

Cylinder 10-gear battery scanning spray code test sorting all-in-one-technical protocol

(Party A): The Buyer

(Party B): Seller

1. Project profile

This project is suitable for packaging and shipment, completing the shipment of battery scanning, spray code (shipment code) test, sorting series work.

2. Other specification information

.12. Battery Specification:

Battery specifications	diameter (mm)	altitude (mm)	weight (g)
18650	$\Phi 32 \pm 0.2$	69.9 ± 0.2	≤ 80

.22 Tray specification:

Battery diameter	class	Number of batteries loaded	remarks
18	Green material box	indeterminate	Samples can be provided as the shown below



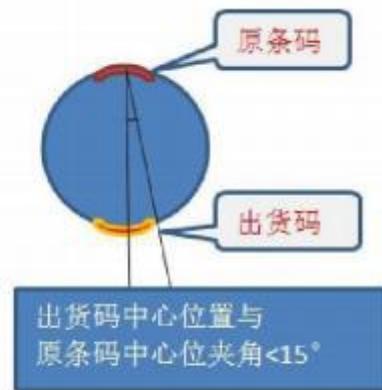
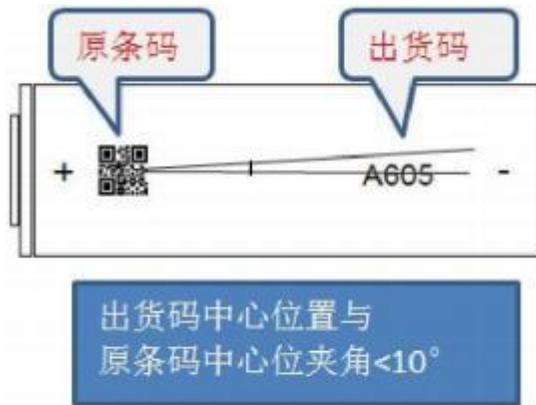
2.3 Battery bar code information

order number	key	Size requirements (in: mm)	remarks
1		<p>Barcode Length A: 42.0 ± 1.5</p> <p>Barcode Width C 3.9 ± 0.5</p> <p>Outside barcode to Battery Edge B > 9.0</p> <p>The "+ -" represents the polarity</p>	<p>See the table below: Note description</p>
2		<p>QR code location: except for position B (> 9.0), other locations are adjustable</p>	<p>1. Barcode type supports QR CODE and</p> <p>D ATAMATRIX</p> <p>3. Bar code content:</p>
3		<p>QR code size size: 4 * 4 m m and 8 * 8mm range</p>	<p>When scanning the bar code, the scanning content only includes "7-bit cell batch number" + "space 1 bit" + "equipment number 1 bit" + "cell sequence code 6 bits", such as DA 1FC 17 1300021</p>

Note:

Before the battery goes online, such as the battery with spray code, with the above three formats of bar code. Device barcode scanning supports the identification of the types listed above (for oil Ink-jet code);

The content and location of the 1 D code can be set (on the back or elsewhere of the original 1 D code, such as A 601 or other content) The content and location of the 1 D code can be set (on the back or elsewhere of the original code, such as A 601 or other content) The position constraints are as follows:



3. Equipment function introduction

Equipment function:

1. The material box is manually transferred to the top hopper through the stainless steel transfer box.

Technical and other requirements:

1.1 Side gear should be installed outside the upper hopper to prevent the battery from falling to the ground during the process of loading the hopper;

2. Turn the battery over and scan

Technical and other requirements:

2.1 Process cannot damage battery (including damage of heat shrink tube surface and original bar code)

2.2 After battery flipping, the defective rate can scan 0.01% (excluding abnormal bar code itself or dust, dirt affected barcode, can be verified by external handheld scanning gun);

2.3 Scan NG battery for special files; refer to the attachment of Software Requirements before shipment. After signing the agreement, list the software development content separately and serve as a supplement to this Agreement;

The Buyer is responsible for providing the EXCEL format of the shipment batch and importing it into the SQL verification database.

The Seller is responsible for: the equipment shall scan a single battery barcode to find and check whether the database records are consistent (such as checking the batch and grade information). If there is any abnormality, it shall be put into the special file separately;

2.4 Whether the function is enabled or whether the software can be enabled or disabled separately;

3. Eject the cargo code

Technical and other requirements:

3.1 The code injection printer shall be purchased by the buyer;

3.2 Location and content of code injection, see the above 2.3 remarks

3.3 The pull belt shall be uniform and stable, and the code machine shall be controlled by the equipment, and the unqualified cell shall not spray code. When the code machine fails, the equipment is shut down and there is an alarm prompt.

