# Confirmation of Product Type Approval

**Company Name:** DEIF A/S  
**Address:** FRIOSENBORGVEJ 33 DK-7800 Denmark  
**Product:** Power Management System  
**Model(s):** PPM 3 - Protection and Power Management System

<table>
<thead>
<tr>
<th>Certificate Type</th>
<th>Certificate Number</th>
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<tbody>
<tr>
<td>Manufacturing Assessment (MA)</td>
<td>18-EG3574567</td>
<td>25-OCT-2018</td>
<td>27-NOV-2023</td>
</tr>
<tr>
<td>Product Quality Assurance (PQA)</td>
<td>NA</td>
<td>NA</td>
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**Tier**  
5

**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 Marine Vessels 2019 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 Marine Vessels 2019.

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 Marine Vessels 2019 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 and Documentation
Drawing No. EPC0752-01, PPM-3 data sheet 4921240337 UK, Revision: r, Pages: -
Drawing No. EPC0752-02, Version history, Revision: r, Pages: -
Drawing No. 2013-09-16/SM, DEIF Software Life Cycle Chart, Revision: -, Pages: -
Drawing No. 4040000003 ,PP< 3.0 Module Design, Revision:-, Pages: -
Drawing No. 4189340671, Designers Reference Handbook - Protection and Power Management, PPM-3, Revision:-, Pages: -
Drawing No. 4910000011, DEIF Handbook for Software Development, Revision: -, Pages: -
Drawing No. 4921240337E , Protection and Power Management, Revision: -, Pages: -
Drawing No. FMEA PPM-3, Failure Modes and Effects Analysis - PPM-3, Revision: -, Pages: -
Drawing No. ML_HFMEA_Hardware_HBI20120925, FMEA - Hardware - AGC, AGC-4, GPC, GPC-3, GPU, GPU-3, PPM-3, PPU-3, Revision: -, Pages: -
Drawing No. PPM-3_SFMEA_System_JST20121217, System FMEA - PPM-3, Revision: -, Pages: -

Term of Validity
This Product Design Assessment (PDA) Certificate remains valid until 21/Nov/2024 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules
- Marine Vessel Rules (2019): 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-8-3/1.7, 4-1-1 / Table3 (items 29, 35), 4-9-2/3.1, 4-9-2/3.3, 4-9-2/3.5, 4-9-2/3.7, 4-9-2/5.1, 4-9-3/5, 4-9-3/7, 4-9-3/Table 2
- Mobile Offshore Units (2019): 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-1-1/7.9, 4-3-1/11, 6-1-1/9, 6-1-1/13
- High Speed Crafts (2019): 1-1-4/11.9, 1-1-A2, 1-1-A3, 4-6-1/11, 4-7-9/7, 4-7-9/15, 4-7-9/Table 9
- Steel Barge Rules (2019): 1-1-4/7.9, 1-1-A3, 1-1-A4

International Standards
IACS UR E10 Rev5:2006 (Power Distribution Zone),
IACS UR E22 Rev2:2016 (Categories II and III)

EU-MED Standards
NA
National Standards
NA

Government Standards
NA

Other Standards
NA

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 is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a Confirmation of Product Type Approval.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. 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.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

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.

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.
CERTIFICATE OF
Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

DEIF A/S
located at
FRISKENBORGVEJ 33, SKIVE, Denmark, DK-7800

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

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American Bureau Of Shipping

Theodoros Chatzigkaidas, Engineer/Consultant

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 certificate is governed by ABS Rules 1-1-3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)
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.  
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Notes/Drawing/Documentation:  
Drawing No. EPC0752-01, PPM-3 data sheet 4921240337 UK, Revision: r, Pages: -  
Drawing No. EPC0752-02, Version history, Revision: r, Pages: -  
Drawing No. 2013-09-16/SM, DEIF Software Life Cycle Chart, Revision: -, Pages: -  
Drawing No. 40400000003 ,P< 3.0 Module Design, Revision: -, Pages: -  
Drawing No. 4189340671, Designers Reference Handbook - Protection and Power Management, PPM-3, Revision: -, Pages: -  
Drawing No. 4910000111, DEIF Handbook for Software Development, Revision: -, Pages: -  
Drawing No. 4921240337E , Protection and Power Management, Revision: -, Pages: -  
Drawing No. FMEA PPM-3 Failure Modes and Effects Analysis - PPM-3, Revision: -, Pages: -  
Drawing No. ML_HFMEA_Hardware_HBI20120925, FMEA - Hardware - AGC, AGC-4, GPC, GPC-3, GPU, GPU-3, PPM-3, PPU-3, Revision: -, Pages: -  
Drawing No. PPM-3_SFMEA_System_JST20121217,System FMEA - PPM-3, Revision: -, Pages: -

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Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for

As of 22/Nov/2019  
Type Approved  
Page 1 of 2
DEIF A/S
FRISENBORGVEJ 33
SKIVE
Denmark DK-7800
Telephone: 45-9614-9614
Fax: 45-9614-9615
Email: info@deif.com
Web: www.deif.com

Tier: 5 - Unit Certification Required

construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:
- Marine Vessel Rules (2019): 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-8-3/1.7, 4-1-1 / Table3 (items 29, 35), 4-9-2/3.1, 4-9-2/3.3, 4-9-2/3.5, 4-9-2/3.7, 4-9-2/5.1, 4-9-3/5, 4-9-3/7, 4-9-3/Table 2
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- Steel Barge Rules (2019): 1-1-4/7.9, 1-1-A3, 1-1-A4

National:
NA

International:
IACS UR E10 Rev5:2006 (Power Distribution Zone),
IACS UR E22 Rev2:2016 (Categories II and III)

Government:
NA

EUMED:
NA

OTHERS: TC
NA