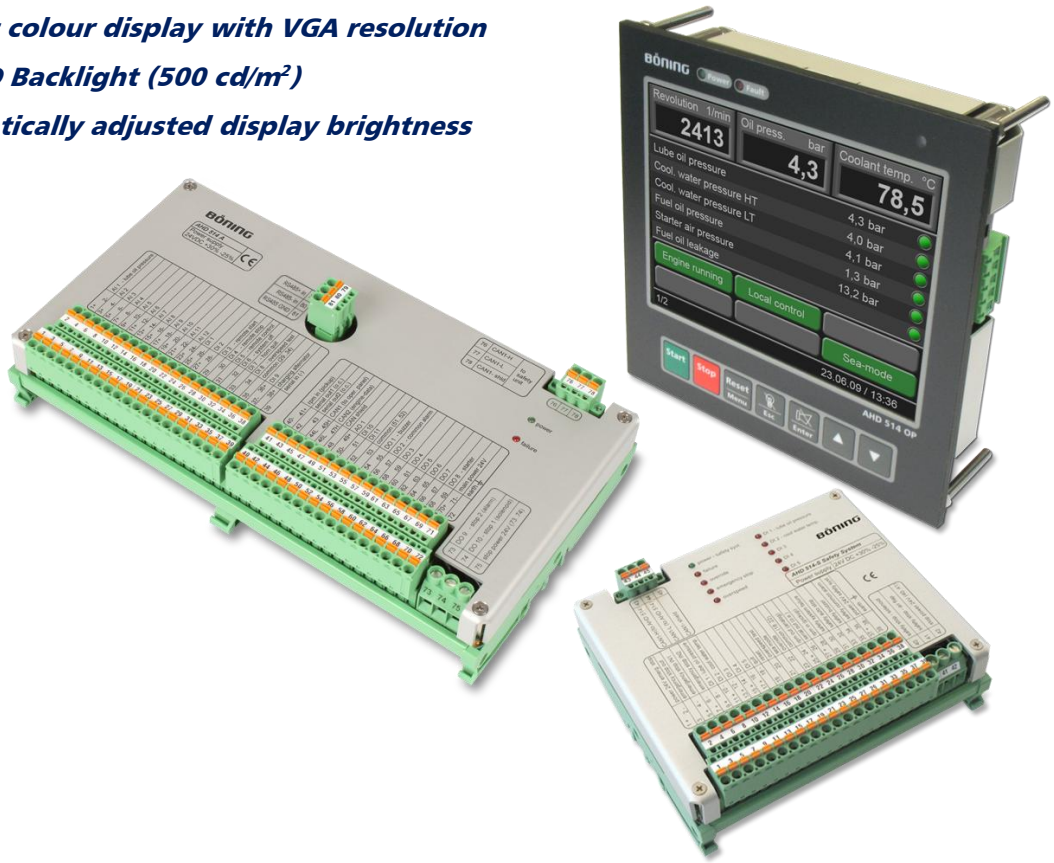
AHD 514
Monitoring System for Diesel Engines

Compact system for Start, Stop incl. Emergency Stop and Monitoring of Propulsion Diesel Engines

Brilliant colour display with VGA resolution and LED Backlight (500 cd/m²)

Automatically adjusted display brightness



The monitoring system for Diesel engines is designed as a compact system for start, stop and monitoring (incl. emergency stop release) of propulsion Diesel engines on board of ships.

All required in- and outputs and corresponding monitoring and control functions for applications with propulsion engines are integrated in the components of the system.

When designing the components, a high value was set on easy connection and maintenance and service. Connection is available as far as possible directly at terminal lists of system components and reduces by that significantly the demand of material and installation with resulting reduction of costs.

The configuration of the complete system is created by means of an included PC-Software, which allows setting of required parameter with different authorization levels.

Components of the Complete System:

AHD 514-A Start/Stop-System with combined Alarm System:

Compact microprocessor-controlled unit with profile module housing for console, panel or switchbox installation on profile rails TS32/TS35.
AHD 514-A controls start and stop of the Diesel engine and assumes control of all required monitoring functions incl. automatic stop at overspeed.
Integrated alarm and event log memory for logging of up to 10000 alarms and events. Recall of data by means of PC-Software.

