

# Power Bank Datasheet

Product Name:	Power Bank
Model No:	<b>M108A(PD+QC3.0 Bidirectional fast charging)</b>
Specifications:	MICRO INPUT :5V-2.0A/9V-2.0A TYPE-C INPUT: 5V-3.0A/9V-2.0A/12V-1.5A (PD+QC3.0) TYPE-C OUTPUT: (PD+QC3.0) 5V-3.0A/9V-2.0A/12V-1.5A USB (QC3.0) 5V-3.0A/9V-2.0A/12V-1.5A Total Output: 18W
	10000mAh
Date:	2021.07.30



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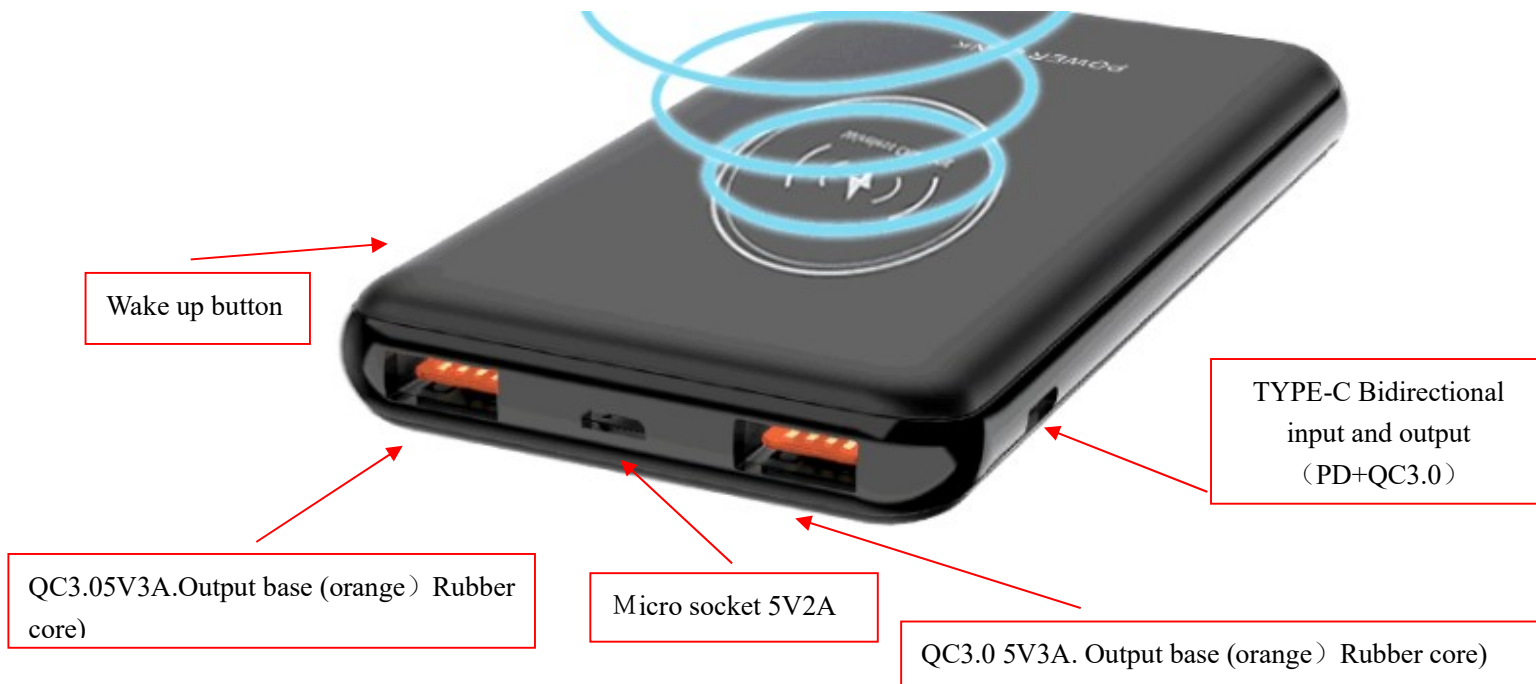
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**1.Scope of application:** This product specification describes the external dimensions, characteristics, technical requirements and precautions of rechargeable mobile power bank. Please read the specification carefully before use.

