



Marine &amp; Offshore

Certificate number: 07644/F0 BV

File number: ACE 10/120/02

Product code: 2658H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**DEIF A/S**

Skive - DENMARK

*for the type of product*

**GENERATOR CONTROL AND PROTECTION UNITS**

Generator control and protection units, type Uni - Line.

### Requirements:

BV Rules for the Classification of Steel Ships.

EC Code: 31

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 15 Jan 2030**

**For Bureau Veritas Marine & Offshore,**

At BV FREDERICIA, on 15 Jan 2025,

Jesper JENSEN

***This certificate was created electronically and is valid without signature***



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## **THE SCHEDULE OF APPROVAL**

### **1. PRODUCT DESCRIPTION :**

#### **Voltage relays:**

RMV - 112 D ( under / overvoltage protection ),  
 RMV - 122 D ( overvoltage protection ),  
 RMV - 132 D ( undervoltage protection ),  
 RMV - 142 D ( under / overvoltage protection ).

#### **Current relays:**

RMC - 111 D ( short circuit relay ),  
 RMC - 121 D ( short circuit current relay ),  
 RMC - 122 D ( overcurrent and short circuit relay ),  
 RMC - 131 D ( differential current relay ),  
 RMC - 132 D ( dual overcurrent relay ),  
 RMC - 142 D ( stator earth fault relay ).

#### **Power relays:**

RMP - 111 D ( overload relay ),  
 RMP - 112 D ( overload / reverse power relay ),  
 RMP - 121 D ( reverse power relay ),  
 RMQ - 111 D ( loss of excitation relay ),  
 RMQ - 121 D ( overexcitation relay ).

#### **Synchronizers and accessories:**

FAS - 113 DG ( synchronizer ),  
 FAS - 115 DG ( synchronizer ),  
 HAS - 111 DG ( paralleling relay ),  
 EPN - 110 DN ( electronic potentiometer ).

#### **Load sharing units:**

LSU - 112 DG ( load sharing unit ),  
 LSU - 113 DG ( load sharing unit and -P> protection ),  
 LSU - 114 DG ( load sharing unit and start/stop outputs ),  
 LSU - 122 DG ( var load sharing unit ).

#### **Other relays:**

RMF - 112 D ( frequency relay ),  
 LMR - 111 D ( loss of mains relay ),  
 LMR - 122 D ( loss of mains relay ),  
 RMT - 111 Q 96 ( phase sequence relay ),

### **2. DOCUMENTS AND DRAWINGS :**

#### 2.1 - DEIF A/S data sheets N°s:

4921240096L, 4921240102D/E, 4921240104L, 4921240106L, 4921240108J,  
 4921240110J, 4921240112I, 4921240114DL, 4921240116L , 4921240118I,  
 4921240120K, 4921240122I, 4921240124I, 4921240126I, 4921240128I,  
 4921240131I, 4921240141D, 4921240144J, 4921240148C/E, 4921240214D,  
 4921240217D, 4921240220C, 4921240223G, 4921240260E and 4921240130N.

#### 2.2 - DEIF A/S drawings N°s:

- 4157200374 Rev. C, 4157200358 Rev. B, 4157200375 Rev. C,
- 4157200378 Rev. D, 4157200379 Rev. D.

#### 2.3 - DEIF A/S minor changes list ref. N° 20040220/NMJ.

#### 2.4 - User Documentation ref. IPA0274-04W.

- Manufacturer Statement No. PCM6.1 dated 6 december 2024

**3. TEST REPORTS :**

DEIF A/S test reports N°s:

**3A1** dated 16.01.2004, **4A1** dated 16.01.2004, **6A1** dated 16.01.2004,  
**9A1** dated 16.01.2004, **14A1** and **14A2** dated 16.01.2004, **15A1** and  
**15A2** dated 21.10.2003, **16A** dated 20.02.2004 and 27.08.2009, **18A1** dated 23.02.2004,  
**1A2** dated 04.09.2008, **1B1** to **1B4** dated 18.02.2004, **2B1** dated 18.02.2004, **2B2 to 2B6** dated 05-09-2008,  
**5B1** dated 18.02.2004, **6B1** to **6B8** dated 18.02.2004, **9B** dated 18.02.2004,  
**10B** and **12B** dated 18.02.2004, **13B** and **15B** dated 18.02.2004, **16B** dated 18.02.2004.  
**2A1, 2A2, 2A3, 2A4**, dated 15.Feb.2012.

- RMV-142D, Electromagnetic field Test Report dated 2020-05-05
- RMV-142D, Radiated Emission Test Report dated 2020-05-05
- FAS-113DG, Electromagnetic field Test Report dated 2020-05-05
- FAS-113DG, Radiated Emission dated 2020-10-13

**4. APPLICATION / LIMITATION :**

- 4.1 - BV Rules for the Classification of Steel Ships.
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - BUREAU VERITAS Environmental Category, **EC Code: 31.**
- 4.4 - The equipment fulfils the EMC requirements for installation in General power Distribution Zones.
- 4.5 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev 9.

**5. PRODUCTION SURVEY REQUIREMENTS :**

- 5.1 - The Generator control and protection units, type Uni - Line are to be supplied by **DEIF A/S** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **DEIF A/S** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
- 5.4 - For information, **DEIF A/S** has declared to Bureau Veritas the following production site(s):

**DEIF A/S**  
**Frisenborgvej 33**  
**DK-7800 Skive**  
**DENMARK**

**6. MARKING OF PRODUCT :**

- Maker's name or trade mark.
- Serial number of the units.
- Equipment type number or model identification under which it was type-tested.

**7. OTHERS :**

- 7.1 - It is **DEIF A/S** 's responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
- 7.2 - This Certificate supersedes the Type Approval Certificate N° 07644/E0 BV issued on 15 Aug 2019 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*