Optionally the AHD 514 A is also available with COM module for connection to Modbus.

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AHD 514-S Safety System with combined Emergency Stop System:

Compact microprocessor-controlled unit with profile module housing for console, panel or switchbox installation on profile rails TS32/TS35.

All safety functions, predetermined by classification societies for monitoring systems for Diesel engines are available.

Two separated 24 V DC power supplies for emergency stop circuit and safety system. Emergency stop function independently from safety function.

Separate processing of emergency stop inputs and stop criteria. An initiated emergency stop is routed directly to the emergency stop output. On breakdown of safety system or its power supply, the own power supply ensures the emergency stop function.

The acquisition of safety relevant (redundant) sensors is in turn carried out independently from alarm system AHD 514-A.

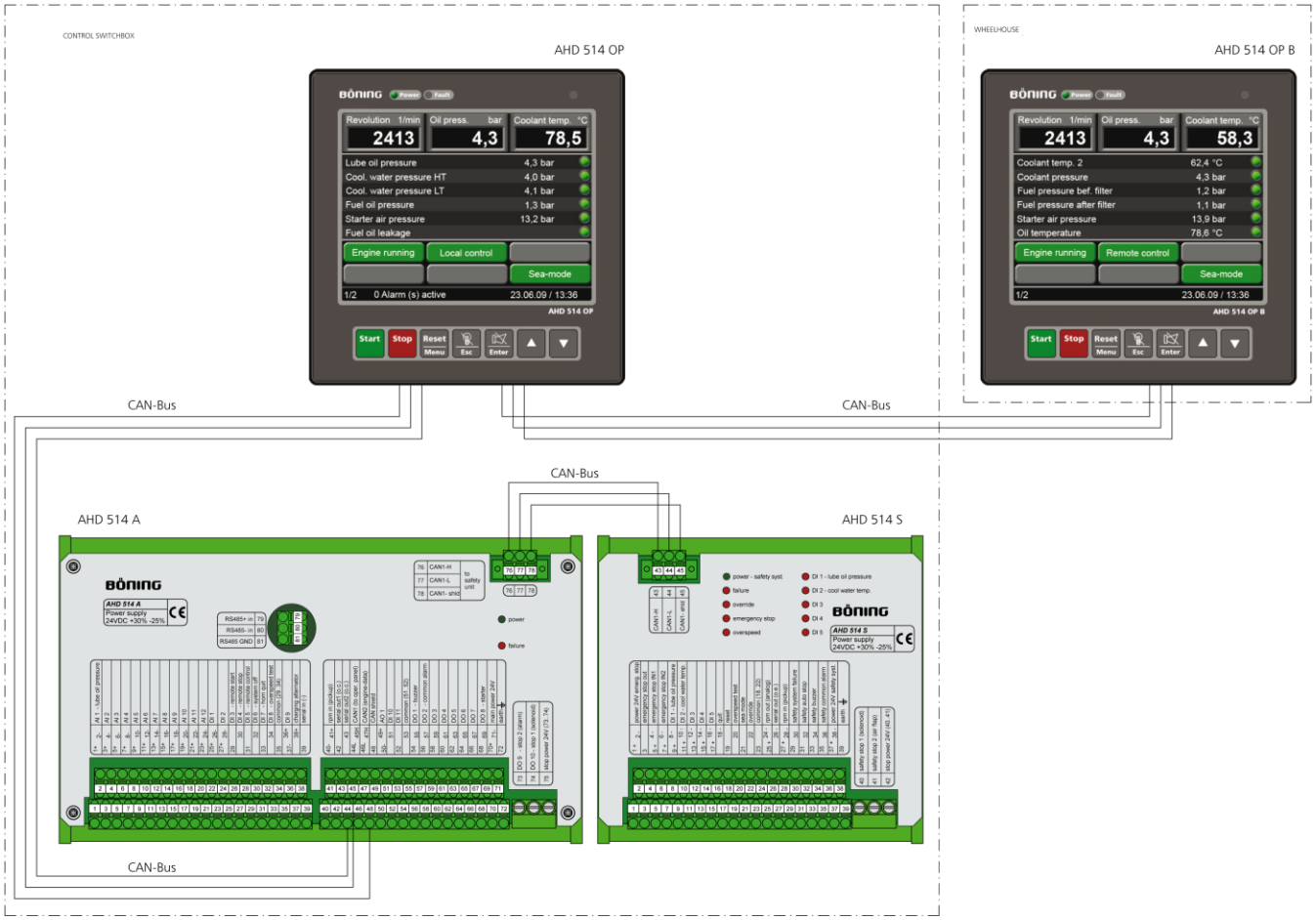
The safety relevant sensors activate the stop circuit n case of alarm. The emergency stop system is provided with 2 independent and wire-breakage monitored circuits.

