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Renogy Voyager 10A

Renogy Voyager 10A Solar Charge Controller User Manual

Model: Voyager 10A

Brand: Renogy

INTRODUCTION

The Renogy Voyager 10A is a 10-amp charge controller designed for outdoor use, featuring an IP67 rating for water, rain, and condensation resistance. It incorporates advanced PWM technology and supports both 12V and 24V off-grid solar applications. This controller is compatible with four different battery types, including AGM, Gel, Flooded, and Lithium Iron Phosphate, and includes a Lithium Awakening feature. The Voyager 10A also provides multiple protection features for the solar panel, battery, and the controller itself, ensuring system longevity.



Figure 1: Renogy Voyager 10A Solar Charge Controller. This image shows the front view of the black charge controller with an LCD display and two buttons, labeled "Voyager Solar Charge Controller" and "Waterproof".

KEY FEATURES

- **12V / 24V Battery Compatibility:** Automatic recognition of system voltage.
- **Smart 4-Stage PWM Charging:** Includes Bulk, Absorption, Float, and Equalization stages for efficient battery charging and extended battery life.
- **4 Battery Type Compatibility:** Supports Sealed/AGM, Gel, Flooded, and Lithium batteries, with a specific Lithium Awakening feature.
- **Watertight Design:** IP67 rated for outdoor use, resistant to water spray, rain, and condensation.
- **Backlit LCD Display:** Provides clear system information and error codes.
- **Multiple Protection Features:** Safeguards the battery, controller, and solar panels, including reverse polarity protection.

WATERPROOF



IP67 Waterproof Rating making it suitable for Outdoor Use

Figure 2: The Renogy Voyager 10A is IP67 waterproof, making it suitable for outdoor use. The image shows the controller with water splashing around it, highlighting its watertight seal.

SMART 4 STAGE PWM CHARGE CONTROLLER



100% return of capacity and longer battery life

Figure 3: Illustration of the Smart 4-Stage PWM charging process, showing icons for Bulk, Boost, Float, and Equalization charge stages, which contribute to 100% return of capacity and longer battery life.

COMPATIBLE WITH MULTIPLE BATTERY TYPES

COMPATIBLE WITH
SEALED/AGM, FLOODED, GEL
and Lithium



Sealed/AGM, Gel, Flooded, and Lithium batteries (with Lithium Awakening feature)

Figure 4: The controller is compatible with Sealed/AGM, Flooded, Gel, and Lithium battery types. The image displays the controller alongside visual representations of these battery types.

WHAT'S IN THE BOX

- Voyager 10A Solar Charge Controller

Note: Additional cables and accessories may be required for a complete solar setup and are sold separately.

SETUP

1. Wiring Connections

Ensure all connections are secure and correct polarity is observed. Connect the components in the following order:

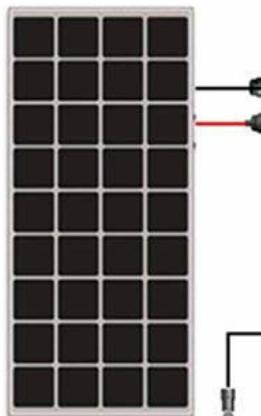
1. Connect the battery to the charge controller.
2. Connect the solar panel(s) to the charge controller.

3. (Optional) Connect an inverter or load to the battery.

Important: Always connect the battery first to allow the controller to recognize the system voltage. Disconnect in reverse order.



Solar Panel



Adaptor kit

Charge Controller



Tray Cables

Battery



Power Inverter (Optional)



Multiple protection features for battery, controller, and solar panels

Figure 5: Diagram illustrating the wiring connections for the Renogy Voyager 10A Solar Charge Controller, showing connections from solar panel to controller, controller to battery, and optional power inverter to battery.

2. Battery Type Selection

The Voyager 10A is compatible with Sealed/AGM, Gel, Flooded, and Lithium batteries. It is crucial to select the correct battery type on the controller to ensure proper charging and battery longevity. Refer to the operating section for instructions on how to adjust this setting.

Note: For Lithium batteries, you may need to manually set the voltage. The controller also features a Lithium Awakening function.

