



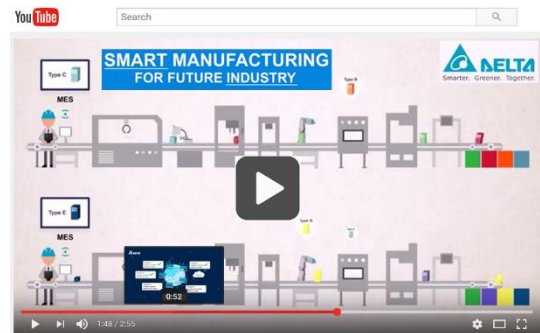
## Delta Automation PASSPORT “Join the Journey to Smart Manufacturing”



Bring your “**Delta Automation PASSPORT**” to booth E-7152 at Pack Expo to join Delta’s journey to [smart manufacturing](#) and tour the “Integrated Automation Solutions for Packaging Machinery” hands-on floor demo units. Experience first-hand how Delta’s wide range of robust automation technology products are used in advanced machine automation, stand-alone control and robotic cells to produce smart manufacturing system solutions for the food & beverage manufacturing industry. With a Delta PASSPORT, attendees will have access to 3 demonstration systems highlighting Food Packaging, Beverage Production, and Material Handling solutions designed to reduce machinery equipment design costs and improve Overall Equipment Effectiveness (OEE).

### Smart Manufacturing Journey

Delta is a major provider of Industrial Automation Technology with key competencies in design, manufacturing and service/solutions in electronics for the purposes of automating machinery and factories. In fact, Delta uses its own IA products to automate its own factories and is on its own journey to smart manufacturing. Soon, Delta will be encapsulating artificial intelligence and process knowledge into smart functions and make them available in integrated automation solutions for industrial machinery such as robotic cells for dispensing, inspection and screw insertion. With the addition of industrial ethernet products, wireless 3G cloud routers and “IIoT Ready” automation devices such as PLC’s, VFD’s, Servos, HMI’s, and software packages – Delta expands its scope of solutions to include timely production by leveraging emerging technologies.



[In this video](#), Delta shares smart manufacturing for the future of industry to not only provide IA technology, but also flexible and interchangeable production.



## Integrated Automation Solutions for Packaging Machinery



### Advanced Machine Automation Demo

highlights complete machine control over EtherCAT and Information connectivity over EtherNet/IP. See how a scaled down lean-control system can execute G-Code or Path Commands to do simple pattern dispensing and Cartesian Pick-N-Place applications completely with core smart functions. Test drive Delta's new ISPsoft version 3.0 – an IEC61131-3 compliant software with integrated motion and logic, object based data structures & importable tag symbols, standardized PLCopen function blocks, libraries with functions designed for packaging machines, and 3D dynamic motion graphing. This Demo comes with a spot light on two key solutions suitable for the Packaging Market:

- 1) Beverage Production Solutions – right side of the demo highlighting the AH500 midrange PLC with built-in EtherCAT demonstrating one network for high-speed synchronized & deterministic control of Multi-Axis Servo Motion, Variable Frequency Drive, and Remote I/O – resulting in quicker time-to-commission, simplified maintenance and faster machine changeover recovery. Also built-in is an additional EtherNet/IP port for information connectivity.
- 2) Food Packaging Solutions: left side of the demo offering scalable control architectures with high-functionality product technology integrated together to create cost efficient stand-alone automation modules. This section highlights unique parameterized motion MACRO functions built into the A2 Series Servo Drive to quickly solve common applications including: rotary knife & seal, flying shear & fill, line-shafting, feed-to-registration, wind/unwind, pick-n-place, blended move indexing and absolute dial tables. This allows for leaner distributed control systems that can often eliminate the need for a PLC in machines such as VFFS, HFFS, wrappers, case & tray packers, labelers, high-speed placers, feeders, orienting, cappers, auger fillers, and film processing.

