

Rockwell Automation Delivers New Dimensions of Scalability with Integrated Architecture

Applications with fewer than 200 I/O can leverage the Allen-Bradley CompactLogix controller for integrated motion, safety and standard control.

Following on the recent release of the Micro800™ controllers, Rockwell Automation® has significantly expanded its Integrated Architecture™ portfolio for smaller applications with a series of scalable CompactLogix™ programmable automation controllers (PACs), servo drives, I/O, and visualisation and simplification tools. With high-performance features such as integrated motion, safety, EtherNet/IP™ connectivity and re-usable development tools, Rockwell Automation gives users the ability to standardise on a single control platform for small to large-scale applications.

Featuring integrated motion on EtherNet/IP, the CompactLogix controller family can provide the same flexibility, reduced development time and ease of use as larger scale systems from Rockwell Automation. For machine builders, the new solutions can help reduce the costs and complexities of their machines and provide a more competitive offering around the globe. Meanwhile, end users can standardise on a single control platform for small to large-scale applications.

Right-Sized Control

John Watts, Rockwell Automation director, Integrated Architecture, Asia Pacific, explains that a “right-sized” control system helps original equipment manufacturers (OEMs) and their customers cost-effectively match their application needs. The Rockwell Automation portfolio expansion gives users the ability to scale from 48 to 10,000 I/O using a

single control platform and common user experience.

In addition, standardising on a single control platform simplifies the design, operation and maintenance of equipment. A single development environment, along with consistent tools and technology, also reduces time to market when creating new machine designs.

What’s more, selecting a right-sized control system enables users to address critical business issues such as network architecture, integrated safety, security, sustainability and performance. Building a control strategy on a single network architecture such as EtherNet/IP, for instance, enables machine builders to help their end customers effectively converge machine-level data with business-level data. This capability improves management and decision-making across an organisation.

With regard to integrated safety, leveraging EtherNet/IP enables users to run motion and safety applications on a single control platform. The CompactLogix system embeds many advanced safety functions such as safe stop and speed monitoring, removing special gateways along the way.

Many users are worried about protecting intellectual property. The built-in security features Rockwell Automation provides can help machine builders protect their source code and help end users protect their manufacturing processes.

With this new offering, machine builders can utilise smaller components to reduce the overall footprint of the cabinets and machines

while leveraging drives that are more energy-efficient. These actions contribute to sustainability. To help drive performance and agility in smaller-size machines, OEMs can employ the integrated servo technology and robotic control that are included.

An Expanded Portfolio

The expanded Rockwell Automation portfolio features the following products:

- **New CompactLogix PACs:** Provide standard and integrated motion on EtherNet/IP in a single controller, using the same configuration, networking and visualisation environment as the ControlLogix®-based system. This provides scalable motion options for a wider range of machines.

- **Kinetix® 350 Servo Drive on EtherNet/IP:** Simplifies the network architecture by removing the need for a separate motion network, providing a high-performance, cost-effective solution for low-axis machines. This new drive will also feature a power range up to 3 kilowatts.

- **PanelView™ Plus 6 and PanelView Plus Compact Human Machine Interface (HMI):** The cost-effective, operator interface provides advanced integration with Logix-based controllers.

- **RSLogix™ 5000 Design and Configuration Software:** Provides a single development environment for the above products and includes high-integrity add-on instructions (AOIs) and Integrated Motion on EtherNet/IP capabilities.



Mike Burrows, Rockwell Automation market development director, Integrated Architecture, says that application areas for the new portfolio include material handling, packaging, pharmaceutical and biotech, automated assembly, food and beverage, and automated inspection. In addition, the portfolio includes performance differentiators such as faster controllers, better machine design (using the Motion Analyzer and the Drive and Motion Accelerator Toolkit) and better precision (with a shared backplane for sequential and motion control).

What's more, by leveraging EtherNet/IP for coordinated motion, the system can manage all communication needs with a single network architecture. To further enhance usability, manufacturers can leverage a single design environment and consistent tools for their system, regardless of size.

Craig Resnick, research director, ARC Advisory Group, says, "In the past, machine builders and manufacturers who needed high-performance features, such as integrated motion, were faced with choosing a system that was oversized for their actual

application needs. By bringing the benefits of Integrated Architecture to smaller applications, users can now run motion and safety applications on a single control platform using a single network – simplifying the design, operation and maintenance of equipment." AT

on the web

For more information on the new CompactLogix offerings, visit:
<http://ab.rockwellautomation.com/Programmable-Controllers>

ENHANCING THE INTEGRATED ARCHITECTURE PLATFORM

The Rockwell Automation Integrated Architecture™ features the Allen-Bradley ControlLogix® and CompactLogix™ controller families. The ControlLogix programmable automation controller (PAC) is suited for applications that have up to 10,000 I/O and 100 motion axes. The expanded CompactLogix family targets applications with fewer than 200 I/O that require high performance and up to 16 motion axes. Featuring integrated motion on EtherNet/IP™, the CompactLogix controller family can provide the same flexibility, reduced development time and ease of use as larger-scale systems.

Additional products and services enhance the expanded Integrated Architecture offering:

- **Mechatronics Design Portfolio:** Comprised of Motion Analyzer 6.0 software, RDD-Series™ direct drive

rotary servo motors, LDC-Series™ and LDL-Series™ linear servo motors, MP-Series™ and TL-Series™ electric cylinders, linear thrusters and MP-Series integrated linear stages. These offerings help engineers better collaborate and reduce development time by providing a common forum where design input from the mechanical, controls, software and electrical engineers can be more easily gathered.

- **Design Tools:** The Drives and Motion Accelerator Toolkit (DMAT) with the Kinetix® 350 joins a range of design tools, including Accelerator Toolkits, Product Selection Toolbox and Sample Code Library.

- **Migration Tools:** Rockwell Automation Ethernet adapters and toolkits help convert competitive solutions and/or migrate older platforms to CompactLogix while maintaining

the existing field wiring and physical footprint of the control cabinet.

- **Stratix 2000™ and 6000 Switches:** The two new switches, powered by Cisco technology, provide high-performance switching capability with tools familiar to IT professionals to help simplify integration into the infrastructure.

- **ArmorBlock® Dual Port EtherNet/IP QuickConnect:** Allows for quick connection between the controller and ArmorBlock module (within 500 ms).

- **Global Solutions and Services:** Suppliers best serve their customers by offering a scalable range of support options, allowing them to select the service level that best matches their corporate goals, internal technical capabilities and budgets. Rockwell Automation® provides one of the most comprehensive service portfolios in the industry.