



Industry Notification - Robot Industry

Delta SCARA Dual-Arm Assembly Solution

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Dual-Arm Assembly Solution

Introduction

- Benefits of dual-arm control process development via Node-Red
 - Program visualization makes the development process more intuitive and helps on-site operators to understand the action flow better.
 - Simply drag and drop element and assign corresponding robot action instead of coding, and even the program details can be set via element parameters.
 - 3. The robot handshake module can be used directly without programming on the host each time.
 - 4. Develop action flow for 2 robots within a single interface to optimize design and execute non-interfering programs in advance when necessary.

Delta vision and robot matching part

One-click calibration to switch between robot tool coordinate and vision coordinate conveniently for point compensation. Integrate SCARA and the second generation teaching box for fast, easy and intuitive point teaching.

Application

Compare the 2 arms to 2 human hands to operate synchronously, combined with vision instead of manual inspection for higher accuracy and standardized result. It is widely applied in electronic parts assembly or other assembly applications. The 2 arms take over most of the complicated assembly work, combined with the fixture and human hands like actions to complete PCB slot assembling and screwing, capable of supporting and assembling.

Principle

The dual-arm solution applies to assembly of PCB modules.

One arm picks up the PCB and moves to the ion gun for cleaning and static elimination; At the same time, the other arm picks up a module and moves to the nozzle to remove grease on its surface.

Finally, it delivers the module to the screwing position for screwing. During this process, one arm screws and the other one supports the product to avoid slippage.



Process Flow



Solution Architecture



Features and Advantages

Optimize production process and improve product quality

- Automatic production can reduce 2 ~ 3 labors and avoid product damage during manual assembly.
- The equipment is more flexible and allows users to re-calibrate points to create new projects for different products.
- AOI instead of manual inspection for higher accuracy and standardized judgement. In addition, it can also avoid unnecessary rework in the case that grease is detected after assembly.

Node-Red host control to simplify dual-arm program design, unify development environment and visualize programming interface

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