MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

PRACTICAL INSTRUMENTATION FOR AUTOMATION AND PROCESS CONTROL

"Enhancing Process Reliability Through Hands-On Instrumentation Skills"

Schedule

Date	Venue	Fees (Online)
09 – 10 Dec 2026	Online	USD 700 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Instrumentation plays a critical role in automation and process control, ensuring accurate measurement, monitoring, and control of industrial operations. This 2-day online training provides participants with practical knowledge of instrumentation devices, sensors, transmitters, and control systems, enabling effective monitoring and control of industrial processes.

Through interactive sessions, case studies, and hands-on exercises, participants will develop the skills to select, install, calibrate, and troubleshoot instrumentation for optimal performance. The course emphasizes real-world applications and best practices to enhance process reliability, safety, and operational efficiency.

Objectives

By the end of this course, participants will be able to:

- Understand the fundamentals of instrumentation used in automation and process control.
- Identify and select appropriate sensors, transmitters, and control devices.
- Perform calibration, installation, and troubleshooting of instrumentation.
- Interpret process data and integrate instrumentation with control systems.
- Apply best practices to ensure process efficiency, safety, and reliability.

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Why Attend

- Gain hands-on knowledge of industrial instrumentation and control devices.
- Improve process monitoring, data interpretation, and decision-making.
- Learn best practices for installation, calibration, and troubleshooting.
- Enhance operational reliability and reduce downtime.
- Network and share insights with peers and industry professionals.

Target Audience

This program is designed for:

- Instrumentation and control engineers
- Process and automation engineers
- Operations and maintenance personnel
- Reliability engineers and technicians
- Industrial engineers involved in process monitoring and control

Individual Benefits

Key competencies that will be developed include:

- Knowledge of sensors, transmitters, and control devices in process automation
- Skills in installation, calibration, and troubleshooting of instrumentation
- Ability to interpret process measurements and data
- Proficiency in integrating instrumentation with control systems
- Improved problem-solving and operational decision-making capabilities

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Enhanced process control and operational reliability
- Improved safety and compliance in automated processes
- Reduced downtime and maintenance issues
- Efficient utilization of instrumentation and control systems
- Strengthened capability to optimize process performance

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Overview of instrumentation principles and process control fundamentals
- Case Studies – Real-world examples of instrumentation applications and troubleshooting
- Workshops – Hands-on exercises for calibration, installation, and testing
- Peer Exchange – Group discussions on operational challenges and best practices
- Tools – Templates and guides for instrumentation selection, calibration, and maintenance

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Course Outline

Detailed 2-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Fundamentals of Instrumentation

Module 1: Introduction to Process Instrumentation (07:30 – 09:30)

- Role of instrumentation in automation and control
- Types of sensors, transmitters, and measuring devices
- Key principles of process measurement

Module 2: Installation and Calibration (09:45 – 11:15)

- Correct installation practices
- Calibration techniques for sensors and transmitters
- Troubleshooting installation and calibration issues

Module 3: Process Data Interpretation (11:30 – 01:00)

- Reading and analyzing instrumentation signals
- Understanding measurement accuracy and errors
- Integration with control systems

Module 4: Workshop – Hands-On Exercises (02:00 – 03:30)

- Practical exercises in installation, calibration, and signal interpretation
- Interactive discussion and feedback

Day 2: Advanced Instrumentation Practices

Module 1: Advanced Sensors and Devices (07:30 – 09:30)

- Specialized sensors for temperature, pressure, flow, and level
- Selection criteria for industrial applications

Module 2: Troubleshooting and Maintenance (09:45 – 11:15)

- Common issues and corrective actions
- Preventive and predictive maintenance practices

Module 3: Process Control Integration (11:30 – 01:00)

- Linking instrumentation with automation and control systems
- Data acquisition, signal processing, and feedback control

Module 4: Workshop and Q&A (02:00 – 03:30)

- Practical exercises on troubleshooting and control integration
- Interactive discussion and lessons learned

Certification

Participants will receive a Certificate of Completion in Practical Instrumentation for Automation and Process Control, validating their expertise in instrumentation fundamentals, calibration, troubleshooting, and integration with industrial process control systems.

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Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
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