

Ensure High-Quality Production of the EV Battery

The AI vision-based control and testing solutions

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Lithium-ion Battery Electrodes Cutting and Welding

In lithium-ion battery manufacturing, electrodes require precise laser cutting and tab welding for optimal current flow. Motion control with AOI (Automated Optical Inspection) are adopted to ensure battery assembly quality.

Customer Requirements:

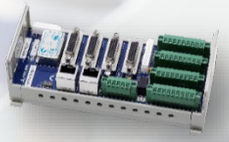
- Stable and precise point-to-point control for electrodes cutting
- High-speed, precise laser triggering for continuous cutting motion
- Detection of battery tab defects and anomalies in soldering and welding

Featured Products:

SuperCAT



SuperCAT SoftMotion Controller
PC-based controller with soft EtherCAT



ECAT-TRG4
4-ch high-speed trigger



PCIe-GIE74P
4-ch GigE PoE+ Frame Grabbers



NVIDIA GPU
PCIe Graphic Card

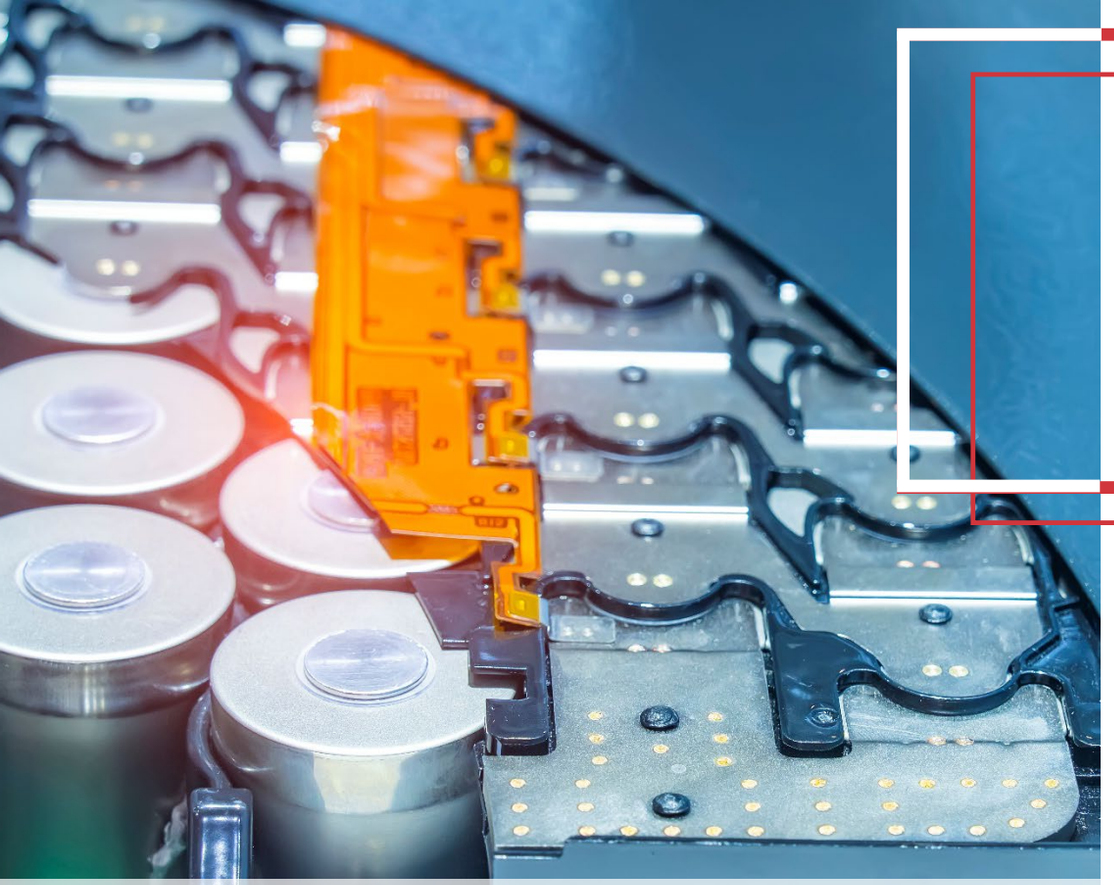


Euresys Open eVision
Image analysis software

Why ADLINK:

- SuperCAT motion controller has a 125µs cycle with <2µs jitter for enhanced stability and efficiency
- ECAT-TRG4 EtherCAT trigger enables 10MHz laser power triggering for precise control and consistent quality
- Integrated AI AOI detects defects like scratches and fractures on battery tabs and welding issues
- One-stop shopping for motion, vision and IPC for integration compatibility

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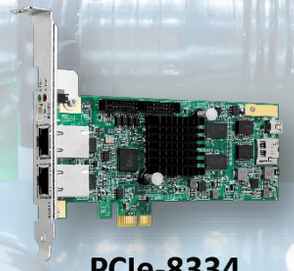
Lithium-ion Battery Pack X-ray Testing

Lithium-ion battery packs are comprised of individual battery cells. X-ray testing is used for non-destructive inspection and analysis of the internal structure of the battery pack, ensuring battery quality and lifespan.

Customer Requirements:

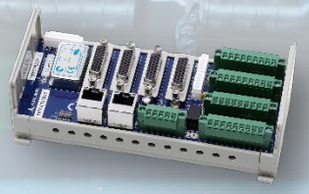
- Multi-axis control of the X-ray generator at various angles for comprehensive quality inspection
- High-speed X-ray emitters trigger real-time scanning for high-volume detection, delivering high production throughput

Featured Products:



PCIe-8334

The PCIe motion control card with 32-axis support



ECAT-TRG4

4-ch high-speed position compare trigger module

Why ADLINK:

- The PCIe-8334 EtherCAT control card supports up to 32-axis synchronization with 250µs cycle time to enhance precise product detection
- The ECAT-TRG4 module supports 10MHz X-ray triggers to improve detection efficiency and productivity

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