AHD 650 / AHD 651
Ship Monitoring System

Monitoring and visualisation of binary and analogue inputs

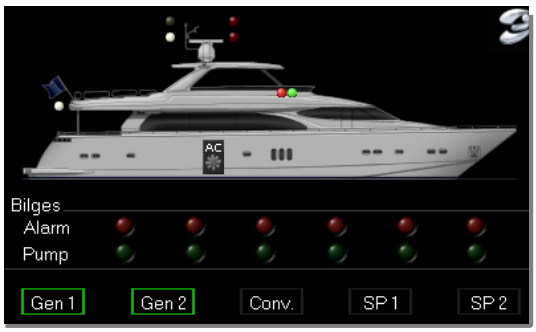
BÖNING
Automationstechnologie

The Böning Ship Alarm System provides the opportunity to monitor sensor data from anywhere aboard ship. This data can be visualised on the LC-Display ***AHD 650 / AHD 651***. In combination with analogue data stations (e.g. ***AHD-SAS 15***), the device can be used to display general ship data and alarms. Connection to a GPS receiver provides data to display speed over ground. Connecting the ***AHD 650 / AHD 651*** Ship Alarm Display to the MAN MMDS-CLC 6.3 Engine Display enables calculation and visualisation of the current fuel consumption and cruising range. Data from additional systems such as the navigation lights monitoring system ***AHD-DPS02*** and the trim tab control system ***AHD-TCS*** can also be visualised by the display. All system components are connected via CAN bus.

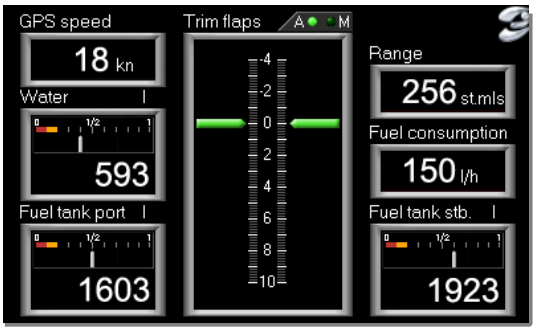
The colour display is operated via integrated buttons or with the remote control ***AHD 650 R***, which can be installed anywhere on the bridge or flybridge.

The display depicts the data as numeric values, illustrated by individual instruments. Alarms are displayed in tabular form on a separate page. Number and position of the instruments are adjusted to the ship's equipment. The screen texts are available in English and a second language of choice and can be selected at the device.
The display features customised software, in order to ideally display the features of the relevant ship type. For this purpose, individual graphic components, such as a view of the ship or certain extensions, can be integrated in the software.

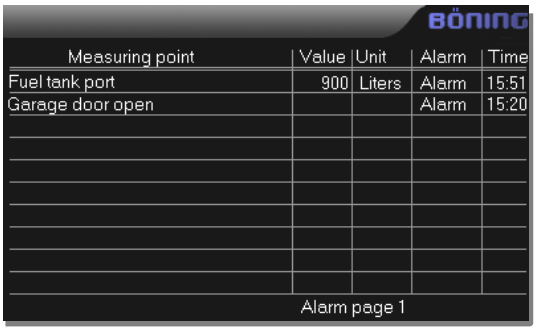
Screenshots



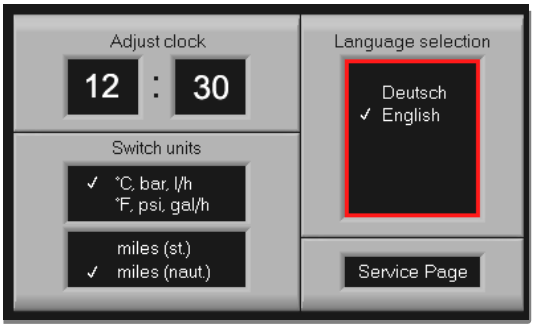
Page 1: navigation lights status, bilge level alarms, bilge pump status, generator status



