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› MakerFocus 3.7V 10000mAh Lithium Polymer Rechargeable Battery Instruction Manual

MakerFocus 9065115

MakerFocus 3.7V 10000mAh Lithium Polymer Rechargeable Battery Instruction Manual

1. INTRODUCTION

This manual provides essential information for the safe and effective use of your MakerFocus 3.7V 10000mAh Lithium Polymer Rechargeable Battery. This battery is designed for applications such as Raspberry Pi UPS boards and other devices utilizing a PH2.0 connector. Please read this manual thoroughly before operation.

2. SAFETY INFORMATION

Lithium Polymer batteries require careful handling. Adherence to these safety guidelines is crucial to prevent damage, injury, or fire.

- **Polarity Check:** Always verify the polarity of the PH2.0 connector before connecting the battery to any device. Incorrect polarity can cause immediate damage to the battery and the connected device. The red wire typically indicates positive (+), and the black wire indicates negative (-).
- **Integrated Protective Board:** This battery includes an integrated protective board designed to prevent overcurrent. The overcurrent protection range is approximately 1.8-2.1A.
- **Charging:** Use only chargers specifically designed for 3.7V Lithium Polymer batteries. Follow the standard charging method detailed in Section 5. Do not charge unattended.
- **Discharge Current:** The maximum operating current for this battery is approximately 3A. Do not use this battery for applications requiring high discharge currents, such as unmanned aerial vehicles, model aircraft, or power tools.
- **Physical Damage:** Do not puncture, short-circuit, or disassemble the battery. Avoid dropping or subjecting the battery to severe impact.
- **Temperature:** Do not expose the battery to extreme temperatures (high or low), direct sunlight, or fire. Store in a cool, dry place.
- **Certifications:** This battery has passed MSDS and UN 38.3 tests, ensuring chemical substance compliance and safety.

Rechargeable lithium battery with protection function Overcurrent Protection: 1.8-2.1A

