



亿 昇 达

Yi ShengDa

# 能量回馈型电池检测系统

Energy feedback battery detection system

## 分容测试系列

Capacity test Series

# 技术规格书

Technical Specification

型号 (Model) :	EST-BF5V3A-512CH
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## I、命名规则 (Naming Rules)

EST-BF5V3A-512CH	
EST	公司名称 (Company Name)
BF	设备系列编号 (Equipment series number) : 能量回馈型分容测试系统 (Energy feedback battery capacity testing system)
5V3A	单通道额定电压 (Single channel rated voltage) : 5V 单通道额定电流 (Single channel rated current) : 3A
512CH	通道数 (Number of channels) : 512CH

## II、外观 (Appearance)



设备外观/MM: 宽×深×高: 1800×650×1850 (图片仅供参考, 请以实物为准)

Equipment appearance/MM: Width × Depth × Height: 1800 × 650 × 1850

(The picture is for reference only, please refer to the actual object)

### III、概述 (Overview)

EST 回馈型电池分容系统由 广东亿昇达科技有限公司 自主研发，本产品用于电池在生产或实验中的寿命老化测试和质量控制，系统模块化设计，通道单点独立，独立风道热稳定性高。充电时，设备通过 PWM 技术给电池进行充电，提高系统效率，降低损耗。放电时，由设备将电池的能量馈入电网，实现能量回馈，给客户带来收益。

The EST Feedback Battery Capacity Testing System is independently developed by Guangdong Yishengda Technology Co., Ltd. This product is used for life aging testing and quality control of battery in production or experiments. The system is modular in design, with single point independence of channels, and high thermal stability of independent air ducts. When charging, the device uses PWM technology to charge the battery, improving system efficiency and reducing losses. When discharging, the device feeds the energy of the battery into the power grid, achieving energy feedback and bringing benefits to customers.

#### 1、功能概述 (Function overview)

本设备主要由计算机系统和控制软件、通讯接口及电池检测柜构成。电池检测柜由包括夹具及放置夹具的板体、充电恒流恒压源、放电恒流源、寄存控制电路、电流采样电路、电压采样电路、主控制中位机、数据存储器和单片机程序和控制面板组成。

The equipment is mainly composed of computer system and control software, communication interface and battery detection cabinet. The battery detection cabinet consists of a fixture and a plate body placed on the fixture, a charging constant current constant voltage source, a discharge constant current source, a storage control circuit, a current sampling circuit, a voltage sampling circuit, a main control center, a data memory, a single-chip computer program and a control panel.

#### 2、产品特点 (Product Features)

1. 采用了高频变压器，保证了安全的电气隔离，保证低压大电流情况下的宽范围变换；

High frequency transformer is used to ensure safe electrical isolation and wide range transformation under low voltage and high current conditions;

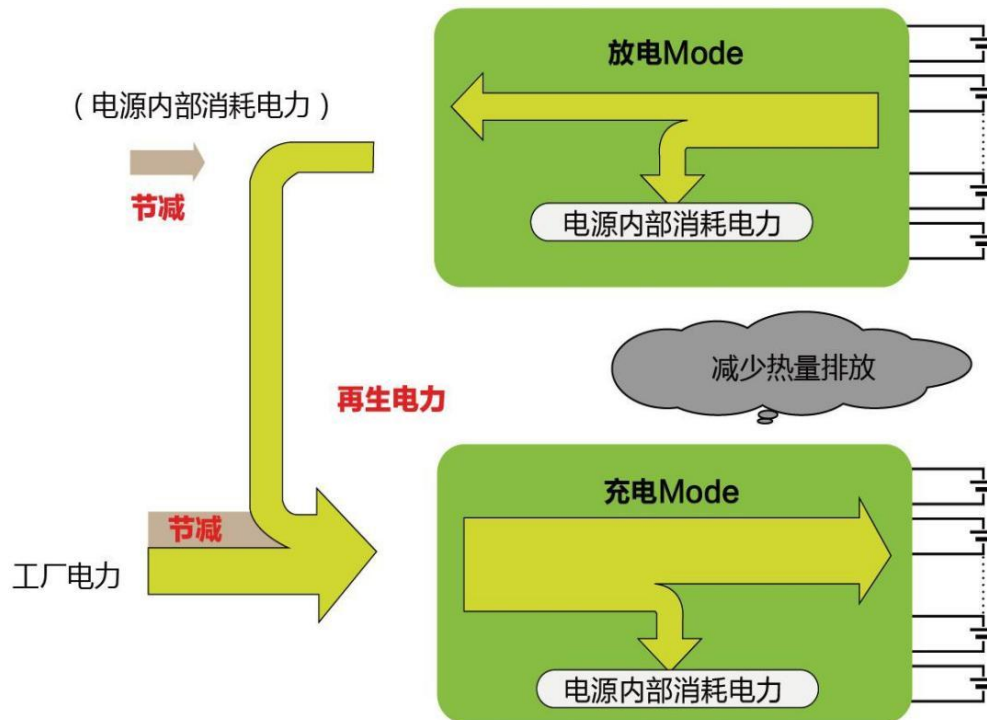
2. 采用非隔离式双向DC/DC结构,提供高效率能源回馈电网,使得该设备的效率得到进一步提升；

