



Industry Notification - Robot Industry

Delta Casting Robot Solution with CAD File Analysis

IABG Global Solution Center

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Casting Robot Solution with CAD File Analysis

Introduction

This solution utilizes Delta Robot Controller with Servo Drive Integrated ASDA-MS Series as the core electronic control component, combined with robot body developed by customer to form a 3-axis Cartesian casting robot. The conveyor line delivers material to the mold workstation; the IPC analyzes mold files to generate processing path files; ASD-MS NC runs along the path, injecting, foaming and forming at the same time.

Application

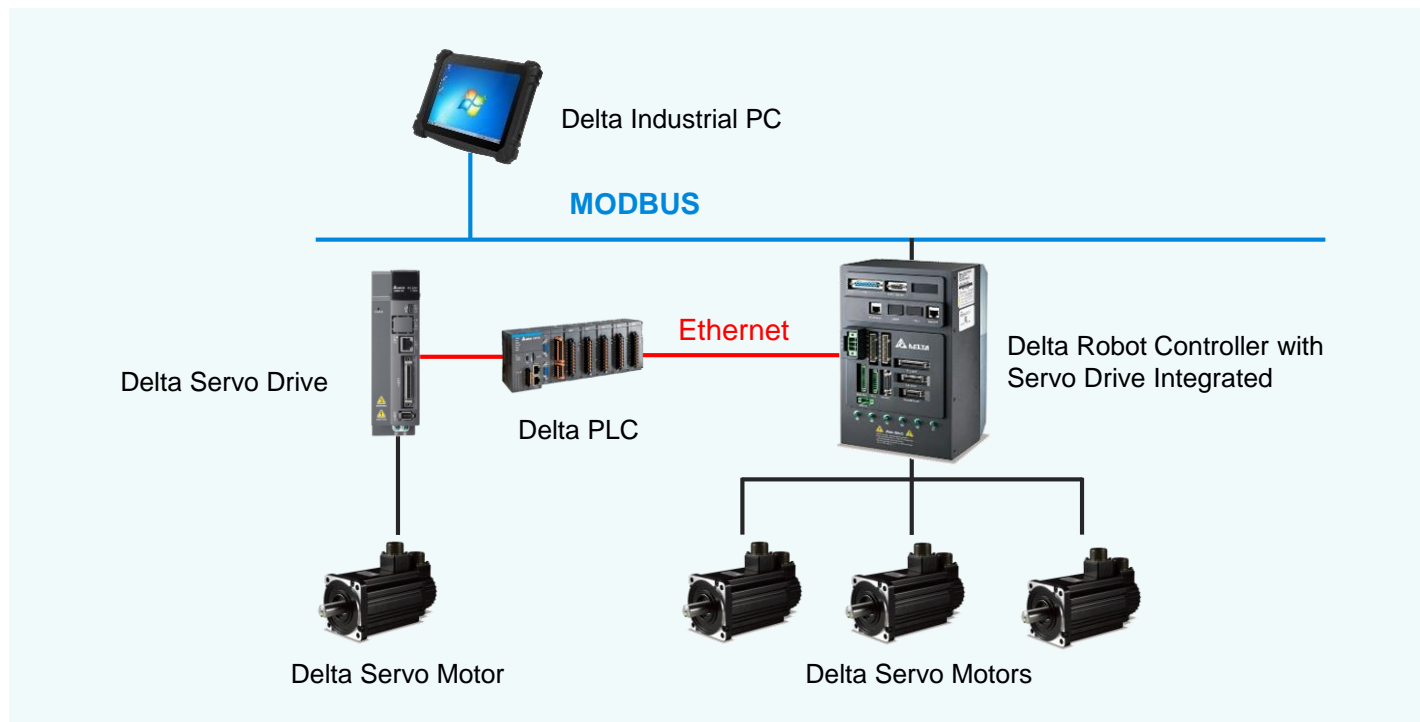
This solution is ideal for industries including automotive interior trims, plastic toys, shoes, tires and woodworking.



Process

1. The executive end develops casting robot process solutions based on LUA language. The host develops industry-specific interface based on C# for all commissioning serial ports for line switching from the host, workstation mold setting, casting duration setting and flexible open/close, providing complete solutions.
2. Supports CAD file analysis: the IPC loads and analyzes mold CAD files with industry-specific interface to generate path files (with a distance of 1mm between points), and finally saves files in the controller at the executive end automatically.
3. High-speed and precision casting motion: the executive end employs NC to walk through multi-point paths. NC enables path preview and allows fast, accurate and flexible casting.
4. Supports mixed production line: a mixed production line is developed to produce different products within the same line. Users set mold ID for workstation 1 - 100 on the host, then save the analyzed files to the executive end, which automatically switches between file IDs based on their sequence for mixed production.

Solution Architecture



Features and Advantages

Comprehensive Solution

- Comprehensive casting system solution for easy duplication and promotion.
- Guided casting process setting interface for ease of use.
- Specific NC commands for flexible, fast and precise casting.
- Supports mixed production line to improve flexibility.
- Supports custom development for high scalability.

Integrated Drive-Control System for Easy Wiring

ASDA-MS Series is designed as an integrated drive-control system:

- Integrated solution for significant cost saving.
- Compact design for easier wiring comparing with bus connection.
- Close to control kernel for faster communication comparing with bus connection.
- Faster handshake and more accurate dynamic compensation.

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