Solutions in Action

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Automated with Rockwell Automation

Allen-Bradley · Rockwell Software

The Festo-Didactic instrumentation and process control training system is designed to demonstrate process applications across a range of industries.

Allen-Bradley ControlLogix
Programmable Automation Controller

Allen-Bradley PowerFlex 525
AC Drive

Allen-Bradley PanelView Plus 6
Graphic Terminal

It's no secret that the demand for skilled workers is accelerating. The retirement of older workers combined with increasingly complex technology has made training a priority for virtually all industries.

Universities, colleges and vocational schools must ensure students develop the right skills to succeed in the workplace. Manufacturers, too, must create training programs that help workers gain new knowledge quickly.

For more than 50 years, Festo Didactic has provided educational solutions encompassing all areas of factory and process automation. The company's learning systems simulate real-world situations – and provide students with direct access to industrial knowledge and technology. Headquartered in Denkendorf, Germany, Festo Didactic has core locations in Eatontown, New Jersey and Quebec City, Canada.

"To be successful, students must gain both theoretical and practical knowledge," said Stéphane Casse, global product manager for process automation, Festo Didactic. "Our turnkey learning systems are holistic – and address a broad range of specific requirements."

Recently, the company upgraded its instrumentation and process control training system to feature the PlantPAx® distributed control system (DCS) from Rockwell Automation. The portable, modular training unit is designed to demonstrate process applications across a range of industries, including water and wastewater, oil refining, petrochemical and food.

The comprehensive training curriculum covers PlantPAx capabilities, including basic and regulatory control functions – and complex process loops. In addition, the training system shows how the PlantPAx DCS works with temperature, pressure, flow and level components – and how it integrates with instrumentation from Endress+Hauser, a Rockwell Automation strategic alliance partner.

The training unit has two sections – a process workstation and an instrumentation workstation. The process workstation includes devices such as valves, centrifugal pumps, reservoirs, sensors and transmitters. The other station features controllers, recorders, touch-screen interfaces and electrical components. The system can be used with commercial touch-screen computers, side-mounted on mobile arms to recreate operator interfaces or engineering stations.

Each training system also comes with a comprehensive instructor guide and student manual, which outline the curriculum and provide complete theory along with practice exercises.

"It's a flexible system that can be modified to reflect the instructor's training objectives and budget," Casse explained. "Several configurations are possible based on the number of teams the workstation must accommodate and which process loops and equipment the instructor wants to use."

The scalable unit typically features either an Allen-Bradley® MicroLogix™ controller to run with FactoryTalk® View HMI software, or a choice of the Allen-Bradley CompactLogix™ or ControlLogix® controller to run the PlantPAx system.

The PlantPAx workstations also include two Allen-Bradley PowerFlex® 525 AC drives, an Allen-Bradley Stratix® 5700 industrial managed Ethernet switch, and an Allen-Bradley PanelView™ Plus 6 graphic terminal. The PlantPAx control station runs FactoryTalk View Site Edition (SE).

Like many process plants today, the training unit uses multiple network protocols including EtherNet/IP,™ Hart,® PROFIBUS PA and FOUNDATION™ Fieldbus.

"In the training system, we demonstrate how these communication protocols can work together with Rockwell Automation technology to achieve real-time data management," Casse said. "The system allows students to configure the various temperature, pressure, flow and level transmitters and achieve communication with the controller."

In addition, system modularity delivers the flexibility many educational organizations seek.

"Since our systems are modular, new functionality can be added cost-effectively," said Mathieu Plourde, head of global marketing instruments, Festo Didactic. "If a new controller or transmitter becomes available, our customers can modify just that segment of their training unit."

Festo Didactic has a loyal customer base and has seen increased demand for their learning systems in recent years.

"Instructors are pleased with the performance of their learning systems and see a lot of benefits working with Rockwell Automation technology," Plourde said. "We have collaborated with Rockwell Automation for more than 25 years – and look forward to continuing our work together."

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