

## Course description

# G761 ACS6000 Service and Commissioning training

### Course goal

The goal of this course is to introduce and instruct the service and commissioning engineer to the ACS6000. 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 ACS6000.

### 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.
- Set and tune application and motor control parameters.
- Locate and replace faulty hardware components
- Using MV Drive Portal database to update the knowledge of the drive.
- Start the certification program for commissioning; after completion of the certification program the participants are allowed to commission the medium voltage drive system.

### Participants

Commissioning and service engineers, 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 DriveWindow loaded, fiber optic programming tool (RUSB-02 or PCMCIA equivalent)
- Successful completion of the e-learning course (G761e)

### Topics e-learning course (G761e)

#### Generalities

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

#### Hardware description (power electronics & control)

- Main circuit diagrams
- Component and PCB functions

#### Water cooled system

- Water circuit description

#### Protection concept

- Fault classes
- Protective reactions



Classroom training



Hands-on training

## Topics classroom course

### Generalities

- MV data base instruction
- Software compatibility and downloading 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

- Cold commissioning procedure
- Tests and reports
- Calculation of motor parameters

### Software description

- Software structure, parameter's description
- Application programming
- Fieldbus programming (interfacing with overriding system)
- Setting and tuning motor control parameters

### Fault-tracing and troubleshooting

- Alarm and fault indications
- Measuring and replacing power components

## Methods

- E-learning, internet based course
- Lectures and demonstrations
- Practical exercises with training equipment

## Follow-up training

- G769 ACS6000 hands-on training
- G795e DriveMonitor™ e-learning
- ACS6000 Expert Days

## Duration

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

## Enrollment

Participants are kindly requested to apply online for public courses.

## Course outline

Day 1	Day 2	Day 3	Day 4
<ul style="list-style-type: none"><li>- Course overview</li><li>- Revision of G761e e-learning</li><li>- Operation of the drive</li><li>- Drive system requirements</li><li>- Factory visit</li></ul>	<ul style="list-style-type: none"><li>- Power part commissioning</li><li>- Application SW</li><li>- Software tools</li><li>- Control SW overview and programming</li></ul>	<ul style="list-style-type: none"><li>- Motor parameter calculation</li><li>- Voltage control SW (ARU)</li><li>- Torque control SW (AD INU)</li><li>- Torque control SW (SD INU)</li></ul>	<ul style="list-style-type: none"><li>- Preventive maintenance</li><li>- Checking/exchanging semiconductors</li><li>- Service processes</li><li>- Troubleshooting</li></ul>

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