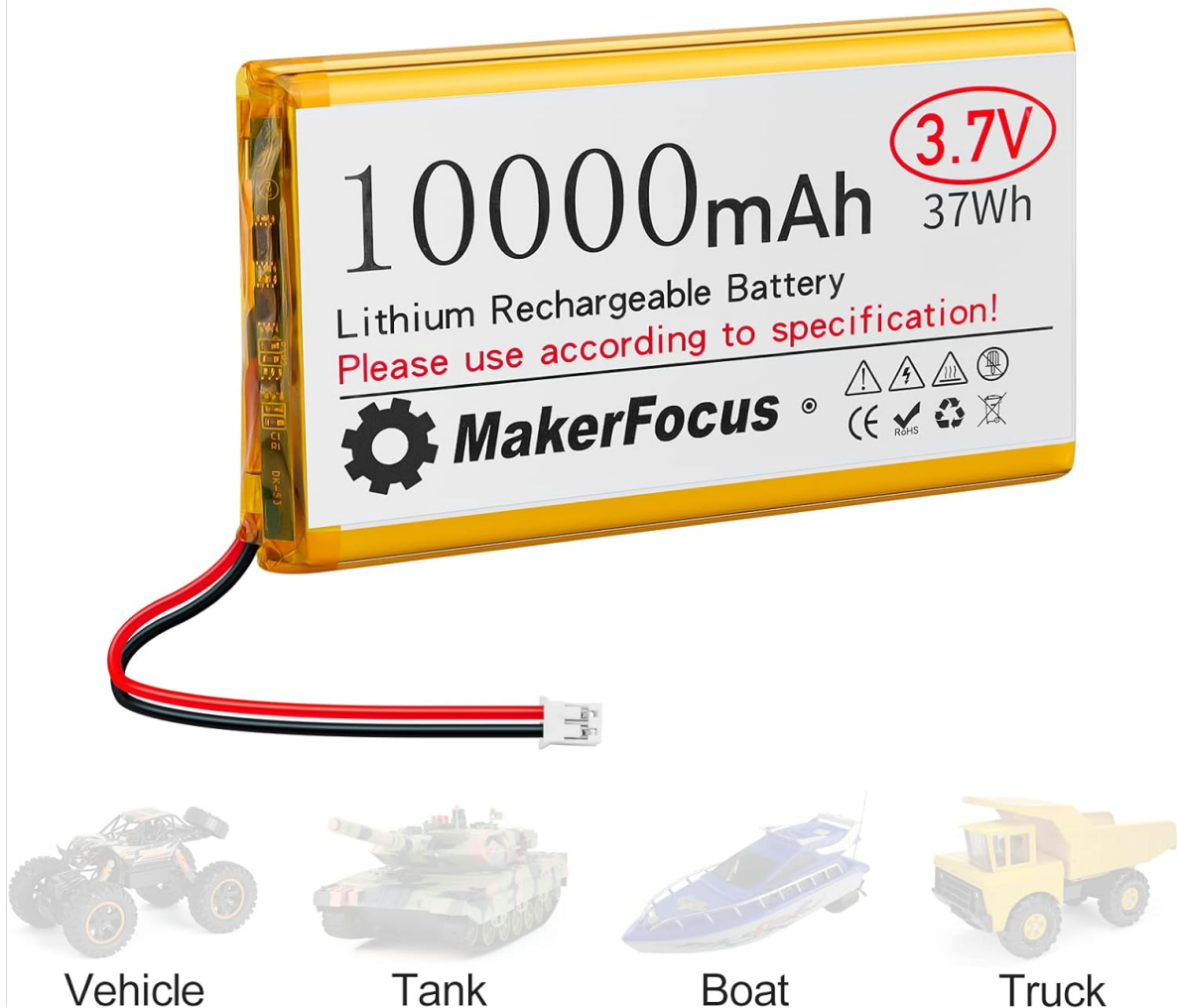


Image 2.1: Safety certifications including IATA, SDS, CNAS, and ilac for the MakerFocus 3.7V 10000mAh Lithium Polymer Rechargeable Battery, indicating compliance with international safety standards.

3. PRODUCT FEATURES

- **Voltage:** 3.7V Standard Voltage
- **Capacity:** 10000mAh
- **Connector:** PH2.0 Plug
- **Discharge Rate:** 1C
- **Max Working Current:** 3A
- **Overcurrent Protection:** Approximately 1.8-2.1A
- **Application:** Suitable for Raspberry Pi UPS boards with PH2.0 plugs and other compatible project equipment.
- **Safety:** Equipped with an integrated protective board and insulation coating.

