

ABB Marine Academy course description

H911 – ACS800LC Drilling drive system

Course goal

The goal of this course is to train the participants to start-up, operate, maintain and troubleshoot ABB drilling drives system for jack ups, semi-submersibles and drillships.

Learning objectives

Upon completion of this course, the participants will be able to locate hardware components, to verify and replace ACS800 liquid-cooled supply, inverter and cooling units. The participants will also be able to perform basic troubleshooting of AC800M drilling drive control system. DriveWindow, a software tool for drive monitoring will be used and trained during practical exercises. Project control system recovers with CF card and preventive maintenance is also included.

Contents

General topics

- Describe the construction of ACS800LC
- Discuss the system function of ABB drilling drive system
- Preventive maintenance

Hardware description

- Construction and function of diode supply units
- Construction and function of liquid cooling units
- Construction and function of inverter units
- Construction and function of brake units
- AC800M controller and S800I/O
- AC800M communication Modules
- Process panel
- Function of DP/DP couple, OLM modules and ATEX relay

Operation

- Removal and installation of DSU and INU
- Filling of LCU
- Change the fans
- Control panel operation
- Process panel operation
- Download/save parameters to/from drive units with DriveWindow
- Download project configuration to AC800M with CF card
- Download project configuration to Process panel with CF card

Software introduction

- DriveWindow
- Compact control builder
- Panel builder



Project drilling drives system

- Interface to Drilling Control System (DCS) and Power Management System (PMS)
- System and safety functions
- Process panel and CDP interface

Fault-tracing and troubleshooting

- Interpret alarms and fault messages of CDP (Control Drive Panel) and DriveWindow
- Interpret alarms of process panel
- Trace fault messages of AC800M

Methods

Classroom lectures

Demonstration and practical lessons on our training ACS800LC and drilling simulator system

H911 - Drilling drive system course (semi-submersibles and drillships)

Course outline

Student profile

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

Prerequisites

Basic knowledge of electronics, AC drive, process control system and experience with Microsoft Windows is advisable.

Duration

5 days

Venue

Singapore
Beijing
Houston

Additional information

Minimum 6, maximum 8 participants

On-site training on request

Course outline

Day 1

- Introduction
- ACS800LC system presentation
- Diode Supply Unit (DSU)
- Inverter Unit (INU)
- Liquid Cooling Unit (LCU)
- Brake unit
- Commissioning procedures

Day 2

- DriveWindow software
- CDP control panel
- Exercise: DSU module replacement
- Exercise: LCU water filling

Day 3

- DriveWindow software
- Exercise: INU module replacement
- Exercise: start-up
- Fault tracing

Course outline (continued)

Day 4

- System functions of integrated drilling drive system
- AC800M and communication hardware
- Process panel
- Basic function of compact control builder and panel builder

Day 5

- Interface with drilling control system
- Interfacing with AC800LC
- Troubleshooting and case studies
- Exercise: troubleshoot and exchange AC800M hardware
- Exercise: system recover with CF card

