COURSE DESCRIPTION

G711 ACS1000 Service & Commissioning Classroom training in Turgi, Switzerland

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):
ABB MyLearning/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
—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


Classroom training


Hands-on training

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COURSE DESCRIPTION **ADD-ON** FOR **G711**

G711vc ACS1000 Service & Commissioning Virtual Classroom

Preface

Due to travel restrictions in connection with COVID-19, the access to normal classroom trainings is limited. Therefore, we offer the course also as Virtual Classroom version. Certain parts of the course can be taught through web tools, but some hands-on exercises cannot be covered through web. Therefore, special prerequisites and certification limitations apply.

Main learning objectives and topics

The objectives and topics are the same as for the regular classroom course (see course description *G711 – ACS1000 Service & Commissioning*), except hands-on training requiring power hardware.

Participant profile

Same as for regular classroom course

Prerequisites

- On-site service Basic certificate of another ACS MV Drive
- Successful completion of the preparation tasks

Methods

- In the mornings: Approx. 3h instructor-led Virtual Classroom training (e.g. via MS Teams)
- Interactive training with state-of-the-art online tools in small classes of 5 – 10 participants.
- In the afternoons: Self-learning tasks on training equipment accessed over web, self-study and self-assessments; trainer available for support

Limitations

The following topics cannot be covered to the same degree as in the regular classroom training:

- Operation of demo unit
- Semiconductor check and replacement
- Fault finding exercises on demo unit

Those topics are taught as good as possible using videos, demonstrations, case studies, etc.

But the practical skills have to be acquired through other means in order to achieve the certificate.

The certificate can be acquired by a self-declaration followed by an assessment.

Duration

- Up to 15 hours e-learnings and preparation tasks
- 4 days Virtual Classroom training

To register

Please apply online (log in to MyLearning first): ABB MyLearning/G711vc

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