



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	iE 150 Marine - Controller incl. I/O's for stand-alone and/or parallel operation (e.g. power management applications)
Trade Name	iE 150 Marine (AGC 150 Marine)
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 2021.
Specified Standard	Manufacturer's Specification.
Ratings	Power supply 12 and 24 VDC
Additional Tests	Low Temperature (-40°C / 16 hrs.) Ingress Protection rating (IP65 front / IP20 rear)
Other Conditions	The iE 150 Marine may provide engine and generator safety functions as a back up device only, to provide design diversity as required by the LR Rules and Regulations. MARPOL aspects are not covered with the LR Type Approval Certificate of the iE 150 Marine and needs to be considered on a project-specific approval.

Martin Lange

Electrical & Control - Lead Specialist to
Lloyd's Register EMEA
A member of the Lloyd's Register group

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Type Approval Certificate

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/25-041487 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Appendix

TYPE

	iE 150 Marine (Engine)	iE 150 Marine (Generator)
Digital Inputs	12x inputs	12x inputs
DC Outputs	12x output	12x output
Analogue Input	4x analogue (0 to 10V, 4ma to 20mA, 0Ω to 2.5kΩ)	4x analogue (0 to 10V, 4ma to 20mA, 0Ω to 2.5kΩ)
Analogue Output	Isolated voltage output (-10 to +10V)	--
Speed governor output	Isolated voltage, PWM output	--
Tacho input	± 1V to 70V (peak) / 10 to 10kHz	± 1V to 70V (peak) / 10 to 10kHz
D+ (Excitation current)	210mA, 12V or 105mA, 24V	210mA, 12V or 105mA, 24V
Voltage measurement	--	100 to 690 V phase-to-phase 10 to 135% measuring range ± 1% accuracy of nominal (10 to 75Hz)
Frequency measurement	--	3.5 to 75 Hz ± 0.01% accuracy of nominal (60 to 135% nominal voltage)
Current measurement	--	-/1A to -/5A (range 2 to 300%) 4x CT input ± 1% accuracy (2 to 100%)
Power measurement	--	± 1% accuracy within 35 to 75Hz
Software Version	V1.3z.v	V1.3z.v

Additional Tests according to IEC 60255-series

- EMC tests according to IEC 60255-26
- Environmental tests according to IEC 60255-1

The **iE 150 Marine controllers** can be used for standalone or parallel operation as power management applications. The system can also be set up/build in conjunction with the iE 150 Remote Display.

- Solar controller
- Battery controller
- Genset controller
- Shore controller
- Bus Tie Breaker controller



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Certificate No: LR22239394TA-01
Issue Date: 09/07/2026
Expiry Date: 27/06/2027
Reference: TSO/25-041487

Lloyd's Register Type Approval – Design Appraisal Document

Issue by: Global Technical Support Office
Issued to: DEIF A/S, Skive, Denmark
For: iE 150 Marine (AGC 150)
Engine, Generator, Shore, ESS, Solar power Control Unit incl. Power Management System
Type: iE 150 Marine

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval Schemes Procedure (01/01/2025) and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

V.2 January 2024	Type Approval Application Checklist – Renewal of Certificate LR2039260TA	15.07.2025
GSM03-11-14	Request for Marine Services – Type Approval	18.07.2025
10660973	ISO9001:2015 Certificate, issued by LRQA	01.01.2025
10702801	ISO14001:2015 Certificate, issued by LRQA	03.07.2025
PRJ11100460662	LR PQA – Production Quality Assurance Assessment Form	12.02.2025
HPC2262017-22	LR Design Appraisal Document of LR Certificate LR22239394TA	28.06.2022
4189341437B	Installation instructions – iE 150	13.02.2026
4921240681C	Data Sheet – iE 150 Marine Battery	13.02.2026
4921240686B	Data Sheet – iE 150 Marine Engine drive	13.02.2026
4921240688C	Data Sheet – iE 150 Marine Generator Core	13.02.2026
4921240680C	Data Sheet – iE 150 Marine Generator, Shore and BTB	13.02.2026
4921240729A	Data Sheet – iE 150 Marine Solar	13.02.2026
4921240691	Data Sheet – iE 150 Remote Display	13.02.2026
410314	Software Quality Plan V1.36.0	20.01.2026

TEST REPORT

FAT iE 150	Performance Test – iE 150 Marine Power Management, witnessed by DNV	29.10.2024
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Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations. Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.