ADLINK



Empowering High-Speed Automation for Maximum Efficiency

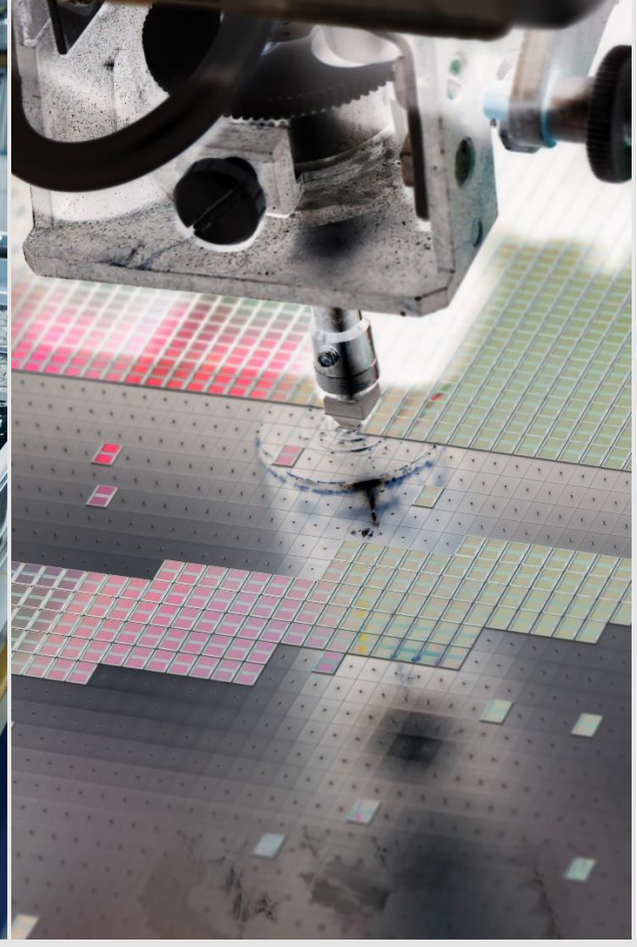
EtherCAT Motion Control Solution

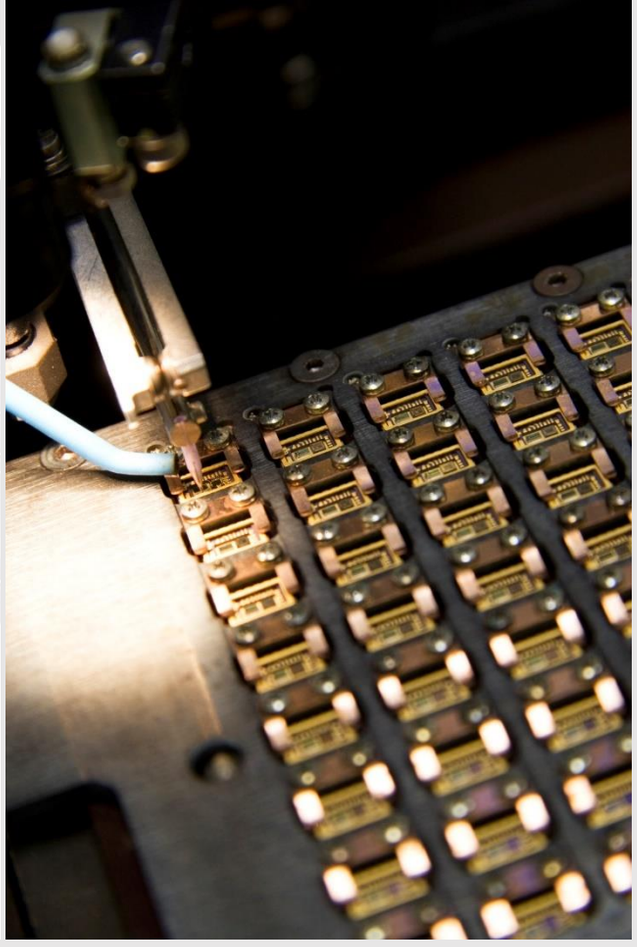
EtherCAT

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Target Applications









Electric Vehicle Battery

Semiconductor Packaging & Testing

Optoelectronic

Electronic Manufacturing Services



Electric Vehicle Battery

Lithium-ion Battery Tab Cutting

Lithium-ion battery tabs are metallic components that serve as electrode connections within the battery cell. They require precise laser cutting tailored to different battery types for optimal electrical current flow.

