

ABB Remote Control System Intelligent Maneuvering

World class propulsion systems deserve world class control. ABB Remote Control System offers optimal maneuvering for ABB Azipod®-powered vessels. Ideal operation practices increase safety at sea and extend the propulsion system's lifetime.

With Remote Control System, the user takes the control through the advanced human machine interface. The system combines the most recent usability research and deep knowledge on the on-board operations.

Safety at sea

Remote Control System provides a clear human machine interface that gives continuous feedback from the propulsion system status. The intelligent system lets the operator focus on safe navigation through the essential controls, selections and indications depending on the user profile. The operator's attention is guided by colors, shapes, sounds, placement of controls and tactile points.

Control units

The Azimuth lever is used in Azipod-powered vessels to control the ship's propeller speed and steering angle. The latest technology enables using programmable detents (feeling points) in the lever for both RPM and steering scales. This feature gives feedback of the current lever position for the user without having direct visual contact on lever scales. The feedback is generated with stepper motors that provide a possibility to pre-adjust the resistance of movement and position of the feeling points. Remote Control System includes control units also for miniwheel, RPM lever and bow thruster lever.

Flexibility

Remote Control System gives great freedom for the remote control system design with flexible bus-based technology. Remote Control System is a modular product platform, including a wide range of control panels and units suitable also for conventional shaftline propulsion systems. Different control configurations can be engineered easily. The modules include for example an optional control and command post change function for a bow thruster system. The basic scope of supply includes hardwired backup controls. Change of control post is bumpless due to the electric shaft functionality.

Increased lifetime

The intelligence of the system is realized by advisory messages on the screen, such as warnings for propeller cavitation or unfavorable steering angles. This information helps the ship operator to control the vessel in an economical and passenger-friendly way and eliminates undesired hull vibrations and excessive system wear. These features are also related to propulsion lifetime management.

Reliability through redundancy

Remote Control System is based on the latest bus technology allowing simple cabling and installation. Thus, the amount of the control devices is not limited. Redundancy is secured by duplicating the most important buses, processors and I/O cards. The design is based on a principle that one single technical failure cannot risk the system's operation under any circumstance. Control units, hardwired backup systems and telegraph devices give confidence for the operator.

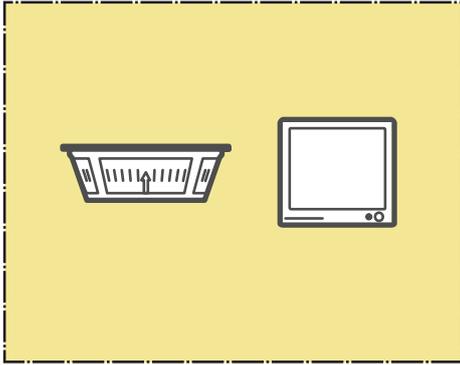


reddot design award
winner 2013

Azimuth lever was awarded with Red dot design winner's seal for 2013.

Bridge Overhead

Co-Navigator Displays, Panorama meters...



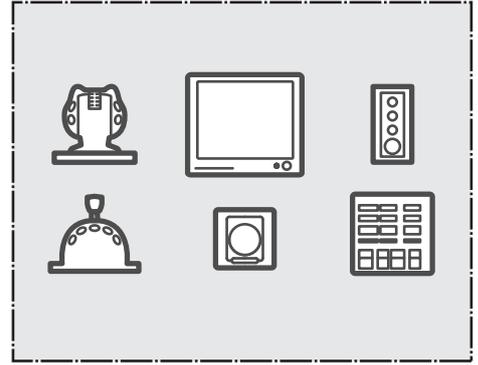
Steering Stand

Rudder and Steering Angle Controls...



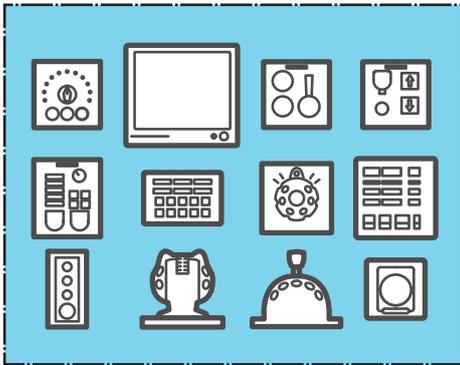
PS and SB wings

Navigator Displays, Thruster Controls, Azimuthing Levers, Dimming Controls, Propulsion Controls, Emergency Stops...



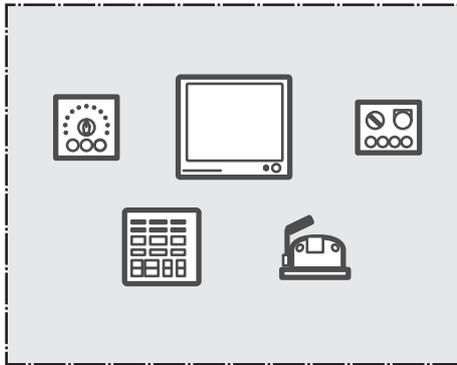
Bridge Center

Navigator Displays, Thruster Control, Azimuthing Levers, Dimming controls, Propulsion Controls, Telegraph, Steering Back Up, Thrust Back Up, Mini Wheel, Emergency Stops...



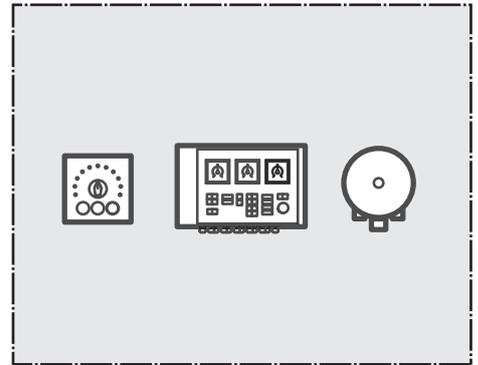
Engine Control Room

Indication Display, Propulsion Control, Telegraph Command Transfer...



PS and SB Azipod Rooms

Telegraph, Local Back Up, Bell...



Modular design allows flexibility in control system design. Several control places with different combination of control units can easily be added.

Situational awareness

The displays are configured according to the user needs to support role-based situational awareness. There are separate displays for the navigator and co-navigator. There is an efficient, color-based user assistance. For example, the active control place is highlighted clearly on the screens and on the panels. The remote control has hardwired indicators for power, rpm and azimuth angle. This information is presented also on the Indicator displays. The Information display is a graphical user interface with information on the complete propulsor system in different control places on the bridge. The Azipod propulsors and their actual operation modes can be monitored on the same screen. Both the Indicator display and the Information display have day and night modes.

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Closed-loop communication

