



CROATIAN REGISTER OF SHIPPING

Potvrda br.  
Certificate No.

03-001718/031427

**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:

Generators Type

**UCM 224, 274; UCDCM 274K; HCM 434, 534, 634; PM 734, 736 & S4L1M**

Brushless A.C. generators, 3 phases, 4 or 6 poles, single or 2 bearings

**PROIZVOĐAČ:**  
MANUFACTURER:

**CUMMINS GENERATOR TECHNOLOGIES ROMANIA S.A.**

*Bulevardul Decebal nr. 116A*  
*200746 Craiova, Dolji*  
**RUMUNJSKA - ROMANIA**

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

**HRB PRAVILA ZA KLASIFIKACIJU BRODOVA: DIO 12 – ELEKTRIČNA OPREMA**  
**CRS RULES FOR THE CLASSIFICATION OF SHIPS: PART 12 – ELECTRICAL EQUIPMENT**  
**IACS UR E13**

**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: 2023-04-02**  
APPROVAL IS VALID UNTIL:

**Mjesto i datum: Split, 2019-12-16**  
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:*

**A.C. generatori, 3 faze s 4 ili 6 polova te s jednim ili 2 ležaja, bez četkica. AVR MX321 ili MX341.**  
*A.C. generators, 3 phases with 4 or 6 poles, single or 2 bearings, brushless. AVR MX321 or MX341.*

**Stupanj zaštite / Protection index:**

**IP 23**

**Isolacija namotaja / Winding insulation:**

**Class H**

**Granice porasta temperature / Temperature rise limits:**

**Class H, Class F and Class B**

**Faktor snage / Power factor:**

**0.8**

**Frekvencija / Frequency:**

**50/60 Hz**

**Broj okretaja /RPM:**

**1500/1800 (1000/1200)**

**Napon / Voltage:**

**≤ 690 V**

**Primjerak tablice najviše snage za kontinuirani rad na temperaturi okoliša od 50°C i klasi temperature H:**  
*Sample table with maximum power continuous rating for 50°C ambient temperature and temperature class H:*

| Type – UCM 224 | 50Hz/1500rpm/440V (KVA) | 60Hz/1800rpm/440V (KVA) |
|----------------|-------------------------|-------------------------|
| UCM224C        | 38.0                    | 44.7                    |
| UCM224D        | 44.0                    | 53.1                    |
| UCM224E        | 52.3                    | 63.0                    |
| UCM224F        | 63.3                    | 75.6                    |
| UCM224G        | 71.5                    | 87.0                    |

| Type – UCM 274 | 50Hz/1500rpm/440V (KVA) | 60Hz/1800rpm/440V (KVA) |
|----------------|-------------------------|-------------------------|
| UCM274C        | 81.5                    | 102.5                   |
| UCM274D        | 97.0                    | 117.5                   |
| UCM274E        | 120.0                   | 137.5                   |
| UCM274F        | 140.0                   | 162.5                   |
| UCM274G        | 159.0                   | 192.8                   |
| UCM274H        | 175.0                   | 218.8                   |

| Type – UCDM 274 | 50Hz/1500rpm/440V (KVA) | 60Hz/1800rpm/440V (KVA) |
|-----------------|-------------------------|-------------------------|
| UCDM274K        | 205.0                   | 265.0                   |

| Type – HCM 434 | 50Hz/1500rpm/440V (KVA) | 60Hz/1800rpm/440V (KVA) |
|----------------|-------------------------|-------------------------|
| HCM434C        | 215.0                   | 260.0                   |
| HCM434D        | 240.0                   | 305.0                   |
| HCM434E        | 295.0                   | 350.0                   |
| HCM434F        | 340.0                   | 405.0                   |

| Type – HCM 534 | 50Hz/1500rpm/440V (KVA) | 60Hz/1800rpm/440V (KVA) |
|----------------|-------------------------|-------------------------|
| HCM534C        | 390.0                   | 485.0                   |
| HCM534D        | 435.0                   | 520.0                   |
| HCM534E        | 530.0                   | 625.0                   |
| HCM534F        | 585.0                   | 694.0                   |

| Type – HCM 634 | 50Hz/1500rpm/440V (KVA) | 60Hz/1800rpm/440V (KVA) |
|----------------|-------------------------|-------------------------|
| HCM634G        | 650.0                   | 813.0                   |
| HCM634H        | 785.0                   | 913.0                   |
| HCM634J        | 850.0                   | 1063.0                  |
| HCM634K        | 950.0                   | 1200.0                  |

| Type – PM 734* | 50Hz/1500rpm/440V (KVA) | 60Hz/1800rpm/440V (KVA) |
|----------------|-------------------------|-------------------------|
| PM734A         | 920.0                   | 1100.0                  |
| PM734B         | 1005.0                  | 1170.0                  |
| PM734C         | 1240.0                  | 1480.0                  |
| PM734D         | 1320.0                  | 1580.0                  |
| PM734E         | 1435.0                  | 1800.0                  |
| PM734F         | 1580.0                  | 2035.0                  |
| PM734G         | 1795.0                  | 2155.0                  |

