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## COURSE DESCRIPTION

# G700 ACS1000

## 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 ACS1000. The students will develop their knowledge, confidence and skills in the handling of ACS1000 Voltage Source Inverter.

### Main learning objectives

The course goal is to teach students to operate, maintain and troubleshoot the ACS1000 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.

### Participant profile

Electricians, technicians and engineers who operate, maintain or troubleshoot ACS1000

### Prerequisites

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

### Topics

#### Generalities

- ACS1000 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
- ACS1000i characteristics

### Water-cooled system

- Water circuits description
- Preventive maintenance

### Operation

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

### Software introduction

- Software structure, parameter's 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

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

**Duration**  
3 days

**Learning methods and tools**

- Lectures and demonstrations
- Practical exercises on fully operational training drive and other training equipment

**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><li>— Hands-on training: Component's location</li></ul>	<ul style="list-style-type: none"><li>— ACS1000i characteristics</li><li>— Control HW</li><li>— Protection concept</li><li>— Hands-on: Operation of the drive</li></ul>	<ul style="list-style-type: none"><li>— Application SW</li><li>— DriveWindow</li><li>— Preventive maintenance</li><li>— Hands-on training: Troubleshooting using control panel and DriveWindow, parts measurement and replacement</li></ul>