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		REV :	B/01
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产品规格确认书

SPECIFICATIONS OF PRODUCT

电芯型号 : IFR26650-30B


Cell Type : IFR26650-30B

受 控		
生效	2024-03-09	日期
分发号: 002		

产品设计 Design	产品设计审批 Design Approved	销售审批 Sales Approved	品质保证审批 QA Approved
			


客 户 确 认	签名 Signature	
	日期 Date	
	客户印章 Customer signet	


生效
分发

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更新记录 Renew Record

版本 Version	描述Description	日期 Date	备注 Remark
A/00	初版发行First version	2019-2-28	
A/01	减小内阻标准, 修订充电电流冲突, 增加循环条件 Reduce the IR standard; modified the un reasonable charge current; Added the cycle conditions	2019-8-28	
A/02	修订充放电保护温度 Revise the charge and discharge protection temperature	2020-04-30	
A/03	修订2.3.3最大脉冲放电时间 Revision 2.3.3 Maximum pulse discharge time	2020-5-29	
A/04	1、修订2.2.7, 增加电芯温度控制条件, 增大可允许的快速充电电流; Revision 2.2.7, increase the cell temperature control conditions, increase the allowable fast charging current; 2、修订2.2.5 增大充电截止保护温度上限 Revision 2.2.5 increases the upper limit of the charge cutoff protection temperature	2021-6-10	
A/05	1、增加再生脉冲充电模式及要求 Increase the regenerative pulse charging mode and requirements 2、修订安全标准引用规范 Revise the safety standard reference specification	2023-5-13	

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A/06	1、删除2.2.6 充电保护电压 Remove the 2.2.6 charging protection voltage 2、修订2.5低温容量产品规格 Revise the 2.5 low temperature capacity product specifications	2023-6-30	
B/00	1、规格书排版优化，优化电芯充电模式倍率 Optimized layout of the datasheet to optimize the cell charging mode magnification 2、新增电芯倍率测试 Added cell rate test 3、删除充电模式中的猛烈充电；删除再生脉冲规定 Remove the violent charging in charging mode; Remove the regeneration pulse provision 4、标准充放电修改 Standard charge/discharge modifications	2023-11-23	
B/01	1、标准充放电更正 1. Standard charge and discharge correction	2024-3-07	

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客户要求

Voice of Customer

产品名称 Product name: 锂离子蓄电池 (Lithium-ion batteries)

型号 Type: IFR26650-30B

版本 Version: B/01

要求客户写出他们的需求信息并提前与 PLB 沟通。如果客户有一些特别的应用或者操作条件不同于此文件中所描述的, PLB 可以根据客户的特别要求进行产品的设计和生产。


Customer should propose their special requirement and communicate with PLB in advance. If there were some application or operation conditions are different from this specification, PLB may change the design or product according to customer's special requirement.

