



**PRODUCT SPECIFICATION**  
**产 品 规 格**

DOC NO.: 36V17Ah  
REV. : A  
SHEET : 1 of 4

# Specification Approval Sheet(Battery)

## 产品规格确认书(电池)

**Model:** Li-ion battery 36V17Ah

Prepared by 拟 制	Checked by 审 核	Approved by 批 准

	Signature 签 字	Date 日 期
<b>Customer</b>		
<b>Approval</b>	<b>Company Name:</b> 公 司 名 称:	
<b>客 户</b>		
<b>赞 同</b>	<b>Company Address:</b> 公 司 地 址:	



**PRODUCT SPECIFICATION**  
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1. Scope

These documents described the Product Specification of the Li-ion battery manufactured by M5power Battery Co.,Ltd .

2. Model: Li-ion Battery 36V17Ah

3. Specification

技术参数

No.	Items	Specifications
1	Charge voltage 充电电压	42V
2	Nominal voltage 标称电压	37V
3	Minimal capacity 最小容量	16.5Ah
4	Charge current 充电电流	5A
5	Standard Charging method 标准充电方法	2A CC(constant current) charge to 42V, then CV(constant voltage 42V) charge till charge current decline to $\leq 0.05C$ 2A CC (恒流) 充电至 42V,再 CV (恒压 42V) 充电直至充电电流 $\leq 0.05C$ .
6	Charging time 充电时间	Approx 3.5hours
7	Max. charge current 最大充电电流 (安全)	5A
8	Max. discharge current 最大放电电流 (安全)	25A (continuous)
9	Discharge cut-off voltage 放电截止电压	28V
10	Operating temperature 工作温度	Charging: $-40^{\circ}C \sim 45^{\circ}C$ 充电: $-40^{\circ}C \sim 45^{\circ}C$ Discharging: $-40^{\circ}C \sim 55^{\circ}C$ 放电: $-40^{\circ}C \sim 55^{\circ}C$
11	Storage temperature 储存温度	$-40^{\circ}C \sim +45^{\circ}C$
12	Battery Weight 电池重量	Approx. 2.5Kg 约: 2.5Kg
13	Battery Dimension 电池尺寸	L250*W110*T83mm



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4.1 Mechanical characteristics

No.	Items	Test Method and Condition	Criteria
1	Standard Charge 标准充电	Charging the Battery initially with constant current at 2A and then with constant voltage at 42V till charge current declines to 0.05C. 先用 2A 恒流充电至 42V，再恒压 42V 充电直至充电电流 $\leq 0.05C$ 。	N.A.
2	Initial Capacity 初始容量	The capacity means the discharge capacity of the Battery, which is measured in terms of discharge current of 0.2C and 28V cut-off voltage after the standard charge. 该容量是指标准充电后，0.2C 放电至 28V 截止电压所放出的容量。	
3	Cycle Life 循环寿命	Test condition: Charge: 0.2C to 42V Discharge: 0.2C to 28V 80% or more of 1 <sup>st</sup> cycle capacity at 0.2C discharge of Operation 测试条件： 充电：0.2C 充电到 42V 放电：0.2C 放电到 28V 当放电容量降至初始容量的 80%时，所完成的循环次数定义为该电池的循环寿命	$\geq 800$ cycles
4	Self-discharge 自放电	After the standard charging, store the Battery under the condition as No.4.4 for 30days, then measured the capacity with 0.2C till 28V 标准充电后，在 No.4.4 条件下贮存 30 天，再以 0.2C 放电至 28V 所放出的容量。	Remaining capacity > 95% 剩余容量 > 95%
5	Initial Impedance 初始内阻	Internal resistance measured at AC 1KHz after 50% charge 半充状态下，测量其 AC 1KHz 下的交流阻抗	$\leq 200m\Omega$
6	Battery Voltage 电池电压	As of shipment. 出货状态	37V $\pm$ 0.1V

No.	Items	Test Method and Condition	Criteria
1	Vibration Test 振动测试	After standard charging, fixed the Battery to vibration table and subjected to vibration cycling that the frequency is to be varied at the rate of 1Hz per minute between 10Hz and 55Hz, the amplitude of the vibration is 1.6mm. The Battery shall be vibrated for 30 minutes towards per axis of XYZ axes. 将标准充电后的电池固定在振动台上，沿 X、Y、Z 三个方向各振动 30 分钟，振幅 1.6mm，振动频率为 10Hz~55Hz，每分钟变化 1Hz。	No leakage 无泄漏 No fire 不起火
2	Drop Test 跌落测试	The Battery is to be dropped from a height of 1 meter twice onto concrete ground. 将标准充电后的电池从 1 米高度跌落至混凝土地面 2 次	No explosion, no fire, no leakage. 无爆炸、起火、泄漏

#### 4.2 Visual inspection

There shall be no such defect as scratch, flaw, crack, and leakage, which may adversely affect commercial value of the Battery.

外观检查

不允许有任何影响电芯性能的外观缺陷，诸如裂纹、裂缝、划伤等。

#### 4.3 Standard environmental test condition

Unless otherwise specified, all tests stated in this Product Specification are conducted at the condition below:

Temperature :  $23 \pm 5^{\circ}\text{C}$

Humidity :  $65 \pm 20\% \text{ RH}$

标准测试环境

除非特别说明，本标准书中所有测试均在以下环境条件下进行：

温度： $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$

湿度： $65 \pm 20\% \text{RH}$

#### 4. Storage and Others

贮存及其它事项

##### a) Long Time Storage

If the Battery is stored for a long time(over 3 months), the Battery's storage voltage should be 36V~42V and the Battery is to be stored in according to the condition specified about No. 4.4.

长期贮存

长期贮存的电芯（超过 3 个月）须置于干燥、凉爽处。贮存电压为 36V~42V 且贮存环境要求如 4.4 。

##### b) Others

Any matters that this specification does not cover should be discussed between the customer and AET

其它事项

任何本说明书中未提及的事项，须经双方协商确定