Fieldbus Foundation

Configuration, Commissioning, Installation, Troubleshooting, and Maintenance

Introduction

A growing number of important process components may now be configured, installed, commissioned, troubleshooted, operated, and maintained thanks to communication networks like the Fieldbus Foundation (FF). Process controllers, process safeguarding, valve positioners, intrinsic safety, and transmitters are some of these crucial process components. Therefore, using networks like Foundation Fieldbus is essential to running a process in a way that is correct, effective, and safe. The foundations of Foundation Fieldbus and its appropriate use in process control applications are covered in this course.

This lecture will emphasise:

- Data transmission and Foundation Fieldbus principles
- Applications of Foundation Fieldbus for Process Control
- Function blocks and Foundation Fieldbus operation Foundation Fieldbus troubleshooting and maintenance Wiring, configuration, installation, and commissioning

Objectives

After attending this session, you will be able to:

- Recognise the basics of data communications
- Learn about the Foundation Fieldbus's underlying technologies.
- Process control using Foundation Fieldbus concepts
- Create setups for process controllers with FF Function Blocks.
- Recognise the different methods for configuring, installing, commissioning, troubleshooting, and maintaining FF devices.

Training Methodology

Both inexperienced and seasoned engineers, operators, and technicians could benefit from taking this course. Case studies and instructor presentations make up the training technique. A series of videos covering the primary course topics come next. Workshops taught by instructors with engaged delegation involvement complement this. Through active involvement in review activities and questionnaires covering each key topic,

attendees will gain knowledge throughout the session.

Organizational impacts

Following the delegates' return to their workplace, organisations will gain:

- Participants went over the key ideas of Fieldbus Foundation (FF) and data connections.
- Participants were given an introduction to using FF for process control.
- Participants gained knowledge about how to use FF Function Blocks to configure process controllers.
- Participants acquired a fundamental understanding of how FF networks and devices operate.
- The participants acquired knowledge on how to wire, configure, install, and commission networks and FF devices.
- Participants gained knowledge about FF device and network maintenance and troubleshooting procedures.

Personal Imapct

Delegates will gain the following advantages when they get back to their place of employment:

- Take part in specialised training on Foundation Fieldbus and data communications.
- Learn everything there is to know about Foundation Fieldbus networks and devices.
- Acquaint yourself with the use of FF in process control.
- Expand their understanding of the installation, commissioning, and operation of Fieldbus Foundation.
- Take part in workshops and drills.
- Make connections with other delegate

Who should attend?

A wide spectrum of professionals interested in understanding and using Fieldbus Foundation and data communications to process control and instrumentation should find this course interesting.

- Professionals of all stripes can profit from this course, however the following are the main advantages:
- Engineers specialising in automation, chemistry, and processes Installers and maintenance personnel
- Process operators, instrumentation and control engineers

- Managers of Production and Projects

Additional experts seeking a deeper comprehension of the topic

Course Outline

Day 1

An Overview of Process Control, Instrumentation, and Fieldbus Foundation

- Process control and instrumentation review
- Systems for process control
- Input, Outflow, and Recurring In charge
- PID controller is one of the control algorithms.
- Sensitive (smart) transmitters and sensors
- Actuators, positioners, and control valves
- Fieldbus infrastructure
- Foundation Fieldbus Overview: Advantages

Day 2

Networks, Data Communications

- Basis Fieldbus Analysis of Computer Networks for Data Communications
- OSI Reference Model
- H1 and HSE FF Foundation Fieldbus Architectures
- The Link active scheduler (LAS) and the publisher/subscriber model
- FF Transmitters FF Layer FF on the physical plane Installation and Wiring

Day 3

Description of the Device and Function Blocks

- Standard and Advanced FF Function Blocks
- FF's configuration Blocks of Function
- Diagnostics and Data Quality
- Descriptions of Devices
- Files with Capabilities

- Examples of Configurations

Day 4

Basis Fieldbus in Instrumentation and Process Control

- The FF Feedback controllers' configuration
- The FF Cascading controllers' configuration
- FF Safeguarding controller configuration
- Setting up FF Transmitters
- FF Control Valve Positioners Configuration

Day 5

Maintenance, Commissioning, Installation, Troubleshooting, and Configuration

- FF and Safety from Within
- Setup, Put into Service, and Commissioning
- Maintenance and Troubleshooting
- Control in the Field (CIF) Configuration
- Additional FF Things to Think About: Process safety and redundancy
- Course synopsis