3.4 Whether the function is enabled or whether the software can be enabled or disabled separately;

4. Measure the OCV-IR

Technical and other requirements:

5.1 Provide the internal resistance correction mechanism;

.25 Accuracy: voltage: + / -0.1 mV internal resistance: + / -0.25 mu

5.3 Probe detection rate 0.1% (1000PCS, statistical number of cells with detected internal voltage resistance)

5. File

Technical and other requirements:

6.1 The filing accuracy rate is 100%



6.2 Process shall not damage battery (including damage of heat shrink tube surface and original bar code)

.36 Add identification plates to each gear to display the selected level of the current slot (01-10)

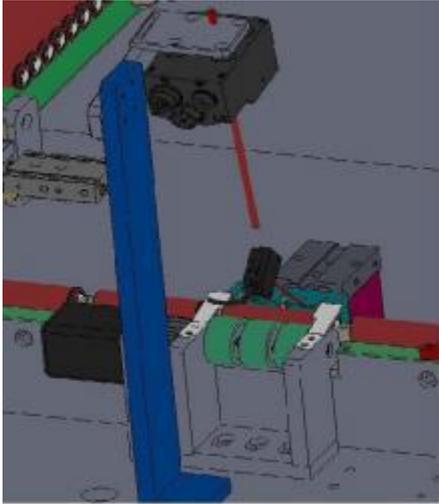


■ **Composition of the main components of the equipment (description plus schematic diagram)**

➤ **Battery flip mechanism:**

The color difference sensor is used and the stepping motor is positioned. As shown in the figure below:

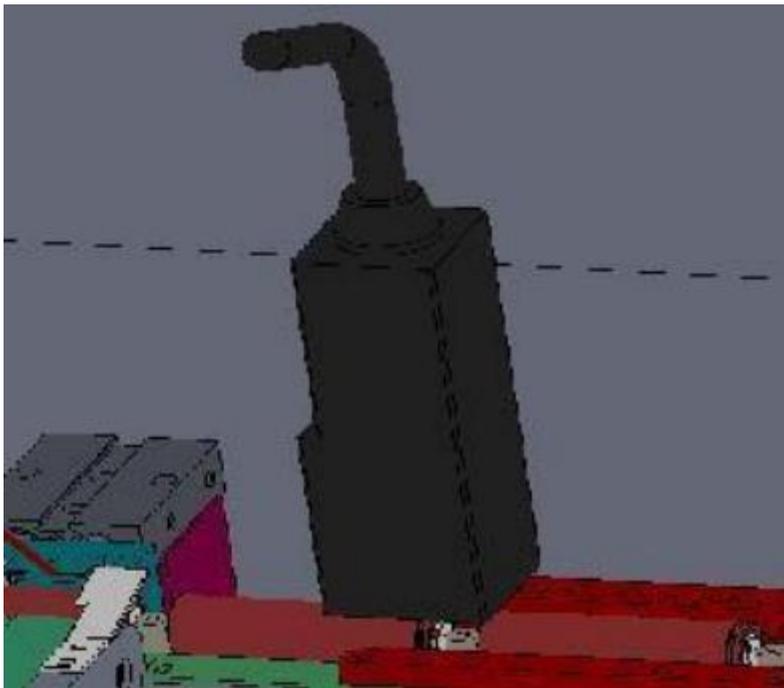
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➤ **Code spraying machine configuration:**

Using the stepping motor to drive the feed belt, uniform speed and stable, the code injection machine is controlled by the equipment, detect the unqualified cell does not spray code, spray

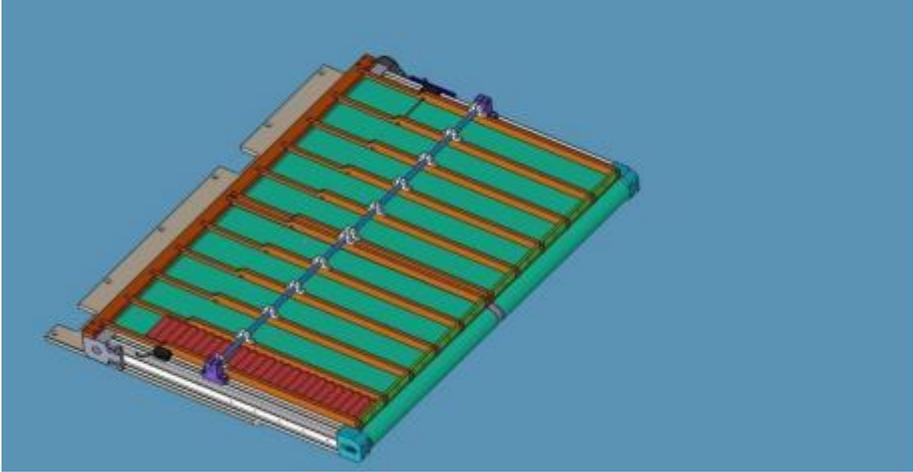
When the code machine fails, the equipment is stopped and there is an alarm prompt. As shown in the figure below:



