ABB Marine Academy course description
H865 – SAMI Megastar marine drive

Course Goal
The goal of this course is to teach students to operate, maintain and trouble-shoot Megastar W in marine applications. Students will learn how the Megastar is connected to the vessel automation system. The training covers the SAMI Megastar W single/parallel drive, and drives with the APC-controller.

Learning objectives
Upon completion of this course, students will be able to:
- Understand the safety requirements of medium voltage drive systems
- Operate and test SAMI Megastar W–drives using the control panel and PC-tools
- Understand the meaning of alarm and fault messages
- Trace and correct simple faults

Main Topics
- Safety procedures while working on the drive
- Hardware and software overview
- Component and board functions
- Reading and interpreting circuit diagrams and part lists
- Control panel functions
- Preventive maintenance
- Fault tracing
- Replacing HV–components
- Using PC-tools for the Megastar

Methods
Workshop with presentations and demonstrations held in classroom.
Perform tests and measurements on a fully equipped demonstration 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 or similar knowledge is advisable

Duration
4 days

Venue
Vaasa

Additional information
Minimum 4, maximum 6 participants

H865 – SAMI Megastar marine drive course
Course outline

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Day 1

- Introduction
- Megastar product presentation, drawings and part lists
- Safety, grounding of Megastar, start/stop sequence
- Test site visit
- Megastar presentation
- Operation of the drive
- Annual water cooling unit maintenance

Day 2

- Control unit
  - control boards
  - parameters, trends, fault buffer
- Control panels, monitoring SW-tools, APC2
- Maintenance schedule, PM – kits, replacement instructions, upgrades, insulation resistance measurement
- Hands on training at the test site
  - removing modules from the drive
  - GTO-/diode replacement rehearsal
  - Snubber capacitor replacement induction

Day 3

- Hands-on training at the test site
  - replacement of snubber capacitors (+pipes)
  - pressure testing of the modules
- Hands-on training continues
  - filling in the inspection records
  - inserting the modules into the drive
  - optic fiber /simulation test / no load–test
  - insulation resistance measurement

Day 4

- Trouble-shooting rehearsals at test site
- Final discussion
- Course certificates and end of training