

**POTVRDA O TIPNOM ODOBRENJU**  
**TYPE APPROVAL CERTIFICATE**Br /No **03-001280/030951**

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 Thermostat****PROIZVOĐAČ:**  
**MANUFACTURER:****EMP**2701 North 30<sup>th</sup> Street  
Escanaba, Michigan  
49829 USA**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****PODRUČJE PRIMJENE/POSEBNI GRANIČNI UVJETI:**  
**FIELD OF APPLICATION/SPECIAL OPERATIONAL LIMITS:**

**Temperatura:** **Otvorena paluba, jarbol/zatvoreni prostori**  
*Temperature:* *Open deck, masts/Ambient temps*

**Vlaga:** **Sve lokacije (do 100% vlage na svim odgovarajućim temperaturama)**  
*Humidity:* *All locations (up to 100% humidity all relevant temps.)*

**Vibracije:** **Na strojevima**  
*Vibration:* *On machinery*

**EMC:** **Sve lokacije osim komandnog mosta i otvorene palube**  
*EMC:* *All locations except bridge and open deck*

**Zaštita:** **Otvorena paluba, jarbol, ispod podnica u strojarnici (IP56)**  
*Enclosure:* *Open deck, masts, below floor plates in engine room (IP56)*

**ODOBRENJE VRIJEDI DO:**  
**APPROVAL IS VALID UNTIL:****2015-11-17****UZ UVJETE NAVEDENE NA POLEDINI**  
**SUBJECT TO CONDITION OVERLEAF****Mjesto i datum:** **Split, 2011-11-17**  
**Place and date:****M.P.**  
**(Seal)**

Goran Begović, dipl.ing.

**Odobrenje je valjano ako je ovaj proizvod izveden prema slijedećoj dokumentaciji:**  
*The approval is valid if this product is manufactured in accordance with the following documentation:*

**PRODUCT DESCRIPTION:**

*Electronically Controlled Engine Thermostat is an chassis mounted valve used to control the engine's coolant flow direction. The valve will divert coolant flow to the radiator, the water jacket or both depending upon the coolant temperature set point signal received by the engine control module.*

*EMP Drawings:*

6 inch Prints		4 inch Prints	
<i>Valve Control Group</i>	<i>246-6700</i>	<i>Controller</i>	<i>3000003001</i>
<i>Motor Group</i>	<i>278-7384</i>	<i>Ass'y Control Valve</i>	<i>p0004620000 E</i>
<i>Control Module</i>	<i>341-2377</i>	<i>Body Piston</i>	<i>p0004620010 B</i>
<i>Valve Control Group Detailed</i>	<i>286-4571</i>	<i>Insert, support hub</i>	<i>p0004620015 B</i>
<i>Housing assembly Motor</i>	<i>312-2187</i>	<i>Housing elbow</i>	<i>p0004620020 B</i>
<i>Cover Motor Housing</i>	<i>312-2191</i>	<i>Adapter, Motor Mount</i>	<i>p0004620030 D</i>
<i>Main Body</i>	<i>312-2192</i>	<i>Shaft, Threaded/Seal</i>	<i>p0004620040 D</i>
<i>Dowel</i>	<i>312-2193</i>	<i>Piston Diverter</i>	<i>p0004620060 C</i>
<i>Piston</i>	<i>312-2194</i>	<i>Rod Reaction Dowel</i>	<i>p0004620070 B</i>
<i>Adapter As Flange</i>	<i>312-2195</i>	<i>Oring</i>	<i>p0004620080 B</i>
<i>Mount As Motor</i>	<i>312-2197</i>	<i>Ass'y Spoked Hub/Bushing</i>	<i>p0004620510 C</i>
<i>Controller</i>	<i>3000004035</i>	<i>Ass'y Piston Body</i>	<i>p0004620610 C</i>
		<i>Ass'y Bearing/Shaft</i>	<i>p0004620640 C</i>
		<i>Ass'y Motor Mount</i>	<i>p0004620650 C</i>
		<i>Ass'y Diverter Piston</i>	<i>P0004620660 C</i>

**TYPE APPROVAL DOCUMENTATION:**

- *Technical Documentation Approval, CRS letter – 57/TE/VB/030750 – January 11,2008.,*
- *Design FMEA – DFMEA-5,*
- *Caterpillar Software Development and Quality Procedures,*
- *EMP, Escanaba - DnV Quality Certificates, CERT-12254-2007 & CERT-01644-2004,*
- *EC-29 Marine Society Testing Requirements, Ver. 1.6- December 12,2007,*
- *Environmental Test Report – Elite No. 0801187-01, Rev.B, 3/12/2007-4/23/2008,*
- *EMC Test Report – Elite No. 0801188-02, April 9-16, 2008,*
- *Marine Society Witness Test Final Report - May 21, 2008.*
- *CATERPILLAR Whitepaper Ver. 1.0 - 10/31/2011 showing changes, dated November 7, 2011.*

**CLAUSE FOR APPLICATION SOFTWARE CONTROL:**

*All changes in 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.*

**Ovo odobrenje ne isključuje zahtjev za nadzorom tijekom izradbe proizvoda kod proizvođača, u skladu s gore navedenim Pravilima.**  
*This approval does not eliminate the need for inspection during manufacturing of the product into manufacturers shop in compliance with a.m. Rules.*

**Račlana**

13.12.07

**Zamjenjuje potvrdu**

03-001127/030750