



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.

Manufacturer	DEIF A/S
Address	Frisenborgvej 33, Skive, 7800, Denmark
Type	Control Units
Description	Protection and Power Management Unit, Paralleling and Protection Unit, Generator Protection Unit, intelligent Energy Controller, Display Unit (Refer to the Appendix for further details)
Trade Name	PPM 300, PPU 300, GPU 300, iE 350 (*), iE7
Application	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
Specified Standard	Manufacturer's specification (*) IACS UR E27 Rev.1 (2023) and Part 6, Chapter 1, Section 2.16 of the Rules and Regulations for the Classification of Ships, July 2024
Ratings	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)

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Additional Tests	Low temperature (-25C°/16 hours)
Other Conditions	<p>The EIM card may provide diesel safety functions as back up only to provide design diversity.</p> <p>Software for Generator Protection, Paralleling and Power Management and the intelligent Energy Controller are covered by a separate LR Software Conformity Certificate No. LR23367708SS-02. The validity of this Certificate is to be checked on the manufacturer's website and LR Approvals database.</p> <p>(*) Compliance with above listed specified standard requirements are limited to operation in "trusted networks". Any wireless communication function like access management and/or use control are excluded.</p>

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 TSO/24-021690_iE350 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Appendix

DESCRIPTION

Protection and Power Management PPM 300 (V.1.0.x.x)

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)

Generator Protection Unit GPU (V.1.0.x.x)

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)



DESCRIPTION

Paralleling and Protection Unit PPU (V.1.0.x.x)

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)

intelligent Energy Controller (* iE 350 (V.2.0.x.x)

PSM 3.1/3.2 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 3.3 Processor and communication module

Software Versions: 1.0.x.x (BU application)
5.0.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)
2.0.x.x (GAM 3.1)
2.0.x.x (GAM 3.2)



DESCRIPTION

Local Display
iE 7 (V.1.0.x.x)

1x DisplayPort
1x USB 2.0 (type C)
1x USB (type A) & 1x USB (type B)