Customer Requirements:

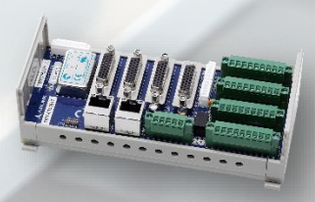
- Stable and precise point to point control of the cutting head for smooth cuts along an intended path
- High-speed and precise laser power triggering for continuous motion uniform cutting
- Flexible adjustment of cutting parameters for various types of electrode materials (e.g. coating and thickness)

Featured Products:



SuperCAT Motion Controller

PC-based controller with soft EtherCAT for up to 128-axis support

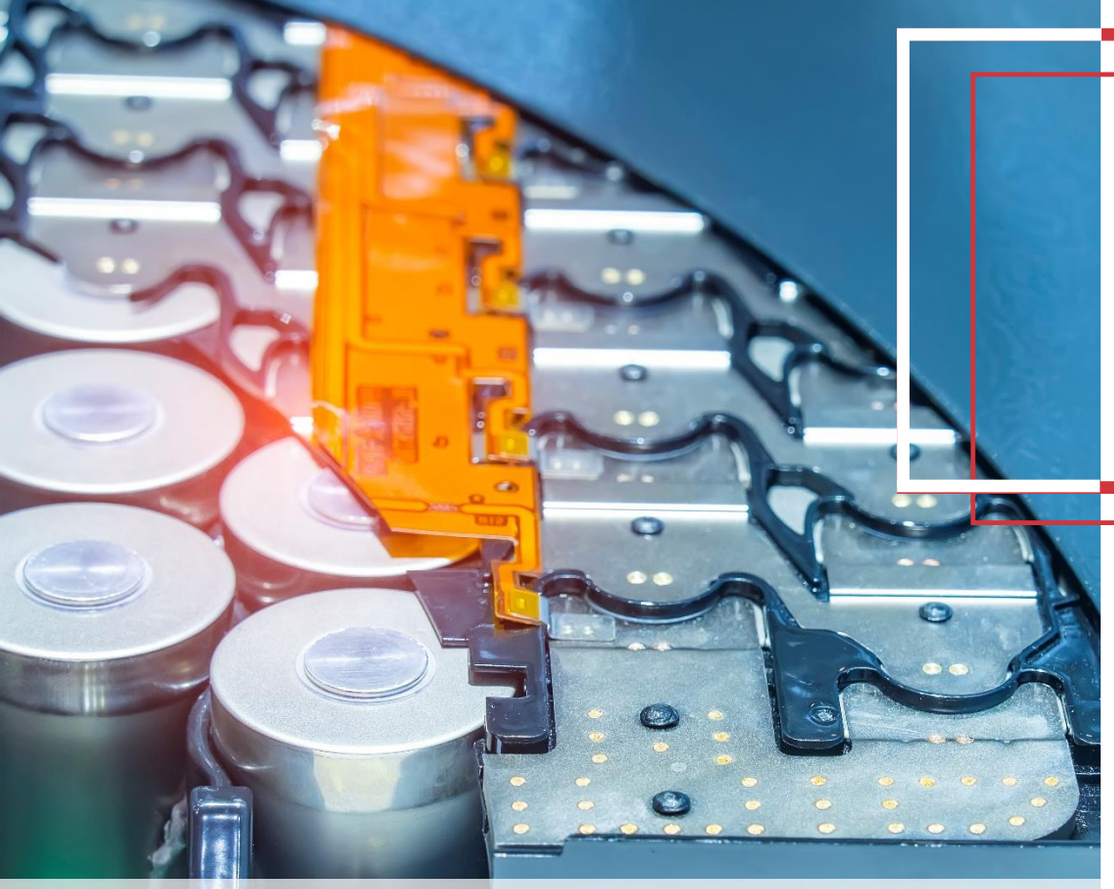


ECAT-TRG4

4-ch high-speed position compare trigger module

Why ADLINK:

- The SuperCAT motion controller operates a 125µs motion cycle with less than 2 µs jitter to improve stability and efficiency
- The ECAT TRG4 module activates 10MHz laser power triggering to ensure precise control and consistent quality
- The Automation Product Software (APS SDK) supports a unified motion parameter setting that streamlines workflow and reduces downtime



Electric Vehicle Battery

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 in electric vehicle manufacturing.