The non-isolated two-way DC/DC structure provides high efficiency energy back to the grid, making the efficiency of the equipment further improved;

3. 彻底改善化成,分容车间工作环境,在无需做通风管道的情况下降低能耗；

Completely improve the working environment of the forming and volumeter workshop, and reduce energy consumption without making ventilation ducts;

### 3、节能设备原理 (Principle of energy-saving equipment)



①、**充电模式能量传递：电网→AC/DC双向电源→节能控制电路→电池**

Charging mode Energy transfer: power grid → AC/DC bidirectional power supply → energy-saving control circuit → battery

②、**放电模式能量传递：电池→节能控制电路→AC/DC双向电源→电网**

Discharge mode energy transfer: battery → energy-saving control circuit → AC/DC bidirectional power supply → power grid

③、**充电模式省电点：开关充电，比传统线性充电更节能**

Charging mode Power saving point: switch charging, more energy saving than traditional linear charging

④、**放电模式省电点：能量反馈电网，节能省钱，车间环境温度不再烧烤**

discharge mode power saving point: energy feedback grid, energy saving, workshop environment temperature no longer barbecue

## IV、技术指标 (Technical Indicator)

指标项目 Indicator items	指标参数 Indicator parameters	
设备型号 Equipment Model	EST-BF5V3A-512CH	
通道数 Number of channels	512CH	
输入电源 Input Power	AC380V ± 10% 50Hz 三相五线 (Three-phase five-wire)	
功率因数 Power factor	≥99%	
THDi	≤5%	
整机效率 Efficiency	70%	
采样分辨率 Sampling Resolution	AD:24bit	
输入阻抗 Input Impedance	≥0.5Ω	
整机功率 Whole Machine Power	满载 (Fully loaded) : 9.6KW	
AC输入保护 AC Input Protection	防浪涌、防孤岛、过欠频、过欠压、缺相保护、漏电保护、过温保护等 Anti-surge, anti-islanding, high and low frequency, high and low voltage, phase loss protection, leakage protection, over-temperature protection, etc.	
电压 Voltage	充电电压范围 Charging voltage range	0 ~ 4.5V
	最低放电电压 Min discharging voltage	1.5V
	精度 Precision	± 0.05%FS + 0.05%RD (25°C ± 10°C)
	设定分辨率 Set resolution	1mV
	测量分辨率 Measurement resolution	0.1mV
电流 Current	电流范围 Current range	10mA ~ 3A
	精度 Precision	± 0.05%FS + 0.05%RD (25°C ± 10°C)
	设定分辨率 Set resolution	1mA
	测量分辨率 Measurement resolution	0.1mA

