



ICE023

Smart Field Devices Configuration and Testing

Course Introduction:

This five days course offers a broad perspective of Smart Field Devices, including transmitters and valve -positioners. The emphasis is on more reliable information gathering, decreased maintenance time, ease-of-use, and multi-tasking capabilities. You will cover use in conventional systems, and enhancements / improvements when combined with digital control networks.

Course Objectives:

Upon successful completion of this course, the delegates will be able to:

- ✓ Differentiate between analog and digital instruments
- ✓ Understand how digital signal sampling works in digital instruments
- ✓ Identify the strengths and weaknesses of digital instruments
- ✓ Explain the basics of serial digital communications
- ✓ Understand the effects of using digital instruments in closed loop control
- ✓ Configure and calibrate Smart/digital Field Devices
- ✓ Configure intelligent control valves
- ✓ Understanding digital multivariable transmitter

Who Should Attend?

This course is intended for all Instrumentation and Control Engineers & Technicians, Communication Engineers, Operation Engineers, Process and Utility Supervisors, Technical Management, and Technical Supervisory personnel involved in Configuring and Testing Smart Field Devices.

Course Outline:

PRE TEST

Introduction

Analog vs. Digital Instruments:

- Analog Limitations
- Calibration of Analog vs. Digital Instruments, and
- Flexibility of Digital Instruments

Digital Signal Sampling:

- Sampled Signal Characteristics,
- Output of A/D Converter
- Slow Sampling

Strength and Weaknesses of Digital Instruments:

- Effect on Performance
- Multiple Measurement
- Programming for Field Level Control,
- Future Development

Intelligent Control Valves:

- Digital Positioners
- Diagnostic Tools
- Adding PID Controllers to Control Valves

Serial Digital Communications:

- Parallel to Serial Converter
- Modem

Proprietary Bus Systems:

- Overview of Bus Systems
- Need for Open Bus System

Intelligent Multivariable Transmitters:

- How they work
- How they can transmit multiple variables

Post test

المركز العالمي للتدريب والتطوير
International Centre For Training & Development

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods

- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Fees:

To be advised as per course location. This rate includes participant's manual, and-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session