UMLIFE B0BRXYZTWN

UMLIFE Ultra-mini USB Type C 3.7V Lithium Battery Charger Board Instruction Manual

Model: B0BRXYZTWN

Product Overview

The UMLIFE Ultra-mini USB Type C Lithium Battery Charger Board is designed for charging 3.7V lithium batteries. It features a compact design, a Type-C USB input for power supply, and integrated protection circuits to ensure safe charging. This module is compatible with most PD fast charging heads and provides a 1A linear charging current.
Key features include:

- Ultra-small form factor for integration into various projects.
- USB Type-C input for convenient power connection.
- 1A high current linear charging for 3.7V lithium batteries.
- Integrated protection circuit for over-voltage, over-discharge, and over-current protection.
- LED indicators for charge status.

Image: Angled view of the UMLIFE Ultra-mini USB Type C Lithium Battery Charger Board. This image highlights the compact size and the Type-C USB input port, along with the various electronic components on the board.

Setup Instructions

Follow these steps to set up your UMLIFE charger board:

1. **Identify Connection Points:** Locate the IN+, IN-, B+, B-, OUT+, and OUT- pads on the charger board.

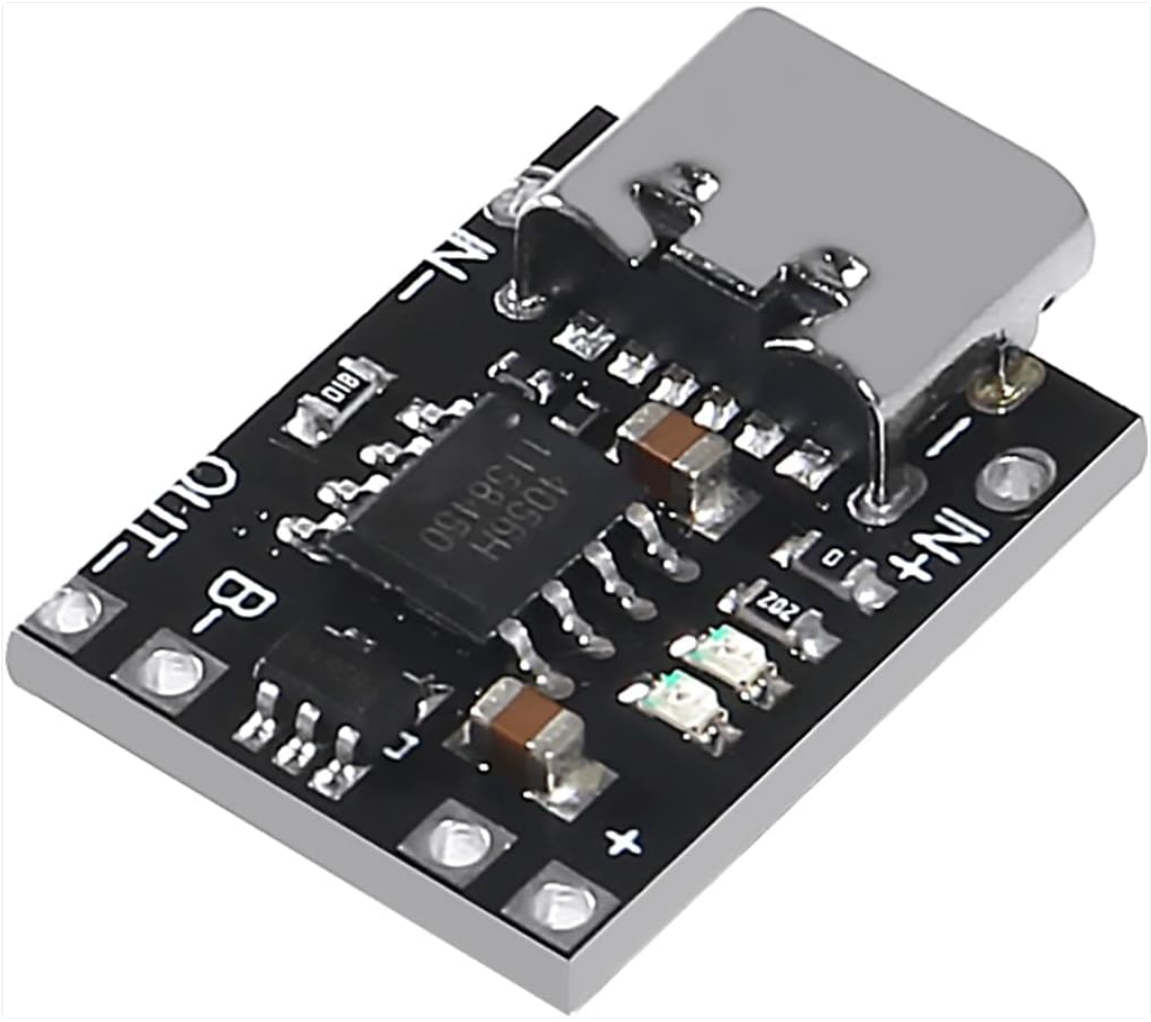

Image: Top-down view of the charger board. This image clearly shows the input (IN+, IN-), battery (B+, B-), and output (OUT+, OUT-) connection points, which are crucial for proper wiring.

2. **Connect Battery:** Connect your 3.7V lithium battery to the B+ and B- pads. Ensure correct polarity: B+ to the positive terminal of the battery, and B- to the negative terminal.
3. **Connect Load (Optional):** If you intend to power a device directly from the charger board while charging, connect your load to the OUT+ and OUT- pads. Note that the "Battery+" and "Output+" terminals are electrically bonded together. The "Output-" and "Battery-" terminals are electrically isolated.
4. **Connect Power Supply:** Insert a USB Type-C cable into the board's Type-C port. Connect the other end of the cable to a 5V to 6V USB power source, such as a mobile phone charger or a compatible PD fast charging head.
5. **Activate Protection Board:** For the first use, it is necessary to connect the power supply to activate the integrated protection board.

Operating Instructions

