

**POTVRDA O TIPNOM ODOBRENJU**
TYPE APPROVAL CERTIFICATEBr /No **03-001553/031196**

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:

**Electronic Engine Control and Monitoring System for
Caterpillar Engines**
ADEM IV (A4:E4v3.1)PROIZVOĐAČ:
MANUFACTURER:**CATERPILLAR Inc.**
3701 South Street
LAFAYETTE, Indiana 47905-4856

UNITED STATES OF AMERICA

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: **2020-10-06**

APPROVAL IS VALID UNTIL:

Mjesto i datum: Split, 2016-10-06

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:
DETAILED PRODUCT DESCRIPTION:

ADEM IV - Engine Control and Monitoring System A4:E4v3	Caterpillar Engines
System level schematics (with sensors and I/O)	263-6560_1 263-6560_2
Control Gp. - ADEM IV	488-4881 488-4884
Air Cooled ECM Assembly Drawing	28066632
Air Cooled Housing	28017914
Schematic	28054599 (base) 28066663 (chart)
Schematic - Power Supply	28037326 (base) 28037327 (chart)
Board Assembly	28066663 (chart)
Board Assembly - Power Supply	28037327 (chart)
Associated Sensors/Components (Governing function only)	
Camshaft Speed Timing	191-8305
Compressor Inlet Air Pressure	296-5220
Air Inlet Manifold Pressure	296-5221
Air Inlet Manifold Temperature	288-3783
HPCR Rail Pressure	296-5223
Thermowell	263-6541
Pressure Port	263-6568
ECM Software Version	A4E4v3.1 December 2006
ECM Suffix Code	MC

PODRUČJE PRIMJENE / POSEBNI GRANIČNI UVJETI:
APPLICATION / LIMITATIONS:

Correct configuration and set up for each delivery to be tested during commissioning, after installation, under the supervision of a Society Surveyor. Major changes in the software are to be approved before being installed. Approval also valid for ships to be granted with class notations: AUT 1, AUT 2 and AUT 3.

DOKUMENTACIJA ZA TIPNO ODOBRENJE:
TYPE APPROVAL DOCUMENTATION:

- ADEM IV – (A4:E4v3) Electronic Control Module - Product Information Sheet,
- EC-29 Marine Society Test Plan for ADEM IV, Ver. 1.1- September 01,2006,
- Environmental Test Reports – Elite 37999-01,03,05,07,09,11,13,17,20,
- EMC Test Report – Elite 37724-02, March 26 – April 06, 2007,
- Performance Test Report with C175 - April 02-03, 2007,
- Witness Test Sign-off Sheets, April 04-06, 2007,
- Caterpillar A4E4v3.1 Prod IV to Prod V Whitepaper – Ver. 1.2, dated 12-Oct-2012,
- ELITE Engineering Test Reports No. 1302487-01 Rev.A & No. 1302489-01,
- A4:E4v2/A4:E4v3.1/A5:E4v2 RoHS Update White Paper, Version 1.0, dated 17 March 2016,
- A4:E4v2 RoHS Update Type Approval Test, Version 1.00, dated 16 March 2016,
- Electronics & Systems Integration (E&SI) – ECM RoHS and Obsolescence, Table Top Review 7/16/15,
- Elite Electronic Engineering Inc. – Engineering Test Report 1504199-01 Rev. A, dated 07 March 2016.

OZNAČAVANJE PROIZVODA:
MARKING OF PRODUCT:

The Manufacturer and Type Designation of the product, serial number, date of manufacture, supply voltage and software version.

UVJETI ZA CERTIFIKACIJU:
CONDITIONS FOR CERTIFICATION:

All changes in associated Sensors/Components and 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. Major changes in the software are to be approved before being installed in the computer.