\* Klasa temperature F / Temperature class F

| Type – PM 736 | 50Hz/1000rpm/380V-440V<br>(KVA) | 60Hz/1200rpm/440V-480V<br>(KVA) |
|---------------|---------------------------------|---------------------------------|
| PM736B        | 525.0                           | 750.0                           |
| PM736D        | 655.0                           | 975.0                           |
| PM736F        | 900.0                           | 1240.0                          |

| Type – S4L1M | 50Hz/1500rpm/440V (KVA) | 60Hz/1800rpm/440V (KVA) |
|--------------|-------------------------|-------------------------|
| S4L1MC       | 215.0                   | 260.0                   |
| S4L1MD       | 240.0                   | 305.0                   |
| S4L1ME       | 295.0                   | 350.0                   |
| S4L1MF       | 340.0                   | 405.0                   |

**Za ostale klase temperature i napone vidi STAMFORD Alternator Rating Book.**  
*For other temperature classes and voltages see STAMFORD Alternator Ratings Book.*

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

**Da bi se realizirao stupanj zaštite IP23 potrebno je postaviti zaštitu na ventilacijskim otvorima koji sprečavaju prodor vode. Ukoliko se postavi i zračni filter na usisu zraka za hlađenje predviđenu snagu je potrebno umanjiti za 5%.**

*In order to comply with IP23 protection index, air outlets are to be fitted with a louvers. If air inlet filter is fitted the standard power rating is to be reduced by 5%.*

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

**STAMFORD UC Alternators – Installation, Service and Maintenance Manual – A040J848,  
STAMFORD HC Alternators – Installation, Service and Maintenance Manual – A040J849,  
STAMFORD P7 Alternators – Owner Manual – A040J850,  
STAMFORD S4/S6 Alternators – Owner Manual – A055Z165,  
STAMFORD UCM224C – Winding 311, Technical Data Sheet,  
STAMFORD UCDM274K – Technical Data Sheet,  
STAMFORD PM734A/B/C/D/E/F/G – Technical Data Sheet,  
STAMFORD PM736B/D/F – Technical Data Sheet,  
STAMFORD S4L1M-C4/D4/E4/F4 – Technical Data Sheet,  
Technical Centre Report – REF/TR01 rev.04, Marine Society Type Appr. Test UCDM274K1 205kVA,  
Technical Centre Report – REF/TR01 rev.04, Marine Society Type Appr. Test UCDM274K1 285kVA,  
Technical Centre Report – REF/TR01 rev.08, Class “H” Temperature Rise Test HCM634G1 875kVA,  
AC Generator Routine Test Certificate – REF/TR02 Rev.04, Type HCM534E2 dated 2015.01-23,  
Stamford CRS witness Test dated 2015-03-12 : Insulation resistance, Winding resistance, High voltage, Voltage regulation, Excitation voltage, Overload, Overspeed and Temperature at full load,  
AC Generator Test Certificate – REF/TR03 Rev.04, Type S4L1M-E42 dated 2019.05.23,  
Test Report – C19D138471, Type PM736F2 dated 2019.06.19,  
Test Report – C19D138517, Type PM734A2 dated 2019.07.10.**

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

**Ime proizvođača, serijski broj, tip proizvoda, broj faza, nominalna snaga, nominalna struja, radni napon, frekvencija, IP zaštita, termalna klasa te najviša temperatura zraka u okolišu.**

*Manufacturer’s name, serial number, product type, number of phases, rated power, rated current, rated voltage, frequency, IP protection index, thermal class and maximum ambient air temperature.*

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

**Registar pridržava pravo na mogući test provjere kod proizvođača u bilo koje vrijeme.  
Proizvođač je odgovoran da dobavljača upozori na sve uvjete korištenja i održavanja generatora.**

*Society reserves the right to require check test at makers facility at any time.  
Maker is responsible to inform purchaser on proper methods of use and generators maintenance.*