



Type Approval Certificate

Germanischer Lloyd

This is to certify that the undernoted product(s) has/have been tested in accordance with the relevant requirements of the GL Type Approval System.

Certificate No.	8648309 HH
Company	Böning Automationstechnologie GmbH & Co. KG Am Steenöver 4 27777 Ganderkesee, GERMANY
Product Description	Alarm-, Start-/Stop- and Safety System for Diesel Engines
Type	AHD514A, AHD514S, AHD514OP
Environmental Category	D, EMC1
Technical Data / Range of Application	AHD514A Alarm System and Start-/Stop Unit: 6 analog inputs 4..20mA 6 analog inputs PT100/PT1000 1 RPM input, galvanic isolated 2 add. binary inputs 6 binary inputs for control 2 voltage input for fuse trip and charging alternator 2 voltage input for speed-up/down 8 binary relay outputs 6A 2 binary transistor outputs (with wire break monitoring) 1 voltage output 1..5V/1..10V 2 status-LEDs Interfaces: 2 CAN bus, RS232 diagnostic, serial for I/O extensions Degree of protection: IP20 Power supply: 24VDC Functions: Alarming, start-/stop Control, logging. SW-Version: 3.7.17.
Test Standard	Guidelines for the Performance of Type Approvals Chapter 2, Edition 2003 Regulations for the Use of Computers and Computer Systems, 1994.
Documents	Test reports : Zeiss P-QK/EMV 060/2009, Paconsult 09-2664, Paconsult 09-2665, EMV Services 09/9062-2-1; Performance test protocol, dated 2009-12-21. SW- Questionnaire RC3.
Remarks	Alarming via CAN interface subject to supplementary approval. Suitability for the individual engine type and local indicators to be checked.
Valid until	2014-12-22
Page	1 of 2
File No.	I.A.03
Hamburg, 2009-12-23	

Type Approval Symbol



Germanischer Lloyd

Jürgen Wittburg

Jens Dietrich

This certificate is issued on the basis of "Regulations for the Performance of Type Tests, Part 0, Procedure".



Type Approval Certificate

Germanischer Lloyd

This is to certify that the undernoted product(s) has/have been tested in accordance with the relevant requirements of the GL Type Approval System.

Certificate No. **8648309 HH**

AHD514S: Safety System

2 emergency stop inputs, direct acting, with wire break monitoring
5 binary inputs for automatic shut down with wire break monitoring
5 binary inputs for control (reset, override...)
1 RPM input, galvanic isolated
4 binary relay outputs, 6A
2 transistor outputs 8A, with wire break monitoring
1 transistor output 8A, short-circuit-proof with wire break monitoring
1 current output 4..20mA
2 status-LEDs
8 alarm-LED for override, emergency stop, overspeed and 5 other safety stop criteria
Interfaces: 1 CAN Bus for communication with AHD514A and AHD514OP, serial output
Functions: Manual emergency stops and automatic shut-down. SW-Version: 1.07.
Degree of protection: IP20
Power Supply 24VDC.

AHD514OP: Operator Panel

-5.7" colour display with automatic dimmed illumination
-indication of most important analog engine parameters on each page
-engine status indication
-alarm pages for acknowledged and unacknowledged alarms
-membrane keys for engine start/stop, buzzer stop, acknowledgement, reset and page selection
-buzzer
-CAN interfaces for communication with AHD514A and AHD514S.
SW-Version: 1.08.
Degree of protection: IP20; front side: IP44
Power Supply 24VDC.

Valid until **2014-12-22**

Page **2 of 2**

File No. **I.A.03**

Hamburg, 2009-12-23

Type Approval Symbol



Germanischer Lloyd

Jürgen Wittburg

Jens Dietrich

This certificate is issued on the basis of "Regulations for the Performance of Type Tests, Part 0, Procedure".