

ABB Marine Academy course description

H864 - ACS6000 AD/SD marine drive

Course goal

The goal of this course is to train the participants in the safe operation, control, configuration, troubleshooting and maintenance of an ACS 6000 drive.

Learning objectives

Upon completion of this course, students will be able to understand the drive topology and understand the function of propulsion and drive control. They will be able to locate the hardware components, verify and replace the drive's parts and perform preventive maintenance.

Contents

General topics

- Introduction to ABB Marine Services
- Safety procedures while working on the drive
- Medium voltage safety requirements
- In-depth theory of the ACS 6000 drive principles

Specialist topics (5-day course only):

- Introduction to diesel-electric propulsion
- Functional description of the propulsion system

Hardware description

- Functions of components and PCB's (printed circuit boards)
- Hardware schematics and electrical drawings
- Installation guidelines

Water cooling system

- Cooling circuit description
- Preventive maintenance

Operation

- Energizing and de-energizing the converter
- Start/stop sequence using local control panels and DriveWindow tool

Software introduction

- Inverter and excitation software concept
- Data exchange between modules
- Setting parameters using CDP (Control Drive Panel) and DriveWindow

Fault-tracing and troubleshooting

- Interpretation of alarm and fault messages
- Replacement of PCB's and components
- Getting help from ABB



Methods

Classroom lectures with demonstrations using the training drive

Practical lessons on the training drive

Student profile

Marine engineers and electro-technical personnel at operational and management level

Prerequisites

Marine power plant basic for technical staff in ABB propulsion and marine high voltage safety course or similar knowledge is advisable

Duration

4 days

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Course outline

Venue

Singapore
Turgi
Beijing

Additional information

Minimum 6, maximum 8 participants
On-site training is available on request.



Course outline

Day 1

- Introduction
- Product overview
- Line supply unit
- Capacitor bank unit

Day 2

- Inverter unit
- Excitation unit
- Water cooling unit

Day 3

- Terminal and control unit
- Application software
- Operation of drive
- DriveWindows introduction and hands-on experience

Day 4

- Schematics and hardware drawing
- Troubleshooting hands-on experience
- Inverter module replacement hands-on experience

Day 5 (5-day course only)

- Propulsion control overview
- Main equipment
- Protections
- Algorithms
- Logics