### 2. Appearance drawing and function description of power bank



#### Charging function description:

- ◆ The power indicator is 4 white lights and 1 green light (only on when charging and discharging quickly).
- ◆ When the ordinary 5V charger charges the power bank, the white light will be on, and the power will be displayed in the way of point flashing increment. After full charge, the four lights will be on for a long time
- ◆ When the charger of QC2.0 / 3.0 charges the power supply, the first light will change from white to green. At this time, the charger voltage will rise to 9V to quickly charge the power supply. The power will be displayed in the way of long light decreasing, and the four lights will be on after full charge.。
- ◆ When charging, the output voltage is about 4.5V, and the charging current of the mobile phone is very small.
  - When the charger is unplugged, the indicator light will go out and enter standby.
  - Support foreign object detection (FOD function);
- ◆ When the MICRO socket is charging, inputting type-C will turn off the charging of the MICRO socket. When type-C is disconnected from charging, it will turn to MICRO charging

#### Function description of wake-up button:

- ◆ In the off state, short press the key (within 0.5 seconds) once, and the white indicator will display the current

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power grid. After it is on for 5 seconds, it will automatically enter standby.

- ◆ When micro or type-C fast charging input, press the key and wait 10 seconds before entering the fast charging.
- ◆ when the button is pressed before charging but the indicator light is not off, plug in the charging. At this time, it is normal 5V charging. It takes 10 seconds to enter the fast charging.
- ◆ **Discharge function description:**
- ◆ When the ordinary 5V charging mobile phone is plugged into the two output sockets of the power supply for charging, it can only enter the ordinary 5V charging mode and the white light is on. The power is displayed in the way of long light decreasing, and all the lights are off after discharging
- ◆ Type-C output and USB output support PD2.0 / 3.0 protocol, QC2.0 / 3.0, Huawei's FCP, MTK's PE1.1 / 2.0, Spread rum's SFCP mobile phone fast charging protocol, BC1.2 protocol and Samsung, Apple high current charging.
- ◆ When the four-core data cable is inserted into the power fast charging output base (orange rubber core), the first indicator light will change from white to green, indicating that the mobile phone enters the fast-charging mode. At this time, the output voltage will reach 5.6v to 12V to charge the mobile phone. The power will be displayed in the way of long light decreasing. All the lights will go out after the power is discharged.
- ◆ Mobile phones supporting fast charging cannot enter the fast-charging mode when plugged into the common output socket of the power supply. They can only be charged according to the conventional 5V output, and the white light is displayed.
- ◆ When one mobile phone is in fast charging and the other mobile phone is inserted into the common output base, the fast-charging socket will exit the fast-charging mode and the voltage will drop to 5V. At this time, both mobile phones will enter the normal charging mode.
- ◆ When the quick charging port is connected to the quick charging mobile phone and the other mobile phone is connected to the ordinary port, unplug the ordinary mobile phone, the power will restart after 10 seconds, the quick charging mobile phone will enter the quick charging mode, and the first indicator light will change from white to green.
- ◆ When the phone is unplugged and the charging is interrupted, the indicator will be on for 5 seconds and then go out to standby.
- ◆ When the mobile phone is charged or the load current is less than 60mA, the machine will turn off the output and enter the standby mode.
- ◆ There is an identification chip circuit in the Apple Lightning plug, which is equivalent to a light load. When the machine is connected to charge the mobile phone, if the mobile phone is disconnected from the plug for more than 15 seconds, that is, the indicator light goes out and enters the standby state, the mobile phone cannot be charged when it is plugged in, you need to unplug the USB plug at the power end once or press the wake-up button to charge. Except for Apple phones, other mobile phones will not be affected.

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<b>LED Display Mode</b> “●” Bright “○” Not Bright “◎” The current power flashes when charging.	Output to charge external devices	●●●●	75%-100%
		●●●○	50%-75%
		●●○○	25%-50%
		●○○○	0%-25%
		○○○○	After discharge.
	The charger charges the power bank	◎○○○	0%-25%
		●◎○○	25%-50%
		●●◎○	50%-75%
		●●●◎	75%-100%
		●●●●	Full

**3.Product Information**

structure	Model No	M108A
	Cell and combination mode	Polymer battery /1160100/10000MAH
	Output interface	1 USB output motherboard (normal output and fast charging output) 1 type-C fast charging bidirectional  Fast charge output support: QC2.0 / QC 3.0 / MTK-PE / Huawei FCP / SFCP of Spread rum
	Product Size	138*66.8*15.8mm
	Weight	237g

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### 4. Function test information:

