AOI SOLUTION FOR LITHIUM BATTERY

Applied in 18650, 21700 and 46800 Cylindrical batteries Inspection

K2 TECH®

COMPANY PROFILE

Qogori (K2) is the second highest peak in the world but the most difficult mountain in the world to climb.

Founded in Hangzhou in 2009, K2 Tech focuses on the research and application of machine vision, artificial intelligence and robotics, covering new energy, auto parts, bearings, consumer goods and intelligent agriculture. Driven by continuous innovation, K2 Tech is deeply cultivated in the global market and is committed to becoming a leader in the segment, adhering to the mission of creating life-changing lives and building a future where the machines are as intelligent as human.

PRODUCT INTRODUCTION

A **a** **Process of Cylindrical Lithium Battery Inspection & Packaging Line**

Automatic Feeding, Coding, Electrostatic Precipitator, AOI Inspection (Positive and Negative Poles, Housing), Code Scanning, Automatic Boxing, CCD Recheck, Tray Labeling, Code Binding, Automatic Packaging

B **b** **Features of Cylindrical Lithium Battery Inspection & Packaging Line**

Applied in 18650, 21700 and 46800 Cylindrical batteries Inspection & Packaging Independent R&D detection software

Realize the detection of indentation, notch, foreign matter, pollution, corrosion and other surface defects on cylindrical batteries, combined with AI deep learning technology to improve the detection accuracy;

Variety of Feeding Methods
Personalized customization of each module according to customer requirements, which solves the problems of coordination, such as connecting the battery production end process of each factory and different available site sizes;

High Detection Efficiency
200Pcs/min high-speed detection line, which can decrease around 20 workers in a line and the front and back detection of cylindrical batteries can be completed without turning over;

Lower Production Cost
Replace the traditional detection, reduce manual misjudgment, and greatly improve the production efficiency and product quality of the factory.

C c Features of Cylindrical Lithium Battery Inspection & Packaging Line

OCV detection

Multi-servo flexible structure, probe self-test calibration, to achieve inspection for various cylindrical lithium battery models

AOI inspection

Independent R&D detection software, realizing the accurate detection of indentation, notch, foreign matter, pollution, broken casing and other defects on the surface of the battery

Automatic Packaging

Realize the online code reading and automatic packaging

COMMON DEFECT TYPES APPLICABLE TO THE EQUIPMENT

Battery positive electrode

| Missing gasket | Excessive gasket | Pit | Broken set | Poor coverage |

Battery negative electrode

| Pit | Scrath | Rust | Stain | Poor welding |

Battery housing

| Foreign matter | Broken set | Fold | Pit | Aperture | Stain |

Bar code

| Adhesion | Stain | Wave |

TECHNICAL PARAMETER

Based on the technologies of AI deep learning and imaging processing, the machines can realize the effective inspection of various defects on the surface of the cylindrical battery including leakage of liquid, deformation, pit, broken casing, rust, foreign matters, scratch, gasket problems, etc. And NG products can be rejected immediately. Combined with OCV detection and automatic packaging, the smart inspection line is realized with high accuracy stability and speed of appearance inspection.

TECHNICAL SPECIFICATIONS	CONTENT
Inspection Items	Indentation, notch, foreign matter, contamination, corrosion, etc.
Inspection Range	18650, 21700 and 46800 batteries
Requirements	Clean surface, no grease and water stain
Optics Resolution	0.02mm
Detection accuracy	0.1mm
Inspection Speed	200PPM
Number of cameras	8
Power	14 KW
Voltage	380V，50HZ
Dimension/Weight	12000(L)*2500(W)*2000(H)mm / 5000kg
Air Supply	0.5MPa ~ 0.6MPa
Work Environment	Temperature:5℃~30℃; Relative Humidity: <70%RH
Other Features	1.Detecting status real-time display and NG products alarm; 2.Remote debugging function; 3.Expandable back-end packing line connection; 4.Simple structure and one button exchange of model;

OUR ADVANTAGES

1 ## Strong AI Function

Deal with various defects through deep learning tech to efficiently and accurately finish the production task of customers

Balance Efficiency and Stability **2**

Quick inspection is realized by edge computing and real-time display of inspection speed and status ensures the efficiency and stability.

