CERTIFICATE NUMBER	26-0515764-PDA
EFFECTIVE DATE	17-Jun-2026
EXPIRY DATE	16-Jun-2031
ABS TECHNICAL OFFICE	Yokohama Engineering Services

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:	**PPM300+PPU300+GPU300+DU300**
Endorsements:	
Tier:	**5 - Unit Certification Required**

This Product Design Assessment (PDA) Certificate remains valid until 16/Jun/2031 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.

American Bureau Of Shipping

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Tier: 5 - Unit Certification Required

Product: **Power Management System**
Model: **PPM300+PPU300+GPU300+DU300**
Endorsements:

Intended Service:
Marine & Offshore Applications - Power Management Modular Controllers used for control, protection and supervision of electrical power generation and load distribution systems

Description:
The PPM 300 Protection and Power Management Controller is a configurable controller designed for genset control and protection as well as integrated and engineered power management solutions. The controller contains the functions that are needed to protect and control a diesel generator, an emergency diesel generator, a shaft generator, an inverter with power source, a shore connection, or a bus tie breaker. Up to 32 controllers can be connected to create one integrated system solution for standard applications. If a controller fails, the remaining controllers would continue to function. Redundant communication between the controllers is possible. If a communication link fails, the system continues to function. The PPM 300 Controller can be configured with the following modules and display unit based on the controller type.

- power supply module PSM3. 1, PSM3. 2
- alternating current module ACM3. 1, ACM3. 2
- input/output module IOM3. 1, IOM3. 2, IOM3. 3
- engine interface module EIM3. 1,
- governor and AVR module GAM3. 1
- processor and communication module PCM3. 1
- display unit DU300.

The PPU 300 Paralleling and Protection Unit is a configurable controller containing the functions required to protect and control a generator or inverter and its breaker (specifically, a diesel generator, a shaft generator, an inverter with power source, a shore connection, or a bus tie breaker). Up to 32 controllers can be connected to create one system with load sharing sections. The PPU 300 Unit can be configured with the same modules and display unit as for the PPM 300 based on the controller type.

The GPU 300 Generator Protection Unit is designed to protect electrical equipment with a breaker, such as a diesel generator, a busbar, or a motor. The unit has configurable modules including power supply module PSM3. 1, alternating current module ACM3. 1, input/output module IOM3. 1 and processor and communication module PCM3. 1. The GPU 300 unit is also configured with display unit DU300.

The DU300 Display Unit has push-buttons to change the controller mode, close and open the breaker, and start and stop a generator or inverter. The status and info messages as well as synchronization state and values can be shown on the screen. The screen also allows access to live data and alarm management. The input/output and parameter configuration can be checked and/or changed on the unit. The light indicators of the display unit show the system status.

Rating:
Power Supply
Input voltage: 12 or 24 V DC nominal (8 to 36 V DC continuously)
Input current: 8 A minimum (12V); 4 A minimum (24V) (PSM3.1, PSM3.2)
1.2 A minimum (12V); 0.6 A minimum (24V) (EIM3.1)
4.2 A minimum(12V); 2.1 A minimum (24V) (Display Unit)
Operating temperature: -40 to 70 °C
-20 to 70 °C (display unit)
Humidity: 97 % relative humidity condensing
Ingress Protection: IP20 (module mounted in rack)
Front IP65; Back IP20 (display unit)

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Tier: 5 - Unit Certification Required

Refer to PPM 300 Data Sheet 4921240464X, PPU 300 Data Sheet 4921240563R and GPU 300 Data Sheet 4921240530A for the rating details.

Service Restriction:
1) Unit certificate is required where the product is used in a Category II or III Computer Based Systems as described in Marine Vessel Rules 4-9-3/7 & 4-9-3-A2/5. Unit Certification may be carried out during Factory Acceptance Test of the overall system.
2) If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
3) The product is to be installed in general power distribution zone and non-hazardous area.

Comments:
1) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2) The subject PDA certificate covers hardware only. Software and cables are excluded.
3) The Category II or III Computer Based Systems employed the subject products shall be approved and tested for each installation.

