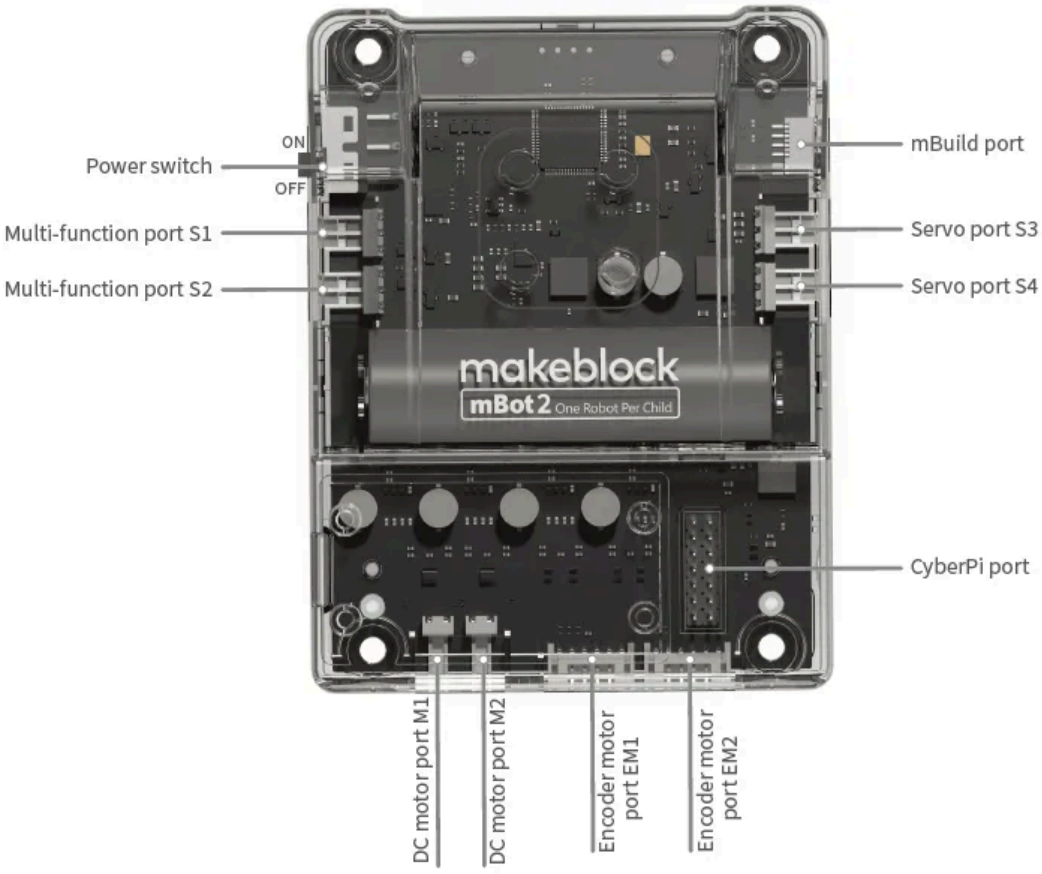
mBot2 Shield

Overview

mBot2 Shield is equipped with a built-in rechargeable lithium-ion battery that can supply power for CyberPi. With the multi-function, servo, and motor ports, it can drive motors, servos, and LED strips.



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Features

- Built-in rechargeable lithium-ion battery, used to supply power for CyberPi
- Two multi-function ports, used to connect and drive not only servos but also LED strips
- Two servo ports, used to connect and drive servos
- Two DC motor ports, used to connect and drive DC motors
- Two encoder motor ports, used to connect and drive encoder motors
- One CyberPi port, allowing you to easily connect mBot2 to CyberPi
- Supporting block-based programming, friendly to those without any programming experience
- Supporting Python programming, for which the `cyberpi` library is provided

Specifications

Specification	Description
Microprocessor	GD32F403
Battery	3.7 V, 2500 mAh Packaging: Bundle (battery included) Battery type: Lithium-ion battery Battery weight: 44.6 g Watt hours per battery (wh): 9.25 wh Lithium content: 1.07 g Lithium battery voltage: 3.7 V
Input voltage and current	5 V, 2000 mA (fast charging) 5 V, 500 mA (charging in operation)
Output voltage and current	5 V, 6 A
Battery life	3–6 hours (in general application scenarios, just for reference)
Charging time	80 minutes (in fast charging mode)
Battery endurance	The capacity of the battery is remained in 70% or higher after it is charged and used for 800 times (at 20±5℃, 0.2 C discharging).
Communication mode	Serial communication: between the main control board and exten board Digital signals: at the digital servo port PWM signals: at the DC motor port

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Hardware version	V1.0

Note:

- Self-discharge occurs in the lithium-ion battery. If you store mBot2 Shield with the battery voltage lower than 3.6 V for a long time, the battery will be over-discharged and its internal structure may be damaged, which reduces the endurance of the battery. Therefore, to store mBot2 Shield for a long time while keeping the battery intact, you need to charge the battery once every three to six months to 3.8–3.9 V (the best voltage for storage is 3.85 V), which allows the discharge depth of 40% to 60%.
- Store mBot2 Shield at 4℃ to 35℃ in a dry place or keep it away from moisture through packaging.
- Keep it away from heat or direct sunlight.

Programming

You can use mBlock 5 to program mBot2. mBlock 5 provides two editors, namely the block-based graphical editor (the default editor, referred to as mBlock 5) and Python editor (referred to as mBlock-Python Editor).

For details about programming, see "Start programming <https://www.yuque.com/makeblock-help-center-en/cyberpi/mbot2-start#c0hOs> ."

Take Pocket Shield home

1. Contact the local dealer to purchase CyberPi series products and their educational packages.
2. Contact us <https://www.yuque.com/makeblock-help-center-en/contact/contact_us> to become our dealer.

More information

mBot2 Operation Guide <https://www.yuque.com/makeblock-help-center-en/cyberpi/mbot2-start>
CyberPi Operation Guide <https://www.yuque.com/makeblock-help-center-en/cyberpi/cyberpi-start>

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