N O.	Item	Test specification	option	Standard parameters	Measured parameters	Remarks
1		Cell capacity	√	10000 mAh	10100 mAh	
2	Input part	Charging voltage range	√	5.0-9V±0.2V	4.8-9.0V	A quick charger is required
3		Rated charging voltage	√	5-9V	5-9V	
4		Charging current	√	5V-2.0A/9V-2.0A±0.2A	5V-1.95A/9V-1.99A	
5	Protection function	Overcharge protection voltage	√	4.25V±0.05V	4.20	The battery is low voltage 4.20V
6		Over discharge protection voltage	√	2.8±0.1	2.9V	
7		USB Current limiting protection current	√	Quick charging port:12V-1.5A /9V-2A/5V-3.0A Common port:2.4A+0.4A	Quick charging port:12V-1.6A /9V-2.1A/5V-3.2A Common port:2.7A	
8		Overcurrent protection current	√	Quick charging port:5V-3.8A±0.2A Common port:3.8A±0.2A	Quick charging port:5V-3.8A Common port:3.8A	
9		Short circuit protection	√	yes	yes	Standby after flashing for 5 times
10		Charge discharge management	Charging Time	√	9V-4H/ 5V-6H±30 minutes	9V-3.5H 5V-6H
11	Charging current (charging cell)		√	9V-3.9A/5V-2.4A±0.2A	9V-4.1A/5V-2.5A	
12	Charging cut-off current		√	200±30mA	190mAh	
13	Discharge cut-off current		√	60±20MA	60MA	
14	5V-3A Discharge conversion efficiency (ideal)		√	≥ 85%	3.4V 89% 3.7V 90% 4.2V 92%	

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		efficiency)				
15		5V-2A Measured discharge	√	200±20 minutes	210minutes	
16		Consumable current	√	≅ 100uA	50uA	
17	Output	No-load Output Voltage	√	5.1±0.05V	5.08V	
18		5V Full load output voltage range	√	Output at rated load 4.85V-5.2V	3A 5.12V	
19		Mobile charge	√	OK (Normal filling)	OK	
20		Enclosure temperature ( 1 hour)	√	5 V / 2A : 38C	40C	12V/1.5A 52°C 9V/2A 43°C
21		Sleep output voltage	√	2.0-5.0V	2.4V	
22		Discharge automatic activation	√	It can be activated automatically when the mobile phone is plugged in	yes	
23		Power Indicator	√	4 indicator lights	OK	
24	Capacity management	Charge discharge indication	√	The current power light flashes	OK	
25		Charging light indicator	√	The light is on for a long time	OK	

**5.Electrical characteristics**

No	Item	Test Method	Performance standard
1	Standard charging	5V 2.0A charging will be fully charged in about 6 hours 9V 2.0A charging will be fully charged at about 3.5	
2	Initialization capacity	After standing still for 1 hour after standard charging, discharge to 3.0V with 1A.	



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3	cycle life (25°C)	Charge at 0.5c until the current is less than 50-100ma, then discharge at 0.5c to 3V, place for 1 day after 300 cycles, and the power capacity shall not be less than 70%.	Number of cycles≥300
4	Electrostatic requirements	Contact discharge 8Kv, air discharge 15kV.	Can charge and discharge normally
6	Transport voltage	Inspection after shipment.	>50% capacity
7	Appearance	Visual inspection	No crack, scratch, deformation, stain, etc

### 6.Mechanical test

No	Item	Test Method	Performance standard
1	Vibration test	The power supply can withstand the vibration test in three directions with an amplitude of 1.6 mm and a frequency of 16 Hz, The vibration test shall be carried out in three directions within ninety minutes.	The appearance of the power supply is not cracked and the performance is normal. The internal electric core shall not be broken or ignited, and shall be fixed reliably

### Safety Warning and Use

- ◆ Improper use of the power bank will damage the battery and the equipment using the power supply;
- ◆ When using the power bank for the first time, the standard 5V 2A / QC2.0 / 3.0 fast charging charger must be used to charge the power bank;
- ◆ Keep the battery dry and ventilated;
- ◆ The power pack contains organic combustibles. If the power bank is not used correctly, cracking, liquid leakage, overheating, etc. will occur, resulting in permanent damage to the battery. Safety protection device is built in the power bank;
- ◆ Do not short circuit the power bank.
- ◆ Do not use the power near a fire or stove or where the temperature is higher than 60 °C. Because high temperature will melt the plastic shell.
- ◆ If the power bank is placed in water, the safety protection parameters and indicators of the power bank will be damaged, so that the power bank cannot be used normally. Thus, overheating, fire and explosion will occur when using the power bank.
- ◆ Do not use heavy objects or his objects to squeeze the power bank to deform it.
- ◆ If you use a non-standard charger or modify the specified charger parameters, the battery will overheat, burn and explode.

If the power bank is found to have hidden dangers or other problems, it shall stop using immediately.

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### **Suggestions on scrapping of power bank**

The power bank contains dangerous and useless materials, which need to be recycled (destroyed) by a qualified organization. Contact your local office to ensure that the power bank is properly scrapped in accordance with the approved regulations.