Level 1: Fundamentals

PLC—Sensors I

Level 1

As manufacturing and industry become increasingly automated, understanding sensors is crucial. Sensors act as the eyes, ears, touch, and feel of automated systems, sending signals to the system's "brain" to trigger appropriate responses. This certification introduces participants to various sensors commonly used in industrial automation. Hands-on experience is central to teaching sensor fundamentals, with practical examples demonstrating the operational principles of different sensors. Special attention is given to selecting the right sensor, proper connection, correct settings, and functional checks. The certification is derived from an extensive library of industry specific industry technology training.

Industry Recognized Certification Topics

- Configuration, function and coefficients of the sensors used
- Basic principles of connection and circuit technology
- Influence of shape, material, surface and color of the object on the switching characteristics of sensors
- Terms which describe coefficients and functional behavior
- Configuration of logic circuits
- Selecting appropriate sensors by taking into account certain parameters
- Calibration of sensors
- Signal processing
- Safety standards
- Application-specific sensors

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Industry Recognized Certification Competencies

- Understand and explain fundamentals of sensor technology
- Recognize sensor functionality and select the appropriate sensor for various industrial applications
- Interpret the language, symbology, and protocols commonly used in the sensor field
- Explain how the various types of sensors work and function
- Make electrical connections and test the sensor for proper operation
- Troubleshoot, repair/replace a faulty sensor
- Configuration and function of sensors used
- Basic principles of connection and circuit technology
- Configuration of logic circuits
- Selection of appropriate sensors by considering specific parameters
- Signal processing and filtering
- Calibration and maintenance of sensors