Notes/Drawing/Documentation:
Drawing No. 4157200539, Diagram IOM3.2 ML300, Revision: F
Drawing No. 4157200544, Diagram IOM3.3 ML300, Revision: D
Drawing No. 4106200437, PCB Assembly IOM3.2 Top ML 300, Revision: A
Drawing No. 4106200442, PCB Assembly IOM3.3 Top ML 300, Revision: A
Drawing No. 4189341309A, TERMINOLOGY LIST - PPM 300 and PPU 300 HYBRID Controllers, Revision: A
Drawing No. 4921240464X, DATA SHEET - PPM 300 Protection and Power Management, Revision: X
Drawing No. 4189340911Z, DESIGNER'S HANDBOOK - PPM 300 Protection and Power Management, Revision Z
Drawing No. 4189340909P, INSTALLATION INSTRUCTIONS - PPM 300 Protection and Power Management, Revision: P
Drawing No. 4189340910R, OPERATOR'S MANUAL - PPM 300 Protection and Power Management, Revision: R
Drawing No. 4921240563R, DATA SHEET - PPU 300 Paralleling and Protection Unit, Revision: R
Drawing No. 4189341097R, DESIGNER'S HANDBOOK - PPU 300 Paralleling and Protection Unit, Revision: R
Drawing No. 4189341098M, INSTALLATION INSTRUCTIONS - PPU 300 Paralleling and Protection Unit, Revision: M
Drawing No. 4189341099N, OPERATOR'S MANUAL - PPU 300 Paralleling and Protection Unit, Revision N
Drawing No. 4921240530A, DATA SHEET - Generator Protection Unit GPU 300, Revision: A
Drawing No. 4910217501Q, Type Test Certificate - Electrical Fast Transients (EFT) (IOM3.2, IOM3.3) - Burst 1B, Date: 2020-12-02
Drawing No. 4910217502M, Type Test Certificate - RF E-Field Immunity (IOM3.2, IOM3.3) - Test 02B, Date: 2020-12-02
Drawing No. 4910213100G, Type Test Certificate - Cold Test (IOM3.2, IOM3.3) - 3A, Date: 2020-12-03
Drawing No. 4910213105G, Type Test Certificate - Dry Heat (IOM3.2, IOM3.3) - 4A, Date: 2020-12-03
Drawing No. 4910217505J, Type Test Certificate - Electrostatic Discharge (ESD) (IOM3.2, IOM3.3) - 5B, Date: 2020-12-02
Drawing No. 4910213115G, Type Test Certificate - 6A Damp heat cyclic Marine (IOM3.2, IOM3.3), Date: 2020-12-03
Drawing No. 4910217506M, Type Test Certificate - Surge (IOM3.2, IOM3.3) - 6B, Date: 2020-12-02
Drawing No. 4910213120H, Type Test Certificate - 7A Damp heat steady state (IOM3.2, IOM3.3), Date: 2020-12-07
Drawing No. 4910217507L, Type Test Certificate - RF Common Mode (IOM3.2, IOM3.3) - Test 07B, Date: 2020-12-02
Drawing No. 4910214100M, Type Test Certificate - Vibration test (IOM3.2, IOM3.3) - 9A, Date: 2020-12-04
Drawing No. 4910217513J, Type Test Certificate - Variations DC Power Port (IOM3.2, IOM3.3) - 13B, Date: 2020-12-02
Drawing No. 4910215100I, Type Test Certificate - Insulation Resistance (IOM3.2, IOM3.3) - 14A, Date: 2021-04-29
Drawing No. 4910215105I, Type Test Certificate - High Voltage Test (IOM3.2, IOM3.3) - 15A, Date: 2021-04-29

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Tier: 5 - Unit Certification Required

Drawing No. 4910217515H, Type Test Certificate - Interruptions (IOM3.2, IOM3.3) - DC Power Port 15B, Date: 2021-04-29
Drawing No. 4910216501K, Type Test Certificate - Radiated Emission (IOM3.2, IOM3.3) - 16A, Date: 2021-04-29
Drawing No. 4910216502I, Type Test Certificate - Conducted Emission AC, DC and tele ports (IOM3.2, IOM3.3) - 17A, Date: 2021-04-29

Manufacturer Statement, GPU300 and DU300, 2020-12-22 JFL

Drawing No. 4189341032A, DESIGNER'S HANDBOOK - Generator Protection Unit GPU 300, Revision: A
PPM 300 Test Report, SW Version 1.0.10.0, Date: 28/11/2019
Manufacturer Statement, ML300, 2020-11-17 JFL
Manufacturer Statement IOM 3.2 & IOM 3.3, 2020-12-22 JFL
Drawing No. 4910217502N, Type Test Certificate - RF E-Field Immunity (DU300) - Test 02B, Date: 2020-05-12
Drawing No. 4910217502N, Type Test Certificate - RF E-Field Immunity (ML300) - Test 02B, Date: 2020-05-12
Drawing No. 4910216501M, Type Test Certificate - RADIATED EMISSION (DU 300) – 16A , Date: 2020-05-12
Drawing No. 4910216501M, Type Test Certificate - RADIATED EMISSION (ML 300) – 16A, Date: 2020-05-12
Drawing No. 4910212100F, Performance Test (ACM 3.2) - 02A, Date: 2019-07-15
Drawing No. 4910217501Q, Type Test Certificate - Electrical Fast Transients (EFT) (ACM 3.2) - Burst 1B, Date: 2019-07-10
Drawing No. 4910210501C, Physical spacing (ML300 ACM 3.2 PCB rev D) - 1C, Date: 2019-06-19
Drawing No. 4910213100G, Type Test Certificate - Cold Test (ML300-ACM3.2) - 3A, Date: 2019-09-20
Drawing No. EPC792_7, Multi-line 300 - ACM 3.2 reliability block diagram, Revision: -
Drawing No. EPC792_8, Multi-line 300 - Protection reliability block diagram, Revision: -

Terms of Validity:
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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.

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STANDARDS

ABS Rules:
2026 Rules for Conditions of Classification – 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:
2026 Rules for Building and Classing Marine Vessels: 4-8-3/1.7, 4-8-3/1.9, 4-8-3/1.11, 4-8-3/1.17, 4-8-3/13, 4-8-4/1.3, 4-8-4/1.5, 4-8-4/27, 4-9-3/7, 4-9-3-A2, 4-9-3/11.9, 4-9-9/13, 4-9-9/Table 1 & Table 2;

2025 Rules for Conditions of Classification – Offshore Units 1B-1-4/9.7, 1B-1-A2, 1B-1-A3, which covers the following:
2026 Rules for Building and Classing Offshore Units: 4-1-1/7.7, 4-3-1/3.9, 4-3-1/9, 4-3-1/11, 4-3-1/15, 4-3-1/17, 4-3-3/3.1, 4-3-3/9, 4-3-4/5;

National:
NA

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Tier: 5 - Unit Certification Required

International:
IACS UR E10 (Rev.10 Aug. 2024)

Government:
NA

EUMED:
NA

OTHERS:
NA