Data transmission via CAN-Bus over alarm system AHD 514-A to operation unit AHD 514-OP.

AHD 514-OP Display and Operation Unit:

Built-in module with 5.7" colour display for local installation in control switchbox of Diesel engine and/or optionally as remote operation unit in wheelhouse control console with selectable operation authorization.

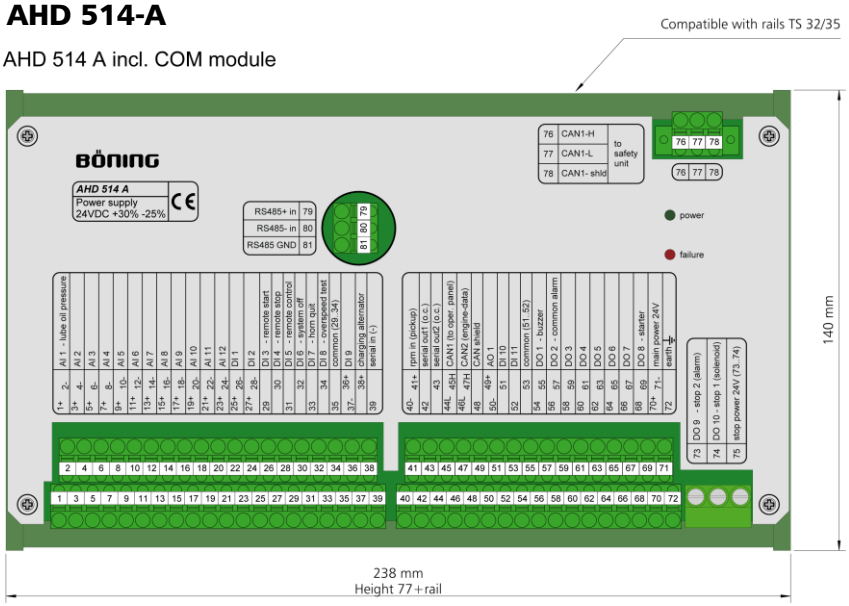
Communication with the Start/Stop and Alarm System AHD 514-A, Safety and Emergency Stop System AHD 514-S and Remote Operation Unit AHD 514-OP via CAN-Bus.



