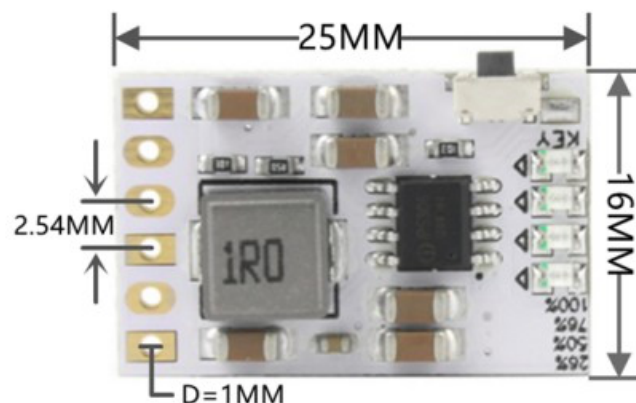


# INTRODUCTION

This is a DC charging and discharging integrated module, with 5V normally open output, which is not affected by load access and has a maximum load current of 2A. It features 4 levels of charge/discharge electricity indication and button-controlled output. The module comes with a built-in power management circuit that boosts a lithium battery to 5V and supports charging and discharging simultaneously. Besides, it has battery protection which makes it applicable for batteries without a protective board,

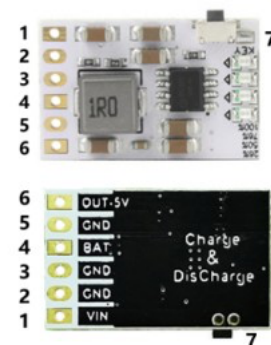
This module can be applied to car charging retrofit, driving recorder power supply, DIY mobile power bank, and mobile phone/laptop portable charging devices.

Note: The KEY function is invalid in charging mode. In discharging mode, short press the button once to enable output, and the indicator turns on; Long press for about 10s to disable the output, and the indicator turns off this time. The indicator goes off after 35s when there is no operation in discharging mode. When charging and discharging at the same time, please enable input and output to keep a balance, thus extending module service life.



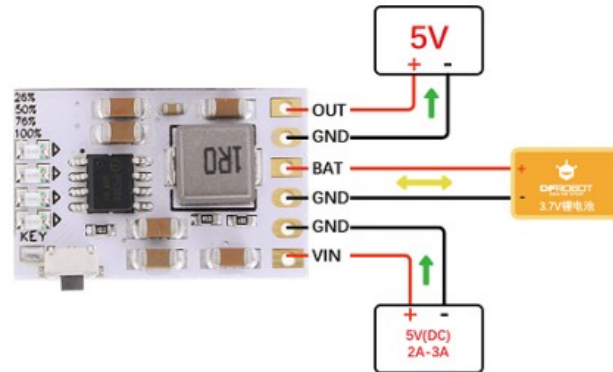
## Pin Definition

NUM	PIN	Definition
1	VIN	Charging port is input +
2	GND	Charging port is input -
3	GND	Lithium Battery -
4	BAT	Lithium Battery +
5	GND	Output negative output -
6	VOUT-5V	Output positive output -
7	KEY	Output enable trigger port (Low pulse trigger)

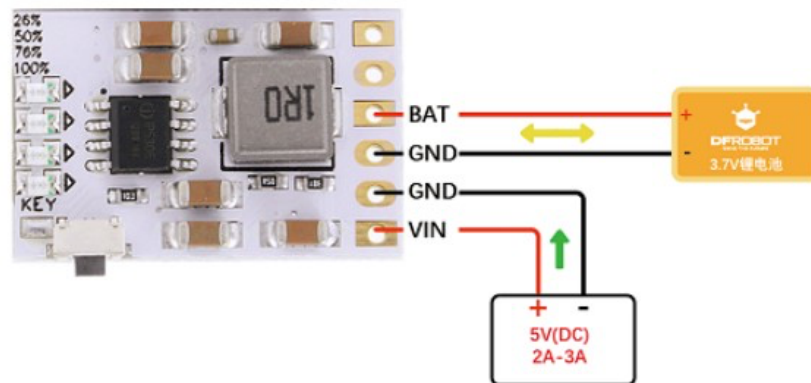


## Wiring Instruction

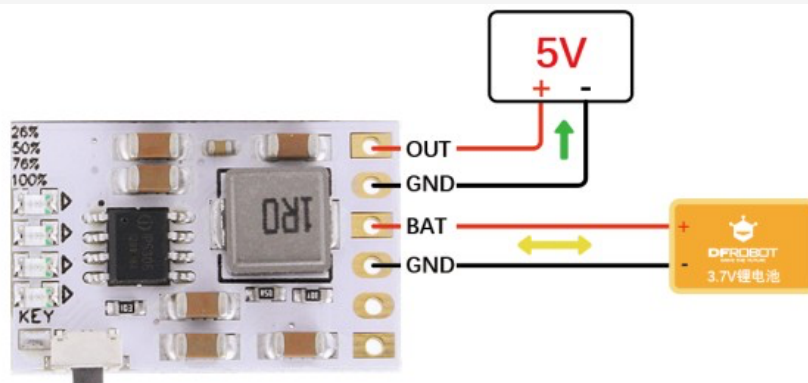
Charge and discharge



Charge only



Discharge only



LED Indication

Discharge Mode				
Electricity C(%)	D1	D2	D3	D4
$C \geq 75\%$	ON	ON	ON	ON
$50\% \leq C < 75\%$	ON	ON	ON	OFF
$25\% \leq C < 50\%$	ON	ON	OFF	OFF
$3\% \leq C < 25\%$	ON	OFF	OFF	OFF
$0\% < C < 3\%$	1.5Hz Falshing	OFF	OFF	OFF
Charging Mode				
Electricity C(%)	D1	D2	D3	D4
Full	ON	ON	ON	ON
$75\% \leq C$	ON	ON	ON	0.5Hz Falshing
$50\% \leq C < 75\%$	ON	ON	0.5Hz Falshing	OFF
$25\% \leq C < 50\%$	ON	0.5Hz Falshing	OFF	OFF
$C < 25\%$	0.5Hz Falshing	OFF	OFF	OFF

## FEATURES

- 4 levels of charge/discharge electricity indication
- Button-controlled output
- Built-in power management circuit

## APPLICATIONS

- Car charging retrofit
- Driving recorder power supply
- DIY mobile power bank
- Mobile phone/laptop portable charging device

## SPECIFICATION

- Charge Voltage: DC 4.6V to 5.4V(Typical 5V)
- Input Current: 2A-3A
- Charge Current: 0-2.1A
- Fully-charged Voltage: 4.2V $\pm$ 1%
- Charging quiescent current: 100uA
- Discharge Current: 0-3.5A
- Discharge quiescent current: 50uA
- Output Voltage: 5V

- Output Current: 0-2.1A
- Boost Efficiency:  $\leq 92\%$
- Charge Efficiency:  $\leq 91\%$
- Discharge Efficiency:  $\leq 96\%$
- Ambient Temperature:  $-20^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- Pad Pitch: 2.54mm
- Pad Hole Diameter: 1mm
- Dimension: 25\*16mm/0.98\*0.63"
- Lithium Battery Protection: over-current, over-voltage, over-temperature, short circuit protections

## **SHIPPING LIST**

- DC-DC Charge Discharge Integrated Module (5V/2A) x1