时间 Time	时间分辨率 Temporal resolution	1s
	数据采集周期 Data acquisition cycle	1min
充电方式 Charge mode	恒流充电 Constant current charge	结束条件为电压或时间 The end condition is voltage or time
	恒流恒压充电 Constant current and constant voltage charging	结束条件为时间或电流 End condition time or current
放电方式 Discharge mode	恒流放电 Constant-current discharge	结束条件为电压或时间 The end condition is voltage or time
工作方式 Manner of working	充电功能 Charging function	恒流充电功能:连续模式的恒流恒压充电功能 Constant current charging function: constant current and constant voltage charging function in continuous mode
	放电功能 Discharge function	恒流放电功能 Constant current discharge function
	搁置功能 Shelving function	电流回路处于切断状态, 但不停止数据信息的采集 The current loop is in a cut off state, but the data collection does not stop
	关闭模式 Off mode	通道彻底停止状态; 电池的回路和设备完全断开 The channel is completely stopped; The battery circuit is completely disconnected from the device
分选电池 Sorting cell	可根据指定循环号和工步号的开路电压和指定循环号和工步号的平均电压、容量及达到5个指定特征电压点的时间等多个参数综合分选电池。 The battery can be sorted according to multiple parameters such as the open circuit voltage of the specified cycle number and work step number, the average voltage of the specified cycle number and work step number, the capacity and the time to reach the 5 specified characteristic voltage points.	
保留数据 Retention data	保留每个充放电工步的开路电压、平均电压、终止电压、终止时间、终止容量、终止电量、终止电流等, 对于放电工步, 还自动计算容量损耗、放电效率、损失比等。 Keep the open circuit voltage, average voltage, termination voltage, termination time, termination capacity, termination electricity, termination current, etc. of each charge and discharge step, and automatically calculate the capacity loss, discharge efficiency, loss ratio, etc.	
保存工步曲线 Save the work curve	保存每个电池的所有工步曲线(包括电压—时间、电流—时间、容量—时间、电量—时间等曲线), 曲线点采样保存条件包括电压差( $\geq 5\text{mV}$ )、电流差( $\geq 5\text{mA}$ )、时间差( $\geq 1\text{min}$ )等, 用户可自行定义曲线采样条件。 Save all the working step curves of each battery (including voltage - time, current - time, capacity - time, and power - time curves). The sampling conditions of curve points include voltage difference ( $\geq 5\text{mV}$ ), current difference ( $\geq 5\text{mA}$ ), and time difference ( $\geq 1\text{min}$ ). Users can define the sampling conditions of curves.	
电池巡检界面 Battery inspection screen	多种电池巡检界面, 电池巡检界面可选择图形显示、显示综合数据、显示分类数据、异常显示等。 A variety of battery inspection interfaces, battery inspection interface can be selected to display graphics, display comprehensive data, display classified data, abnormal display.	

<p><b>数据导出方式</b> Data export mode</p>	<p>打开数据文件，具有综合数据、分类数据、统计报表、曲线、循环图等选择，数据可输出至EXECL/Word文件，文件名可设置按时间自动设置或用户自行设置</p> <p>Open a data file and choose from comprehensive data, classified data, statistical reports, curves, and cyclic graphs. The data can be output to a EXECL/Word file, and the file name can be set automatically according to time or by users</p>
	<p>上位机可保存每个电池的完整工步曲线、数据</p> <p>The upper computer can save the complete working curve and data of each battery</p>
	<p>下位机可以脱机运行，最长脱机时间为一个工步，如果脱机时间过长，脱机期间的曲线数据有可能被压缩，但不会影响电池分选</p> <p>The lower machine can be run offline, and the maximum offline time is one work step. If the offline time is too long, the curve data during offline may be compressed, but it will not affect the battery sorting</p>
	<p>可根据容量、时间、开路电压、平台等多项参数进行单项或多项组合进行分选</p> <p>It can be separated by single or multiple combinations according to multiple parameters such as capacity, time, open circuit voltage, and platform</p>
	<p>提供容量统计功能，统计用户指定区段容量的电池个数和百分率，能自动计算分容工步放电容量的最大值、最小值、平均值</p> <p>Provides capacity statistics function, statistics the number and percentage of batteries in the specified section capacity, can automatically calculate the maximum, minimum, and average discharge capacity of the dividing step</p>
	<p>数据曲线可以局部放大，缩小，坐标可调，可以显示和打印曲线的具体数据、即每个曲线点的时间、电压、电流、容量和电量</p> <p>The data curve can be locally enlarged and reduced, the coordinates can be adjusted, and the specific data of the curve can be displayed and printed, that is, the time, voltage, current, capacity and electricity of each curve point</p>
	<p>软件支持中英文语言切换，并设有密码管理</p> <p>Software supports English and Chinese language switching, and has password management</p>
<p><b>保护</b> Protect</p>	<p>欠压报警、过压报警、电流异常报警、超容量报警、偏离平均电压报警</p> <p>Undervoltage alarm, overvoltage alarm, abnormal current alarm, overcapacity alarm, deviation from the average voltage alarm</p>
	<p>电池初始电压检测</p> <p>Initial battery voltage detection</p>
	<p>电池防反接保护：检测到电池反装，设备不工作，不损坏</p> <p>Battery anti-reverse protection: battery anti-loading is detected, the device does not work, no damage</p>
	<p>掉电保护与异常恢复：工作中停电或异常掉电，供电正常后设备能继续未完成工步</p> <p>Power failure protection and abnormal recovery: After a power failure or abnormal power failure occurs during work, the device can continue the unfinished work step after the power supply is normal</p>



