltage, low-voltage cutoff voltage, and MPPT recovery charging voltage. If another battery type is selected, the system will use the default voltage parameters.

Operation Method: Enter the charging parameters, press  or  to switch to the next or previous setting value, press  or  to increase or decrease the value, and finally press **ENT** to confirm the settings.

Fast CHG:	14.4V
FloatCHG:	13.8V
Rec. Vol:	12.6V
Low Vol:	11.0V
Mppt Vol:	13.2V
MaxChgCur:	45.0A
[ENT] To Save	

4.3.2 Charging Voltage Parameters for Each Battery Type

◆ For Lead-Acid Batteries and User-Defined Batteries:

Battery Type Parameters	FLd	GEL	SEL	USE
Boost charging voltage	14.6V	14.2V	14.4V	9.0~17.0V
Float charging voltage	13.8V	13.8V	13.8V	9.0~17.0V
Low-voltage cutoff voltage	11.0V	11.0V	11.0V	9.0~17.0V
Low-voltage recovery voltage	12.6V	12.6V	12.6V	9.0~17.0V

◆ For Lithium Iron Phosphate Batteries:

Battery Type Parameters	L04	L08	USE
Boost charging voltage	14.5V	29.0V	9.0~17.0V
Float charging voltage	13.8V	27.6V	9.0~17.0V
Low-voltage cutoff voltage	11.2V	22.4V	9.0~17.0V
Low-voltage recovery voltage	12.0V	24.0V	9.0~17.0V

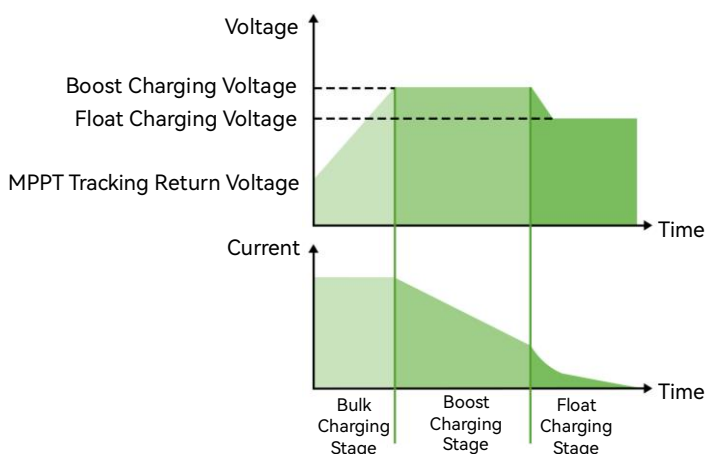
Note

- Before modifying the battery parameters, please be sure to set them according to the standard values in the table above. Incorrect voltage parameters may lead to reduced battery performance or damage.
- The charging parameters for lead-acid batteries and user-defined batteries in the table above are for a 12V system voltage. For a 24V system voltage, these values should be multiplied by 2. If a 24V lead-acid battery or User-define battery type is connected, the actual charging voltage will be the displayed voltage value multiplied by 2.
- When the battery type is set to "USE," the battery voltage parameters must follow the logic below: Boost charging voltage > Float charging voltage > DC low-voltage recovery voltage > DC low-voltage cutoff voltage.

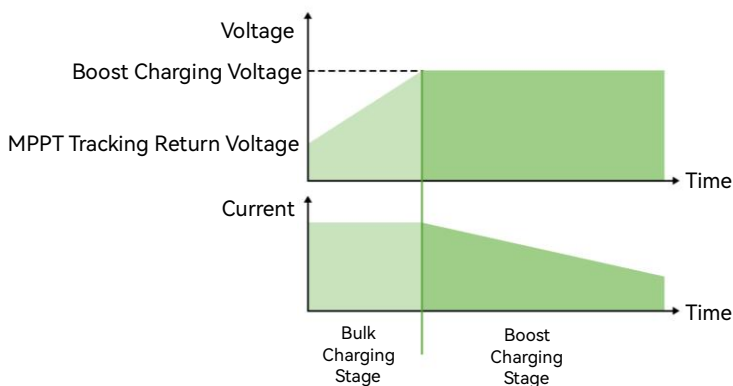
4.4 Charging Algorithm

This controller supports an intelligent multi-stage charging algorithm, adapting to the charging characteristics of different types of batteries. For lead-acid batteries, a three-stage charging mode (constant current, constant voltage, float) is used, while for lithium batteries, a two-stage charging mode (constant current, constant voltage) is employed to achieve efficient and reliable charging.

