ABB

COURSE DESCRIPTION

G721 ACS1000 & ACS5000 Service & Commissioning

Course goal
The goal of this course is to introduce and instruct the service and commissioning engineer to the ACS1000 and ACS5000. 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 ACS1000 and ACS5000

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 and fault tracing
— Set and tune application and motor control parameters
— Locate and replace faulty hardware components
— Use 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.

Participant profile
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 courses G711e and G741e

Topics e-learning courses G711e and G741e
Generalities
— ABB medium voltage drives family overview
— Inverter topology, DTC control
— Options and typical applications

Control hardware ACS1000/5000
— Main circuit diagrams
— Component and PCB functions
— PCB settings and configuration

Power hardware description
— Air and water cooled ACS1000
— ACS1000i
— ACS5000

Protection concept
— Fault classes
— Protective reactions

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 drive
— Component recognition and location
— Starting/stopping procedures
— Motor runs and tuning

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Drive commissioning
— Cold commissioning procedure
— Tests and reports
— Calculation of motor parameters

Software description
— Software structure, parameters description
— Application programming
— Fieldbus programming (interfacing with overriding system)
— Setting and tuning motor control parameters

Fault-tracing and troubleshooting
— Alarm and fault indications
— Measuring/replacing power components

Course type
This is a face to face class room training with maximum 8 participants.

Methods
— e-learnings, internet-based courses
— lectures and demonstrations
— Practical exercise with training equipment

Follow-up training
— ACS1000 and ACS5000 Expert Days

Duration
ca. 4 days e-learning
5 days classroom training

To register:
Please apply online (signup required):
ABB MyLearning/G721
Additional course dates are available on request.
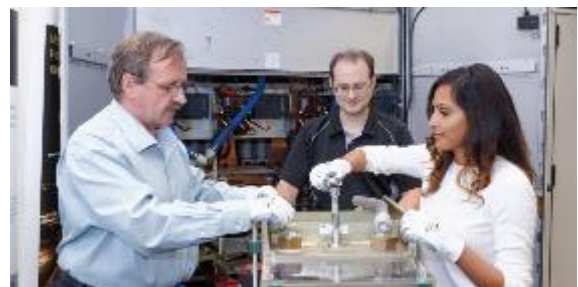Please note: The course is only carried out if at least 4 participants have been booked.

Course outline

DAY 1 (ACS1000)	DAY 2 (ACS1000)	DAY 3 (GENERAL)
— Component recognition and location — Operation of the drive — Power part commissioning — Application SW programming — Commissioning tool DriveStartup	— Insulation resistance measurements — Preventive maintenance — Checking/ exchanging semiconductors — Troubleshooting	— MV data base instruction — Software compatibility and downloading — How to use software tools — How to give short customer training

DAY 4 (ACS5000)	DAY 5 (ACS5000)
— Component recognition and location — Operation of the drive — Software structure, parameter's description — Commissioning procedure and service parameters	— Preventive maintenance — Checking/ exchanging semiconductors — Troubleshooting

Classroom training

Hands-on training