Customer Requirements:

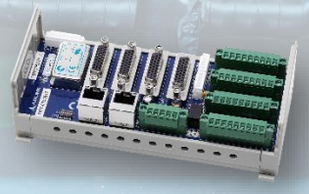
- Multi-axis control of the X-ray generator at various angles for comprehensive inspection
- High-speed X-ray emitters trigger real-time scanning for high volume detection

Featured Products:



PCIe-8334

The PCIe motion control card with 32-axis support

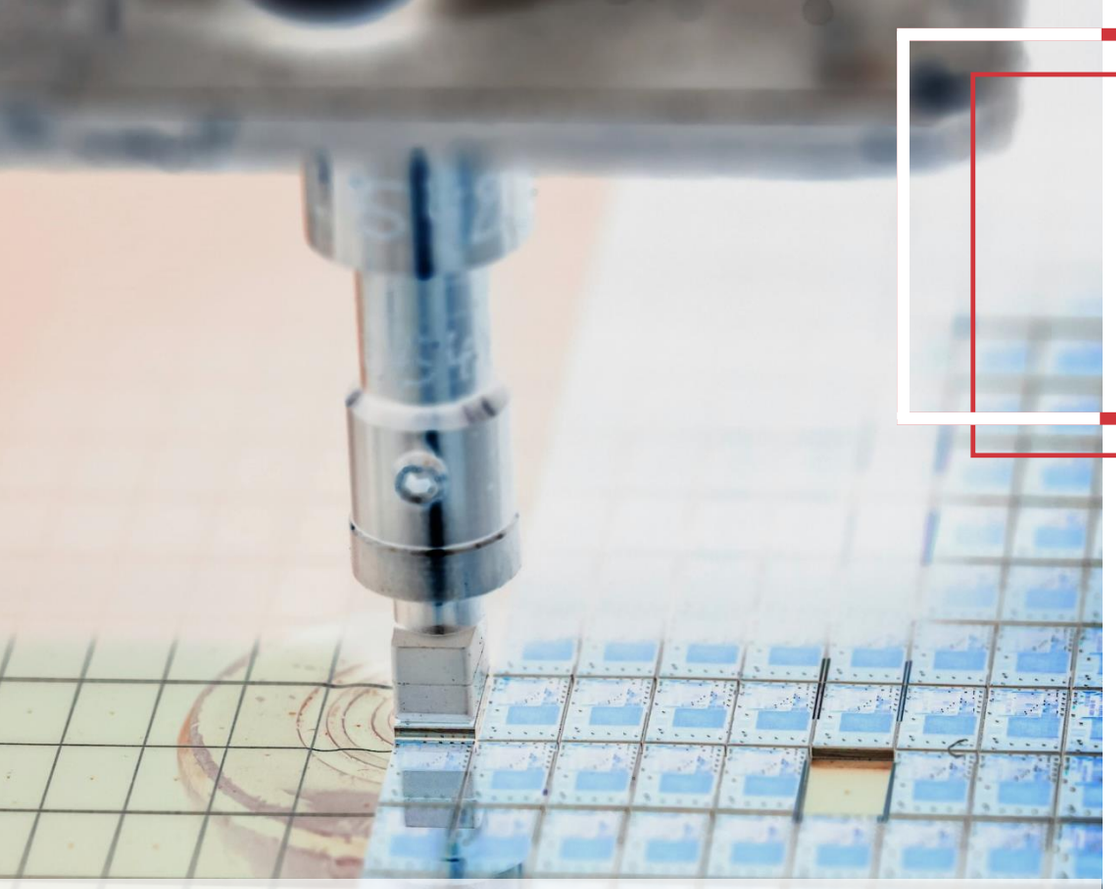


ECAT-TRG4

4-ch high-speed position compare trigger module

Why ADLINK:

- The PCIe-8334 supports up to 32 synchronized multi-axis control with 250µs cycle time that enhances the detection accuracy and overall quality assurance
- The ECAT-TRG4 module supports 10MHz X-ray triggers to improve detection efficiency and productivity



Semiconductor Packaging & Testing

Die Bonding Machine

The semiconductor die bonding process involves accurately placing and attaching individual wafer dies onto a substrate to facilitate the reliable production of high-quality ICs.