<p><b>保护</b> Protect</p>	<p><b>脱机模式：</b>设备在与上位机控制电脑通讯中断后自动进入脱机模式，流程可以继续运行，直至流程结束，数据暂时保存在下位机中。在与上位机通讯恢复后，流程所有数据自动上传到数据库</p> <p>Offline mode: The device automatically enters the offline mode after the communication with the upper computer control computer is interrupted, and the process can continue to run until the end of the process, and the data is temporarily saved in the lower computer. After the communication with the host computer is restored, all the data of the process is automatically uploaded to the database</p> <p><b>数据安全：</b>出现设备断电、通讯中断、电脑故障、死机、急停、报警停机等情况时，所有流程中充放电数据不丢失</p> <p>Data security: When there is equipment power failure, communication interruption, computer failure, crash, emergency stop, alarm shutdown, etc., charge and discharge data is not lost in all processes</p>
<p><b>隔离方式</b> Isolation method</p>	<p>高频隔离 ( High frequency isolation )</p>
<p><b>冷却方式</b> Cooling method</p>	<p>强制风冷 ( Forced air cooling )</p>
<p><b>通道特点</b> Channel Features</p>	<p><b>恒流源与恒压源采用独立双闭环结构</b></p> <p>Constant current source and constant voltage source adopt independent double closed-loop structure</p>
<p><b>条码扫描</b> Barcode scanning</p>	<p>支持 ( Support )</p>
<p><b>通道控制模式</b> Channel control mode</p>	<p><b>整柜和单点控制兼具,最多发送64种工艺</b></p> <p>Both full container and single point control, sending up to 64 processes</p>
<p><b>采样模式</b> Sampling mode</p>	<p>四线制连接 ( Four-wire connection )</p>
<p><b>模块均流度</b> Module Average Flow Rate</p>	<p>&lt; 5%</p>
<p><b>重量</b> Weight</p>	<p>&lt; 500KG</p>
<p><b>设备尺寸</b> Equipment Size</p>	<p><b>宽 ( Width ) × 深 ( Depth ) × 高 ( Height ) /MM: 1800 × 650 × 1850</b></p>
<p><b>防护等级</b> Protection Level</p>	<p>IP20</p>
<p><b>噪声 ( Noise )</b></p>	<p>&lt; 75dB</p>



上位机通讯方式 Upper Computer Communication Method	基于TCP/IP 协议 (Based on TCP/IP protocol)
工作温度 Operating Temperature	20°C ~ 40°C
湿度 Humidity	< 95% 无凝露 (No condensation)
夹具形式 Clamp Form	扁平镀金夹具 (Flat gold-plated fixture)
开夹方式 Clip opening mode	自动开夹 (Automatic clip opening)
兼容电池尺寸 Compatible battery size	软包电池 (Pouch battery) : 长 (L) : < 100mm 宽 (W) : < 45mm 极耳距 (Ear distance) : 5 ~ 40mm