■ Lead-acid Battery Charging 3 Stages:



■ Lithium Battery Charging 2 Stages:



This controller uses a multi-stage intelligent charging algorithm that automatically adjusts the charging voltage and current at each stage to achieve efficient management and protection of the battery. The functions of each stage are as follows:

➤ **Fast Charging Stage**

In this stage, the controller charges the battery with maximum charging current, rapidly raising the battery voltage to the set boost charging voltage. The duration of this stage depends on the battery's depth of discharge, charge state, and actual charging current. Once the battery voltage reaches the set value, the system will automatically transition to the boost charging stage.

➤ **Boost Charging Stage**

The controller continuously charges the battery with the set boost voltage while gradually reducing the charging current, ensuring the battery absorbs the full charge without overcharging. The default duration of this stage is determined by the battery's discharge state from the previous stage.

If the PV array is reconnected and the battery is fully charged, the system will skip the fast charging stage and directly enter the boost charging stage. The voltage will not exceed the set value, and the default charging time is 30 minutes.



➤ **Float Stage**

After completing the boost charging, the controller will automatically reduce the charging voltage to the float voltage setting and maintain the battery in a fully charged state with a lower current to prevent overcharging and extend the battery's lifespan. In this stage, the load can directly use power from the solar panels. When the load power exceeds the PV input power, the system will not be able to maintain the float state. If the battery voltage drops below the set threshold, the system will re-enter the fast charging stage and initiate a new charging cycle.

Tip

- The parameters of the charging mode can be flexibly set according to actual needs through the remote control screen. For specific operations, please refer to the "4.3 Battery Parameter Settings" section. All settings will be automatically saved in the device, and the data will not be lost even if the controller is disconnected from the battery or photovoltaic input.

4.5 Operating Mode Description







You can view the operation mode code on the display page of the remote control screen. Press  or  to switch between the main pages.

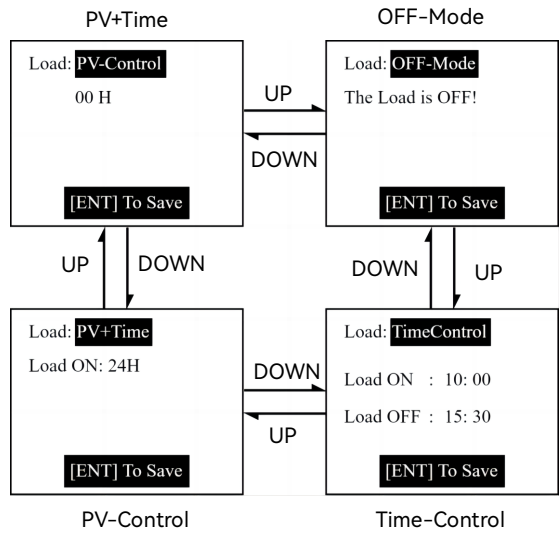
Dev. Temp:	26.0°C
State:	7.0 E00
Batt.:	SEL S12V
Load Curr:	1.5A
LoadPower:	18.9W
LoadToday:	0.6kWh

Code	Description
3.0	Night mode, not charging
4.0	Fast charging mode (MPPT mode)
7.0	Boost charging mode
8.0	Float charging mode

4.6 Load Control Mode

The load control mode can be set through the remote control screen. The operation steps are as follows:

- 1. In the main menu, select the load control mode and click **ENT** to enter the load control mode page.
- 2. Press  or  to switch the load working mode.
- 3. If setting the time, press  or  to switch to the previous or next setting value, then press  or  to increase or decrease the value.
- 4. Finally, press **ENT** to confirm the setting.





Mode	Description
PV+Time	Light control and time control mode. The set duration indicates how long the load will remain on after sunset. 24H setting means always-on mode.
OFF-Mode	Always-off mode.
Time-Control	Time control mode. The load is turned on and off according to the set on/off times.
PV-Control	Light control mode. The load output is turned on after sunset and turned off after sunrise.

