

ABB UNIVERSITY COURSE DESCRIPTION

T308

System 800xA with AC 800M Hardware Maintenance and Troubleshooting

Course goal

The goal of this course is to learn how to troubleshoot and maintain the AC 800M hardware in an Extended Automation System 800xA. On the last day of the course, the tools and methods learned will be applied to some typical use cases which might appear in practice.

Learning objectives

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

- Explain the System 800xA architecture and the function of the different components
- Operate objects through faceplates
- Handle alarms
- Navigate in the Project Explorer
- Describe the structure of application programs i.e. variables, libraries, programs, tasks
- Configure the AC 800M hardware and corresponding I/O's
- Load the controller and work in online mode
- Troubleshoot and exchange AC 800M hardware
- Troubleshoot PROFIBUS and ModuleBus communication to the S800 I/O's
- Trace signals in Control Builder applications using different programming techniques
- Troubleshoot the OPC communication to the AC 800M controller
- Trace alarms from the Human System Interface (HIS) down to control logic

Participant profile

This training is targeted to first level maintenance personnel.

Prerequisites

Students shall know the fundamentals of working with Control Systems and have basic knowledge of Microsoft Windows 7.



Topics

- Course introduction
- System 800xA architecture
- Operation
- AC 800M hardware
- Controller preparation
- Control Builder overview
- Plant Explorer Workplace
- Hardware troubleshooting
- Search and navigation
- Signal tracing in Function Block Diagram
- Signal tracing in Structured Text
- Signal tracing in Control Modules
- Signal tracing in Sequential Function Charts
- Signal tracing in Diagrams
- Signal tracing from 800xA Workplace
- Troubleshooting (use cases)

Course type and methods

This is an instructor led course with interactive classroom discussions and associated lab exercises. Approximately 50% of the course is hands-on lab activities.

Course duration

The duration is 5 days.

Course outline

Day 1

- Course overview
- System 800xA architecture
- Operation
- AC 800M hardware
- Controller preparation

Day 2

- Control Builder overview
- Plant Explorer Workplace
- Hardware troubleshooting
- Search and navigation

Day 3

- Signal tracing in Function Block Diagram
- Signal tracing in Structured Text
- Signal tracing in Control Modules
- Signal tracing in Sequential Function Charts

Day 4

- Signal tracing in Diagrams
- 800xA Status Monitoring
- MMS communication
- Signal tracing from 800xA Workplace

Day 5

- Troubleshooting (complex cases)