## V、配件清单 (Parts List)

序号 NO.	标配 Standard	单位 Unit	数量 Quantity
1	智能回馈型电池分容测试设备 Intelligent feedback battery capacity testing equipment	PCS	1
2	亿昇达电池检测系统软件 软件著作权登记号:2018SR128569 Yi Sheng Da Battery Testing System Software Software Copyright Registration Number:2018SR128569	PCS	1
3	出货测试报告 (Shipping Test Report)	PCS	1
4	用户手册/设备接线图 (User Manuals/Equipment Wiring Diagrams)	PCS	1
5	出货清单 (Shipping List)	PCS	1
6	合格证 (Certificate of Conformity)	PCS	1
7	电源线: Power Lind: $3 \times 6\text{mm}^2 + 2 \times 2.5\text{mm}^2$	M	5
8	网线 (Network Cable)	M	5

## VI、易损件清单 (List of vulnerable)

易损件名称 Name of wearing parts	参数 Parameters	特记事项 Special Notes
扁平镀金夹具 Flat gold-plated fixture	3A	不在保修范围内 Not covered by warranty

## VII、客户需准备的物品 (Items to be prepared by customers)

名称 Name	参数 Parameters
电脑 Computer	<p>1、Intel主频2.4G以上，四核处理器的计算机。 Intel frequency 2.4G or above, quad-core processor computer.</p> <p>2、8G以上内存，500GB以上硬盘空间。 More than 8G memory, more than 500GB hard disk space.</p> <p>3、WIN10以上64位操作系统。 64-bit operating system above WIN10.</p> <p>4、软件对系统环境依赖性较强，建议联网将系统补丁补全 (Microsoft Visual C++ 2015) The software has strong dependence on the system environment, and it is recommended to complete the system patch through the network. (Microsoft Visual C++ 2015)</p> <p>5、每月需清理一次数据库，建议清理3个月前的数据文件，保证磁盘空间剩余20%以上。 Data files created three months ago must be cleared once a month to ensure that more than 20% of the disk space is available.</p> <p>6、不可与其他有数据库的软件共用。 Cannot be shared with other database software.</p> <p>1、建议不要随意在电脑上安装其它软件，私自更改软件配置、删除程序文件，以免影响软件稳定。 It is recommended not to install other software on the computer, change the software configuration and delete program files without permission, so as not to affect the stability of the software.</p>
配电开关 Distribution switch	<p>电源开关电压要求： Power switch voltage: AC 380V 三相五线 (Three-phase five-wire)</p>
	<p>推荐电源开关： Recommended power switch: NXB-D20A-3P 断路器 (breaker)</p>
	<p>开关每台设备一个，不可共用。 Switch one device for each device. The switch cannot be shared.</p>

## VIII、设备安装和培训 (Equipment installation and training)

### 1、现场环境确认 (Confirmation of on-site environmental)

1. 确认设备放置场地 (至少设备前后和墙壁相隔0.5米。要求地面平整)  
Confirm the equipment placement site (at least the front and back of the equipment and walls are separated by 0.5M, requiring a flat floor)
2. 确认电梯高度  
Confirm the height of elevator.
3. 确认配电开关规格 (每台设备对应一个配电开关)  
Confirm distribution switch specifications (one distribution switch for one device)

### 2、安装流程 (Installation Process)

1. 对设备进行配电、网线安装  
Power distribution and network cable installation for equipment
2. 对后台软件进行安装  
Install backend software
3. 通电试运  
Power on test the equipment whether can running

### 3、培训 (Training)

通过培训使操作者掌握设备基本工作要求:

Train operators to master the basic working requirements of the equipment:

1. 具有对设备软件进行安装和卸载的能力  
Possess the ability to install and uninstall device software
2. 具有对设备进行维护的能力  
Possess the ability to maintain the equipment
3. 具有对设备常见故障有排除的能力  
Possess the ability to troubleshoot common equipment faults
4. 具有对设备软件进行操作和使用的能力  
Possess the ability to operate and use device software

