



Training Program:

Configuring and Testing Smart Field Devices

INTRODUCTION:

This 5 day 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

WHO SHOULD ATTEND?

This Intensive five-day instructional program covering the educational needs of 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. No specific prerequisite training or experience required for registration.

METHODOLOGY:

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

CERTIFICATE

BTS attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration.

COURSE OBJECTIVES:

Participant 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
- Recognize the capabilities of HART™ communication
- Understanding digital multivariable transmitter

COURSE OUTLINE:

1- Analog vs. Digital Instruments:

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

2- Digital Signal Sampling:

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

3- Strength and Weaknesses of Digital Instruments:

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

4- Intelligent Control Valves:

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

5- Serial Digital Communications:

- Parallel to Serial Converter,
- Modem

6- HART™ Communication:

- Features,

- Master/Slave Communications,
- Point-to-Point,
- Capabilities of HART™

7- Proprietary Bus Systems:

- Overview of Bus Systems,
- Need for Open Bus System

8- SP50 Fieldbus:

- What It Is,
- How Instruments Operate

9- Intelligent Multivariable Transmitters:

- How they work,
- How they can transmit multiple variables