*Learn how Delta is "IIoT Ready" with drop-in cloud connectivity – see this demo system at the booth being monitored live over the Cloud with the DX-2100 3G Cloud Router.*

## Advanced Machine Automation

### Delta Products

- ▶ AH500 Mid-range PLC Platform with ISPsoft IEC-61131-3 compliant software
- ▶ 10EMC PLC/Motion with EtherCAT & E/IP
- ▶ DOP-B 10" pro-series HMI with G-Code edit
- ▶ A2-E EtherCAT servo
- ▶ MH300 with EtherCAT
- ▶ R1 EtherCAT remote I/O
- ▶ LU Actuator
- ▶ DVS Ethernet Switch
- ▶ DIACloud solution

EtherCAT EtherNet/IP



### Key Features

Shape Cutting with G-Code Editing on HMI, Packaging machinery eCAM and ELS, High performance EtherCAT motion, EtherNet/IP, Drop-in Cloud connectivity, "IIoT Ready".



**AC Motor Drive Stand-Alone Demo** showcases Delta's new MH300/MS300 series VFD controlling two independent conveyor systems with induction motor & permanent magnet motors, and a tower of four third party high speed spindle motors being driven up to 2,000 Hz! This enabling technology solution includes open and closed loop motor operation, positioning and speed control, E-Stop & STO safety and a fast deceleration feature with reduced regeneration energy. The entire demo is sequenced by one of the MH300/MS300 built-in PLC's to highlight its stand-alone control and local I/O capability and is easily connected with Ethernet Modbus and EtherNet/IP.

This demo also highlights EtherNet/IP connectivity over a standardized Ethernet protocol providing component and system level advantages in machine modules & production lines. Now, Delta PLC's, VFD's, Motion Controllers, Ethernet Switches, and Industrial Communication modules all support EtherNet/IP for information connectivity to 3rd party devices and enterprise systems.

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## AC Motor Drive Spindle Control

### Delta Products

- ▶ MH300 compact VFD
- ▶ EtherNet/IP
- ▶ Power Supply

### 3<sup>rd</sup> Party Products

- ▶ Spindle Motors
- ▶ PM Motors



### Key Features

High-speed operation up to 2,000 Hz of various spindle motors, smooth speed and quick deceleration control, Open and Closed Loop Control, E-Stop and STO simulation, Built-in PLC sequence control, EtherNet/IP and EtherCAT connectivity.



**Robotic Cell Demo** highlights Delta's 4-axis control with integrated servo drives on a 400mm SCARA arm in a simulated dispensing application. It additionally controls one networked external actuator. The robot "dispensing" head dynamically tracks the LU series actuator by dispensing a constant vector path pattern while in-motion. The move profiles can be configured and taught through a Hand-held pendant complete with e-stop and 3-position safety switches. This complete cell is remotely monitored at the Industrial Ethernet display panel via a 3G cloud-connected router.

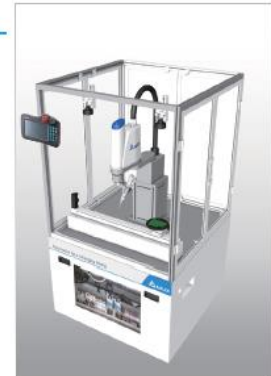
Delta provides complete Integrated Automation Solutions for Packaging Machinery simplifying purchasing, design and support from one brand. The "Robotic Cell Demo" highlights the use of integrated smart functions to bring conveyance, logical sequence, robotic motion, vision orientation & inspection, machine setup and monitoring all together as a robotic cell – its not just a dynamic dispensing robot.

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## Robotic Cell

### Delta Products

- ▶ 400mm SCARA
- ▶ ASDA-MS control with 4 axis integrated servo
- ▶ DOP-H pendant
- ▶ ECMA servo
- ▶ LU Actuator
- ▶ Power Supply



### Key Features

Robotic pick-n-place, patented insertion compliance function, conveyor tracking, constant vector path.





