ABB

COURSE DESCRIPTION

T315C
System 800xA with AC 800M Engineering, Part 1 – Control Builder

Course goal
The goal of this course is to learn the engineering of a complete control project using the Extended Automation System 800xA with AC 800M controllers and Control Builder as the engineering tool. Note that this course is split in two parts and the follow-up course is T315H for the Human System Interface (HSI) configuration.

Main 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;
— Navigate in the system and create new Objects / Aspects;
— Create a new control project and plan the structure of application programs based on a P&ID and a Functional Specification;
— Configure the AC 800M hardware and corresponding I/O's;
— Handle the standard libraries provided by ABB and develop project specific libraries;
— Design and configure application diagrams by using a variety of IEC 61131-3 languages;
— Define tasks and describe the assignment rules;
— Analyze the controller diagnostics and optimize the CPU load / memory usage;
— Configure user defined object types;
— Setup communication using various protocols;
— Setup the OPC connectivity to AC 800M.

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

Prerequisites
Students shall know the fundamentals of working with control systems and have basic knowledge of Windows operating system and networking technologies.

Topics
— System 800xA architecture;
— Engineering Workplace/Plant Explorer;
— Project and application structures;
— AC 800M hardware;
— Project backup;
— Libraries;
— Variables and data types;
— Function Block Diagrams;
— Structured Text;
— Task assignment and memory;
— Control Modules;
— User defined object types;
— Sequential Function Charts (SFC);
— Communication;
— OPC connectivity.

Course type and methods

This is an instructor led course with inter-active classroom discussions and associated lab exercises for 6-10 participants.

Learning methods and tools

Approximately 50% of the course is hands-on lab activities.

Duration

The duration is 5 days.

Course map

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Topics	• Course overview • System 800xA architecture • Engineering Workplace / Plant Explorer • Project and application structures • AC 800M hardware	• AC 800M hardware • Project backup • Libraries • Variables and data types • Function block diagram • Structured Text	• Structured text • Task assignment and memory • Control Modules	• User defined object types • Sequential Function Charts (SFC)	• Communication • OPC connectivtiy
Time	9:00 am – 6:00 pm	9:00 am – 6:00 pm	9:00 am – 6:00 pm	9:00 am – 6:00 pm	9:00 am – 6:00 pm

Typical course layout (time or sequence may change)