

i-POWER

LITHIUM-ION BATTERY PRODUCT SPECIFICATION

IPLiF-348100Z1

48V 100Ah



Battery Pack Specification

1. Overview

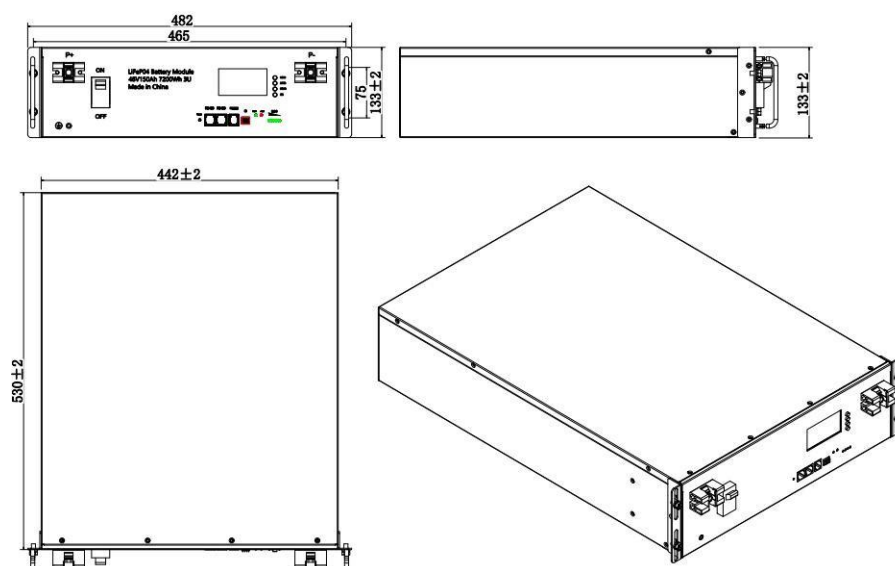
I-Power IPLiF-348100Z1 is 48V100Ah Lithium iron phosphate battery module which designed for energy storage power supply system and Telecom back-up power supply application. This battery module integrated with intelligent BMS inside, has big advantages on safety, cycle life, energy density, temperature range and environmental protection. This product specification describes the type, size, structure, electro chemistry performance, service life, and BMS characteristics. This specification only applies to the battery module supplied by i-Power.

2. Advantages

The battery module consists of single LFP cells, wire, BMS and container.

- Packed with high performance LFP single cell, long life, safety and wide temperature range
- High energy density, small size, light weight, no pollution;
- Packing with single cell container, fire retardant wire and laser welding, stable and safe.
- Built-in BMS, with battery voltage, current, temperature and health management.
- LED indicate the battery SOC and operating status.
- Flexible customization of dimensions
- More than 15 years design life
- Stable performance, maintenance-free

3. Dimension Drawing

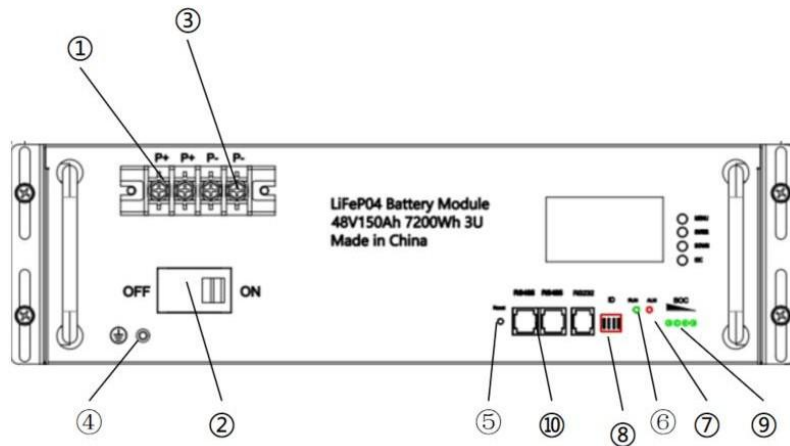


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4. Parameters

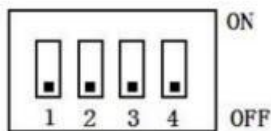
Model/Parameters	IPLif-348100Z1
Rated Voltage	48V
Rated Capacity (0.2C, @25℃)	100Ah
Rated Energy	4.800Wh
Cell & Pack	LiFePO4 Cell
Output voltage range	42.0V~53.5V
Charging voltage	52.5V~53.5V, CC-CV (Recommended 52.5V)
Cut-off voltage	42.0V
Max. Constant current	100A/100A
Recommended charging current	<100A, best @ 30A
Recommended charging type	CC-CV until current <0.02C
Communication	RS485
Internal resistance	<10mΩ
Capacity Efficiency	≥99.5%
Built-in BMS	
Over-charge protection	Module>57.0V or Cell>3.8V
Over-discharge protection	Module<40.0V or Cell<2.0V
Over-current protection Short circuit protection	Charging: >102A, delay 10S; >120A,delay 3S; Discharging: >102A, delay 10S; >120A,delay 3S; Short circuit protection: Integrated
Cell balance	Passive, 150mA
Over temperature protection	Charging: < 0℃ or >70℃ Discharging: <-20℃ or >75℃
Case material	Metal
Dimension L*W*H (mm) & Terminal	442*530*133, M6
Weight (kg)	61±1
Environment	
Humidity	5%~95% relative humidity
Charging temperature	0℃~45℃
Discharging temperature	-20℃~+65℃
Storage temperature	-20℃~55℃
Service Life	
Cycle life	80%DOD>6000 times, @0.5C, 25℃
Design life	>15 years