➤ **Material receiving agency:**

The feeding system is composed of material tank, motor, belt, and other mechanical components. According to the set level, the battery is released on the charging belt, and the collecting belt rotates to send the battery to the feeding tank. When the feeding tank is full of material sensors, the system will automatically sound and light alarm and wait for manual removal. After the battery is removed, the receiver will automatically reset and cycle to work. As shown in the figure below:

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■Equipment function and capability characteristics:

- Equipment includes brand computer, software system, precision voltage internal resistance measuring instrument, and batch feeding device,
 - Cell flipping device, cell code injection device, manipulator automatic gear shifting, automatic feeding and other devices.

- According to the AC internal resistance, open circuit voltage and other parameters of the lithium battery, the battery is accurately divided according to the performance parameters, the most
 - The number of one-time file pairs is 10 groups.

- The collection of AC internal resistance and open circuit voltage can be collected automatically by the high precision internal resistance instrument HK 3561 built by the equipment
 - Automatic process control, easy operation, no manual participation, to ensure the accuracy of the test parameters and the reliability of the pairing process.

- High degree of automation, simple operation, hopper feeding, simple operation, can test the distribution group of about 3600 cells per hour,
 - Can effectively improve production efficiency, reduce production cost.

- The cell performance data of the system test is in database management mode, long-term storage and strong traceability. Data data with the software
 - Analysis function, long-term monitoring and analysis of product performance and quality, to guide the improvement of research and development formula, improve the production process.

- The system automatically calculates the K value according to the data information bound by the cell bar code.

■Description of the equipment technical parameters:

- Power supply: 220V, 0.5KW.
 - Air source: 0.5 ~ 0.6 Mpa (dry air).
 - Separation efficiency: about 80 / min (no flip cells), about 60 / min (flip cells).**
 - Selection parameters: open-circuit voltage, AC internal resistance, DC internal resistance,
 - Instrument: Precision voltage internal resistance tester (Hioki 3561).
 - Equipment sorting error:
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Voltage: + / -0. 1 mV

Internal resistance: + / -0.25 mu

➤HK 3561 discrimination rate and accuracy:

1. Open-circuit voltage / load voltage:

accuracy, +/-0.05%rdg;

Display resolution: 0. 1 mV;

2. AC internal resistance:



accuracy, +/-0.5%rdg;

Display with a resolution of 0. 1 mms;

- The feeding box can accommodate 600 18,650 cells;
- More than 30 cells can be stored in the drop tank;
- The test probe is selected in the plug type for easy disassembly and replacement;
- Equipment occupancy rate is> 98%
- Equipment weight: approximately 400K G

Overall dimensions: 1500 (long) 1000 (wide) 1500 (height) mm.

■The equipment contains the following modules:

- Model: HC-CTS 10-P test separation system, can complete the conventional open circuit voltage, AC internal resistance test and sorting pair.
- Hioki 1 set of standard, test AC internal resistance and open circuit voltage

■Equipment configuration list:

orde r num ber	configure	brand
1	air cylinder	A IRTAC
2	electromagnetic valve	A IRTAC
3	linear guide rail	HI WIN
4	electric relay	O MRON
5	P LC	Panasonic
6	inductor	Jia Jun
7	host	IPC
8	scanner	Keenz SR-1000W
9	test instrumentation	HiOKi 3561

■cultivate



order number	Training content	trainee	Training cycle (sky)	Training method	remarks
1	equipment installation	Buyer's Equipment Department	video frequency	video frequency	



2	testing of equipment	Buyer's Equipment Department	1-2	scene	
3	Equipment operation and application	The Buyer's equipment department and relevant operations and users Member	0 1.5-	scene	
4	Equipment safety matters	The Buyer's equipment department and relevant operations and users Member	0 1.5-	scene	
5	Replacement of vulnerable parts	Buyer's Equipment Department	0.5	scene	
6	Equipment fault analysis, and handle	Buyer's Equipment Department	1-2	scene	
7	Daily maintenance of the equipment	The Buyer's equipment department and relevant	1-2	scene	



		operations and users Member			
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Other requirements

1. The appearance color of the equipment is the international standard warm gray 1C.
2. Measure 1000mm from the outer wall of the machine and make the equipment noise 80db.
3. The equipment shall meet the national safety standards for equipment and the safety standards and requirements required by the relevant safety codes.
4. Attach the Chinese operation manual and equipment maintenance manual randomly.

4. Other

NO	project	explain	remarks
1	Dimensions and electrical drawings	Provide equipment dimensions and electrical drawings	
2	Staff Training and Maintenance Manual	Provide two trainings before mass production, and provide training and maintenance materials	



4	Free warranty	One-year free warranty starting from after acceptance	