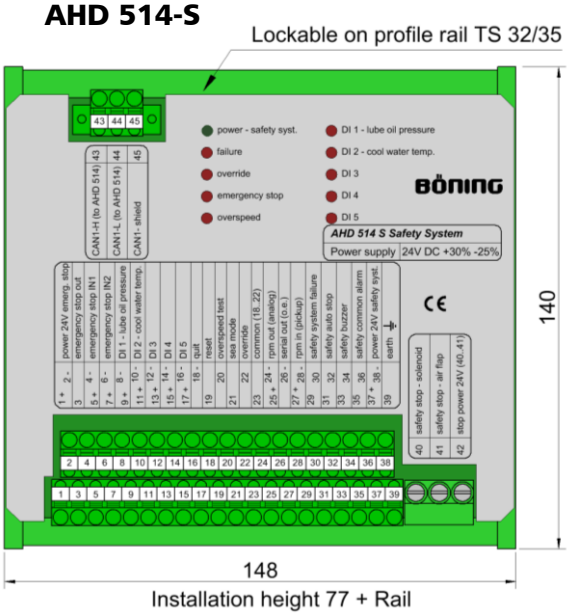
Dimension

AHD 514-A

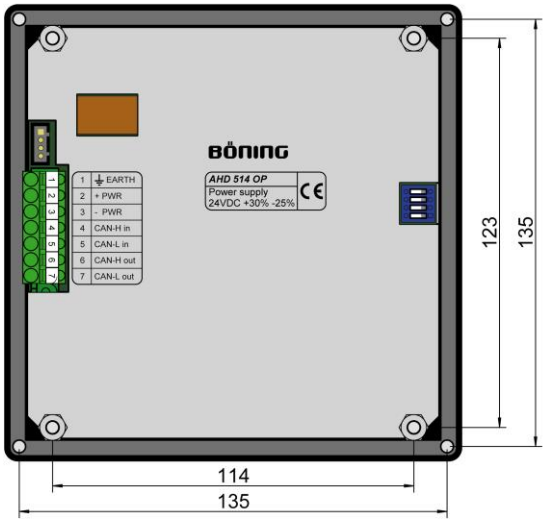
AHD 514 A incl. COM module



AHD 514-S



AHD 514-OP



Technical Data AHD 514-A

Dimension W x H x D:	238 mm x 140 mm x 77 mm
Weight:	appr. 0.70 kg
Operating temperature:	-30°C … +70°C
Storage temperature:	-50°C … +85°C
Degree of protection:	IP 20
Power supply:	24 V DC (+30%/-25%)
Current consumption:	max. 1,0 A (24 V DC)
Inputs:	6 x analog (4 – 20 mA) / binary, 6 x analog (PT100/PT1000) / binary, Analog inputs configurable 1 x Speed input, galv. isolated 2 x binary, wire-breakage monitored 8 x binary (Control inputs) 2 x binary (Safety monitoring)
Outputs:	8 x Relay 6 A, potential free (Control outputs, Starter relays) 2 x Transistor, 8 A, wire-breakage monitored , short-circuit proof for engine stop 1 x Analog output (4 –20 mA / 1–5 V / 2–10 V) 2 x LED- indication
Interface:	2 x CAN Bus (Communication) 1 x RS232 (9-pole Sub-D, Fault diagnostics / log read out, Firmware-Update) 1 x serial Input (Optocoupler) 2 x serial Output (Optocoupler)
Installation:	Profile module housing, installation on profile rail TS 32/TS 35

Technical Data AHD 514-S

Dimension W x H x D:	148 mm x 140 mm x 77 mm
Weight:	appr. 0.50 kg
Operating temperature:	-25°C … +70°C
Storage temperature:	-50°C … +85°C
Degree of protection:	IP 20
Power supply:	24 V DC (+30%/-25%) Safety system 24 V DC (+30%/-25%) Emergency stop system
Current consumption:	max. 0.5 A (24 V DC)
Inputs:	2 x binary, wire-breakage monitored (Emergency Stop) 5 x binary, wire-breakage monitored (Stop criteria) 5 x binary (Control inputs) 1 x Speed input, galv. isolated
Outputs:	4 x Relay 6 A, potential free (i.e. for Horn, Common Alarm) 2 x Transistor, 8 A, wire-breakage monitored, short-circuit proof (Solenoid, Air Flaps; Stop from Safety System) 1 x Transistor, 8 A, wire-breakage monitored, short-circuit proof (Stop from Emerg. Stop System) 1 x Current output 4-20mA (for external speed indication) 10 x LED- indication
Interfaces:	1 x CAN Bus (Communication) 1 x serial Output (Optocoupler)
Installation:	Profile module housing, installation on profile rail TS 32/TS 35

Technical Data AHD 514-OP

Dimension W x H x D:	144 mm x 144 mm x 50 mm
Panel cut-out, W x H:	131 mm x 131 mm
Weight:	ca. 1,0 kg
Operating temperature:	-20°C … +70°C
Storage temperature:	-50°C … +80°C
Degree of protection:	IP 56 (front side) IP 20 (rear side)
Power supply:	24 V DC (+30%/-25%)
Current consumption:	max. 450 mA (24 V DC)
Display:	5.7“ LCD Colour display
Visible display area:	116 mm x 87 mm
Luminous intensity:	500 cd/m²
Display resolution:	640 (H) x 480 (V) Pixels
Colour depth:	262144 Colours
Interfaces:	1 x CAN Bus (Communication)
Installation:	Built-in unit

Approvals

Classification society:	Germanischer Lloyd Lloyd´s Register American Bureau of Shipping Bureau Veritas Det Norske Veritas Russian Maritime Register of Shipping Registro Italiano Navale Croatian Register of Shipping