

Course description

G710 Medium Voltage Drives ACS 1000 Service and Commissioning

Course goal

The goal of the course is to introduce and instruct the service and commissioning engineer to the ACS 1000. To allow them to learn in a safe and instructive environment the techniques required to carry out the correct procedure in commissioning, servicing and maintaining the ACS 1000.

Learning objectives

The participants will learn how to commission, operate, maintain and troubleshoot the ACS 1000 drive system. Upon completion of this course, the participants will be able to:

- understand the drive system topology
- verify and modify drive parameters, locate and replace faulty hardware components
- carry out service and maintenance work as well as fault-tracing.
- using MV Drive Portal database to update the knowledge of the drive, get familiar with spare parts and warranty issues handling.
- start the certification program for commissioning, after completion of the certification program the participants are allowed to commissioning the medium voltage drive system.

Participants

Commissioning engineers, testing and maintenance personnel

Prerequisites

Good knowledge of AC motor and drive engineering
Personal computer knowledge

Topics

Generalities

- ABB Medium voltage family overview
- Three-level inverter topology, DTC control
- Options and typical applications

Hardware description (Power Electronic & Control)

- Component and PCB functions
- Hardware schematics and electrical drawings
- PCB settings and configuration

Water-cooled system

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- Water circuits description
- Pre-commissioning procedure
- Preventive maintenance

Drive commissioning

- Drive system technical and environment requirements
- Commissioning procedure, application configuration
- Tests and reports

Software description

- Software structure, parameter's description
- Pass codes, service parameters
- Software download, programming, parameters upload / download, FW back-up and restore
- Fieldbus programming (interfacing with overriding system)

Fault-tracing and troubleshooting

- Alarm and fault indications
- Measuring and replacing PCB's and power components
- Advanced software functions for troubleshooting, using DriveWindow and DriveDebug
- Warranty managing and reporting
- Getting help from ABB

Methods

Lectures and demonstrations
Practical exercises with demo equipment
Factory visit

Duration

4 days
Max. 8 participants

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G710 Medium Voltage Drives

ACS 1000 Service and Commissioning

Course outline

Day 1	Day 2	Day 3	Day 4
<ul style="list-style-type: none">■ Course overview■ Introduction to IndustrialIT■ AC 800PEC system overview■ AC 800PEC Hardware devices overview, like Combi I/O, LIN Interface, etc	<ul style="list-style-type: none">■ Introduction to the table model■ Software structure and tools overview■ Operation and handling■ Download installation package and doing backup using PEC Installer■ Using PEC Configuration	<ul style="list-style-type: none">■ How to use the PECView tool■ How to use the commissioning tool■ Maintenance and trouble shooting of AC 800PEC■ Ordering	<ul style="list-style-type: none">■ Drive system requirements and installation■ Commissioning■ Hands on training: component's measurements and replacing, troubleshooting exercises■ Service processes■ Preventive maintenance

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