

TROUBLESHOOTING INDUSTRIAL CONTROLS 1

SIMULATION

Troubleshooting Industrial Controls 1 (TIC1) is an excellent tool for developing and practicing advanced troubleshooting skills. The simulation involves a fluid processing system often found in industrial and manufacturing settings such as the food and beverage and petrochemical industries.

Your professionals will diagnose and repair the kinds of faults commonly found in this type of system, involving the heating, pumping, and mixing of multiple liquids in a batch process.

THE SIMULATION FEATURES

Realistic fluid processing system scenario

A system using three-phase power devices including a pump, agitator, heaters, motors, contactors, and overloads

A control system consisting of typical components, such as: transformers, temperature, float and selector switches, relays and timer relays, solenoids valves and circuit protection, including fuses and breakers

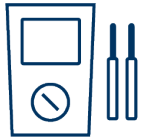
Adaptive learning that will assess a user's skill level and customize the program accordingly

Detailed 3D environment

Conformance to NEMA standards

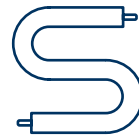
North American and International versions





Multimeter Workout

In this simulation, your professionals will continue working with the key troubleshooting tool. Using the multimeter, users will be able to take voltage, resistance, and current readings.



Work with Wires

Users will be able to troubleshoot loose connections as well as open and shorted wires. The user can then disconnect, reconnect, trace, and replace suspected wires.



System Control

This simulation is designed to teach users how to use timer relay and standard relay logic to control a system. Troubleshooting opportunities include:

- Alarms and emergency stop control
- Level control
- Mixing/agitating control
- Heating control
- Pump and drain control



Solving Faults

Your professionals will be exposed to simulated electrical and mechanical failures. Fault attempts are assessed and then used to customize a path through the program, maximizing the quality of each user's learning experience. Each fault will contain one or more of the following:

- Motor winding issues
- Defects within relays, contactors, and solenoids, including open and shorted coils and faulty contacts
- Loose terminal connections
- Wire issues, including opens and shorts to ground
- Three-phase motor overloads and protective equipment
- Defective electrical and electro-mechanical components such as: heater elements, temperature switches and float switches