COURSE DESCRIPTION

G750 ACS6000 Operation & Maintenance Classroom training in Turgi, Switzerland

Course goal

The goal of this course is to train the participants in the safe operation, control, configuration, troubleshooting and maintenance of the ACS6000. The students will develop their knowledge, confidence and skills in the handling of ACS6000 Voltage Source Inverter.

Main learning objectives

The course goal is to teach students how to operate, maintain and troubleshoot the ACS6000 drive.
Upon completion of this course, the students will be able to locate the hardware components, to verify and replace drive's parts and to perform preventive maintenance. The use of the available programming and troubleshooting tools is taught by practical operating exercises.

Participant profile

Electricians, technicians and engineers who operate, maintain or troubleshoot ACS6000

Prerequisites

- Basic knowledge of AC motors and drives
- Basic knowledge using Windows computers

Topics

Generalities

- ACS6000 family overview, system requirements
- AC motor and DTC control
- Drive specific safety requirements

Hardware description (power electronics & control)

- Component and PCB functions
- Hardware schematics and electrical drawings
- PCB settings and configuration

Water cooling system

- Cooling circuits description
- Preventive maintenance

Operation

- Energize / de-energize, start / stop sequence
- Local operation with drive control panel and DriveWindow tool
- Remote control

Software introduction

- Software structure, parameters description
- Application configuration

Fault tracing and troubleshooting

- Alarm and fault indications
- Checking and replacing PCB's and components
- Using DriveWindow SW tool for configuration and troubleshooting
- How to get help from ABB

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

Learning methods and tools
— Lectures and demonstrations
— Practical exercises on fully operational training drive and other training equipment
— Factory visit

Duration
4 days

To register:
Please apply online (signup required):
ABB MyLearning/G750
Custom-tailored training courses or standard training at 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
— Course overview — Product overview — Active Rectifier / Inverter Unit — Hands-on: Checking semiconductors	— Hands-on: Removing phase module — Line Supply Unit — Capacitor Bank Unit — Excitation Unit — Water Cooling Unit — Factory visit	— Control Unit — Protection concept — Hands-on: Operation of the drive — Application SW — Hands-on: DriveWindow tool	— Preventive maintenance — Hands-on: Exchanging semiconductors — Hands-on: Troubleshooting



Classroom training



Hands-on training

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COURSE DESCRIPTION **ADD-ON** FOR **G750 & H864**

G750b ACS6000 Operation & Maintenance
G750vc ACS6000 Operation & Care
Web-based alternatives

Preface
Due to travel restrictions in connection with COVID-19, the access to normal classroom trainings is limited. Therefore, we offer variants with contents delivered over web.

Main learning objectives and topics
The objectives and topics are the same as for the regular classroom course (see course description *G750 - ACS6000 Operation & Maintenance* or *H864 ACS6000 Marine O&M*), except some hands-on exercises in the Virtual Classroom variant.

Participant profile
Same as for regular course

Prerequisites
Same as for regular course

Option 1: Blended Learning

The training is split in 2 parts: Web-based training followed by the classroom hands-on session

Virtual Classroom part
- Content distributed over 3 days (experience has shown, that more than half a day virtual training at once is tiring and therefore not effective)
- In the mornings: Approx. 3h instructor-led virtual classroom training (e.g. via Skype)
- Interactive training with state-of-the-art online tools in small classes of 5 – 8 participants.
- In the afternoons: Approx. 1h self-learning tasks and self-assessments, trainer available for support

Hands-on part
- 3 full days of classroom training with training equipment (instead of 4 days)
- Focus on practical exercises, putting theory into practice

Advantages of Blended Learning
- Virtual classroom part is location independent; no travelling required
  → COVID-19 does not stop us from learning
- Participants have a common level of knowledge, when coming to the hands-on part
  → Time for practical exercises on the training equipment is maximized
- Combination of different learning methods is more effective
- Recalling information, which was learned earlier, strengthens the knowledge

Disadvantages of Blended Learning
- Virtual Classroom training is mainly limited to theoretical topics
  → This makes it more tiring
- No real hardware at hand during Virtual Classroom sessions
  → Makes it more difficult to visualize the knowledge
- The whole training is less compact, due to split over 2 weeks

Duration
- 3 days Virtual Classroom training
- 3 days hands-on training in our Learning Center

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Option 2: Virtual Classroom only

Methods
- In the mornings: Approx. 3h instructor-led Virtual Classroom training, e.g. via MS Teams. Experience has shown, that more than half a day virtual training at once is tiring and therefore not effective.
- 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
- Phase module replacement
- Semiconductor check and replacement
- Fault finding exercises on demo unit

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

Duration
4 days Virtual Classroom training

To register
Please apply online (log in to MyLearning first): ABB MyLearning/G750vc

Recommended follow-up: Hands-on training
- Hands-on training in our training center can be booked separately at a later date.
- Up to 3 full days of classroom training with training equipment
- Focus on practical exercises, putting theory into practice
- Combinations with other trainings, Factory Acceptance Test, etc. possible

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