



Confirmation of Product Type Approval

Company Name: DEIF A/S

Address: FRISENBORGVEJ 33 DK-7800 Denmark

Product: Power Management System

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

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	19-LD1908459-PDA	25-NOV-2019	21-NOV-2024
Manufacturing Assessment (MA)	18-EG3574567	25-OCT-2018	27-NOV-2023
Product Quality Assurance (PQA)	NA	NA	NA

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

- Facilities on Offshore Installations (2019): 1-1-4/9.7, 1-1-A2, 1-1-A3

- 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

- Steel Vessels for Service on Rivers and Intracoastal Waterways (2019): 1-1-4/7.7, 1-1-A3, 1-1-A4

- 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



A handwritten signature in dark ink, appearing to read "Greg W. K.", is positioned above the corporate information.

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 02-Dec-2019 3:57

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 NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

19-LD1908459-PDA
22-Nov-2019
21-Nov-2024
London Engineering Department

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

FRISENBORGVEJ 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 Chatzidakis, 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-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

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Web: www.deif.com

Tier: 5 - Unit Certification Required TC**Product:** Power Management System**Model:** PPM 3 - Protection and Power Management System**Intended Service:**

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Description:

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Notes/Drawing/Documentation:

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Tier: 5 - Unit Certification Required

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STANDARDS**ABS Rules:**

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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:

NA

TC