Customer Requirements:

- High-speed and high-precision pick-and-place control to accelerate the bonding process
- An integrated system that can combine motion control and machine vision to identify the location and orientation for ±3-5µm die positioning
- Customizable bonding parameters such as bonding force and time for various wafer types

Featured Products:

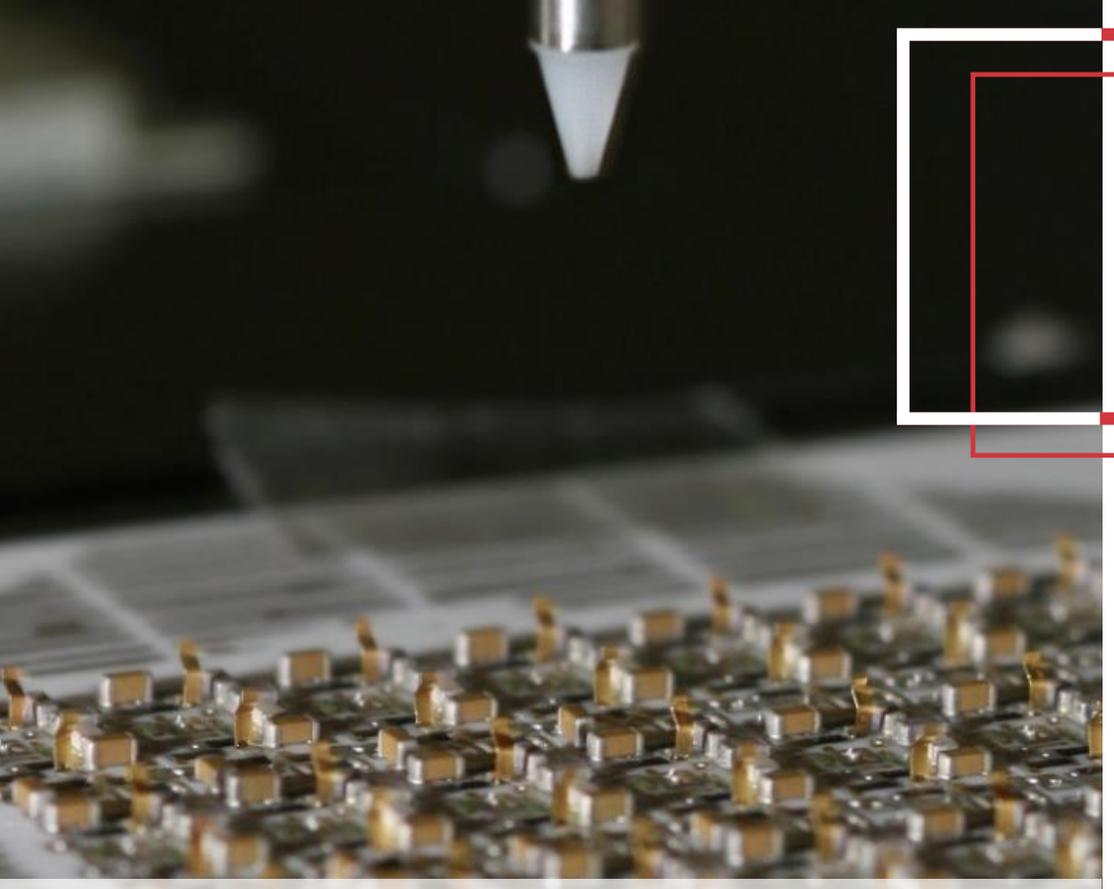
SuperCAT



SuperCAT Motion Controller
PC-based controller with soft EtherCAT for up to 128-axis support

Why ADLINK:

- The SuperCAT motion controller achieves 125µs motion control cycle time that improves efficiency, well-suited for high volumes and production
- The SuperCAT motion controller with ADLINK IPC gives the extra slots for a frame grabber card to ensure sub-micrometer bonding positioning accuracy
- The SuperCAT motion controller with RTOS effectively adjusts the control program via automation product software (APS SDK) for real-time execution, ensuring seamless upgradability for future process changes



Optoelectronic

LED Chip Sorting

A sorting machine requires simultaneous integration of motion control, machine vision, and IO triggers to process and categorize large amounts of LEDs at a rate of 50K-70K UPH.

Customer Requirements:

- High-speed and accurate control for large-scale production
- Rapid triggering of the machine vision camera for chip identification
- Seamless integration between motion control and machine vision system for accurate positioning

Why ADLINK:

- The SuperCAT motion controller achieves 125µs motion control cycle that enhances sorting productivity
- The ECAT-IO module enables 125µs camera triggering for accurate inspection and improved process efficiency
- One-stop shopping for motion and IO modules for integration compatibility
- The ECAT-4XMO module bridges pulse trains to EtherCAT for seamless upgrades from legacy machines

Featured Products:



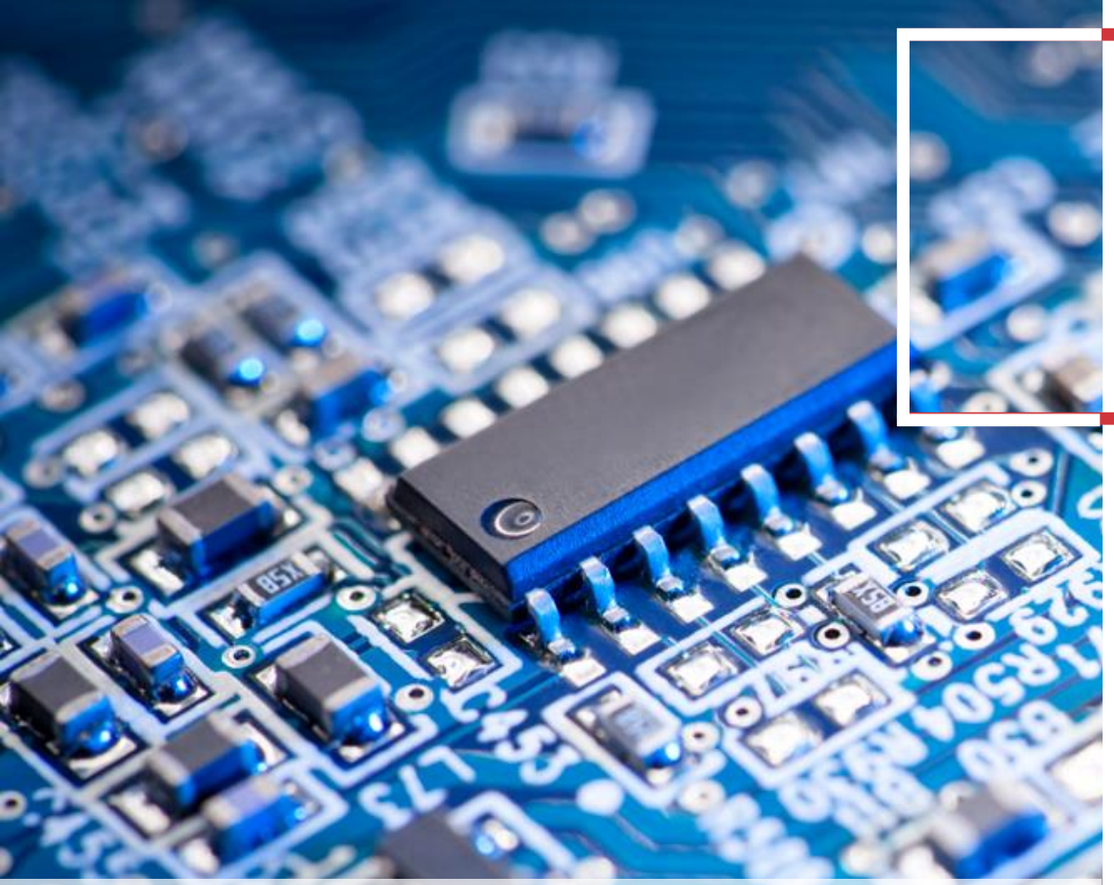
SuperCAT Motion Controller

PC-based controller with soft EtherCAT for up to 128-axis support



ECAT-IO Series

Modular DIO module



Electronic Manufacturing Services

PCB Printer

Accurately transfer circuit patterns onto substrate materials in the production of electronic devices, facilitating reliable performance and high-quality electronic products.

Customer Requirements:

- High-speed and accurate control and positioning of the printing nozzle
- Combine AOI into printer machine to ensure quality
- Compact size to fit into PCB printer machine

Why ADLINK:

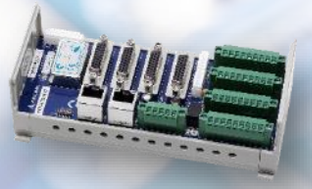
- The SuperCAT motion controller supports up to 128 axes of motion control for efficient alignment of components on the PCB
- The ECAT TRG4 module supports 10MHz 2D compare triggering for linear actuators to enhance accuracy up to 0.1 µm.
- One-stop shopping for motion and IO modules for integration compatibility for AOI application
- Flexible IPC platform selections for best-suited size controller

Featured Products:



SuperCAT SoftMotion Controller

EtherCAT SoftMotion for up to 128-axis support



ECAT-TRG4-MT

4-ch high-speed position compare trigger module

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