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MakerFocus 8541549166

MakerFocus TP4056 Charging Module User Manual

Model: 8541549166

INTRODUCTION

The MakerFocus TP4056 Charging Module is a compact and efficient solution designed for charging 18650 lithium batteries. It features a Micro USB input, allowing for convenient charging using standard mobile phone chargers. This module also includes essential battery protection features, ensuring safe and reliable operation for various DIY projects. Key features include:

- Micro USB input for direct charging with phone chargers.
- Integrated battery protection against over-discharge and overcurrent.
- Convenient input voltage wiring pads for flexible DIY integration.
- Visual charging status indicator (red for charging, green for full).

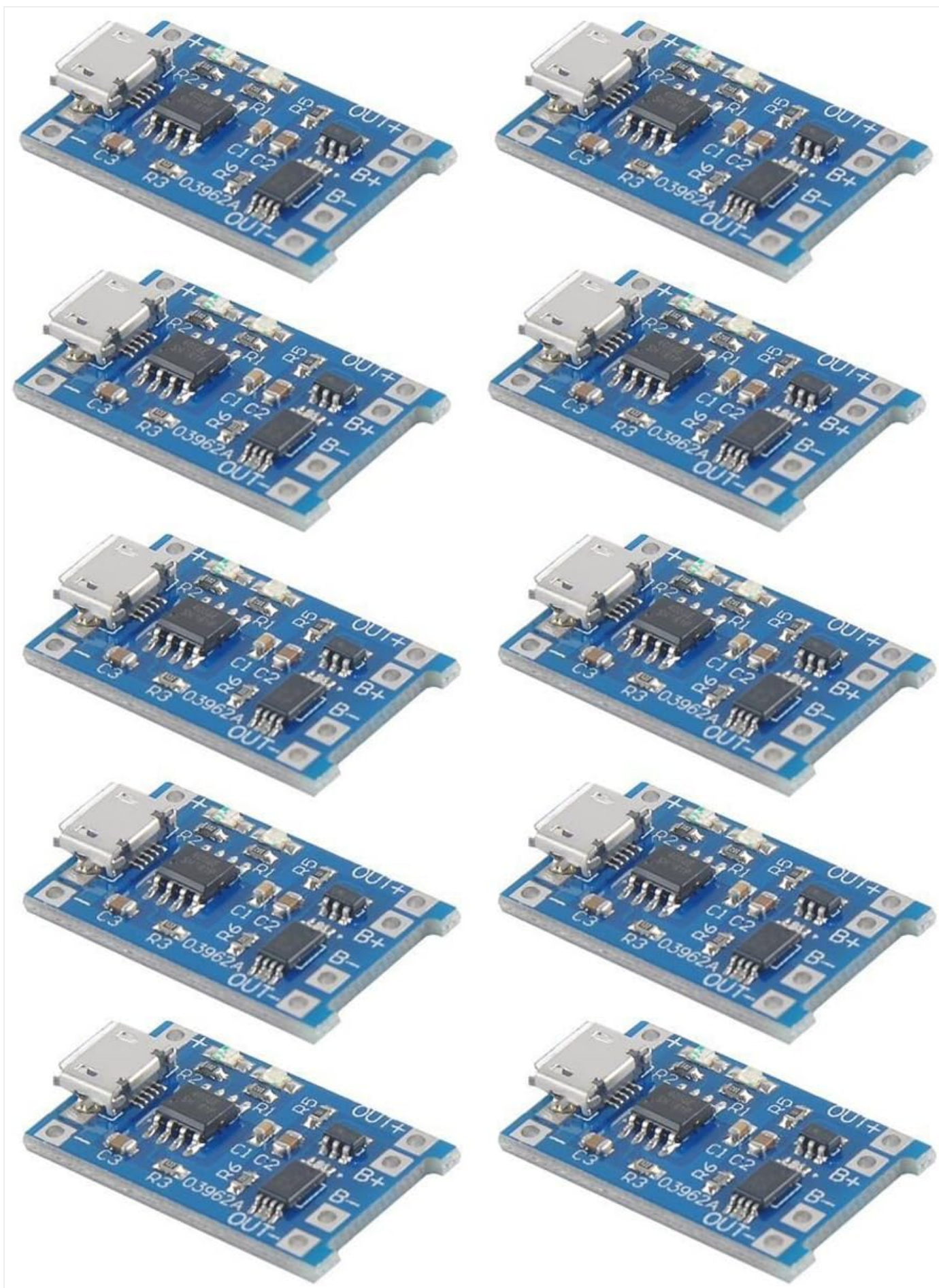
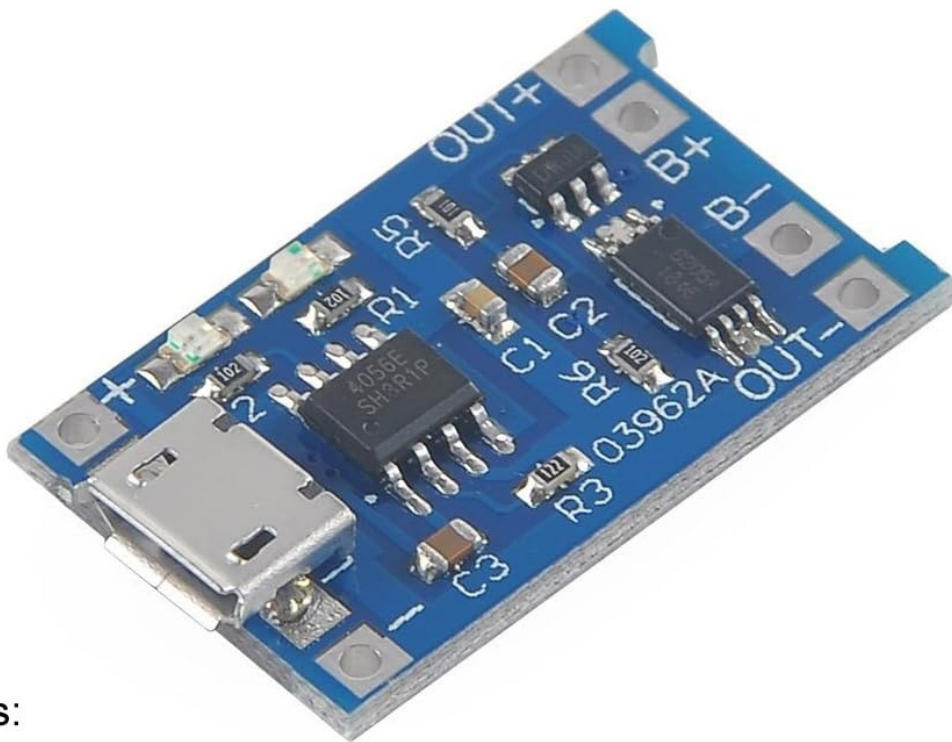


