

ABB UNIVERSITY & ONLINE ACADEMY FOR EXCITATION AND SYNCHRONIZATION

# J900 - SYNCHROTECT® 5 Operation and Commissioning

2 days, in person training

## Course goals

SYNCHROTECT® is ABB's automatic synchronization for generators with power lines and for paralleling of synchronous lines. They are designed for fully automatic paralleling of monitoring of paralleling (SYNCHROCHECK) by means of dual-channel or single-channel systems. The course goal is to learn how to operate the device and set up the appropriate system parameter.

## Main learning objectives

The course goal is to teach students to operate the device and set up the appropriate system parameter. Upon completion of this course, attendees will:

- Know the basic requirement of a synchronizing equipment
- Understand the meaning of the parameter settings
- Know how to calculate and change parameters
- Apply SYNCHROTECT® 5 to specific system
- Be able to put the SYNCHROTECT® 5 into operation

## Participant profile(s)

- Project design, commissioning, instrumentation, and control engineers
- Operating, testing and maintenance personnel
- Sales personnel who wish to gain a basic knowledge as well as a system overview

## Prerequisites

- Basic knowledge in electronics and electrical machines

## Delivery and learning methods

- Lectures
- Practical exercises using generator simulator and SYNCHROTECT® rack

## Duration

- 2 days, Number of Participants: Max. 6

## Registration

For registration please contact: [ch-learningcenter-powerelectronics@abb.com](mailto:ch-learningcenter-powerelectronics@abb.com)

Registration Link: J900 SYNCHROTECT® 5

## Notes

Tailor-made on-site courses on request

# Topics

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## Basic synchronizing theory

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- Paralleling conditions
  - Principle of paralleling
  - Modes to paralleling
  - Effects of bad paralleling
  - Hardware-specific information
  - Channel configurations
  - Software and parameter setting
  - How to use the SynView Tool
  - Test and commissioning aspects
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# Virtual Course map

## Typical course layout (time or sequence may change)

**DAY 1** | 8:30 AM – 4:30 PM

- Course overview
- Product overview
- Fundamentals about synchronizing
  - Synchronizing criteria
  - Effect of “bad” paralleling
  - Synchronizing asynchronous grids or sources
  - Synchronizing of synchronous grids or sources
  - Coarse synchronization
- Principle of operation of the SYNCHROTACT® 5
- Various configuration and topology of SYNCHROTACT® 5 combined with SYNCHROCHECK
- Interpretation of the SYNCHROTACT® 5 Parameters
- How to use the SynView Tool
  - How to get started
  - Parameter settings
  - Actual value monitoring
  - Transient Recorder function
  - Faults and Event handler
- Introduction to the training unit used for the hands-on part

**DAY 2** | 8:30 AM – 4:30 PM

- Recap day 1
- Hands-on training using the training units
  - Prepare the system and SynView Tool for the first synchronizing
  - Synchronize the generator to the grid
  - Evaluate the measured values
  - Optimize parameters
  - Verify the effect of parameter settings versus quality of the synchronization
- Engineering aspects
  - How to integrate and adapt SYNCHROTECT® 5 into various system set up
  - Engineering hints
- Commissioning Aspects
  - The commissioning procedure
  - Hints to commissioning
- Maintenance and trouble shooting
  - Recommended maintenance work
  - What to do in case of troubles
  - How to replace defective components

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**Contact us**

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