	特殊要求 Special Requirement	标准 Standard
1		
2		
3		
4		
5		
6		

客户名称 Customer_____客户确认 Signed_____力朗确认 PLB Confirmed_____

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术语定义 Definition

产品 Product	本规格书中的“产品”是指 PLB 生产的 3000mAh 3.2V 可充电磷酸铁锂动力电池。 This product specification has been prepared to specify the 3000mAh rechargeable lithium-iron phosphate cell (3.2V) to be supplied to the customer by PLB Co., Ltd.
客户 Customer	指《PLB 产品销售合同》中的买方。 The purchaser of “PLB Product sales contract”
PLB	指《PLB 产品销售合同》中的卖方——东莞力朗电池科技有限公司。 The seller of “PLB Product sales contract”_ Dongguan Power Long Battery Co., Ltd
UJ	为了区别电池应用于不同的使用区域或不同的应用条件下, PLB 为 3000mAh/3.2V 可充电锂电池定义的物料编号。 PLB defined “UJ” as the stock number for 3000mAh/3.2V lithium-iron phosphate cell
周围环境温度 Environment Temperature	电池所处的周围环境温度。 Temperature of environment which cell stayed
电池管理系统(BMS) Cell Management system. (BMS)	客户用于监测和记录产品在整个服务期限内的运行参数的一种有效的追踪和控制系统。其追踪和记录的参数包括但不限于电压、电流、温度等, 以控制产品的运行并确保产品运行环境及运行条件符合本规格书的规定。 An effective cell management system that could record the parameters of cell during the service life. The parameters including but not limited to “Voltage”, “Current”, “Temperature and so on. This could make sure product application or operation condition are conformity with our specification.
电芯温度 Cell Temperature	由接入电池的温度传感器测量的电芯温度, 温度传感器和测量线路的选择由 PLB 和客户共同商定。 Temperature that was measured by temperature sensor on the surface of cells. The selection of temperature sensor and measuring line is agreed by PLB and customer.
新电池状态 New Cells	指自产品的入库日期算起 7 天以内且未进行测试的状态电芯 Refers to the state cell that has not been tested within 7 days from the date of storage of the product
C-Rate 充电倍率	充电电流值与电芯标称容量值的比率。例如: 电芯标称容量为 3000mAh, 充电电流为 600mA 时, 则充电倍率为 0.2C The ratio of the charge current value to the nominal capacity value of the cell. E.g. using 600mA current charging a 3000mAh cell, it means 0.2C charge rate
生产日期 Production Date	电池的制造日期。每个相关的电池的热缩膜上印刷的条码中所包含的日期。 The manufacture date of the cell. The date of the printed bar code on each associated cell
开路电压 (OCV) Open-Circuit Voltage	没有接入任何负载和电路时测得的电池的电压。 The voltage of the cell is not connected to any load and circuit.
产品供货协议 Supply Agreement	PLB 和客户共同签定的有关本规格书产品的协议。 Supply Agreement which was signed by PLB and Customer

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标准保质期 Guarantee period	指 PLB 的产品一般质量保证期限。自产品的出货日期算起一年内或双方约定的期限。 The general quality assurance period of PLB products。 Within one year from the date of shipment of the product or the period agreed by both parties	
荷电状态 (SOC) Stage of Charge	电芯的剩余电量与完全充满电量的比值 如：若电芯满电状态下容量为 3000mAh，当电芯容量为 1500mAh 时，SOC 为 50%。 In the case of no load, the linear relationships of cell charging capacity are measured in Milliampere hour or watt hour. E.g. If the state of capacity of 3000mAh is considered as 100%SOC, then the capacity is 1500mAh and SOC is 50%.	
温度上升 Temperature Increasing	在本规格书规定的条件如充电过程或者放电过程中电芯温度的升高。 The increase of cell temperature during charging process or discharge according to the specification.	
测量单位 Measurement units	“V” (Volt) 伏特 (V)，电压单位 Voltage “mA” (MilliAmpere) 毫安培 (mA)，电流单位 Current “mAh” (MilliAmpere-Hour) 毫安培-小时 (mAh)，负荷单位 Loading “Wh” (Watt-Hour) 瓦特-小时 (Wh)，能量单位 Energy “mΩ” (MilliOhm) 毫欧姆 (mΩ)，电阻单位 Resistance “℃” (degree Celsius) 摄氏度 (℃)，温度单位 Temperature “mm” (millimeter) 毫米 (mm)，长度单位 Length “s” (second) 秒 (s)，时间单位 Time “Hz” (Hertz) 赫兹 (Hz)，频率单位 Frequency	

1.适用范围 Scope

本规格书详细描述了 PLB（东莞力朗电池科技有限公司）生产的 3.2V 3000mAh (IFR26650-30B)可充电磷酸铁锂动力电池的产品性能指标以及产品使用条件及风险警示。

This product specification has been prepared to specify the 3000mAh rechargeable lithium-iron phosphate cell (3.2V) to be supplied to the customer by PLB Co. Ltd.


