

User Manual for ROCKSOLAR 2.41HP Solar Powered Submersible Pump Kit



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1. Introduction

Thank you for purchasing the ROCKSOLAR 2.41HP Solar Powered Submersible Pump Kit. This kit is designed for efficient and reliable water pumping in remote and off-grid locations. It integrates solar panels, a charge controller, and a submersible pump for seamless operation.

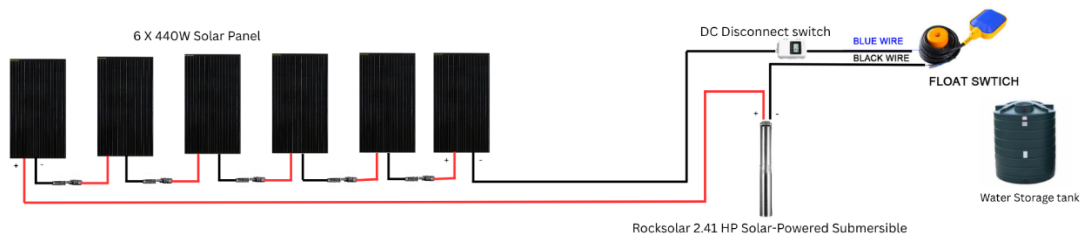
2. Package Contents

- 1 x 2.41 HP Submersible DC Water Pump
- 6 x 440W Solar Panels
- 1 x 2 String waterproof DC disconnect box with 1000V 40A Circuit Breaker
- 10 x Mounting Bracket Set (Optional)
- 2 x 10AWG 10ft Extension Cable with MC4 Connectors
- 1 x User Manual

3. Safety Instructions

- Ensure installation is done in dry weather.
- Disconnect power during installation and maintenance.
- Keep children and unauthorized persons away from the system.
- Use insulated tools and protective gear during setup.
- Ensure correct polarity when making electrical connections.
- Never operate the pump dry; it must be fully submerged.

4. Installation Guide



Step 1: Prepare Solar Panels

Unpack and inspect all 6 × 440W solar panels for any damage.

Mount the panels securely on a rooftop or ground-mount structure, ensuring they are facing true south (Northern Hemisphere) or true north (Southern Hemisphere) at the optimal tilt for your location.

Connect the solar panels in series as shown in the diagram:

Connect the positive (+) terminal of the first panel to the negative (–) terminal of the next panel.

Repeat until all 6 panels are connected.

Step 2: Connect to the DC Disconnect Switch

Connect the negative (–) output wire from the solar array to one terminal of the DC Disconnect Switch.

This allows you to isolate the system when needed. (–).

Step 3: Install the Float Switch

From the other side of the DC Disconnect Switch, run a wire to the blue wire of the float switch.

Connect the black wire from the float switch to the negative (–) wire of the submersible pump.

Place the float switch in the water storage tank. This will control pump operation automatically based on water level.

Step 4: Submersible Pump Installation

Lower the ROCKSOLAR 2.41HP Submersible Pump into the well or water source, ensuring it remains fully submerged.

Secure the pump using a stainless-steel cable or rope to avoid resting it on the bottom (which can cause clogging).

Connect the pump wires to the output terminals of the DC disconnect switch, matching polarity.

Step 5: Final Checks

Double-check all wiring connections for correct polarity and tightness.

Turn ON the DC disconnect switch to allow power to flow from the solar panels to the pump.

Test the system to ensure the pump starts when the float switch calls for water and stops when the tank is full.

5. System Operation

- The solar panels convert sunlight into DC power for the submersible pump.

- The float switch is placed in the storage tank, where the water is delivered.
- When the tank level is low, the float switch activates the pump.
- Once the tank is full, the float switch disconnects power, stopping the pump.
- The DC Disconnect Switch provides manual system control for maintenance.

6. Maintenance Guidelines

- Mount the float switch in the water source at a level where it can effectively detect low water conditions.
- The pump should always remain fully submerged to prevent overheating and cavitation.
- Avoid placing the float switch near inflow areas where turbulence could cause false readings.
- Regularly test the float switch by lowering and raising it manually to ensure proper cutoff and activation.
- Use the DC Disconnect Switch to isolate power before any inspection or service.

7. Technical Specifications

- Pump Power: 2.41HP (1800W)
- Max Flow Rate: Max flow rate of 16.38GPM
- Max Head: depth up to 574 feet
- Operating Voltage: 180-230V (Best)
- Recommended Solar Panel Capacity: 440W x 6

8. Warranty & Support

- For warranty and support, please contact ROCKSOLAR Customer Support.
- Website: <https://rocksolar.ca/> for Canada, <https://rocksolar.io/> for USA
- Email: support@rocksolar.io
- Phone: +1 8008584318