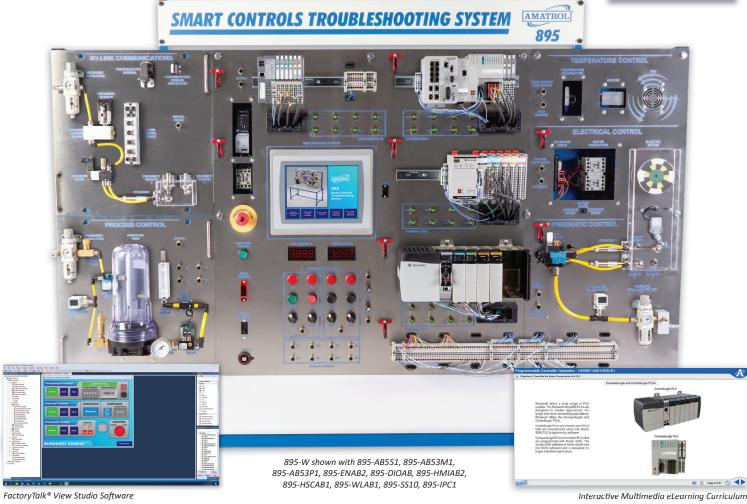
### **Smart Controls Troubleshooting**

895





### **Learning Topics:**

- PLC Troubleshooting
- Basic PLC Programmin
- Advanced PLC Programming
- ControlLogix Configuration
- CompactLogix Configuration
- Analog I/O Control
- PID Control
- Variable Speed DC Motor Control
- AC VFD Control
- Motion Control (Servo)
- Math and Data Instructions
- Distributed I/C
- Ethernet/IP Communications
- Managed Ethernet Switches
- Ilo I Smart Sensors with IO-Link
- Process Contro
- Electronic Operator Interfaces (HMI)
- Wireless Ethernet Communications
- Cyber Security
- Data Analytics-Cloud Communication

Amatrol's Smart Controls Troubleshooting (895) teaches users the hands-on programmable logic controller (PLC) troubleshooting skills they need to excel in today's jobs that feature a wide variety of applications with Industry 4.0 technologies. Users will learn how to operate, program, and troubleshoot PLCs that interface with many different types of applications, including electro-pneumatics; motor control; temperature control; variable frequency drives; smart sensors; process control; and I/O Link communications.

This tabletop system provides hands-on experience with real-world components, including three different types of powerful Allen-Bradley PLCs (ControlLogix, CompactLogix Modular, and CompactLogix); distributed I/O using Ethernet/IP communications with industrial managed switches; smart sensors; smart motor drives; intelligent interface terminals; wireless Ethernet communications; and process control applications. Students will study industry-relevant applications and learn hands-on skills that will build a strong foundation for a successful career in a variety of industries that use advanced Industry 4.0 smart controls technologies.



#### **Advanced PLCs**

Full range of PLC technology with multiple PLCs, including ControlLogix and multiple styles of CompactLogix

# Advanced Ethernet/IP Networking

Comprehensive industrial Ethernet/IP communications with distributed I/O, wireless Ethernet, advanced Ethernet managed switches, cyber security modules, and data analytics software



#### **Advanced Applications**

Discrete, analog, and Ethernet I/O applied to applications, including: variable and constant speed motor control, electro-pneumatics,



digital and PID temperature control, smart sensors, variable frequency drives, process control, and motion control

#### Modular

Modular application panels remove easily to quickly change applications and expand the system applications. Control and Communication Devices readily attached to DIN rail mounts to expand the system controls.





#### **Quick Setup**

Applications and control devices attach with individual quick disconnect cables to allow students to quickly mix and match and create new control schemes. No time wasted doing laborious wiring.



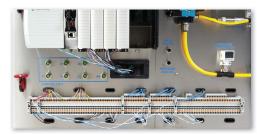


### Multiple Student Workstation

Multiple operator stations and multiple human machine interface options permit multiple students to use the system at the same time. It is two stations in one.

#### **Hand Wiring with Quick Disconnects**

Terminal strips allow students to learn point-to-point wiring. Quick disconnect cables connect the wiring strips to any PLC or application or disconnect the wiring function when quick setup is needed.



#### **Computer-Based Fault Insertion**



Over 50 real world faults can be automatically inserted throughout the workstation components by a computer-controlled system that tracks student progress and gives feedback. Students learn how to quickly find and correct problems.

## Interactive Multimedia Curriculum with Virtual Simulators

The interactive multimedia online courses provide an engaging and highly instructional method of learning anytime, anywhere. Courses feature stunning 3D graphics and videos, voice and text narration, and interactive exercises, including virtual simulations.

