

ROCKSOLAR 24V Solar Water Pump Kit User Manual

Model: 24V Solar Water Pump Kit with 0.4HP Brushless Submersible Pump

1. Product Overview

The ROCKSOLAR 24V Solar Water Pump Kit is a complete off-grid water pumping solution for livestock watering, agricultural irrigation, wells, cottages, cabins and remote properties. The system combines solar panels, an MPPT charge controller, a 24V 100Ah LiFePO4 battery and a 0.4HP brushless submersible pump.

2. Package Contents

- 0.4HP (300W) Solar DC Brushless Submersible Pump
- 2x 12V 100Ah LiFePO4 Battery
- 2 × 440W Monocrystalline Solar Panels
- MPPT Solar Charge Controller
- Pump Controller
- Battery & PV Cables
- Installation Hardware
- User Manual

3. Technical Specifications

Specification	Value
Pump Power	0.4HP (300W)
Operating Voltage	20-48V DC
Maximum Flow Rate	15.4 GPM (58.3 L/min)
Maximum Head	131 ft (40 m)
Battery	2 x 12V 100Ah LiFePO4
Solar Array	2 × 440W (880W Total)
Charge Controller	MPPT

4. Basic Wiring Sequence

Solar Panels (Connect in parallel)-→Solar Combiner box → MPPT Charge Controller → 24V LiFePO4 Battery (2 12V 100ah batteries connect in series)→ Battery Disconnect Switch→Pump Controller → Submersible Pump

5. Installation

1. Mount the two solar panels.
2. Connect the MPPT controller to the 24V 100Ah LiFePO4 battery using the recommended cable size to select the right battery setup.
3. Connect the solar panels to the solar combiner box, then the MPPT charge controller.
4. Connect the pump controller to the battery.
5. Lower the pump into the well using a safety rope and connect the discharge pipe.
6. Connect the pump cable to the pump controller and power on the system.

6. Safety

- Disconnect power before servicing.
- Do not run the pump dry.
- Install proper fuses and disconnects.
- Keep battery terminals protected from short circuits.
- Only use clean DC power within the specified voltage range.

7. Maintenance

Inspect wiring monthly, clean the solar panels regularly, check cable connections, and inspect the pump and plumbing annually.

8. Troubleshooting

Issue	Possible Cause	Solution
Pump will not start	Low battery / loose wiring	Check battery voltage and all connections
Low flow	Blocked intake	Clean intake and piping
Battery not charging	Poor sunlight or PV wiring	Inspect solar panels and MPPT connections

9. Warranty

Refer to your ROCKSOLAR warranty documentation for coverage details. Retain proof of purchase for warranty claims.