Image: A pack of ten MakerFocus TP4056 Charging Modules, showcasing their compact size and Micro USB port.

SETUP

Setting up the TP4056 charging module involves connecting the power input, the lithium battery, and any desired load. Follow these steps carefully to ensure correct and safe operation.

1. **Power Input:** The module can be powered via its Micro USB female port or through the dedicated input voltage wiring pads. Connect a 5V power source to either the Micro USB port or the '+' and '-' pads. Ensure the power source can output 1A or more for optimal charging.
2. **Battery Connection:** Connect the positive terminal of your lithium battery to the 'B+' pad on the module and the negative terminal to the 'B-' pad.
3. **Load Connection (Optional):** If you intend to power a load directly from the module while charging, connect the positive terminal of your load to the 'OUT+' pad and the negative terminal to the 'OUT-' pad.



Instructions:

Note: When the battery is connected for the first time, there may be no voltage output between OUT+ and OUT-. At this time, the 5V voltage can be used to activate the protection circuit. If the battery is short-circuited and then connected from B+ B- It needs to be charged to activate the protection circuit. When using a mobile phone charger for input, note that the charger must be able to output 1A or more, otherwise it may not be able to charge normally.

The MICRO USB receptacle and the +-pad next to it are power inputs with 5V. B+ connects to the positive pole of the lithium battery and B- connects to the negative pole of the lithium battery. OUT+ and OUT- are connected to the load, such as the positive and negative poles of the moving booster board or other loads.

Connect the battery to B+ B-, insert the phone charger to the USB socket, the red light is charging, the green light is full.

Image: A detailed view of the TP4056 module, highlighting the Micro USB input, B+/B- battery terminals, and OUT+/OUT- load terminals.

Important Note: When connecting the battery for the first time, there might be no voltage output between OUT+ and OUT-. This is normal as the protection circuit needs activation. To activate it, connect a 5V voltage source to charge the module. If the battery was short-circuited or connected incorrectly (B+ and B- reversed), it will also require recharging to activate the protection circuit.

OPERATING INSTRUCTIONS

Once the module is correctly set up, operating it for battery charging is straightforward.

1. **Initiating Charge:** With the battery connected to B+ and B-, insert a mobile phone charger (or other 5V, 1A+ power source) into the Micro USB socket.
2. **Charging Indicator:** A red LED light on the module will illuminate, indicating that the battery is currently charging.
3. **Charge Completion:** Once the battery is fully charged, the red LED will turn off, and a green LED light will illuminate, signaling that charging is complete.