5. Interface Description



No.	Item	Description	Remarks
1	Battery +	Terminal M6/M8	Positive
2	MCB	DC output	
3	Battery -	Terminal M6/M8	Negative
4	GND	GND	M5
5	Reset	Reset	
6	RUN	LED display	Below sheet
7	ALM	LED display	
8	ADD	Battery address	Below sheet
9	SOC	Capacity display	
10	RS485_1/RS485_2	Connect Controller (RS485)	Pin1, Pin8 is B Pin2, Pin7 is A

Address Description





No.	Address Switch Position				Remarks
	#1	#2	#3	#4	
0	OFF	OFF	OFF	OFF	Pack 0
1	ON	OFF	OFF	OFF	Pack 1
2	OFF	ON	OFF	OFF	Pack 2

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3	ON	ON	OFF	OFF	Pack 3
4	OFF	OFF	ON	OFF	Pack 4
5	ON	OFF	ON	OFF	Pack 5
6	OFF	ON	ON	OFF	Pack 6
7	ON	ON	ON	OFF	Pack 7
8	OFF	OFF	OFF	ON	Pack 8
9	ON	OFF	OFF	ON	Pack 9
10	OFF	ON	OFF	ON	Pack 10
11	ON	ON	OFF	ON	Pack 11
12	OFF	OFF	ON	ON	Pack 12
13	ON	OFF	ON	ON	Pack 13
14	OFF	ON	ON	ON	Pack 14
15	ON	ON	ON	ON	Pack 15

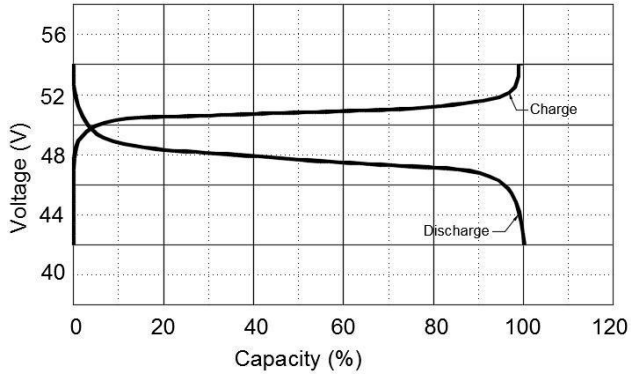
LED Description

State	Item	RUN	ALM	Remarks
				
OFF	Off	OFF	OFF	Flash 1: 0.25s on; 3.75s off Flash 3: 0.5s on; 1.5s off
Stand By	Normal	Flash 1	ON	
	Alarm	Flash 1	Flash 3	
Charge	Normal	ON	OFF	
	Alarm	ON	Flash 3	
	Over voltage/current/temperature/ Error protection	ON	ON	
Discharge	Normal	Flash 3	OFF	
	Alarm	Flash 3	Flash 3	
	Over discharge protection	OFF	OFF	
	Over current/temperature/Error protection	OFF	ON	
Error		ON	OFF	

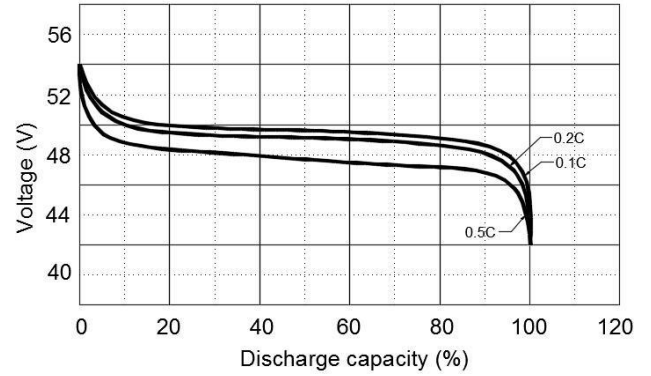
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6. Performance curve

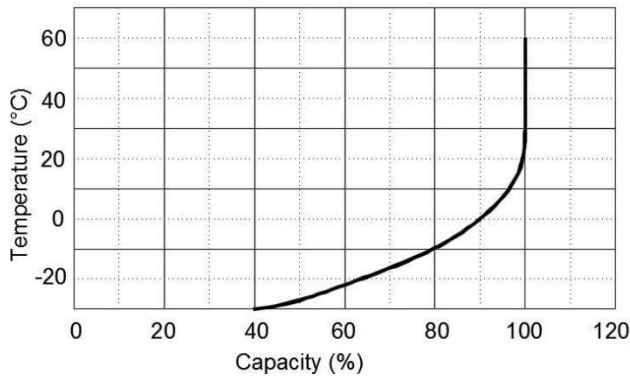
Charge & Discharge curve with 0.5C @ 25°C



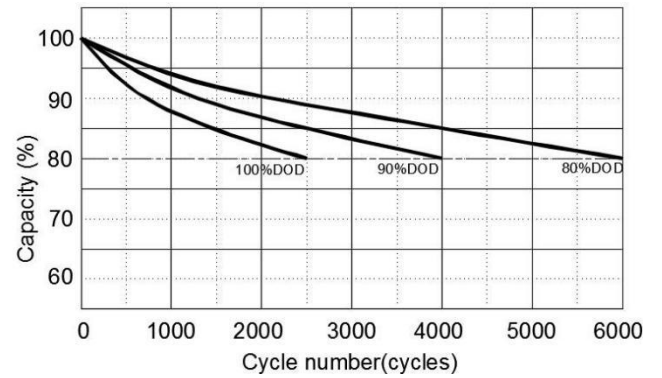
Discharge performance with different rate @ 25°C



Discharge capacity with different temperature @ 0.5C



Cycle life with DOD @ 0.5C, 25°C



Self-discharge @ different temperature

