

**POTVRDA O TIPNOM ODOBRENJU**  
*TYPE APPROVAL CERTIFICATE*

Br / No 03-001651/031367

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 and diesel generator applications****Level 15****John Deere Power Systems**

Orleans – Saran unit

La Foulonnerie

45401 Fleury les Aubrais Cedex

*FRANCE***PROIZVOĐAČ:***MANUFACTURER:***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 U R 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:**  
*APPROVAL IS VALID UNTIL:***2022-09-02****Mjesto i datum** Split, 2018-09-03  
*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:***DETAIL PRODUCT DESCRIPTION:*

ECU Level 15 je jedinica za elektronsko upravljanje ubrizgavanjem goriva diesel motora koji osigurava optimalno izgaranje i uštedu goriva, omogućava upravljanje brojem okretaja kao i priključak na vanjske jedinice za kontrolu rada motora. Različiti programi omogućavaju različite karakteristike ubrizgavanja goriva a time i različite snage motora. Alarmni sustav i sustav zaštite motora nisu uključeni.

*ECU Level 15 is an engine control module for electronic control of diesel engine fuel injection which ensure optimum combustion and fuel economy, speed governing and enable connection to external modules for engine management. Various programmes for governor settings produce various engine power take off. Alarm and safety systems are not included.*

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

**Sustav je primjenjiv na slijedeće motore** 6135AFM85 / 6135SFM85  
*System is applicable on the following engines* 6135AFM85 / 6135SFM85

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

**Tehnička dokumentacija:** - **Electronic Control Unit, Engine Controller – No. RE520954**  
*Technical documentation:*

**Tehnička dokumentacija:** - **Engine Control Unit, System Operation – CTM370 (22JUL15), No. 03-140-14**  
*Technical documentation:*

**Tehnička dokumentacija:** - **13.5L 12V Wiring Diagram 1 – CTM370 (22JUL15), No. 06-210-7**  
*Technical documentation:*

**Tipno ispitivanje – Utjecaj okoliša:** - **Environ Laboratories LLC – Sinusoidal Vibration Test, No. 35844-1**  
*Type Testing – Environmental test:*

**Tipno ispitivanje – EMC test:** - **TUV SUD America Inc – EMC Test Rep. No. NC605639.7, dated 20 April 2007**  
*Type Testing – EMC test:*

**Tipno ispitivanje – Elek. i okoliš:** - **Phoenix Int. – Electrical & Environmental Test Report, No. 11012-RE520954A**  
*Type Testing – Electrical & Env. test:*

**EMS – FMEA test:** - **FMEA – L14 HPCR Electronic Fuel Control System Non-EGR Engine**  
*EMS – FMEA test:*

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

**Sukladno zahtjevima IEC60945 – Označavanje i identifikacija (ime proizvođača i tip proizvoda, serijski broj, datum proizvodnje, napon napajanja, programska verzija).**

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

**UVJETI ZA CERTIFIKACIJU:***CONDITIONS OF CERTIFICATION:*

**Bitne izmjene u hardveru i softveru moraju se dostaviti HRB-u radi provjere i odobrenja prije instalacije na brod. ECU jedinica se mora koristiti u kombinaciji s uzemljenim EPCOS filterom tipa B841120000G136. Mora se dodatno osigurati posebna i neovisna jedinica za zaštitu motora.**

*Major changes in the hardware and software are to be forwarded to CRS for evaluation and approval, before being installed on the vessel.*

*ECU controller is to be used in conjunction with line grounded filter EPCOS type B841120000G136.*

*A separate, independent engine safety system must be provided.*