Once connected, the charger board will begin charging the lithium battery. Observe the LED indicators for charge status:

- **Charging Indicator:** A red LED typically indicates that the battery is currently charging.
- **Charged Indicator:** A green or blue LED typically indicates that the battery is fully charged.

Charging Cycle Behavior:

- The charging cycle automatically terminates when the charging current drops to 100mA after

reaching the final float voltage (4.2V).

- If the battery voltage drops below 4.05V (approximately 80% to 90% of capacity), the charging cycle will automatically restart.
- For batteries with voltage below 2.9V, the board initiates a pre-charge phase with a current of 100mA.

Protection Features:
The board includes an integrated protection circuit to safeguard the battery and the module:

- **Over-voltage Protection:** Prevents the battery from being charged beyond its safe voltage limit.
- **Over-discharge Protection:** Prevents the battery from discharging below 2.4V, extending battery life.
- **Over-current Protection:** Limits the output current to 4A to prevent damage from excessive load.

Maintenance

To ensure the longevity and proper functioning of your charger board:

- Keep the board clean and free from dust and debris.
- Avoid exposing the board to moisture or extreme temperatures.
- Ensure all connections are secure and properly insulated to prevent short circuits.
- Do not exceed the specified input voltage range (5V-6V) or output current (1A charging, 4A protection limit).

Troubleshooting

Problem	Possible Cause	Solution
Battery not charging / No LED indication	Incorrect power supply voltage. Loose or incorrect battery connection. Protection board not activated (first use). Faulty Type-C cable or power source.	Ensure input voltage is 5V-6V. Verify battery polarity and secure connections. Connect power supply to activate the board. Try a different Type-C cable and power adapter.
Board gets excessively hot	High charging current or excessive load. Poor heat dissipation. Short circuit in battery or load.	Ensure charging current does not exceed 1A. Reduce load if connected. Provide adequate ventilation around the board. Check for short circuits in wiring.
Battery not reaching full charge	Battery degradation. Charging current too low.	Test the battery with another charger or replace it. Ensure the power supply can deliver sufficient current (at least 1A).

