

## Course description

# G700 Medium Voltage Drives ACS 1000 Medium Voltage Drive Operation and Maintenance

### Course goal

The goal of this course is to train the participants in the safe operation, control, configuration, troubleshooting and maintenance of the ACS 1000.

### Learning objectives

The course goal is to teach students to operate, maintain and troubleshoot the ACS 1000 drive, air-cooled and water-cooled units.

Upon completion of this course, 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 trained by practical operating exercises.

### Participants

Electricians, technicians and engineers who operate, maintain or troubleshoot ACS 1000

### Prerequisites

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

### Topics

Generalities

- ACS 1000 family overview, system requirements
- AC motor and DTC control
- Medium voltage safety requirements



Hardware description (Power Electronic & Control)

- Component and PCB functions
- Hardware schematics and electrical drawings
- PCB settings and configuration
- ACS 1000i characteristics

Water-cooled system

- Water circuits description
- Preventive maintenance

Operation

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

Software introduction

- Software structure, parameter's description
- Application configuration, parameter's setting Fault-tracing and troubleshooting
- Alarm and fault indications
- Checking and replacing PCB's and components
- Using DriveWindow SW tool for configuration and troubleshooting
- Getting help from ABB

### Methods

Lectures and demonstrations  
Practical exercises with demo equipment  
Factory visit

### Duration

3 days  
Max. 8 participants  
On-site training or special program on request

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## Course outline

Day 1	Day 2	Day 3
<ul style="list-style-type: none"><li>■ Course overview</li><li>■ Product overview</li><li>■ Power electronics Hardware: description and function, for air cooled and water cooled drives</li></ul>	<ul style="list-style-type: none"><li>■ ACS 1000i characteristics</li><li>■ Control HW</li><li>■ Protection concept</li><li>■ Operation of the drive</li><li>■ Hands on training: component's location and verification, operation</li><li>■ Factory visit</li></ul>	<ul style="list-style-type: none"><li>■ DTC control platform</li><li>■ Application SW</li><li>■ DriveWindow</li><li>■ Preventive maintenance</li><li>■ Hands on training: troubleshooting using control panel and DriveWindow, parts measurements and replacing</li></ul>