

TROUBLESHOOTING INDUSTRIAL SENSORS

SIMULATION

Troubleshooting Industrial Sensors (TIS) is an advanced simulation, involving PLC control with the addition of analog sensors. Set in a greenhouse environment, these sensors are used to monitor temperature, humidity and light in real time.

Your professionals will learn how to:

- Diagnose sensor and transducer errors and determine when to calibrate or replace these devices
- View configuration settings for the PLC analog modules. View alarm and alarm deadband settings
- Interpret ladder diagrams involving Greater Than (GEQ), Less Than (LEQ) and Compare instructions as well as Timers.

THE SIMULATION FEATURES

- **Greenhouse setting**
- Detailed **3D environment**
- **Numerous components including: PLC Components** - a PLC CPU, an 8-input digital input sourcing module, a 16-output digital output relay module, a 4-input analog input module configured for 4–20 mA current loops, an RTD input module; **Analog Input Devices** - a quantum light transducer, an RTD temperature sensor, a capacitive type humidity transducer; **Output Devices** - exhaust fans, HPS lights, infrared heaters and solenoid controlled foggers
- **Adaptive learning** that assesses users' skill level and customizes the program to the individual's performance
- **Printable resources**, including circuit diagrams, schematics, worksheets, and system operation manual
- Conformance to **NEMA standards**
- **North American** and **International** versions



Adjusting Environmental Conditions

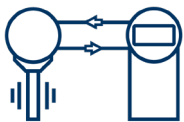
In this simulation, your professionals will be able to adjust environmental conditions in the greenhouse and see how the system reacts in real time according to the setpoints. Reactions include:

- Heaters and exhaust fans in response to temperature changes
- Foggers and exhaust fans in response to humidity changes
- Lights in response to external light conditions



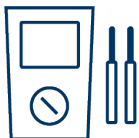
Manual Control

Users will be able to take manual control of all output devices to optimize diagnosis and testing of the system.



4 - 20 mA Current Loop

This simulation includes a 4-input analog input module configured for 4–20 mA current loops. Users can measure current on the humidity and light transducer current loops to verify the signal value.



Multimeter Workout

Your professionals will use the multimeter to test a wide range of faults involving shorts, opens, and component failures with all of the devices and connecting wires.