## Integrated Automation Solutions for Packaging Machinery



## What makes Delta's Automation Technology IIoT Ready



## What makes Delta's Industrial Automation Product Technology IIoT ready?

Internet cloud connectivity devices on 3G wireless, secure VPN tunneling & log-on data encryption, HMI's with dual Ethernet ports to segregate control and remote data access networks, PLCs with local data acquisition & powerful information computation, fieldbus data link and conversion, time stamping – are all among the reasons.

See all of this on display at Pack Expo, and ask one of Delta's local field application engineers for more information.

## Launch of MH300/MS300 Compact Performance AC Motor Drive

Delta has unveiled its new MH300 high performance and MS300 standard compact AC motor Drives for Micro VFD applications up to 30 HP. Delivering high speed operations with induction and permanent magnet motors, including up to 2,000 Hz for spindle applications – the MH300/MS300 Series is feature-rich with intelligent PLC functions, safety features and network connectivity.



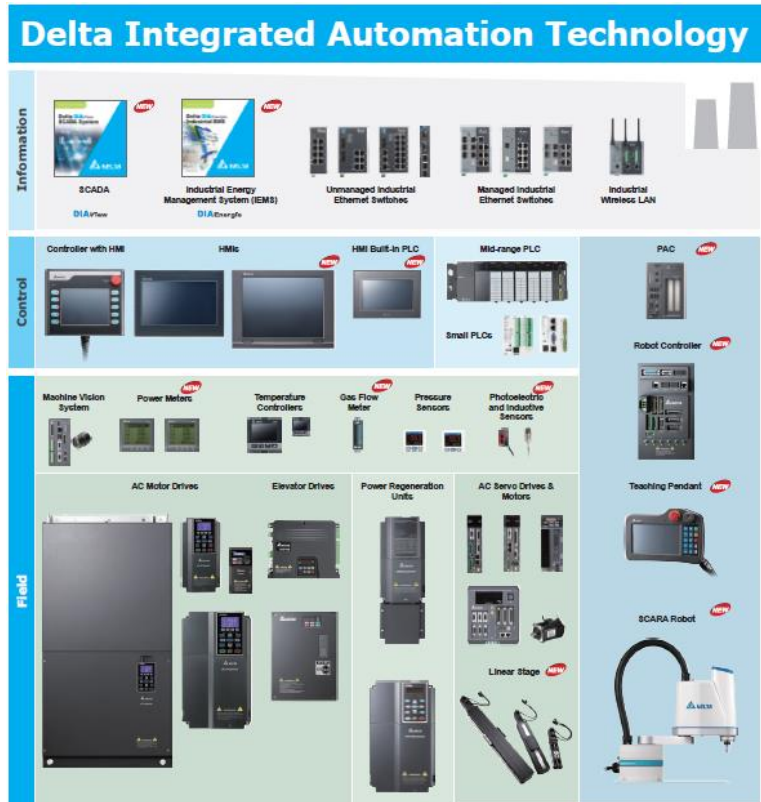
Come see Delta's newest automation technology enabler the "MH300/MS300 series compact micro drive" for AC motor variable frequency control at the Delta booth located in the east hall.



## Integrated Automation Solutions for Packaging Machinery

Delta is a major provider of Industrial Automation product technology, and a key contributor to the global advancement of [smart manufacturing](#). The Industrial Automation Business Group mission is “to elevate our living environment through advanced automation technology and value added innovation”.

With key competencies in design, manufacturing, and service/solutions – new technology is continuously developed with higher levels of integration within a wide portfolio of automation products. These include: VFD, Servo, HMI, PLC, Motion Control, Temperature Control, Industrial Ethernet, Network Conversion, Power Quality, Power Supply, Energy Management, Sensor, Actuator, and Robotic product segments.



**Well rooted in the USA since 1982, the Industrial Automation Business Group of Delta Products Corporation is dedicated to customer satisfaction in the America’s region, and long-term sustainability of the Delta brand.**