

ABB Marine Academy course description

H894 – Marine 800xA and AC800M automation training - System diagnostic and troubleshooting

Course goal

The goal of this course is to learn how to perform regular maintenance, engineering activities and troubleshooting on 800xA-based automation systems and AC800M connectivity, installed in Cruise applications, O&G installations and Land-Based Factories.

Learning objectives

After this course, students will be able to understand the philosophy of 800xA-based system, fully use main 800xA engineering functionalities, in order to maximize productivity, troubleshoot common issues, reducing decision time, perform engineering activities for runtime operations and optimize the process.

Contents

- 800xA IAMCS philosophy, products overview
- Systems layout and hardware configurations and setup
- AC800M PLC programming
- S800 I/O modules
- Base concepts of CPU programming (libraries, tasks, variables, user-defined programs, I/O)
- Function Block and Control Modules programming
- System maintenance
- Shutdown/start-up procedures for board replacement
- Engineering, diagnosis and troubleshooting
- MMS and ProfiBus connectivity
- Application download to AC800M PLCs
- 800xA Process Graphics
- Trending and historical data
- System backup/restore
- Specific topics on request (SIL, SOE I/O, Shutdown System, IEC61850, Rex6xx Goose, VICO Libraries)



Methods

Workshop and Lecture session

Level

Medium and Advanced

Student profile

Electro-technical personnel at support and operational level

Prerequisites

Basic knowledge or experience in working with 800xA Systems is advisable.

Duration

5 days

Venue

Genova
Rotterdam

Additional information

Minimum 6, maximum 8 participants

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Course outline

Day 1

- Introduction
- I/O Signal Theory and S800 product line
- Network & Field communications
- Workshop: wiring of an I/O remote station
- Use of CBM Engineering Software (I/O quality checking)

Day 2

- AC800M PM8xx and CEX boards overview
- Use of CBM Engineering Software (Program building)
- Variables (I/O mapping)
- Function Block and Control Modules programming
- Alarms and Events configuration
- Workshop: creation of Control Modules and FB software

Day 3

- Specific Client/Server architectures and OPC protocol
- Definition of Aspect, Connectivity, Application servers and OS
- Microsoft products hosting 800xA (RDP, DC, DNS definition)
- RNRP and Network Redundancy
- Diagnostic Tools (System Status Viewer, RNRP monitor)

Day 4

- Operator Interface (Faceplates, Buttons, Bands)
- Process Graphic Building
- Process Sectioning and Plant Security
- Workshop: shutdown/startup procedures

Day 5

- Historical Data Collection
- Trend Charts configuration
- Full System Backup
- Final certification of attendees