G781 ACS2000 Service & Commissioning training

Course goal

The goal of this course is to introduce the ACS2000 Variable Frequency Drive to the field service engineers and to teach them in a safe and instructive environment the techniques required to carry out the correct procedure in commissioning, servicing and maintaining this drive.

Main learning objectives

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

– Understand the drive system topology
– Carry out basic commissioning, service and maintenance work as well as fault-tracing
– Verify and modify drive parameters
– Locate and replace faulty hardware components
– 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 commission the medium voltage drive system

Participant profile

Commissioning, field service, testing and maintenance personnel of ABB or certified technical partners.

Prerequisites

— Good engineering knowledge of AC drives and motors
— Personal computer knowledge
— Laptop with DriveDebug and Drive-Window loaded, fiber optic programming tool (RUSB-02)

— Successful completion of the e-learning course (G781e)
— The participant will be enrolled automatically into the e-learning course (G781e) by applying for the G781 course.

E-learning topics
Generalities

— ABB medium voltage drives family overview
— Five-level inverter topology, DTC control
— Options and typical applications

Control Hardware description

— Component and PCB functions
— Main circuit diagrams
— PCB settings and configuration

Hardware description

— 6 kV versions, Active Front End (AFE) and Diode Front End (DFE) versions
— 4 kV AFE version

Protection concept

— Fault classes
— Protective reactions

Classroom topics
Generalities

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- MV data base instruction
- Software compatibility and download-ing sequence
- How to use software tools
- How to give a short customer training after commissioning

Demonstration drives
- Component recognition and location
- Starting/stopping procedures
- Motor runs and tuning

Drive commissioning
- System requirements, preconditions for commissioning
- Commissioning procedure, application configuration
- Using DriveStartup for reporting and commissioning

Software description
- Software structure, parameter's description
- Pass codes, service parameters

Fault-tracing and troubleshooting

- Alarm and fault indications
- Measuring and replacing PCB's and power components

Methods
- e-Learning, internet based course
- Lectures and demonstrations
- Practical exercises with training equipment

Follow-up training
- ACS2000 Expert Days

Duration
Ca. 2 days e-learning
4 days classroom training
Max. 8 participants

To register:

Please apply online (signup required):
Motion Upskill/G781
Custom-tailored training courses or standard training at additional course dates are available on request.
Please note: The course is only carried out if at least 4 participants have been booked.

Course outline

DAY 1	DAY 2	DAY 3	DAY 4
—MV database instruction —Component recognition and location —Software downloading —Drive system specifications	—Commissioning manual —Cold commissioning procedure with Drivestartup —Passcode, service parameters —Replacing the phase modules	—First energizes the Drive —First start the motor —Motor model test and optimization —Common Problems during commissioning	—Preventive maintenance —Checking/exchanging semiconductors —Troubleshooting procedure —Troubleshooting exercises

Classroom training

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Hands-on training

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