### 4、售后服务 (After Sales Service)

1. 从验收签字之日起, 供方对设备整机免费保修时间为 壹 年。  
From the date of acceptance and signature, the supplier's free warranty time for the whole machine is One year.
2. 免费保修期内, 供方免费安排技术人员上门回访和设备检查。  
During the free warranty period, the supplier will arrange free visits and equipment inspections by technicians.
3. 对于需方提出的技术问题, 应在 2 小时内响应, 需要现场技术支持的 48 小时内到场。  
For technical issues raised by the demander, they should respond within 2 hours and be present within 48 hours of on-site technical support.
4. 在免费保修期间, 如由于需方违反用户手册要求操作, 或设备到厂后所发生的自然灾害或人为操作失误造成设备损坏, 需方承担维修成本。  
During the free warranty period, if the equipment is damaged due to the demander's violation of the user manual requirements, or natural disasters or human operation errors that occur after the equipment arrives at the factory, the demander shall bear the repair cost.

## IX、质量保证 (Quality Assurance)

### 免责声明 (Disclaimers)

首先感谢您对广东亿昇达科技有限公司的信任并选用本公司的产品, 为了保障您的权益, 请您在购买本产品前, 务必认真仔细的阅读规格书, 以下情况出现, 本公司不进行质量保证。

Firstly, thank you for your trust in Guangdong Yi Sheng Da Technology Co., Ltd. and for choosing our products. In order to protect your rights and interests, please carefully read the specifications before purchasing this product. In the following cases, our company does not provide quality assurance.

1. 未按照用户手册来操作, 不正确的工作环境或错误安装, 本公司不承担任何责任。  
We are not responsible for failure to operate in accordance with the user's manual, incorrect working environment or incorrect installation.
2. 设备运行期间, 工作人员擅自离开, 导致的一切损失和事故, 本公司不承担民事及相关连带责任。  
During the operation of the equipment, our company shall not be liable for any losses or accidents caused by the unauthorized departure of personnel.
3. 使用者由操作不当导致设备人为损坏 (操作失误、划伤、搬运、磕碰、接人不合适电压) 造成的任何故障或损害, 本公司不负任何责任。  
Our company shall not be responsible for any malfunction or damage caused by improper operation of the equipment by the user (including operational errors, scratches, handling, collisions, or improper voltage connection).
4. 购买后擅自拆卸设备、撕毁防撕标签、对设备更换未配套及未经认可的部件, 质保失效且本公司不承担任何责任。  
Unauthorized disassembly of equipment, tearing of tear resistant labels, or replacement of equipment with unmatched or unapproved components after purchase will void the warranty and our company will not assume any responsibility.
5. 设备和测量仪器等易耗品超出使用寿命造成的问题, 本公司不承担任何责任。  
We will not be responsible for problems caused by consumables such as equipment and measuring instruments that have exceeded their useful life.
6. 使用者提供的动力设施对设备产生的负面影响造成的问题, 本公司不承担任何责任。  
We are not responsible for any problems caused by the negative effects of the power facilities provided by the user on the equipment.
7. 由灾害、战争、异常天气或其他不可抗力造成的问题, 本公司不承担任何责任。  
We are not responsible for problems caused by disasters, war, unusual weather or other force majeure.
8. 使用者对设备维护不当, 将设备放在过冷、过热、恶劣的环境中, 造成的问题, 本公司不承担任何责任。  
We will not be responsible for any problems caused by improper maintenance of the equipment by the user, placing the equipment in too cold, too hot or harsh environment.
9. 设备使用中, 夹具需接到正确的极性端子, 并保持接触良好, 因夹具连接错误或未接触好, 导致电池短路、损毁, 本公司不承担任何责任。  
During the use of the equipment, the fixture must be connected to the correct polarity terminal and maintained in good contact. Our company does not assume any responsibility for battery short circuits or damage caused by incorrect or incomplete connection of the fixture.

