

## Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

<b>Manufacturer</b>	<b>DEIF A/S</b>
<b>Address</b>	Frisenborgvej 33, Skive, 7800, Denmark
<b>Type</b>	Control Units
<b>Description</b>	Protection and Power Management Unit, Generator Protection Unit, Paralleling and Protection Unit Refer to the Appendix for further details.
<b>Trade Name</b>	PPM 300, PPU 300, GPU 300
<b>Application</b>	Marine and Offshore applications for use in environmental categories ENV1, ENV2 and ENV3 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – July 2018
<b>Specified Standard</b>	Manufacturer's specification
<b>Ratings</b>	Power supply: 12 and 24 VDC Input voltage: 100-690 (2-897*) VAC Input current: 1 or 5 (0.02-17.5*) VAC Input frequency: 40-70 (15-78*) Hz (* = measurement range)
<b>Additional Tests</b>	Low temperature (-25C°/16 hours)

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

**Martin Lange**

Senior Specialist to Lloyd's Register EMEA  
A member of the Lloyd's Register group

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### Other Conditions

The EIM card may provide diesel safety functions as back up only to provide design diversity.  
Software for Generator Protection, Paralleling and Power Management are covered by a separate LR Software Conformity Certificate No. LR2024975SS-02.  
The validity of this Certificate is to be checked on the manufacturer's website and LR Approvals database.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document HTS/ETS 41792-21/ML and its supplementary Type Approval Terms and Conditions form part of this Certificate.

## Appendix

### Types

#### PPM 300

PSM 3.1 Power supply module  
ACM 3.1 AC measurement module  
ACM 3.2 AC measurement module  
IOM 3.1 Input/output module  
IOM 3.2 Input/output module  
IOM 3.3 Input/output module  
IOM 3.4 Input/output module  
EIM 3.1 Engine input module  
GAM 3.1 Governor/AVR module  
GAM 3.2 Governor/AVR module  
PCM 3.1 Processor and communication module  
DU 300 Display unit

Software Versions: 1.0.x.x (BU application)  
3.0.x.x (BU operating system)  
5.0.x.x (ACM 3.1)  
1.0.x.x (ACM 3.2)  
2.1.x.x (EIM 3.1)  
1.0.x.x (DU 300)  
2.0.x.x (GAM 3.1)  
2.0.x.x (GAM 3.2)

#### GPU 300

PSM 3.1 Power supply module  
ACM 3.1 AC measurement module  
ACM 3.2 AC measurement module  
IOM 3.1 Input/output module  
IOM 3.4 Input/output module  
PCM 3.1 Processor and communication module  
DU 300 Display unit

Software Versions: 1.0.x.x (BU application)  
3.0.x.x (BU operating system)  
5.0.x.x (ACM 3.1)  
1.0.x.x (ACM 3.2)  
1.0.x.x (DU 300)

## PPU 300

Comprising following components:

PSM 3.1 Power supply module  
ACM 3.1 AC measurement module  
ACM 3.2 AC measurement module  
IOM 3.1 Input/output module  
IOM 3.2 Input/output module  
IOM 3.3 Input/output module  
IOM 3.4 Input/output module  
EIM 3.1 Engine input module  
GAM 3.1 Governor/AVR module  
GAM 3.2 Governor/AVR module  
PCM 3.1 Processor and communication module  
DU 300 Display unit

Software Versions: 1.0.x.x (BU application)  
3.0.x.x (BU operating system)  
5.0.x.x (ACM 3.1)  
1.0.x.x (ACM 3.2)  
2.1.x.x (EIM 3.1)  
1.0.x.x (DU 300)  
2.0.x.x (GAM 3.1)  
2.0.x.x (GAM 3.2)