



CERTIFICATE NUMBER

14-LD441809-PDA

DATE

11 September 2014

ABS TECHNICAL OFFICE

London Engineering Department

# CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of  
**DEIF A/S - SKIVE**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

PRODUCT: **Power Management System**

MODEL: **PPM 3 - Protection and Power Management System**

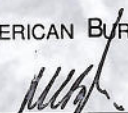
This Product Design Assessment (PDA) Certificate 14-LD441809-PDA, dated 11/Sep/2014 remains valid until 10/Sep/2019 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

  
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Malcolm C. Barraclough  
Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This application/certificate is governed by the "Terms and Conditions of the Request for Product Type Approval and Agreement" as contained in the ABS Rules.

**DEIF A/S**

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**MA Certificate No.** 14-EG2493564 **Tier: 5**

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**Product:** Power Management System

**Model:** PPM 3 - Protection and Power Management System

**Intended Service:**

ABS classed vessels and offshore facilities in accordance with the listed ABS Rules and International standards.

**Description:**

Protection and Power Management Module capable of providing generator control, protection and monitoring functions on board marine vessels, offshore and industrial applications with up to 8 bus tie breakers, 16 diesel generators, 1 emergency generator, 2 shaft generators and 2 shore connections. Additional information available on attached Data Sheet.

**Ratings:**

Auxiliary power Supply: 12/24 VDC nominal; Enclosure Protection: Unit IP20, Display IP52 (IP54 with gasket)

**Service Restrictions:**

Unit Certification as detailed in 4-9-8/13.3 of the ABS Rules for Building and Classing Steel Vessels 2014 is required for this product if it is incorporated in a Category II or Category III system as detailed in 4-9-3/7.1 and 4-9-3/Table 1 of the ABS Rules for Building and Classing Steel Vessels 2014. Unit Certification may be carried out during Factory Acceptance Test of the overall system.

**Comments:**

Tests and approval are for hardware only. Each application/configuration is to be specifically approved. When incorporated in a system of Category I, II or III in accordance with 4-9-3/7.1 and 4-9-3/Table 1 of the ABS Rules for Building and Classing Steel Vessels 2014 the documentation detailed in 4-9-3/Table 2 is to be submitted to ABS or to be available for review by ABS as applicable. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

**Notes / Drawings / Documentation:**

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

**Term of Validity:**

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This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

**STANDARDS****ABS Rules:**

**DEIF A/S**

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The Rules/Guides applicable to this assessment are:

- Steel Vessels (2014) 1-1-4/7.7, 1-1-A3 & A4, 4-9-3/11.9, 4-9-8/7,13.1,Table 1
- Steel Vessels Under 90 Meters (295 Feet) in Length (2014) 1-1-4/7.7, 1-1-A3 & A4
- Facilities on Offshore Installations (2014) 1-1-4/9.7, 1-1-A2 & A3
- Offshore Support Vessels (2014) 1-1-4/7.7, 1-1-A3 & A4, 4-9-3/11.9, 4-9-8/7,13.1, Table 1
- Mobile Offshore Drilling Units (2014) 1-1-4/9.7, 1-1-A2 & A3
- Steel Vessels for Service on Rivers and Intracoastal Waterways (2014) 1-1-4/7.7, 1-1-A3 & A4
- High-Speed Craft (2014) 1-1-4/11.9, 1-1-A2 & A3, 4-7-9/7,15.1,Table 9
- Steel Barges (2014) 1-1-4/7.7, 1-1-A3 & A4

**National:**

NA

**International:**

IACS UR E10 Rev5:2006 (Power Distribution Zone), IACS UR E22 Rev1:2010 (Categories II and III)

**Government Authority:**

NA

**EUMED:**

NA

**Others:**

NA



## *Confirmation of Product Type Approval*

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 27/NOV/2018. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 10/SEP/2019 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

**Product Name: Power Management System**

**Model Name(s): PPM 3 - Protection and Power Management System**

**Presented to:**

DEIF A/S  
FRISENBORGVEJ 33  
SKIVE  
Denmark

**Intended Service:**

ABS classed vessels and offshore facilities in accordance with the listed ABS Rules and International standards.

**Description:**

Protection and Power Management Module capable of providing generator control, protection and monitoring functions on board marine vessels, offshore and industrial applications with up to 8 bus tie breakers, 16 diesel generators, 1 emergency generator, 2 shaft generators and 2 shore connections. Additional information available on attached Data Sheet.

**Tier:**

5

**Ratings:**

Auxiliary power Supply: 12/24 VDC nominal; Enclosure Protection: Unit IP20, Display IP52 (IP54 with gasket)

**Service Restrictions:**

Unit Certification as detailed in 4-9-8/13.3 of the ABS Rules for Building and Classing Steel Vessels 2014 is required for this product if it is incorporated in a Category II or Category III system as detailed in 4-9-3/7.1 and 4-9-3/Table 1 of the ABS Rules for Building and Classing Steel Vessels 2014. Unit Certification may be carried out during Factory Acceptance Test of the overall system.

**Comments:**

Tests and approval are for hardware only. Each application/configuration is to be specifically approved. When incorporated in a system of Category I, II or III in accordance with 4-9-3/7.1 and 4-9-3/Table 1 of the ABS Rules for Building and Classing Steel Vessels 2014 the documentation detailed in 4-9-3/Table 2 is to be

submitted to ABS or to be available for review by ABS as applicable. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

**Notes / Documentation:**

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

**Term of Validity:**

This Product Design Assessment (PDA) Certificate 14-LD441809-PDA, dated 11/Sep/2014 remains valid until 10/Sep/2019 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

**ABS Rules:**

The Rules/Guides applicable to this assessment are: - Steel Vessels (2014) 1-1-4/7.7, 1-1-A3 & A4, 4-9-3/11.9, 4-9-8/7,13.1, Table 1 - Steel Vessels Under 90 Meters (295 Feet) in Length (2014) 1-1-4/7.7, 1-1-A3 & A4 - Facilities on Offshore Installations (2014) 1-1-4/9.7, 1-1-A2 & A3 - Offshore Support Vessels (2014) 1-1-4/7.7, 1-1-A3 & A4, 4-9-3/11.9, 4-9-8/7,13.1, Table 1 - Mobile Offshore Drilling Units (2014) 1-1-4/9.7, 1-1-A2 & A3 - Steel Vessels for Service on Rivers and Intracoastal Waterways (2014) 1-1-4/7.7, 1-1-A3 & A4 - High-Speed Craft (2014) 1-1-4/11.9, 1-1-A2 & A3, 4-7-9/7,15.1, Table 9 - Steel Barges (2014) 1-1-4/7.7, 1-1-A3 & A4

**National Standards:****International Standards:**

IACS UR E10 Rev5:2006 (Power Distribution Zone), IACS UR E22 Rev1:2010 (Categories II and III)

**Government Authority:****EUMED:****Others:**

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	14-LD441809-PDA	11/SEP/2014	10/SEP/2019



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.