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 Drive-Window 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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Learning Center MV Drives
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Visit our page
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.

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**Course outline**

<table>
<thead>
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<th>DAY 1</th>
<th>DAY 2</th>
<th>DAY 3</th>
<th>DAY 4</th>
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</table>
| MV database instruction  
Component recognition and location  
Software downloading  
Drive system specifications | Commissioning manual  
Cold commissioning procedure with Drivestartup  
Passcode, service parameters  
Insulation test | 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 |

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Classroom training  
Hands-on training

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