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2. 产品电性能指标 Product Electrical Performance

2.1 基本规格参数 Nominal specifications

No.	项目 Items	参数 Characters	条件 Condition
2.1.1	标准容量 Typical Capacity	3000mAh	2.0~3.65V, 1500mA 放电 2.0~3.65V, 1500mA discharge
2.1.2	最小容量 Minimum Capacity	3000mAh	2.0~3.65V, 1500mA 放电 2.0~3.65V, 1500mA discharge
2.1.3	工作电压 Operation Voltage	2.0~3.65V	N.A.
2.1.4	电池内阻 (1KHz) Cell AC Impedance (1KH)	$\leq 10\text{m}\Omega$	50%SOC
2.1.5	出货容量 Shipment Capacity	50%SOC 的荷电状态 About 50% SOC	N.A.
2.1.6	充电工作温度 Charge Operating Temperature	0~60℃	参考第 2.2 节 According to 2.2
2.1.7	放电工作温度 Discharge Operating Temperature	-20~60℃	参考第 2.3 节 According to 2.3
2.1.8	电池重量 Cell Weight (g)	约 85g About 85g	N.A.
2.1.9	电池尺寸 Cell Dimension	请参考本规格书第 9 条 According No.9 of the specification	N.A.
2.1.10	存储条件	50%SOC 的荷电状态 About 50% SOC	存储温度: -20℃~45℃ 存储湿度: RH<50%RH Storage temperature: -20℃~45℃ Storage humidity: RH<50%RH
2.1.11	充电限制电压 U_{cl}	3.65V	电池额定最大的充电电压 The cell is rated for maximum charging voltage

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2.1.12	充电上限电压 U_{up}	4.0V	电池能承受的最高安全充电电压 The highest safe charging voltage that the cell can withstand
2.1.13	放电截止电压 U_{do}	2.0V	电池安全放电的最低负载电压 The minimum load voltage for safe cell discharge
2.1.14	放电终止电压 U_{de}	2.0V	电池放电结束时的电压 The voltage at the end of cell discharge

2.2 充电模式/参数 Charge Model/ Parameter


No.	项目 Items	参数 Characters	条件 Condition
2.2.1	标准充电电流 Standard Charge Current	3000mA	$25 \pm 2^\circ\text{C}$
2.2.2	标准充电电压 Standard Charge Voltage	单体电池最大 3.65V 3.65V max for Unit Cells	$25 \pm 2^\circ\text{C}$
2.2.3	最大充电电流 Max. Charge Current (Continuous)	9000mA	环境温度 25°C Environment temperature 25°C
2.2.4	标准充电模式 Standard Charge Model	以 1.0C 的电流恒流充电至单体电芯电压 3.65V 后, 转为 3.65V 恒压充电直至充电电流小于 0.02C (60mA) 时, 停止充电。 Cell is charged with constant current of 1.0C to 3.65 V, and then converted to 3.65V constant voltage charging until the charging current is less than 0.02C (60mA).	
2.2.5	标准充电温度 Charge Temperature	$25 \pm 2^\circ\text{C}$	环境温度 Environment Temperature
2.2.6	充电截止温度 (电芯表面温度) Charge Cut-off Temperature (Cell surface temperature)	$0 \sim 70^\circ\text{C}$	无论电芯处在何种充电模式, 一旦发生电芯温度超过充电截止温度范围即应当停止充电 No matter the charging mode of the cell, the charge should be cut-off once the cell surface temperature exceeds the cut-off temperature range

2.2.6 其他充电条件 (模式) Other Charge Condition (Model)

环境温度 Environment Temperature	标准充电 Standard Charge	快速充电 Fast Charge
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$<0^{\circ}\text{C}$		不允许充电 Prohibited			
$0\sim 20^{\circ}\text{C}$		0.5C		1C	
$20\sim 30^{\circ}\text{C}$		1C		3C	
$30\sim 45^{\circ}\text{C}$		1C		1.5C	
$45\sim 60^{\circ}\text{C}$		0.5C		1C	
$>60^{\circ}\text{C}$		不允许充电 Prohibited			