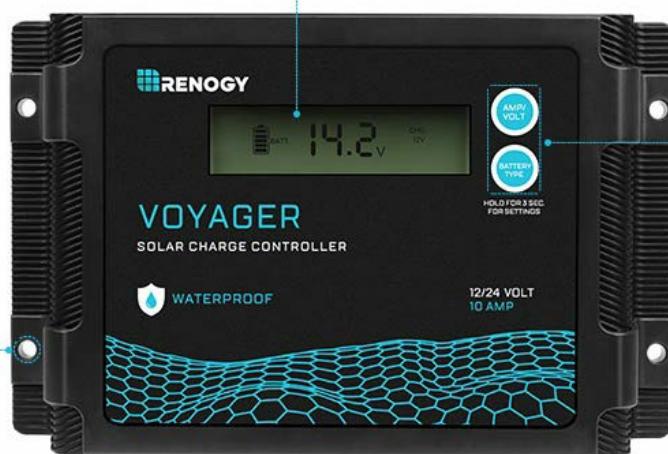
OPERATING

LCD Display and Buttons

The backlit LCD display provides real-time system information and error codes. The controller features a waterproof double key operation for easy adjustment of charge parameters.



Backlit **LCD** display
for system information and error codes



Waterproof Double
key operation
easy to adjust charge
parameters

Pre-drilled holes
for convenient mounting

Provides convenient operation and user interface

Figure 6: Close-up of the Renogy Voyager 10A's backlit LCD display and waterproof double key operation, indicating pre-drilled holes for mounting.

Charging Stages

The controller utilizes a Smart 4-Stage PWM charging algorithm to optimize battery charging:

- **Bulk Charge:** Charges the battery at maximum current until voltage rises to the Absorption voltage.
- **Absorption Charge:** Charges the battery at a constant voltage and reduced current to ensure full charge.
- **Float Charge:** Maintains the battery at a constant voltage, providing a trickle charge to compensate for self-discharge.
- **Equalization Charge:** (For Flooded batteries only) Periodically overcharges the battery to balance cell voltages and remove sulfation.

MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your solar charge controller and system.

- Inspect Connections:** Periodically check all wiring connections for tightness and corrosion. Loose connections can cause voltage drops and overheating.
- Clean Controller:** Keep the controller's exterior clean and free of dust or debris. Use a soft, dry cloth. Do not use harsh chemicals or abrasives.
- Check for Damage:** Inspect the controller for any physical damage, cracks, or signs of water ingress, especially given its outdoor rating.
- Monitor Performance:** Regularly check the LCD display for normal operation and any error codes. Ensure the battery is charging as expected.

TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your Renogy Voyager 10A Solar Charge Controller.

Problem	Possible Cause	Solution
No display/Controller not powering on	Battery not connected or low voltage; reversed polarity.	Ensure battery is connected first and has sufficient voltage (12V/24V). Check for correct polarity.
Battery not charging	Solar panel not connected; insufficient sunlight; incorrect battery type setting; faulty wiring.	Verify solar panel connection and ensure adequate sunlight. Check battery type setting on controller. Inspect all wiring for secure connections.
Error code displayed	Specific system fault (e.g., over-voltage, over-current, short circuit).	Refer to the full user manual (PDF) for specific error code definitions and troubleshooting steps. Disconnect and reconnect components in correct order.
Water ingress despite "waterproof" rating	Improper installation of rubber cover for terminals; extreme conditions beyond IP67 rating.	Ensure the rubber terminal cover is properly seated and sealed. While IP67, avoid prolonged submersion or high-pressure water jets. If damage occurred, contact support.

SPECIFICATIONS

Attribute	Value
Product Dimensions	6.08 x 3.83 x 1.4 inches
Item Weight	0.55 Pounds (8.8 ounces)
Item Model Number	Voyager 10A
Manufacturer	Renogy
Color	Blue/Black
Voltage	12V / 24V Auto Recognition

Attribute	Value
Material	(Not specified, but compatible with Gel batteries)
Charge Current	10A
Waterproof Rating	IP67

WARRANTY & SUPPORT

For detailed warranty information, technical support, or further inquiries, please refer to the official Renogy website or the comprehensive user manual.

Official User Manual (PDF): [Download PDF](#)

Visit the Renogy Store: [Renogy Official Store on Amazon](#)

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