Certificate No:
TAA00002YK

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Programmable Electronic System

with type designation(s)
AMC 300, GAM3.1, GAM3.2

Issued to
DEIF A/S
Skive, Midtjylland, Denmark

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Type	Temperature	Humidity	Vibration	EMC	Enclosure
AMC 300	B	B	A	A	Required protection according to DNV Rules shall be provided upon installation on board
GAM3.1	B	B	A	A	
GAM3.2	B	B	A	A	

Issued at **Høvik** on **2021-09-02**
This Certificate is valid until **2026-09-01**.
DNV local station: **Denmark CMC**

Approval Engineer: **Bartosz Kabak**

for **DNV**

Jan Tore Grimsrud
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description
AMC 300 programmable electronic system consists of the following modules:

- Power supply module PSM3.1
- Alternating current modules ACM3.1 and ACM3.2
- Input output modules IOM3.1, IOM3.2, IOM3.3 and IOM3.4
- Engine interface module EIM3.1
- Processor and communication module PCM3.1

GAM3.1 and GAM3.2 are governor and AVR modules with configurable inputs and outputs.

Place of system modules manufacture
DEIF A/S
Skive
Denmark

Approval conditions
The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Product certificate
If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After certification the clause for software control will be put into force.

Software control
All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Type Approval documentation

Tests carried out
Applicable tests according to class guideline DNV-CG-0339, August 2021.

Marking of product
Each module shall be externally marked to enable identification in accordance with the documentation and be marked with the manufacturer’s name.

Periodical assessment
The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer’s product type marking and the type approval certificate

A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE