

Case	Delta Industrial Automation Products for High-Precision CNC Engraving & Milling Machines with Automatic Tool Changers (ATC)				
Issued by	Solution Center	Date	April, 2014	Pages	5
Applicable to	NC311 Series CNC Controller, ASDA-A2-N Series AC Servo Drive, ASDA-A2R Series AC Servo Drive, Delta AC Servo Motor				
Key words	NC311, ASDA-A2-N, ASDA-A2R				

Delta Industrial Automation offers a CNC total solution that provides high rigidity and high precision performance for meeting the demanding requirements of high-precision CNC engraving & milling machines with ATCs.

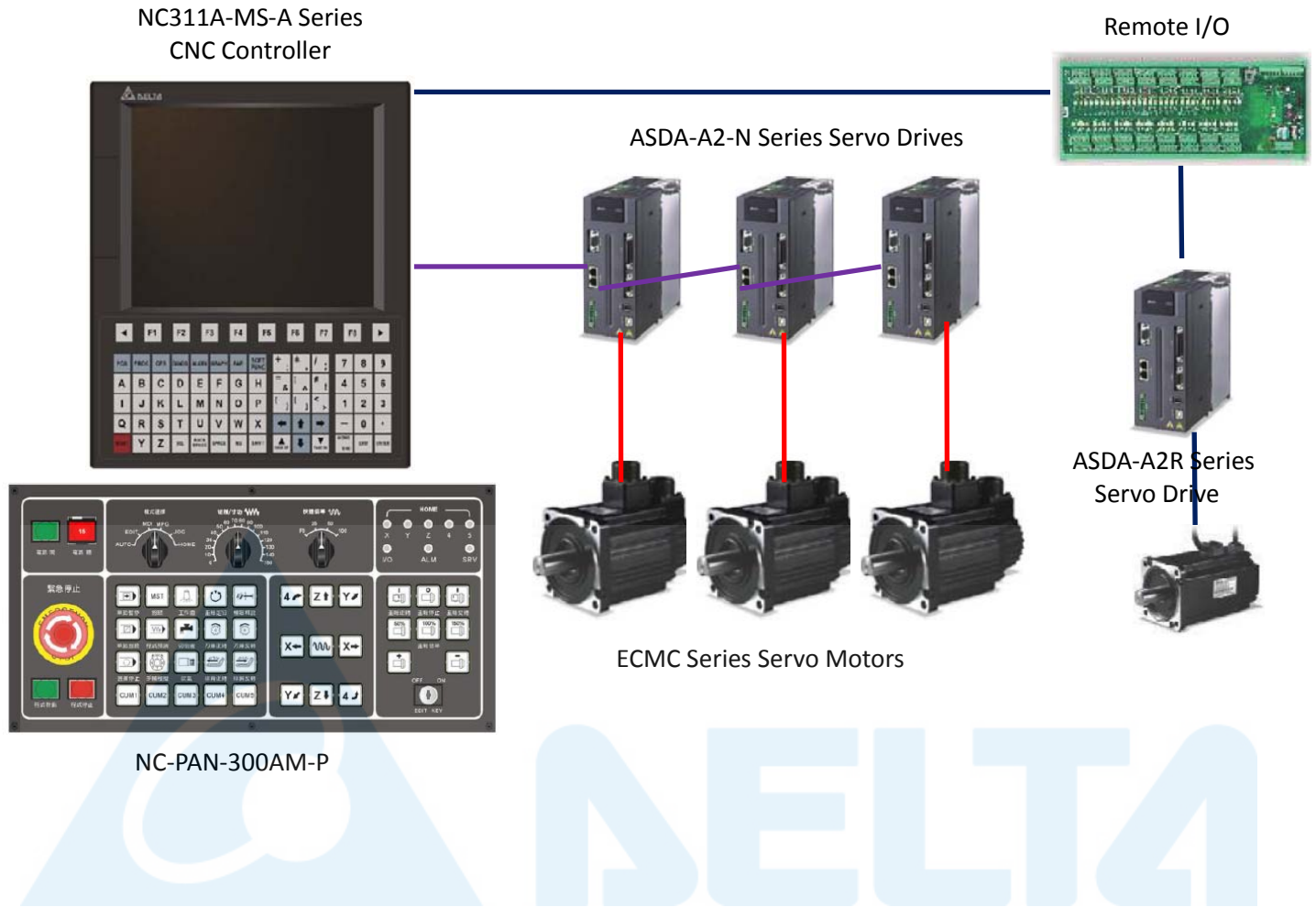
[\[Introduction\]](#)

CNC engraving and milling machines are used for machining parts to precise sizes and shapes. These operations are common processes for a wide variety of industries today such as toys and gifts, seals, wood processing, architecture and construction, decorations, industrial thread cutting, dies & molds, plastics & rubbers, and more.

With the development of the modern processing and manufacturing industries, mechanization has replaced making goods by hand. In engineering, computers have replaced slide rules and manual drafting. Combining software and hardware and incorporating computer technology, more sophisticated CNC engraving or milling machines appeared in the market. There is increased demand for high rigidity, high precision and high accuracy CNC engraving & milling machines with Automatic Tool Changers (ATC) controlled by a servo system, which has grown rapidly as an industrial product category. Delta's CNC total solution for CNC engraving & milling machines with ATCs increases productivity, saves costs, and earns profits for the relevant industries.

With solid experience and advanced technology, Delta Industrial Automation offers efficient and reliable solutions and service – we are your most trustworthy partner.

[System Structure of Delta's CNC Solution]



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[Equipment]

CNC Engraving & Milling Machines with Automatic Tool Changers (ATC)

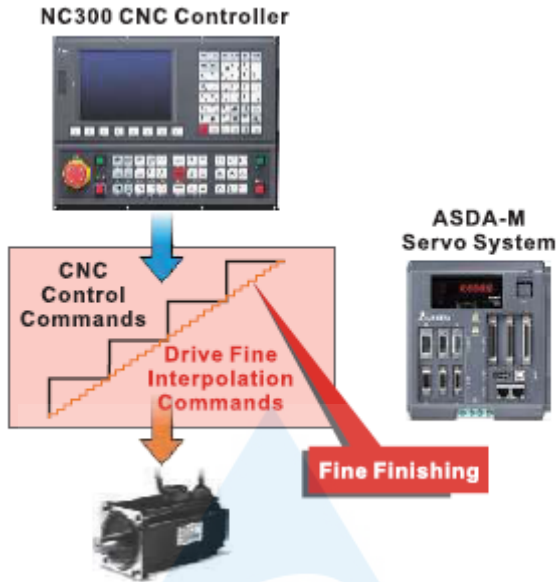


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[Features of the Delta CNC Total Solution for CNC Engraving & Milling Machinery Applications]

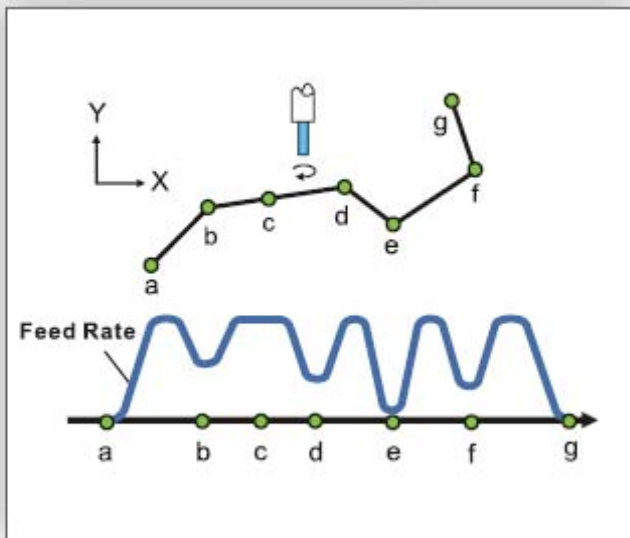
- **Fine Interpolation Commands**

Delta's AC servo drives execute a high sampling interpolation function which smooths the internal drive commands and controls the operations of servo motors with greater precision and stability. The processing surface can be finely finished to meet the most demanding customer requirements.



- **Automatic Corner Deceleration**

During machining processes, corner deceleration can be automatically calculated to help each axis maintain its precision and speed at corners and effectively smooth the process.



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[Features of the Delta CNC Total Solution]

- A built-in 32-bit high speed and high processing dual CPU that constructs a real-time and multi-functional control center.
- Connects serial digital I/O modules for greatly improved extension capacity.
- Connects to high performance, high resolution 20-bit servo motors ECMC series, reaches up to 1kHz speed response frequency for high speed and high precision processing applications.
- Auto notch filter and resonance suppression effectively minimizes mechanical vibration and resonance to stabilize the machining operation.
- High speed multi-block look-ahead function and curve fitting function enhances processing speed and precision.

For more information on Delta's industrial automation products, please visit our website at: www.delta.com.tw/ia

