

T333

System 800xA with AC 800M



The goal of this course is to learn engineering for the full integration (horizontal and vertical) of IEC 61850 devices into the Extended Automation System 800xA. It includes integration through OPC directly to the HSI for status information such as Asset Optimization and integration to the AC 800M controller for demanding/fast applications such as Power Management. The .scd file, generated by the Substation Automation engineering group, could be imported and could complete necessary configurations.

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.

Student Profile

This training is targeted to system and application engineers, commissioning and maintenance personnel, service engineers and system integrators.

Prerequisites

Students should have attended the course T315C “Engineering with Control Builder” and T315H “Engineering with HIS” or have knowledge and experience associated with the content of this course. The required knowledge should be verified via the user assessment T710-01e “Engineering using AC 800M”.

Course objectives

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

- Describe the basics of Substation Automation and Explain the basics of the IEC61850 standard
- Describe the engineering workflow, the different engineering tools and the integration process
- Do basic network and switches configuration
- Configure an IED using ABB PCM 600 (Protection and Control IED Manager) as IED specific configuration tool
- Explain the basic handling of the engineering tools such as ABB IET
- Import the IEC61850 data into System 800xA

- Configure the IEC61850 OPC server
- Enhance the IEC61850 object type library
- Configure IEC61850 alarm and events
- Build IEC61850 device faceplates
- Configure CI868 card as an IED
- Import the IEC61850 data into Control Builder
- Map the IEC61850 GOOSE messages to the IEC 61131-3 application variables
- Handle redundancy of IEC61850 in AC 800M and the OPC server
- Analyse faults

Main topics

- Course introduction
- Introduction Substation Automation
- IEC61850 standard
- System integration principals
- IEC61850 network
- ABB PCM 600
- ABB IET (Integrated Engineering Tool)
- Import .SCD file in System 800xA
- Substation Configuration Aspect
- IEC61850 Object types enhancement
- IEC61850 OPC server
- IEC61850 Alarm and Events
- CI 868 card as IED (Intelligent Electrical Device)
- GOOSE engineering in IET
- GOOSE engineering in PCM600
- Import.SCD file in Control Builder M
- GOOSE engineering in Control Builder M
- Horizontal redundancy
- Vertical redundancy
- Fault Analysis

Duration

The duration is 5 days

Course Outline

Day 1	Day 2	Day 3	Day 4	Day 5
<ul style="list-style-type: none">• Course overview• Introduction Substation Automation• IEC61850 standard• System integration principals• IEC61850 network	<ul style="list-style-type: none">• ABB PCM 600 (Protection and Control IED Manager) as IED specific configuration• ABB IET (Integrated Engineering Tool)• IEC61850 object types enhancement	<ul style="list-style-type: none">• Import .SCD file in System 800xA• Sub-Station network object• and Aspect Engineering• IEC61850 OPC server• IEC61850 alarm and events• CI868 card as IED (Intelligent Electrical	<ul style="list-style-type: none">• MMS Engineering CI868 in IET and PCM600• GOOSE engineering in IET• GOOSE engineering in PCM600	<ul style="list-style-type: none">• Import.SCD file in Control Builder M• GOOSE engineering in Control Builder M• Horizontal redundancy• Vertical redundancy
