
COURSE DESCRIPTION

G875 ACS6000c Cycloconverter Operation & Maintenance

Course goal

The participant will learn how to operate, maintain and troubleshoot the ACS 6000c Cycloconverter system. He will also be informed on the road map of his product. The trainee will also learn how to use the available programming and troubleshooting tools with practical exercises.

Main learning objectives

Upon completion of this course, the participants will be able to:

- Understand the safety requirements for medium voltage
- Understand the drive system topology
- Identify drive components and configure settings
- Operate the drive
- Carry out preventive maintenance
- Perform basic troubleshooting tasks
- Locate and replace faulty hardware components

Participant profile

Electricians, technicians and engineers, who will operate, maintain or troubleshoot the ACS6000c Cycloconverter drive system.

Prerequisites

- Basic knowledge on synchronous motors and drive systems
- Basic knowledge using computers with Windows

Topics

Generalities

- Overview Cycloconverter
- Control hardware
- Power hardware
- Operation

- Software tools
- Hands-on training
- Preventive Maintenance
- Troubleshooting
- Life Cycle information

Hardware description

(power electronics & control)

- Component and PCB functions
- Hardware schematics and electrical drawings
- PCB settings and configuration
- ACS6000c characteristics

Operation

- Safety requirements
- Energize / de-energize the drive
- Local operation with drive control panel and DriveWindow tool
- Remote control

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

Course type

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

Learning methods and tools

- Lectures and demonstrations
- Practical exercises with training equipment
- Factory visit

Duration

4 days

To register:

Please apply online ([signup](#) required):

[ABB MyLearning/G875](#)

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
<ul style="list-style-type: none"> –Course overview –Cycloconverter theory –System description –Hands-on: Replacing thyristors and fiber optics 	<ul style="list-style-type: none"> –Control topology –Control boards –Hands-on: Local operation, phase test –Factory visit 	<ul style="list-style-type: none"> –Hands-on: Shaft encoder synchronization –Hands-on: SW tool DriveWindow 	<ul style="list-style-type: none"> –Troubleshooting –Preventive maintenance –Content review –Final exam –Course conclusion & feedback



Classroom training



Hands-on training

G875b ACS6000c Operation & Maintenance

G875vc ACS6000c 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 *G875 - ACS6000c Operation & Maintenance* or *H863 ACS6000c 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

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:

- Commissioning tests (Encoder synch, Phase test, JT test, aso)
- Operation of demo unit
- Fiber Optic 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/G875](#)

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