2.3 放电模式/参数 Discharge Model/ Parameter

No.	参数 Parameters	产品规格 Specification	条件 Condition
2.3.1	标准放电电流 Standard Discharge Current	3000mA	25℃
2.3.2	最大持续放电电流 Max. Discharge Current (Continuous)	30000mA	环境温度 25℃ Environment temperature 25℃
2.3.3	最大脉冲放电电流 Max. Pulse Discharge Current	45000mA	电芯表面温度≤70℃，最长时间 60S Cell surface temperature 70℃ or less, Time 60S or less
2.3.4	放电截止电压 Discharge Cut-off Voltage	单体电池最小 2.0V 2.0V Min.	
2.3.5	持续放电温升 Temperature Increasing during Continuous Discharge	≤10℃	每个电池以 3000mA 电流放电 1 小时 Cell is discharged at 3000mA for 1 hour
2.3.6	脉冲放电温升 Temperature Increasing during Pulse Discharge	≤10℃	在任何充电状态下, 每个电池以 15000mA 电 流放电 10 秒 At any SOC, cell is discharged at 15000 mA current for 10s
2.3.7	放电截止温度 (电芯表面温度) Discharge Cut-off Temperature (Cell surface temperature)	-20~70℃	无论电芯处在何种放电模式, 若电芯温度超 过截止放电温度, 则应当停止放电 No matter the discharging mode of the cell, the discharge should be stopped once the cell surface temperature exceeds the discharging cut-off temperature range

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3.电性能及存储性能 Electrical performance and storage performance

No.	项目 Items	参数 Characters	条件 Condition
3.1	循环容量 Cycle capacity	≥ 2000 cycles	<p>在 $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 条件下, 以标准充放电模式进行 100%DOD 循环, 当任意一次放电容量/初始容量小于 80% 时, 循环寿命终止。</p> <p>At $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 100% DOD cycling is performed in standard charge-discharge mode, and the cycle life ends when any one discharge capacity/initial capacity is less than 80%.</p>
3.2	倍率放电 Rate discharge	放电容量百分比: Percentage of discharge capacity: $3\text{C}/\text{初始容量} \geq 90\%$	<p>在 $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 条件下, 进行标准充电后, 进行不同倍率的放电, 并将该放电容量与初始放电容量作百分比。</p> <p>Under the condition of $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, after standard charging, discharge at different magnitudes is carried out, and the discharge capacity is proportional to initial discharge capacity.</p>
3.3	低温放电 Low temperature discharge	放电容量百分比: Percentage of discharge capacity: $0^{\circ}\text{C}/25^{\circ}\text{C} \geq 70\%$ $-10^{\circ}\text{C}/25^{\circ}\text{C} \geq 60\%$ $-20^{\circ}\text{C}/25^{\circ}\text{C} \geq 40\%$	<p>在 $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 条件下进行标准充满电后, 将电芯在不同温度 (0°C、-10°C、-20°C) 下搁置 4h, 再以 1C 恒流放电至 1.6V, 并将此温度下 1C 放电容量与标称容量作百分比。</p> <p>After a standard full charge at $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, the cells are left at different temperatures (0°C, -10°C, -20°C) for 4h, and then discharged to 1.6V at 1C constant current, and the 1C discharge capacity at this temperature is a percentage of the nominal capacity.</p>
3.4	常温荷电保持性能 Room temperature charge retention performance	容量保持率 $\geq 90\%$ 容量恢复率 $\geq 95\%$ Capacity retention $\geq 90\%$ Capacity recovery rate $\geq 95\%$	<p>在 $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 条件下进行标准充满电后, 将电芯满电态在 $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 温度下放置 28 天的容量保持率、容量恢复率。</p> <p>After standard full charge at $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, the cell is fully charged and placed at $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 28 days for capacity retention and capacity recovery.</p>
3.5	高温荷电保持性能 High temperature charge retention performance	容量保持率 $\geq 85\%$ 容量恢复率 $\geq 95\%$ Capacity retention $\geq 85\%$ Capacity recovery rate $\geq 95\%$	<p>在 $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 条件下进行标准充满电后, 将电芯满电态在 $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 温度下放置 7 天的容量保持率、容量恢复率。</p> <p>After standard full charge at $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, the full state of the cell was left at $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 7 days for capacity retention and capacity recovery.</p>

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4. 安全与可靠性 Safety and Reliability