5 Protection

5.1 Protection Function

Protection	Description
PV input overcurrent	The controller limits the battery charging current to the maximum rated battery current. Therefore, a PV array with overcurrent input will not be able to operate at peak power.
PV array short circuit	When a short circuit occurs in the PV array, the controller will stop charging. Charging will resume after the short circuit fault is cleared.
PV reverse polarity	If the PV wiring polarity is reversed, the controller will not operate but will not be damaged. The controller will function normally after correct connection.
Battery overvoltage	When the battery voltage exceeds 15.5/31.0V, the controller will stop charging to protect the battery from overcharging damage. Please note that stopping charging means the charging current will be very low.
Battery over-discharge	When the battery voltage drops to the low voltage disconnect setting point, the controller will stop discharging to protect the battery from over-discharge damage.
Over-temperature protection	When the controller heatsink temperature exceeds 65°C, the controller will automatically start reducing the charging current. When the temperature exceeds 80°C, the controller will automatically shut down.

5.2 Troubleshooting

Fault codes can be viewed on the display page of the remote control screen. Press  or  to switch between the main pages.

Dev. Temp:	26.0°C
State:	7.0 E00
Batt.:	SEL S12V
Load Curr:	1.5A
LoadPower:	18.9W
LoadToday:	0.6kWh

Fault Code	Description	Solution
E18	PV input voltage too low	Increase the PV array voltage by changing the series-parallel configuration or adding more solar panels.
E60	Over-temperature protection	When over-temperature occurs, the fan automatically starts to provide efficient forced cooling.
E63	Battery voltage too high	Automatically stops charging; charging resumes after the battery voltage drops to a normal level.
E65	Battery voltage too low	Automatically stops discharging; discharging resumes after the battery voltage rises to a normal level.
E71	PV input voltage too high	Reduce the PV array voltage by changing the series-parallel configuration or decreasing the number of solar panels.
E73	Overcharge current	Reduce the PV input power by decreasing the number of solar panels.

6 Maintenance

It is recommended to perform the following inspection and maintenance tasks at least twice a year to ensure optimal operation.

1. Ensure the controller is securely installed in a clean and dry environment.
2. Ensure smooth airflow around the controller and clean dust and debris from the heat sink.
3. Inspect all exposed wires to ensure the insulation is not damaged by excessive sunlight, abrasion, dryness, insects, or rodents. Repair or replace wires as necessary.
4. Tighten all terminals and check for loose, broken, or burnt cable connections.
5. Ensure all parts of the system are properly and securely grounded.
6. Ensure there is no corrosion, insulation damage, overheating, or signs of burning/discoloration at all terminals, and tighten the terminal screws.
7. Check for dirt, nesting insects, and corrosion. Clean them promptly if found.

Warning: Risk of electric shock!

- Before performing the above operations, ensure that all power sources are turned off, and then follow the relevant inspection and operation guidelines.

7 Specification Parameters

Models	POW-RV1225A	POW-RV1235A	POW-RV1245A
Solar Input Parameters			
Max. Input Power:			
For 12V System	300W	420W	540W
For 24V System	600W	840W	1080W
Input Voltage Range:			
For 12V System	<60V	<80V	<100V
For 24V System	<60V	<80V	<100V
Battery Charging Parameters			
Charging Technology	MPPT		
Charging Algorithm	3 Stages		
Nominal System Voltage	12V/24V		
Battery Voltage Range	9~30V		
Rated Charging Current	25A	35A	45A
Conversion Efficiency	≤98%		
Max. Power Point Tracking Efficiency	>99%		
Temperature Compensation	-3mV/°C/2V (default)		
Self-Consumption	44mA/12V; 26mA/24V		
DC Output Parameters			
Rated DC Output Current	15A	20A	25A
General Parameters			
IP Class	IP32		
Operating Temperature Range	-35°C~+45°C		
Humidity Range	≤95% Non-condensing		
Altitude	<3000m		
Dimensions	157x113x53mm	191x132x67mm	191x132x67mm
Net Weight	497g	824g	954g



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