


POTVRDA O TIPNOM ODOBRENJU
TYPE APPROVAL CERTIFICATE
Br / No 03-001556/031259

Potvrđuje se da je ovaj proizvod, u skladu s Pravilima za klasifikaciju brodova, Dio 1. - Opći propisi, Odjeljak 3. - Tipno odobrenje proizvoda, odobren za ugradnju na brodove i postrojenja pod nadzorom Hrvatskog registra brodova.

This is to certify that this product, on the basis of the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products, is approved for use on board ships and installations under supervision of the Croatian Register of Shipping.

TIP I OPIS PROIZVODA:
TYPE AND DESCRIPTION OF PRODUCT:

Engine Control and Monitoring System for Multiple Propulsion – EMS

EMS2 & EMS2.2	- Engine Management System	EVC	- Electronic Vessel Control – 7” Color D.
CIU	- Control Interface Unit	AD	- Alarm Handling Display
MCC	- Marine Commercial Control System	PCU	- Power Train Control Unit
MCU	- Marine Control Unit	HCU	- Helm Station Control Unit
PM	- Power Module	LCD	- Display Unit
SDU	- Shut Down Unit	CAN	- Bus communication
EKS	- Electronic Key System	RP	- Remote Panel
J1587/J1939	- Communication Bus		

PROIZVOĐAČ:
MANUFACTURER:
AB Volvo Penta
405 08 Göteborg
SWEDEN
PROIZVOD UDOVOLJAVA SLIJEDEĆIM 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 VRIJEDI DO: **2020-10-11**
APPROVAL IS VALID UNTIL:
Mjesto i datum Split, 2016-10-11
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.

PODROBNIJI OPIS PROIZVODA:*DETAIL PRODUCT DESCRIPTION:***Osnovne funkcije:***Basic functionalities:*

Start Stop of Engine
 Engine speed control
 Engine alarm and monitoring
 Engine protection
 Station control
 Gear control

Zaštitne karakteristike:*Safety characteristics:*

Safety shutdown - independent
 Duplicated power supply
 Duplicated CAN bus communication

PODRUČJE PRIMJENE / POSEBNI I GRANIČNI UVJETI:*APPLICATIONS / LIMITATIONS:*

Sustav je primjenjiv na slijedeće motore – D9/13/16

System is applicable on the following engines – D9/13/16

DOKUMENTACIJA ZA TIPNO ODOBRENJE:*TYPE APPROVAL DOCUMENTATION:*

*Type Testing of EMS System and PM module – DnV Technical Report No.2002-0707 Rev. 01,
 Type Testing of CIU and Display unit – DnV Technical Report No.2003-3172 Rev. 01,
 Type Testing of EMS2 System and PM module – DnV Technical Report No.2004-3217 Rev. 01,
 Type Testing of EVC-B System – DnV Technical Report No.2004-3347 Rev. 02,
 EMC and Environmental Testing of EMS2.2 System - DnV Technical Report No.2010-3223,
 AD – Functional Description 7” Display for Marine Commercial Applications, CPAC SYSTEMS AB,
 CPAC SYSTEMS AB – Engineering Statement regarding EVC 7”Display,
 Classification of degree of protection provided by enclosure (IPX7) – SP 4F014605, dated 2014-11-07,
 Classification of degree of protection provided by enclosure (IP6X) – SP 5F001278, dated 2015-02-18,
 The Electronic Key System 2, CPAC dated Nov. 2013,
 EKS – CPAC Summary of the E10 verification tests, dated 2014-03-03,
 EKS – EMC test, SP FX110628, dated 2012-02-10,
 EKS – Compass Safe Distance, SP FX205883, dated 2012-03-27,
 Two EKS – E10 Type approval tests, SP PX17794_A, dated 2012-01-23,
 Two + Four EKS – Environmental tests, SP PX17794_B, dated 2012-03-12,
 EKS – Environmental tests, SP PX17794_C, dated 2012-03-30,
 EKS – Salt mist test, SP PX17794-01, dated 2011-12-27,
 EKS – Needle flame test according to IEC60695-11-5 (2004), SP PX17794-02, dated 2011-12-07,
 EKS – Classification of degree of protection by enclosure, SP PX17794-03:A, dated 2012-03-07,
 EKS – IPX7 test report, SP 4F022662, dated 2014-11-21,
 SDU – General Arrangement Drawings, 22633775-01,
 SDU – EMC test report, SP 6P00968, dated 2016-01-27.*

OZNAČAVANJE PROIZVODA:*MARKING OF PRODUCT:*

In accordance with IEC60945 – Marking and identification (The Manufacturer and Type Designation of the product, serial number, date of manufacture, supply voltage, other particulars and software version...).

UVJETI ZA CERTIFIKACIJU:*CONDITIONS OF 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.*