



Marine & Offshore

Certificate number: 19894/D0 BV

File number: AP 3843

Product code: 4421H

*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*

**ELECTRICAL POWER MANAGEMENT SYSTEMS**

DELOMATIC 4

**Requirements:**

Bureau Veritas 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: 01 Sep 2025**

**For Bureau Veritas Marine & Offshore,**

At BV FREDERICIA, on 01 Sep 2020,

Jesper JENSEN



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:**

The Power Management System **DELOMATIC 4** has been designed to carry out Generator Control, Supervision and Protection functions of up to 15 Generators integrated into one system.

The DELOMATIC 4 System consists of a DEIF Generator Unit (DGU), Display Units (DU) and Additional Operator Panels (AOP).

#### **1.1 - The DGU Comprises the following modules:**

PCM 4.5	Power Supply and Control Module: 24 Vdc, 2xCAN, 2xRS485, 1x Service port, 1x Ethernet port (optional)
PCM 4.1	Power Supply and Control Module: 24 Vdc, 3xCAN, 1xRS485, ARC net, USB Device port
IOM 4.1	Input/Output Module: 16 Input Channels (Binary or Analogue), 12 Relay Output, 2 Analogue Outputs (0-4....20mA)
SCM 4.1	Synchronising, and Control Module: 3-phase electrical measurements (Class 0.5)
SCM 4.2	Synchronising, and Control Module: 3-phase electrical measurements (Class 0.5), Control Board for Governor and AVR (Binary or Analogue)

#### **1.2 - Display Facilities:**

DU	Operation and Display Unit with LCD and Pushbuttons
AOP	Additional Operation Panel with LEDs and Pushbuttons

#### **1.3 - FirmWare / SoftWare:**

PCM FW	Version 1.0X.X
SCM FW	Version 1.0X.X

**Note:** Each case handled as a unique project. Software is to be identified by Project, Version and Revision numbers.

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

#### **DEIF:**

DELOMATIC 4 (DM-4) PMS System, Data Sheet 4921240294A.  
 DELOMATIC 4 Users Manual, Part 2 Item No. 4189232002 (Chapters 1 to 11)  
 Letter Ref. EPC0475/JST dated 2012-08-31 (Renewal of Certificate)  
 DEIF Software Version Numbering, unreferenced and undated document.  
 IPA0324-04, dated 27.May.2014.

Documents filed in AP 3843.

### **3. TEST REPORTS:**

#### **DEIF:**

Type Test Reports IPA No. 0207 dated 2006.08.04.  
 Environmental and EMC Certificates - BV witnessed Type Testing at DEIF A/S dated 12-15/02/2007.  
 Tests report No. 4910217508G, dated 13.Mar.2014.

#### **For modification D0 version:**

#### **DEIF:**

Test Report No. 4910216501M, dated 29-05-2020.  
 Test Report No. 4910217502N, dated 28-05-2020.

**4. APPLICATION / LIMITATION:**

- 4.1 - BUREAU VERITAS 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 - In case of AUT notations issuance, machinery protection required by the Rules and based on data processing techniques are to be duplicated by another and different system.
- 4.6 - Each application and configuration is to be submitted to the Society's examination prior to fitting on board.
- 4.8 - Only Hardware and Software and/or Firmware successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.
- 4.9 - Depending on the Application, Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II or III Equipment.
- 4.10 - The above products comply with the test requirements of IACS UR E10 Rev.7.

**5. PRODUCTION SURVEY REQUIREMENTS:**

- 5.1 - The **DELOMATIC 4** 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:**

- 6.1 - Trade name  
Date of manufacture and serial number,  
Equipment type or model identification under which it was type-tested.
- 6.2 - Alternatively, the marking may be presented on a display at equipment start-up.
- 6.3 - The title and version of each software element included in the installed software system shall be either marked or displayed on command on the equipment.
- 6.4 - When the marking and the title and version of the software are displayed only on the display, such information shall also be included in the equipment manual.

**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° 19894/C0 BV issued on 28 Aug 2015 by the Society.

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