Certificate no.:
TAA00003G3

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Programmable Controller

with type designation(s)

issued to

DEIF A/S
Skive, Midtjylland, Denmark

is found to comply with

DNV rules for classification – Ships Pt.6 Ch.5 Sec.21 Cyber security

Application:

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

Issued at **H□vik** on **2024-09-27**
This Certificate is valid until **2026-09-26**.
DNV local unit: **Denmark CMC**

for **DNV**

Approval Engineer: **Pål Børre Kristoffersen**

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 USD 300 000.

Product description
The DEIF iE 250, iE 350 and iE 650 is a series of products.

iE 250 and iE 350 may be configured as "Marine" controllers with Core sw package or Power Management sw package or as PLCs.

iE650 is a PLC with EtherCAT based I/O.

The products offer a range of external I/O units or expansion racks with additional modules.

The products support CODESYS runtime for integrated development environment for programming controller applications according to the international industrial standard IEC 61131-3.

Application/Limitation
This type approval covers cyber security capabilities at security profile 1 for the systems listed in Product description.

The type approved products shall be installed in restricted areas. Access to the components shall be restricted and controlled.

Any network connections to other ship functions shall be dedicated to this purpose. This includes Modbus TCP networks.

If the CODESYS integrated development environment is installed, the development environment and the runtime systems shall be installed in a separate security zone. CODESYS protocols shall not be available from outside of the security zone. CODESYS runtime versions prior to v3.5.19.0 shall not be used.

If the type approved product is used in applications subject to cyber security requirements by DNV rules for classification, correct configuration shall be verified by DNV.

Major changes affecting the type approved security capabilities shall be informed to DNV. Such modifications may require witnessing of type testing and update of this type approval certificate to reflect new products or versions listed in Product description.

Tests carried out
Tested in accordance with requirements for DNV rules Pt.6 Ch.5 Sec.21 security profile 1, edition July 2023. Relevant manuals and instructions of Deif's management system have been verified for compliance with IACS UR E27 chapter 5.

Marking of product
The product shall be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

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