



Potvrda br.  
Certificate No.

03-001708/031417

## POTVRDA O TIPNOM ODOBRENJU TYPE APPROVAL CERTIFICATE

Potvrđuje se da ovaj proizvod udovoljava Pravilima za klasifikaciju brodova, Dio 1. - Opći propisi, Odjeljak 3. - Tipno odobrenje proizvoda.  
This is to certify that this product complies with the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products.

TIP I OPIS PROIZVODA:  
TYPE AND DESCRIPTION OF PRODUCT:

### Monitoring, Alarm and Safety System for Diesel Engines – AHD 514

AHD 514A	Alarm System and Start/Stop Unit	SW – Ver. 3.12
AHD 514S	Safety System	SW – Ver. 1.20
AHD 514OP	Operator Panel	SW – Ver. 1.30

PROIZVOĐAČ:  
MANUFACTURER:

Böning Automationstechnologie GmbH & Co.KG  
Am Steenöver 4  
27777 Ganderkesee  
GERMANY

PROIZVOD UDOVOLJAVA SLJEDEĆIM PRAVILIMA/PROPISIMA:  
THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

Hrvatski registar brodova: Pravila za klasifikaciju brodova,  
Dio 9. – Strojevi, Dio 13. – Automatizacija  
Croatian Register of Shipping: Rules for the classification of ships,  
Part 9. – Machinery, Part 13. – Automation

IACS UR E10

DETALJI O PROIZVODU I UVJETIMA CERTIFIKACIJE DANI SU NA POLEĐINI.  
FURTHER DETAILS OF THE PRODUCT AND CONDITIONS FOR CERTIFICATION ARE GIVEN OVERLEAF.

ODOBRENJE VRLJEDI DO: 2023-10-12  
APPROVAL IS VALID UNTIL:

Mjesto i datum: Split, 2019-10-14  
Place and date:

M.P.  
(Seal)

Marinko Popović, dipl.ing.

NAPOMENA: Ova potvrda nije valjana ako se proizvod ili način njegove proizvodnje promijenio u odnosu na tipno ispitani proizvod. Proizvođač treba obavijestiti Hrvatski registar brodova o bilo kojoj izmjeni na proizvodu kako bi ishodio valjanu potvrdu.  
NOTE: This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Croatian Register of Shipping of any modification or changes to the product in order to obtain a valid certificate.

**PODROBNJI OPIS PROIZVODA:**  
*DETAILED PRODUCT DESCRIPTION:*

**Osnovne funkcije AHD 514A:**

*Basic functions of AHD 514A:*

6 analog inputs 4-20mA  
6 analog inputs PT100/PT1000  
1 RPM input  
2 additional binary inputs  
6 binary inputs - control  
2 voltage inputs for fuse trip and charging  
2 voltage inputs for speed up/down  
8 binary relay outputs 6A  
2 binary transistor outputs  
Degree of protection: IP20, Power Supply 24 VDC  
Interfaces: 2 CAN bus, RS232 diagnostic, serial I/O

**Zaštitne karakteristike AHD 514S:**

*Safety characteristics of AHD 514S:*

2 emergency stop inputs  
5 binary inputs for automatic shut down  
5 binary inputs for control  
1 RPM input  
4 binary relay outputs 6A  
2 transistor outputs 8A  
1 transistor output 8A, short circuit proof  
1 current output 4-20mA  
8 alarm LEDs  
Degree of protection: IP20, Power Supply 24 VDC  
Interfaces: 1 CAN bus, serial I/O

**Upravljački panel AHD 514OP:**

*Operator Panel AHD 514OP:*

5.7" colour display, auto dimmer  
Engine analog parameters indication  
Engine status indication  
Alarm pages  
Membrane keys for engine start/stop  
Degree of protection: IP20  
Degree of protection: front side IP44  
Power Supply 24 VDC  
Interfaces: 2 CAN bus

**PODRUČJE PRIMJENE / POSEBNI GRANIČNI UVJETI:**  
*APPLICATION / LIMITATIONS:*

**Sustav je primjenjiv na porivne i pomoćne motore**  
*System is applicable on the propulsion and auxiliary engines*

**DOKUMENTACIJA ZA TIPNO ODOBRENJE:**  
*TYPE APPROVAL DOCUMENTATION:*

**Tehnička dokumentacija**  
*Technical documentation*

- Dok-ID: PaB-1021

**Tipno ispitivanje – Elektromagnetska kompatibilnost**  
*Type Testing – Electromagnetic Compatibility*

- ZEISS P-QK/EMV 060/2009\_02

**Tipno ispitivanje – Utjecaji okoliša**  
*Type Testing – Environmental Tests*

- Paconsult, Test report No. 09-2664

**Tipno ispitivanje – IP zaštita**  
*Type Testing – IP enclosure*

- Paconsult, Test report No. 09-2665

**Tipno ispitivanje – Elektromagnetska kompatibilnost**  
*Type Testing – Electromagnetic Compatibility*

- EMV Services, Test report No. 09/9062-2-1

**Ispitivanje funkcionalnosti**  
*Performance Test*

- Test protocol ver. 8.3 – dated 14.09.2011

**OZNAČAVANJE PROIZVODA:**  
*MARKING OF PRODUCT:*

**Alarm-, Start-/Stop- and Safety System for Diesel Engines – AHD 514, BÖNING**

**UVJETI ZA CERTIFIKACIJU:**  
*CONDITIONS FOR CERTIFICATION:*

**Bitne izmjene u hardveru i softveru moraju se odobriti prije instalacije na brod.**  
**Sve hardverske i softverske promjene sustava moraju biti zapisane tijekom primjene na brodu.**  
**Zapisi o izmjenama moraju se dostaviti HRB-u radi provjere i odobrenja.**

*Major changes in the hardware and software are to be approved before being installed on the vessel.*  
*All changes in hardware or software are to be recorded as long as the system is in use on board.*  
*The records of all changes are to be forwarded to CRS for evaluation and approval.*

- END OF CERTIFICATE -