

## COURSE DESCRIPTION

# G711 ACS1000

## Service & Commissioning

### Course goal

The goal of this course is to introduce the ACS1000 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 DriveWindow loaded, fiber optic programming tool (RUSB-02)

- Successful completion of the e-learning course ([G711e](#))
- The participant will be enrolled automatically into the e-learning course (G711e) by applying for the G711 course.

### E-learning topics

#### Generalities

- ABB medium voltage drives family overview
- Three-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

- Air cooled drive
- Water cooled drive
- ACS1000i drive

#### Protection concept

- Fault classes
- Protective reactions

#### Classroom topics

#### Generalities

- MV data base instruction
- Software compatibility and downloading sequence

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- 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, parameters description
- Pass codes, service parameters

#### Fault-tracing and troubleshooting

- Alarm and fault indications

- Insulation resistance measurement
- 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

- ACS1000 Expert Days

#### Duration

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

#### To register:

Please apply online ([signup](#) required):  
[Motion Upskill/G711](#)

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
<ul style="list-style-type: none"> <li>–MV database instruction</li> <li>–Component recognition and location</li> <li>–Software downloading</li> <li>–Drive system specifications</li> </ul>	<ul style="list-style-type: none"> <li>–Commissioning manual</li> <li>–Cold commissioning procedure with Drivestartup</li> <li>–Passcode, service parameters</li> <li>–Insulation test</li> </ul>	<ul style="list-style-type: none"> <li>–First energizes the Drive</li> <li>–First start the motor</li> <li>–Motor model test and optimization</li> <li>–Common Problems during commissioning</li> </ul>	<ul style="list-style-type: none"> <li>–Preventive maintenance</li> <li>–Checking/exchanging semiconductors</li> <li>–Troubleshooting procedure</li> <li>–Troubleshooting exercises</li> </ul>



Classroom training



Hands-on training