Technical Specifications

Feature	Specification
Input Voltage Range	5V to 6V
Output Voltage (Charging)	4.2V
Charging Current	1A (linear)
Over-discharge Protection Value	2.4V
Over-current Protection Value	4A
Board Dimensions (L x W x H)	18mm x 14mm x 5mm (Type-C port protrudes ~1.5mm)
Weight	Approximately 0.528 ounces (per 10-pack)
Interface	USB Type-C
Certifications	UL, FCC, CE

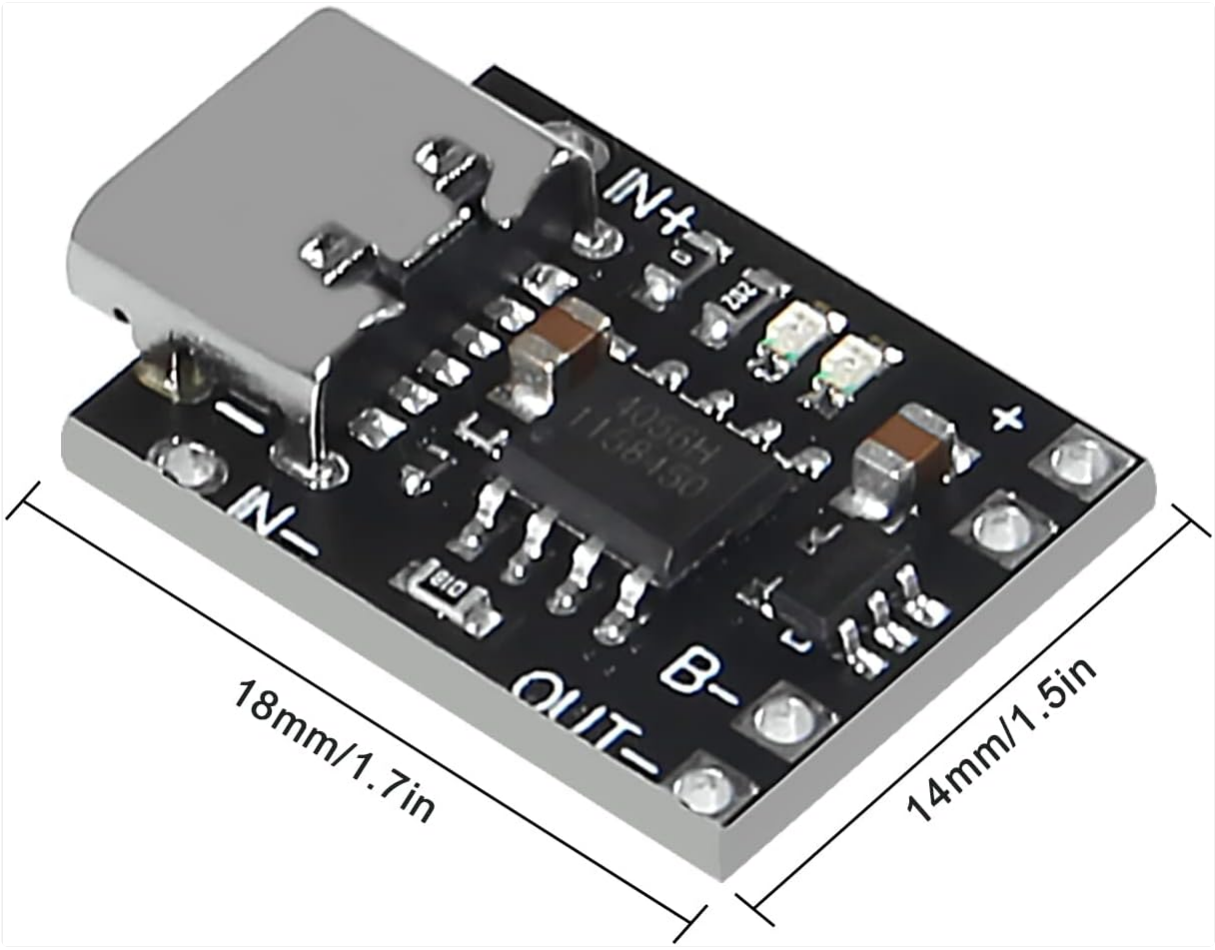

Image: Dimensions of the charger board. This image provides a visual reference for the physical size of the module, indicating its length and width.

Image: Bottom view of the charger board. This view confirms the key electrical specifications printed on the board itself, specifically the 4.2V output voltage and 1A charging current.

Warranty Information

UMLIFE products are manufactured to high-quality standards. For specific warranty details, please refer to the purchase documentation or contact the seller directly. General return policies typically allow for returns or replacements within 30 days of purchase for defective items.

Customer Support

For technical assistance, questions, or support regarding your UMLIFE Ultra-mini USB Type C Lithium Battery Charger Board, please contact the manufacturer or seller through the platform where the product

was purchased.
You can also visit the official UMLIFE Store for more information:UMLIFE Store on Amazon