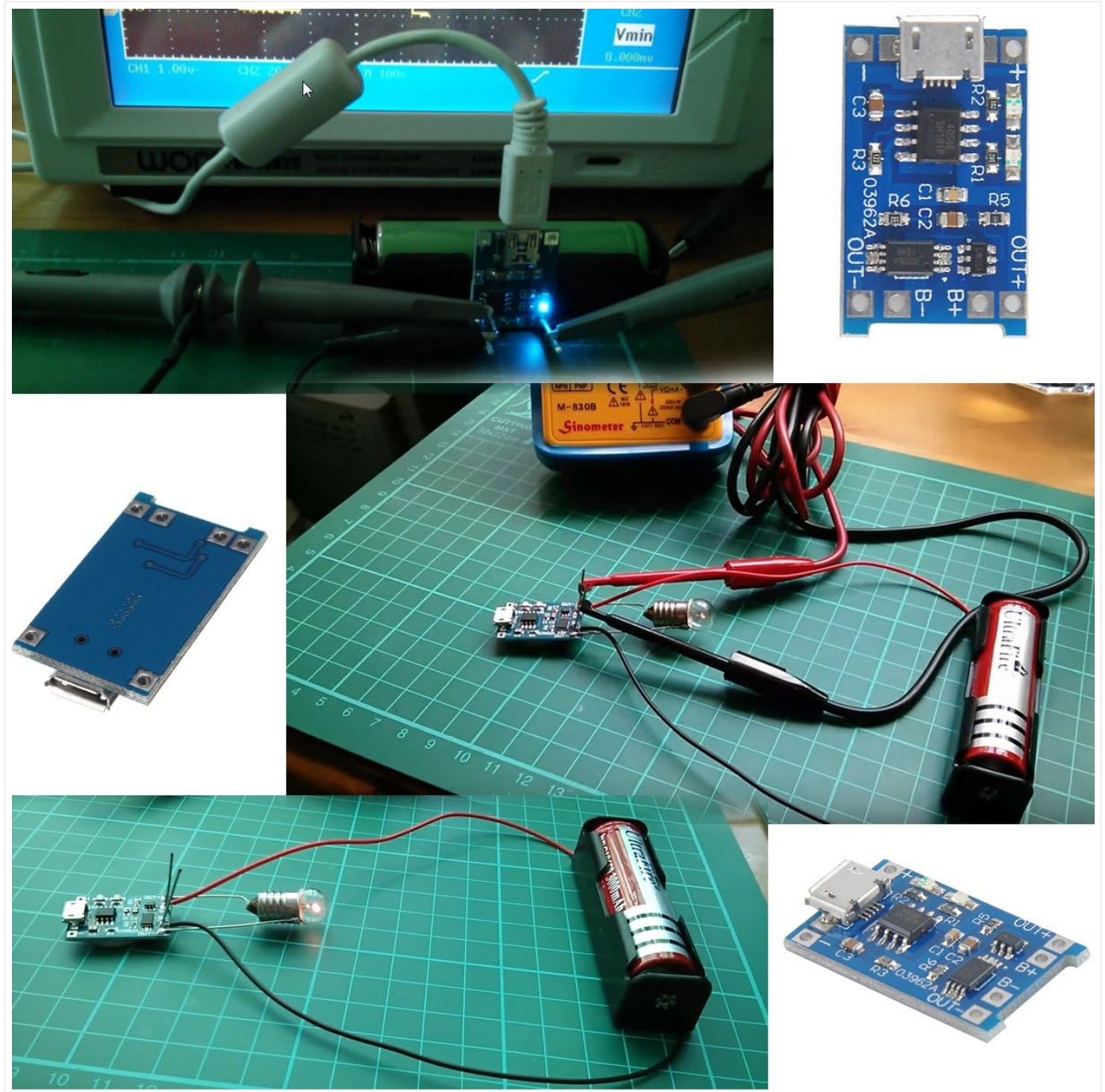


Image: The TP4056 module integrated into a simple circuit, demonstrating its connection to a lithium battery and a small light bulb as a load.

MAINTENANCE

To ensure the longevity and proper functioning of your TP4056 charging module, consider the following maintenance guidelines:

- **Proper Disconnection:** Always disconnect the load from the OUT terminals before connecting or disconnecting the battery or power input. Incorrect polarity or connection order can damage the module.
- **Cleanliness:** Keep the module free from dust, dirt, and moisture. Use a soft, dry cloth for cleaning if necessary.
- **Storage:** Store the module in a dry, cool environment when not in use. Avoid extreme temperatures or direct sunlight.
- **Handling:** Handle the module with care to avoid physical damage to the components or solder joints.

TROUBLESHOOTING

If you encounter issues with your TP4056 charging module, refer to the following common problems and their solutions:

Problem	Possible Cause	Solution
No voltage output from OUT+ and OUT- after first battery connection.	Protection circuit is inactive.	Connect a 5V power source to the module's input to initiate charging. This will activate the protection circuit. If the battery was short-circuited or connected incorrectly, it also needs recharging to activate.
Battery is not charging or charging slowly.	Input power source is insufficient (less than 1A).	Ensure your mobile phone charger or power supply can output 1A or more. Lower current sources may not charge the battery effectively.
Module appears damaged or not functioning.	Incorrect wiring, especially reversed polarity on OUT terminals.	Verify all connections, especially the positive and negative terminals of the load (OUT+ and OUT-). Incorrect wiring can cause permanent damage.

SPECIFICATIONS

Detailed technical specifications for the MakerFocus TP4056 Charging Module:

- **Input Voltage:** 5V
- **Charging Cut-off Voltage:** 4.2V $\pm$ 1%
- **Maximum Charge Current:** 1000mA (1A)
- **Battery Over-discharge Protection Voltage:** 2.5V
- **Battery Overcurrent Protection Current:** 3A
- **Board Dimensions:** 2.6 cm x 1.7 cm (approximately 1.02 inches x 0.67 inches)
- **Item Weight:** 0.32 ounces (per module)

Size:

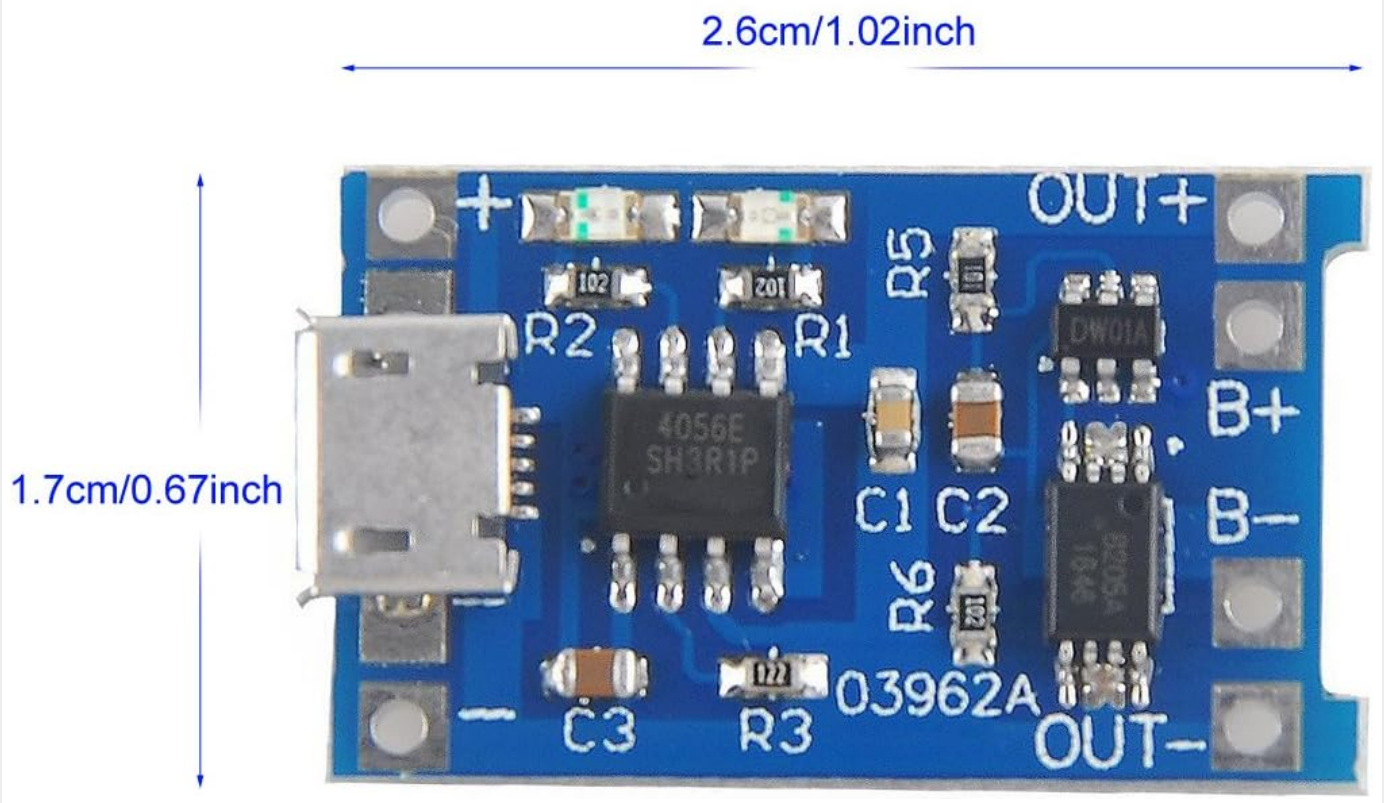


Image: The TP4056 module shown with its physical dimensions, indicating a length of 2.6cm (1.02 inches) and a width of 1.7cm (0.67 inches).



Image: A single TP4056 module placed on a digital kitchen scale, displaying its light weight.

WARRANTY AND SUPPORT

Information regarding product warranty and dedicated customer support channels is not provided within this manual. For any inquiries or support needs, please refer to the product listing page on the retailer's website or contact the manufacturer, MakerFocus, directly through their official channels if available.

You may find additional information or contact details on the [product's Amazon page](#).