所有安全性能测试符合国标 GB/T 31241-2022 标准

All safety performance tests comply with GB/T 31241-2022 standard

5. 产品寿命终止管理 Product life termination management

电池的使用期限是有限的。客户应该建立有效的跟踪系统检测并记录每个使用期限内电池的内阻。内阻的测量方法和计算方法需要客户和 PLB 共同讨论和双方同意。当使用中的电池内阻超过这个电池最初的内阻的 250%时，应停止使用电池，违反该项要求，将免除 PLB 依据产品销售协议以及本规格书所应承担的产品质量保证责任。

Cell life is limited. Customers should set up an effective tracking system to detect and record the internal resistance of the cell. The measurement methods and calculation methods of internal resistance require customers and PLB to discuss and agree with both parties. When the cell internal resistance is more than 250% of the initial resistance, they should stop using the cell. Any violation of the requirements will be exempt from PLB's quality guarantee responsibility which based on product sales contract and this specification.

6.应用条件 Application Condition

客户应当确保严格遵守以下与电池相关的应用条件：

Customers should use the cell according to the following conditions

6.1 客户应配置电池管理系统，严密监控、管理与保护每个电池。

6.1 Customer should apply BMS to monitor, manage and protect each cell.

6.2 客户应保存完整的电池运转的监测数据，用作产品质量责任划分的参考。不具备完整的电池系统使用期限内的检测数据的，PLB 不承担产品质量保证责任。

6.2 The customer shall keep the monitoring data of the complete cell operation as a reference for product quality responsibility. The PLB does not undertake the product quality assurance responsibility without the inspection data of the complete cell system.

6.3 电池管理系统需满足以下最基本的检测和控制要求：

6.3 The cell management system needs to meet the following basic requirements

No.	参数 Parameter	产品规格 Specification	保护动作 Protection Action
6.3.1	充电终止 Stop Charging	3.65V	当电池的电压达到 3.65V 时终止充电 Stop charging when the voltage reaches 3.65V
6.3.2	过充电保护 Overcharge Protection	≥4.0V	当电池电压达到 4.0V 终止充电，并锁定电池管理系统直到技术人员解决问题 When the cell voltage reaches 4.0V, locking the cell management system until the technician solves the problem

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6.3.3	放电终止 Stop Discharge	最小 2.5V 2.5V min	终止放电当电池的电压达到 2.5V, 将电流降到最小 Stop discharging when the cell voltage reaches 2.5V, Minimize the current
6.3.4	过放电保护 Over-discharge Protection	最小 2.0V 2.0V min	当电池电压低于 2.0V 时, 锁定电池管理系统直到技术人员解决问题 When the cell voltage reaches 2.0V, locking the cell management system until the technician solves the problem
6.3.5	短路保护 Short-circuit Protection	不允许短路 Short-circuit is Forbidden	发生短路时, 由过流器断开电池 When a short circuit occurs, the cell should be disconnected from the overcurrent
6.3.6	过流保护 Overcurrent Protection	参考第 2.3 条放电要求 According to 2.3	电池管理系统控制放电电流符合规格 The cell management system controls the discharge current to meet the specifications
6.3.7	过热保护 Overheat Protection	参考第 2.2 条和第 2.3 条 According to 2.2 & 2.3	当温度超过本规格书规定时, 终止充电/放电 The charge/discharge should be terminated when the temperature exceeds the specification of this specification

备注: 以上为警示条款, 请客户注意: 当电池达到上述任何一项条款描述的指标和参数状态时, 意味着电池已超出本规格书规定的使用条件, 客户需依“保护动作”及本规格书其他相关规定对电池采取保护措施, 同时, PLB 声明对上述使用状态的电池质量不承担任何保证责任, 并对因此而导致的客户及第三方的任何损失不予赔偿。

NOTES: As for above are warning clauses, the customer please note: when the cell reaches any of these describe indicators and parameters, it means that the cell has already beyond the conditions of use, the customer should be in accordance with the "protection" and other relevant provisions this specification of cell protection measures, at the same time, PLB statement on the using state of the cell does not undertake any guarantee responsibility for the quality.