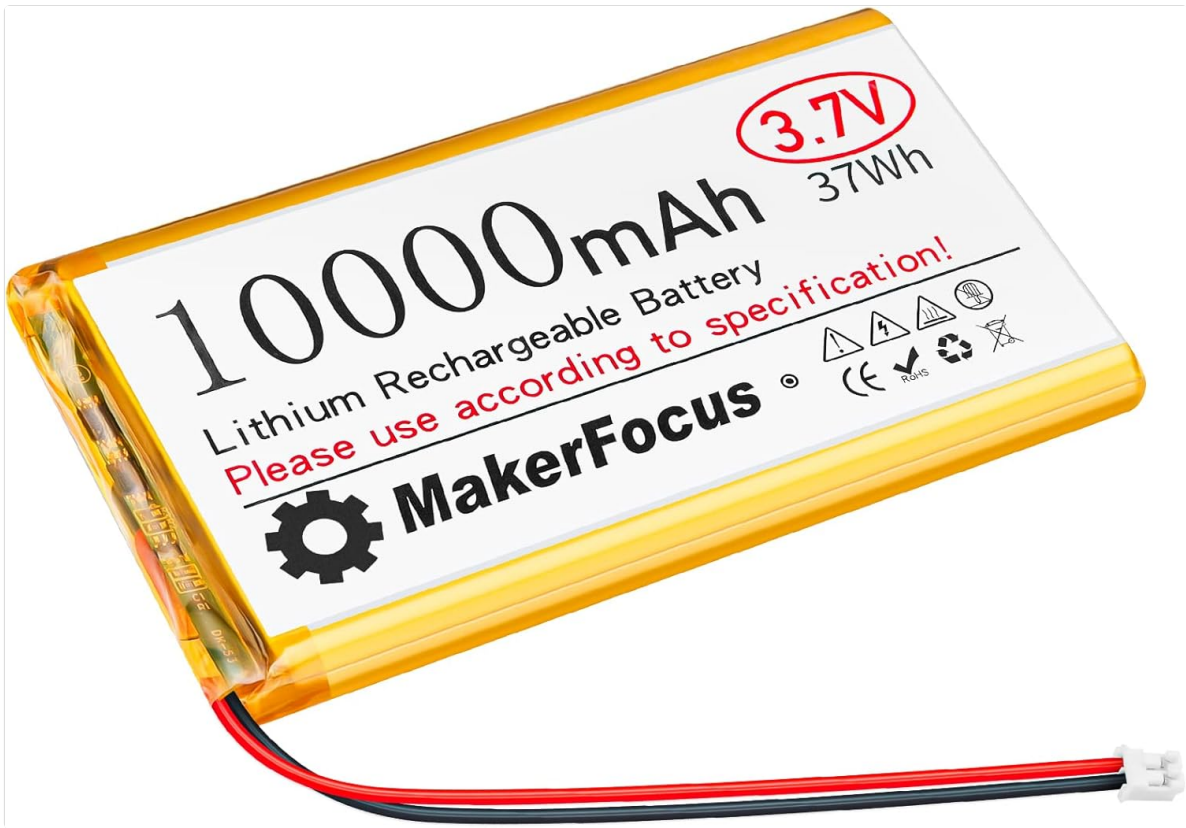


Image 3.1: The MakerFocus 3.7V 10000mAh Lithium Polymer Rechargeable Battery, showing its capacity, voltage, and brand labeling.

4. SPECIFICATIONS

Specification	Value
Standard Voltage	3.7V
Capacity	10000mAh
Max Working Current	3A
Dimensions (L*W*H)	115 x 65 x 8.8 mm (4.52 x 2.56 x 0.35 inches) ±2mm
Overcurrent Protection	1.8-2.1A
Connector Type	PH2.0
Weight	155g (5.9 ounces)
Battery Cell Composition	Lithium Ion Polymer



Image 4.1: Diagram illustrating the physical dimensions of the MakerFocus 3.7V 10000mAh battery, showing length (115.5mm), width (65mm), and wire length (90mm).

5. SETUP AND OPERATING INSTRUCTIONS

5.1. Connecting the Battery

The MakerFocus 3.7V 10000mAh battery is equipped with a PH2.0 connector, making it compatible with devices that feature a corresponding PH2.0 port, such as Raspberry Pi UPS boards.

1. Identify the PH2.0 port on your device.
2. Carefully align the battery's PH2.0 plug with the device's port.
3. Gently push the plug into the port until it is securely seated. Ensure the connection is firm to prevent accidental disconnection.
4. Before powering on your device, double-check the connection and ensure the battery is positioned safely.