3 ## A Package of Solutions

From the basic intelligent scheme design, equipment provision, installation and application, K2 Tech can provide end-to-end solutions for new energy enterprises.

Flexible Application Scenario **4**

According to customer requirements, each module is personalized and can provide corresponding intelligent visual inspection solutions for the different business needs of each customer.

COMPANY
HONOR

13

INVENTION
PATENTS

3

INTERNATIONAL
PATENTS

48

UTILITY MODEL
PATENTS

39

SOFTWARE
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国家重点支持高新技术企业
National key high-tech enterprise

中国创业创新大赛亚军
China innovation entrepreneurship
competition second prize

国家创新基金项目
National invention fund project

国家"万人计划"
Ten-thousand talents program

软件企业
National software enterprise
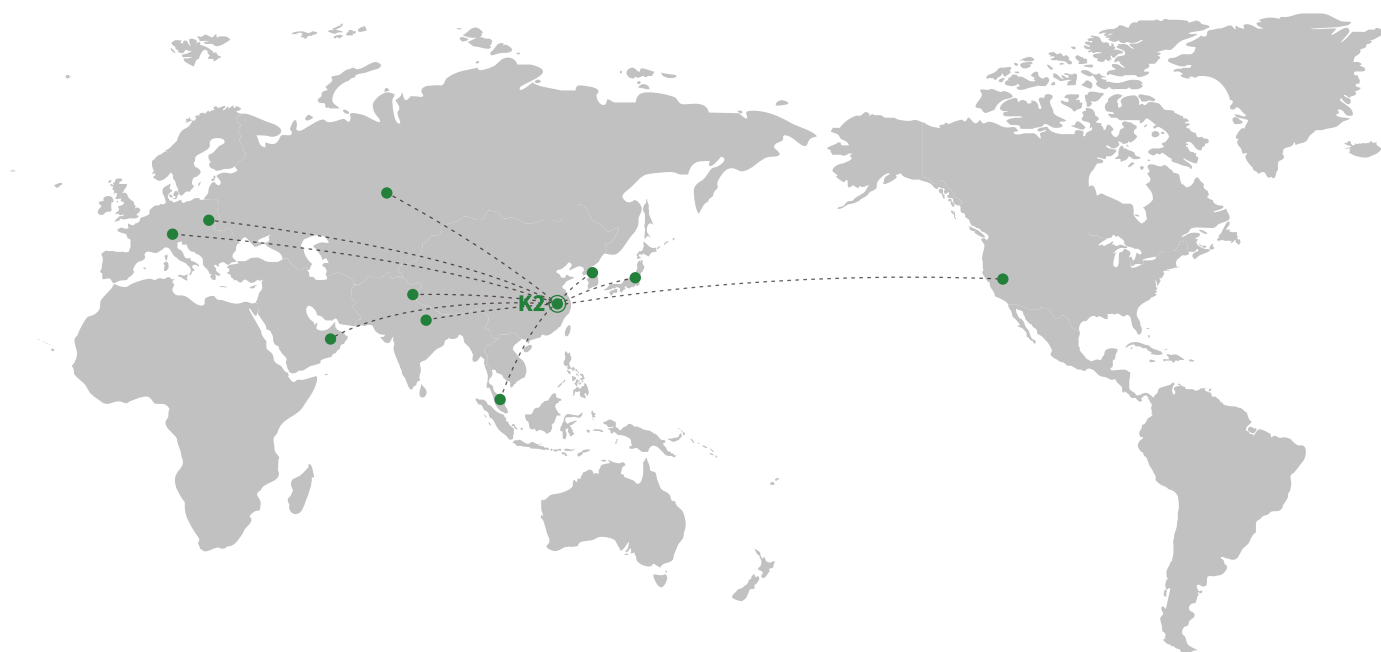
省重点研发计划项目
Major projects in Zhejiang province

省级研发中心
Provincial R&D center

ISO9001体系认证
ISO9001 Certification

欧盟CE产品认证
CE Certification

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