## X、验收 (Check and Accept)

1. 乙方必须在交货之前对设备的质量、规格、性能进行全面的检验，并签发质量证明书，证明设备符合合同规定。此证明书不作为设备质量、规格、性能的最后依据，乙方必须将检验结果的书面报告附在质量证明书中；

Party B must conduct a comprehensive inspection of the quality, specifications and performance of the equipment before delivery and issue a quality certificate to prove that the equipment conforms to the provisions of the contract. This certificate is not the final basis for the quality, specifications and performance of the equipment, and Party B must attach the written report of the inspection results to the quality certificate;

2. 本合同下设备在甲方安装现场全部安装、调试完成以后，试运行10个工作日。

After the equipment under this contract is fully installed and debugged on the installation site of Party A, it shall be put into trial operation for 10 working days.

3. 在验收过程中如果发现设备的数量、质量、规格、性能等与国家相关标准、合同规定（包括附件）不符或设备在质保期内被证明有缺陷，包括内在缺陷，甲方有权按照合同所约定的赔偿方式向乙方索赔；

If during the acceptance process, it is found that the quantity, quality, specifications, performance, etc. of the equipment do not comply with relevant national standards and contract provisions (including attachments), or if the equipment is proven to have defects, including internal defects, during the warranty period, Party A has the right to claim compensation from Party B in accordance with the compensation method stipulated in the contract.

4. 验收内容包括但不限于以下：外观检查、供货清单的确认、技术资料及相关技术文件的检查与移交、设备的基本功能与主要技术参数的验证；

The acceptance content includes but is not limited to the following: appearance inspection, confirmation of supply list, inspection and handover of technical data and related technical documents, verification of basic functions and main technical parameters of equipment;

## XI、其他条款 (Other Terms)

1. 如客户有与本方案不同意见及特殊的技术要求，双方可进一步协商。

If the customer has different opinions and special technical requirements from this program, both parties can further negotiate.

2. 本协议经双方签字盖章之日起生效，本协议一式两份，甲乙双方各执一份，具有同等效力。

This agreement shall take effect on the date of signature and seal of both parties, and this agreement shall be in two copies, one for each of A and B, with equal effect.

3. 本协议作为《设备采购合同》附件，为《设备采购合同》不可分割的一部分。

This Agreement is attached to the Equipment Purchase Contract and it is an integral part of the Equipment Purchase Contract.

# 客户需求单

Customer request form

设备类型 Device Type	EST-BF5V3A-512CH	
设备信息 Device Information		
输入电源 Input power supply	AC380V ± 10% 50Hz 三相五线 (Three-phase five-wire)	
项目名称 Entry name	常规配置 Conventional arrangement	选配配置 Optional configuration
电源线长度 AC power cord length	<input checked="" type="checkbox"/> 5米 (M)	<input type="checkbox"/> 其他 (Other) :
网线长度 Network cable	<input checked="" type="checkbox"/> 5米 (M)	<input type="checkbox"/> 其他 (Other) :
夹具 Clamp	<input checked="" type="checkbox"/> 扁平镀金夹具 (Gold-plated flat clip)	<input type="checkbox"/> 其他 (Other) :
兼容电池尺寸 Compatible battery size	软包电池 (Pouch battery) : 长 (L) : < 100mm 宽 (W) : < 45mm 极耳距 (Ear distance) : 5 ~ 40mm	
中文 Chinese		英文 English
其他需求: 无		Other requirements: Not have

## XII、联系我们 (Contact Us)

如客户有与本方案不同意见及特殊的技术要求，双方可进一步协商。

If the customer has different opinions and special technical requirements from this program, both parties can further negotiate.

**特别注明：上述规格简介如有更改恕不另行通知，英文版仅供参考，签订内容以中文为准，本书内容最终解释权属广东亿昇达科技有限公司**

Special note: The above specifications are subject to change without prior notice. The English version is for production reference only, and the signed content is subject to the Chinese version. The final interpretation of the content of this book belongs to Guangdong Yishengda Technology Co., Ltd.

需方 Demander		供方 Supplier	广东亿昇达科技有限公司
公司地址 Company Address		公司地址 Company Address	东莞市塘厦镇 沙湖新苑南路1号
法定代表人签章 Legal representative's signature		法定代表人签章 Legal representative's signature	
联系方式 Contact information		联系方式 Contact information	
联系人 Contact person		联系人 Contact person	
技术工程师签字 Engineer's signature		技术工程师签字 Engineer's signature	韩春鹏