With PH2.0A plug, this lipo battery can be used for Raspberry Pi Extension Board

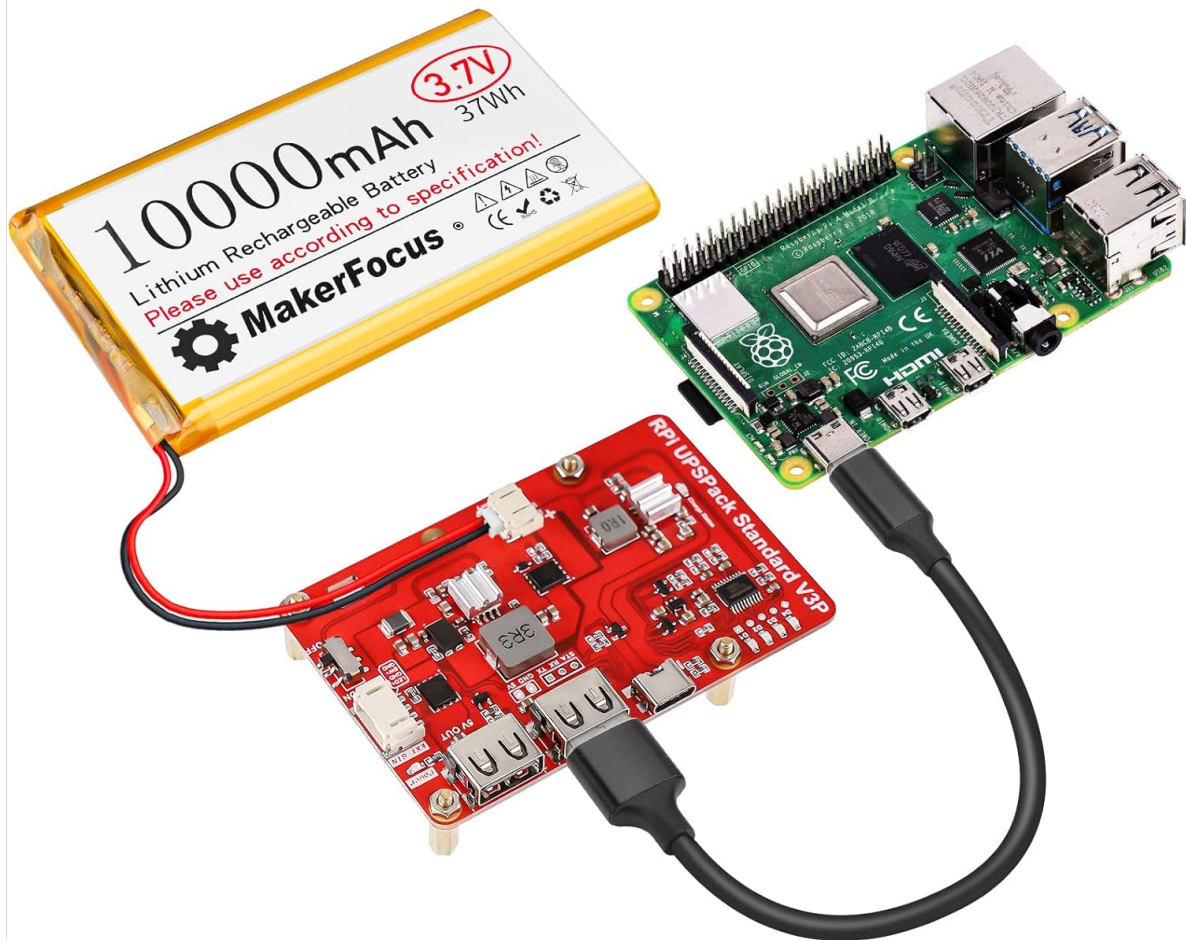


Image 5.1: The MakerFocus 3.7V 10000mAh battery connected via its PH2.0 plug to a Raspberry Pi UPS extension board, which is then connected to a Raspberry Pi.

5.2. Standard Charging Method

To ensure optimal performance and longevity of your battery, follow this standard charging procedure:

1. Connect the battery to a compatible Lithium Polymer battery charger.
2. Charge the battery at a constant current of 0.2C until the battery voltage reaches 4.25V. (For a 10000mAh battery, 0.2C is 2000mA or 2A).
3. Once 4.25V is reached, switch to constant voltage charging at 4.2V.
4. Continue charging at 4.2V until the charging current drops to $\leq 0.05C$. (For a 10000mAh battery, 0.05C is 500mA or 0.5A).
5. Disconnect the battery from the charger once charging is complete.

6. MAINTENANCE

Proper maintenance extends the life and ensures the safe operation of your Lithium Polymer battery:

- **Storage:** If storing the battery for an extended period, charge it to approximately 3.8V-3.9V (storage voltage). Store in a cool, dry place away from direct sunlight and extreme temperatures.
- **Regular Inspection:** Periodically inspect the battery for any signs of swelling, damage to the casing, or exposed wires. Discontinue use immediately if any damage is observed.

- **Cleaning:** Keep the battery and its connectors clean and free from dust and debris. Use a dry, soft cloth for cleaning.
- **Disposal:** Dispose of depleted or damaged batteries according to local regulations for Lithium Polymer batteries. Do not dispose of in household waste.

7. TROUBLESHOOTING

7.1. Device Not Powering On or Malfunctioning

- **Check Polarity:** A common issue is incorrect wiring polarity. Before connecting, always verify that the positive (+) and negative (-) terminals of the battery's PH2.0 plug match the corresponding terminals on your device. The red wire is typically positive, and the black wire is negative. Reversing polarity can damage both the battery and the connected device.
- **Secure Connection:** Ensure the PH2.0 plug is fully inserted and securely connected to the device's port. A loose connection can prevent power delivery.
- **Battery Charge Level:** Confirm the battery is adequately charged. Refer to the charging instructions in Section 5.2.
- **Overcurrent Protection:** If your device draws more than 3A, the battery's internal overcurrent protection may activate, preventing operation. This battery is not suitable for high-current applications.
- **Battery Damage:** Inspect the battery for any visible signs of damage, such as swelling, leaks, or punctures. If damaged, discontinue use immediately.



Image 7.1: Close-up view of the PH2.0A connector, clearly indicating the positive (+) and negative (-) terminals. Always verify this polarity before connecting to a device.

8. WHAT'S IN THE BOX

Your package should contain the following item:

- 1 x MakerFocus 3.7V 10000mAh 37Wh Lithium Polymer Rechargeable Battery with PH2.0 Plug

9. WARRANTY AND SUPPORT

Specific warranty details for this product are not provided in the available product information. For any support inquiries or to report issues, please contact MakerFocus customer service through your purchase platform.