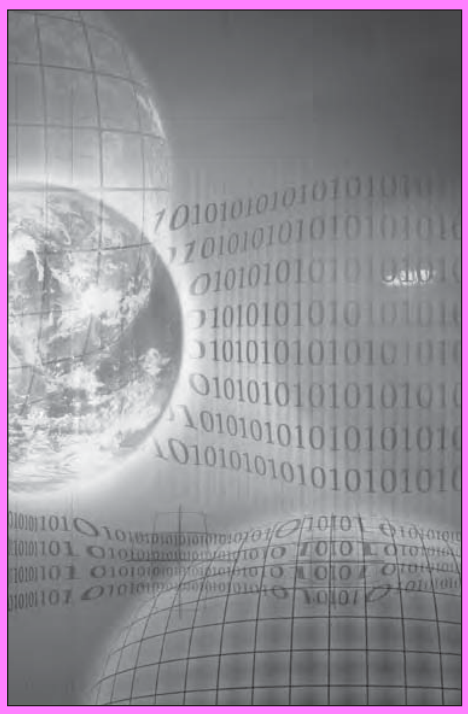
PRACTICAL USE AND UNDERSTANDING OF FOUNDATION FIELDBUS FOR ENGINEERS AND TECHNICIANS



YOU WILL LEARN HOW TO:

- List the differences between a Fieldbus system and the traditional 4-20 mA approach
- Describe the fundamental operation of Foundation Fieldbus
- Describe the main wiring rules of Foundation Fieldbus
- List the main considerations in configuring and installing a Foundation Fieldbus System
- Perform a simple configuration of a Foundation Fieldbus system using Function Blocks
- Perform basic troubleshooting of a Foundation Fieldbus system
- Design fieldbus segments
- Select the proper components to build the segments
- Configure and connect FF field devices to the network.

WHO SHOULD ATTEND:

This workshop is designed for personnel with a need to understand the techniques required to use and apply Foundation Fieldbus technology as productively and economically as possible. This includes engineers and technicians involved with:

- Control and Instrumentation
- SCADA and Telemetry Systems
- Process Control
- Electrical Installations
- Consulting
- Design
- Process Development
- Control Systems
- Maintenance Supervisors
- Project Management
- Instrumentation

The Workshop

Foundation Fieldbus (FF) is one of the leading fieldbuses in Process Automation. Its sophisticated architecture is tailor-made for today's automation systems. Its unique set of features allows for the implementation of true distributed control. The Foundation Fieldbus includes an H1 protocol based on IEC 61158-2 physical layer specification as well as an HSE standard for communication over Ethernet/IP. These features and the possibility for distributed control make the Foundation Fieldbus unique for process control application.

The main aim of this workshop is to give you a clear understanding of Foundation Fieldbus and to enable you to specify and design systems using this technology. In the past year there has been a surge of interest in Foundation Fieldbus due to the tremendous benefits it provides. This workshop aims to break down the terminology and jargon barriers and to explain Foundation Fieldbus in a simple and understandable way; thus enabling you to apply the technology effectively.

Delegates will gain a solid understanding of proper wiring practices when applying FF in non-incendive, explosion-proof, and intrinsically safe hazardous areas.

The course includes an introductory overview of the technology of Foundation Fieldbus and its specifications. During the course you will gain knowledge about the architecture of Foundation Fieldbus and its relation to other communication systems.

Benefits and limitations will be discussed, so that you are in the position to evaluate the benefit of the Foundation Fieldbus for your individual application.The information will be demonstrated on a multi-vendor application.

Pre-requisites:

A basic working knowledge of industrial communications and applications is useful.

The Program

INTRODUCTION AND OVERVIEW OF FOUNDATION FIELDBUS

- Theory of FF technology
- Key features and benefits of FF
- Topologies, cable types, and constraints
- Components required for building FF segments

HANDS-ON FOUNDATION FIELDBUS

- Design of FF segments - power, voltage, device load constraints
- Wire and configure devices to a process control system
- Installation in hazardous areas

ECONOMICS OF FOUNDATION FIELDBUS

- Quantifying potential savings
- Justifying a FF project

FOUNDATION FIELDBUS CHARACTERISTICS

- connection types (cyclic/acyclic, one-to-one, one-to-many)
- Fieldbus Message Specification
  - coding of information
  - accessing data (process data/ configuration data)
- Function Block Application
- High Speed Ethernet

ROOTS OF FOUNDATION FIELDBUS (IN ISP, PROFIBUS)

- Explanation of basic elements (OSI model etc.)
- IEC 61158 transmission technology
- "Data Link Layer"
  - device types and services ("Link Master", "Field Device")
  - address formats
  - connection types
  - DLL schedule
- basics FMS object dictionary, communication relations, services
- "Network Management"
- "System Management"
- "Function Blocks" (concept, types, elements)
- linking of "Function Blocks" to communication interfaces

SUMMARY, OPEN FORUM AND CLOSING