T413e
System 800xA Advanced Process Control

Course goal

The goal of this course is to learn the new generation, Advanced Process Control tool that is closely integrated with system 800xA. The aim is to simplify and demystify the deployment of Advanced Process Control Applications.

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
- Knowledge on the basics of Model Predictive control and Understand the challenges of Multivariable control loops and how APC helps overcome them.
- Understand the basics of Model Building tool and how a model/ MPC controller is created and exported for further use.
- Understand the Architecture of 800xA APC Runtime, Installation and loading 800xA APC system extensions.
- Create or edit a control project to engineer the APC Application. Configure the APC Application inside the System 800xA.
- Create the APC Manager, and associate the APC Applications. Import and Export the APC Controller ID files into the APC Runtime.
- Setting PID to handover the control to APC Controller.
- Familiarize with the Alarms and messages provided by the APC. Monitoring the performance of APC Controller using Faceplates.
- Using the APC Controller status and representing it in different process graphics.
- Scheduling of multiple APC Controllers for performance improvement, running APC Controller in a Multi-node environment and achieving redundancy in APC Controllers.

Participant profile

This training is targeted to system and application engineers, commissioning and maintenance personnel, service engineers and system integrators who are specifically involved or preparing to involve in Advanced Process Control area using model predictive technologies.

Prerequisites

Students shall know the fundamentals of working with Control Systems and have basic knowledge of Windows 7/2008 Server and networking technologies.
The participants shall have good working experience on System 800xA workplace, system engineering and application development.

Topics

- Introduction
- Challenges with multivariable control
- What is 800xA APC, its Basics, Model Builder and Examples
- Architecture, Workflow, Operations and Methods, Data Processing, Initial Controller Design, Simulation & Export.
- Architecture, Workflow and Configuration, Topology of 800xA APC in a multi node system
- Installation of 800xA APC, System pre-requisites, Installation using APC Installer, manual installation, loading system extensions.
- Configuration of 800xA APC Runtime
- Creating and Configuring the APC Application, connecting signals, configuring APC Manager, Scheduling of APC controllers, Loading of Model/Controller IDs into Runtime, Advanced configuration
- Operation of 800xA APC
- Understanding the UI, Viewing APC Trends with predictions, saving and backup of controller IDs, Checking alarms and event messages from the APC controller, Scheduling and Managing APC controllers in multimode and achieving redundancy in APC controllers.

Course type and methods

This is an e-Learning course

Course duration

2 hours

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