Page 2: trim flap angle, GPS speed, fuel consumption, range, tank levels

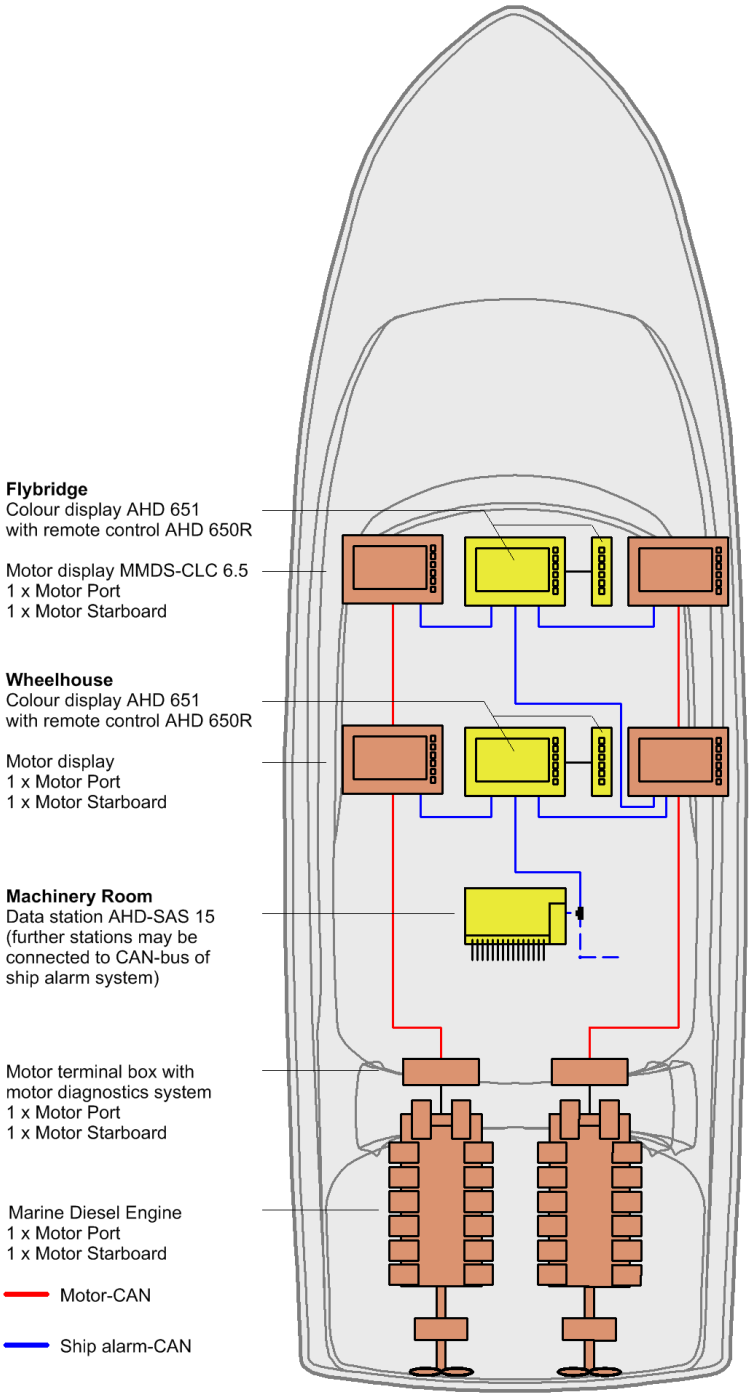


Alarm page: all alarms remain logged until their cause has been remedied.



Configuration page: clock adjustment, measuring point units, choose display language

System illustration



Presently, the Ship Alarm Software visualises the following values:

- Water and fuel tank levels
- Position of trim tabs and rudder
- Optimal trim tab angle at current speed
- Bilge level alarms and pump status
- Additional binary sensor data, e.g. door access monitoring, generator status
- Navigation lights status (requires ***AHD-DPS02*** electronic unit)
- Fuel consumption and range (requires MAN engines and MMDS CLC 6.3 Engine Displays)

The data station ***AHD-SAS 15*** monitors sensors connected directly to the data station's plug-in terminal block. The measured values and alarm information are made available on CAN bus and visualised on the ***AHD 650 / AHD 651*** display.

Data from up to 15 sensors (voltage, current, resistance, contact) can be monitored per ***AHD-SAS 15*** unit.

Where more sensors need to be monitored, one can easily enlarge the system by linking up additional data stations. The device is configured ex- works for the respective application. It is ready for operation directly after installation.

To change the system setup at a later time, a PC software is supplied.

Following user's specification, limit values are set for pre-alarm and subsequent main alarm. Alarms are acknowledged at the display unit by means of a pushbutton in two steps. First, the acoustic alarm is stopped on all devices connected to the CAN bus. The optic alarm is stopped when the button is pressed a second time. The alarm messages remain logged on the alarm page until their cause has been remedied.

Technical data

AHD 650 / AHD 651 Colour Display	
Power supply	12/24 V DC (+30% / -25 %)
Power consumption	480 mA
Resolution	400 x 240 Pixel
Visible range	6.5“, 143.6 mm x 79.3 mm
Color depth	15 bit
Luminous intensity	200 cd/m², transflective
Operating temperature	-30°C...70°C
Storage temperature	-40°C...85°C
Weight	1.5 kg
Degree of protection	front IP 67, rear IP 55
External dimensions	210 mm x 130 mm x 84 mm
Panel cutout	190 mm x 118 mm
Interfaces	2 x CAN, 1 x RS 232, 1 x Remote Control AHD 650 R
Inputs	1 x binary (optocouplers)
Outputs	2 x relay contact 40 VDC/1 A
Approvals	GL, RS, ABS, LR, RS
Required distance to compass:	Standard magn. compass: 75 cm Steering magn. compass: 45 cm

AHD 650 R Remote Control	
Power supply	12/24 V DC (+30% / -25 %)
Operating temperature	-25°C...70°C
Storage temperature	-30°C...85°C
Weight	0.2 kg
Degree of protection	front IP 67, rear IP 55
External dimensions	40 mm x 130 mm x 135 mm
Panel cutout	26 mm x 111 mm
Required distance to compass:	Standard magn. compass: 40 cm Steering magn. compass: 30 cm