6.4 避免电池到达过放状态, 电池电压低于 1.5V 时, 电池内部可能会遭到永久性的损坏, 此时 PLB 的产品质量保证责任失效。根据本规格书第 2.3.5 条, 当放电截止电压低于 2.0V 时, 系统内部能耗降低到最小, 并在重新充电之前延长休眠时间。客户需要培训使用者在最短的时间内重新充电, 防止电池进入过放状态。

6.4 The cell may be permanently damaged when the cell voltage is less than 1.5v, and the product quality assurance of PLB will be invalid. According to 2.3.5 of this specification, the internal energy consumption of the system should be reduced to minimum when the discharge cut-off voltage is below 2.0 V, and the storage time is prolonged before recharging. The customer needs to train the user to recharge the cell in the shortest time to prevent the cell from over-discharge state.

6.5 若预计将电池存放在 30~90 天内, 应将 SOC 调整为 50% 左右。若预计将电池存放 90 天以上的, 应将 SOC 调整为 50% 左右, 并每 90 天对电池进行至少一次全 SOC 范围 (单体电芯 2.0~3.65V) 充放电维护动作。


6.5 If the cell is expected to be stored for 30~90 days, the SOC should be adjusted to about 50%. If the cell is expected to be stored for more than 90 days, the SOC should be adjusted to about 50% and the cell to be charged and discharged at least once in the whole SOC range (single core 2.0~3.65 V) for every 90 days .

7.6 电池避免在本规格书禁止的低温条件下充电 (包括标准充电, 快充, 紧急情况充电), 否则可能出现意外的容量降低现象。电池管理系统应依照最小的充电和再生充电温度进行控制。禁止在低于本规格书规定的温度条件下充电, 否则, PLB 不承担质量保证责任。

6.6 The cell should avoid charging (including standard charging, quick charging, emergency charging) in the

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low-temperature conditions which is prohibited in this specification, otherwise, unexpected capacity reduction may occur. The cell management system should be controlled according to the minimum charge and regenerative charging temperature. It is forbidden to charge when temperature is lower than the temperature conditions specified in this specification. Otherwise, PLB will not be liable for quality assurance.

6.7 客户在进行配组使用时候 PLB 建议客户使用带均衡功能的保护系统，避免由于长时间使用或储存带来的电芯状态不一致，从而影响电池组性能。

6.7 PLB advises customer should use protection system with balance function. Avoid inconsistent cell-state effects the performance of the cell pack due to long time use or storage

6.8 电箱设计中应充分考虑电芯的散热问题，由于电箱散热设计问题导致的电芯或电池过热损坏，PLB 不承担质量保证责任。

6.8 In the design of the electric box, the heat diffusion of the cells should be fully considered. PLB will not be responsible for the quality assurance due to the overheating of the cell or cell pack caused by the design of the electric box.

6.9 电箱设计中应充分考虑电芯的防水、防尘问题，电箱必须满足国家有关标准规定的防水、防尘等级。由于防水防尘问题而导致的电芯或电池的损坏（如腐蚀、生锈等），PLB 不承担质量保证责任。

6.9 The waterproof and dustproof problem should be fully considered in the electrical box design, and the electric box must meet the waterproof and dust-proof grade stipulated by the relevant national standards. PLB is not responsible for quality assurance due to the damage caused by the waterproof and dustproof problem (such as corrosion, rust, etc.)

7.安全防范 Safety Protection

为防止电芯可能发生泄露，发热，爆炸，请注意以下预防措施：

To prevent the cell from leaking, heating and explosion, please pay attention to the following precautions:

7.1 严禁将电芯浸入水中。

7.1 Do not immerse the core in water

7.2 禁止将电芯在热高温源（如火，加热器等）旁使用和留置。

7.2 It is forbidden to use or retain the cell near the heat source (such as fire, heater, etc.).

7.3 充电时请选用锂离子电芯专用充电器。

7.3 Please use the lithium ion cell charger

7.4 严禁颠倒正负极后使用电芯。

7.4 Don't reverse the positive and negative terminals

7.5 严禁将电芯正负极直接连入电源插座。

7.5 It is strictly forbidden to connect the electrode directly to the power socket

7.6 禁止将电芯丢入火或加热器中。

7.6 Do not throw the cell into a fire or heater

7.7 禁止用金属直接连接电芯正负极，造成短路。

7.7 Don't connect the positive and negative terminal directly with metal objects

7.8 禁止将电芯与金属，如发卡、项链等一起运输或存储。

7.8 Don't transport and store the cell together with metal objects such as necklaces, hairpins.

7.9 禁止敲击，抛掷或踩踏电芯等。


7.9 Don't strike, throw or trample the cell

7.10 禁止用钉子或其它利器刺穿电芯。

7.10 Don't pierce the cell with a nail or other sharp object.

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8.风险警告 Cautions

- 8.1 禁止在高温下（直射的阳光下）使用或放置电芯，否则可能会引起电芯过热，起火或功能失效，寿命减短。
8.1 Don't use or store the cell at very high temperature conditions (for example, strong direct sunlight or a vehicle in extremely hot conditions).
- 8.2 如果电芯发生泄露，电解液进入眼睛，请不要搓揉，应用清水冲洗眼睛，必要时请立即前往医院接受治疗，否则会伤害眼睛。
8.2 If the cell leaks and the electrolyte get into your eyes, don't wipe eyes, instead, thoroughly rinse the eyes with clean running water for at least 15 minutes, and immediately seek medical attention. Otherwise, eyes injury can result.
- 8.3 如果电芯发出异味，发热，变色，变形或使用、存储、充电过程中出现任何异常现象，立即将电芯从装置或充电器中移开并停用。
8.3 If the cell gives off an odor, generates heat, becomes discolored or deformed, or in any way appear abnormal during usage, recharging or storage, immediately remove it from the device or cell charger and stop using it.
- 8.4 如果电芯弄脏，使用前应用干布抹净。
8.4 In case the cell terminals get dirty, clean the terminals with a dry cloth before use.
- 8.5 如果电池使用寿命达到极限，请将电池放电至 2.0V 以下，将电池头部用绝缘胶纸粘住，送至专业的废品回收站回收。
8.5 If the cell beyond the useful-life, please fully discharged below 2.0V, sticks the cell with insulating tape, then put the cell to the specialized recycle bin.

9.电芯（电池）图纸 Cell Drawing

9.1 电芯说明及型号 Cell Instruction and Model

IFR26650-30B (UJ) 型号的圆柱锂离子二次电芯

IFR26650-30B (UJ) Cyclinder lithium ion cell

9.2 电芯尺寸 Cell Dimension

电芯尺寸（包含热缩膜）如图 1 所示（单位：mm）。

Cell physical dimension listed in Figure 1(unit: mm)

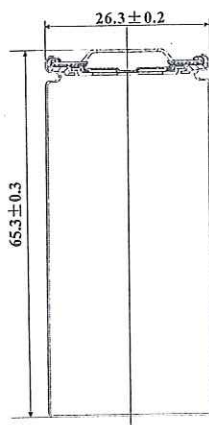


图 1 电芯外观尺寸

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Figure 1 Cell appearance size

9.3 喷码说明 Code-spurting explanation

+ 3.2V 9.60Wh L4 -
IFR26650-30B UJ19A01A 00001



图 2 电芯喷码

Figure 2 Cell Bar Code

+/-: 位于电芯头部尾部,表示电芯正负极 It refers to cell Positive pole & Negative pole.

9.6Wh: 表示该电芯能量 It refers to cell energy.

PLB: 东莞力朗电池科技有限公司 It refers to Dongguan Power Long Battery Co., Ltd

IFR26650-30B: 表示电芯型号 It refers to cell model.

UJ19A09A: 表示电芯批次号 It refers to cell batch.

(其中各代号含义 UJ: 电池型号为 30B; 19: 生产年份; A: 月份, A 代表 1 月, B 代表 2 月……
L: 代表 12 月; 09: 日期; A: 批次, A 代表 1 次, B 代表 2 次……)

(Lot number meaning UJ: The cell model is 30B; 19: Year of production; A: Month, A stands for January,
B stands for February... L stands for December; 09: Date; A: represents batch 1,
B represents batch 2 ...)

00001: 表示电芯流水号 It refers to cell serial number.



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