



Marine &amp; Offshore

Certificate number: 80626/A0 BV

File number: MPA2501108

Product code: 4501H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**DEIF A/S**

Skive - DENMARK

*for the type of product*

**PROGRAMMABLE LOGIC CONTROL UNITS**

iE 250, iE 350, & iE 7

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships and Offshore Units

EC Code : 31

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 17 Jul 2030**

**For Bureau Veritas Marine & Offshore,**

At BV GOTHENBURG, on 17 Jul 2025,

Magne MOLLER

***This certificate was created electronically and is valid without signature***



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <https://www.veristarpn.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=sqvvihftnv>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## **THE SCHEDULE OF APPROVAL**

### **1. PRODUCT DESCRIPTION :**

**iE 350 Marine:** It is a versatile and modular -designed for marine applications. An extensive range of control, protection and supervision features. Applications range from generator control and protection to load sharing solutions.

#### **Hardware Modules:**

<b>Type</b>	<b>Function</b>
PSM3.1	Power supply module
PSM3.2	Power supply module
ACM3.1	Alternating current module
ACM 3.2	Differential current module
EIM3.1	Engine interface module
GAM3.1	Governor AVR module
GAM3.2	Governor AVR module
IOM3.1	Input/output module
IOM3.2	Input/output module
IOM3.3	Input/output module
IOM3.4	Input/output module
PCM 3.3	Processor and communication module

**Note:** Excluding type PCM3.3, All remaining types are covered by BVTAC 42536/xx

**iE 250:** The iE 250 is a versatile and modular-designed controller for land applications.

<b>Type</b>	<b>Function</b>
MIO2.1	Front/Base mounted controller input output board
PCM2.1	Front/Base mounted Processor and communication module
PIM1	Plug in module for 8 Digital bi-directional
PIM2	Plug in module for 4 Analogue bi-directional
iE 7	Local display

**Software:** 2.0.5.0, 2.0.8.0 and 2.0.9.0

### **2. DOCUMENTS AND DRAWINGS :**

- iE 350 Marine Data sheet No. 4921240657A EN
- iE 250 intelligent energy controller Datasheet No. 49212406290
- Software Quality Plan for product codesys Interface LC V2.0.5.0 rev. A dated 30.10.2024
- Software Quality Plan for product codesys Interface LC V2.0.9.0 rev. A dated 05/05/2025
- Software Quality Plan for product codesys Interface LC V2.0.8.0 rev. A dated 14/01/2025

### **3. TEST REPORTS :**

For iE 250 & i7, EMC Test Report No. EPC 929 iE7 B-tests witnessed DNV dated 2025-01-15  
 For iE 250 & i7, Environmental Test Report No. EPC 929 iE7 A-tests witnessed DNV dated 2025-01-15  
 For iE 250 A test witnessed by DNV dated 2024-05-21  
 For iE 250 B test witnessed by DNV dated 2024-05-21  
 For iE 350, Environmental Test Report No. 929 iE350 A tests Witnessed DNV dated 2024-05-31  
 For iE 350, Environmental Test Report No. 929-01 Witnessed LR dated 14 Oct 2024  
 For iE 350, EMC Test Report No. 929 iE350 B tests Witnessed DNV dated 2024-05-24

### **4. APPLICATION / LIMITATION :**

- 4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships, Offshore units.
- 4.2 - Approval valid for ships and offshore units intended to be granted with the following additional class notations:  
**AUT-UMS, AUT-CCS, AUT-PORT, AUT-IMS and AUTO.**
- 4.3 - BUREAU VERITAS Environmental Category, **EC Code: 31**
- 4.4 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zones.
- 4.5 - Only Hardware and Firmware / Software successfully tested together in compliance with the rules as referred to in

cover page, according to the declaration of the manufacturer are covered by this certificate.

4.6 - Any modification of the hardware, firmware or software having an impact on the product performance or functionality has to be validated with type testing.

4.7 - In accordance with IACS UR E22 and as applicable to programmable devices for computer based systems of Category II or III, for each ship application:

- Ship specific documentation is to be submitted including software documentation and categorization of the computer based system.

- Inspection and testing before installation onboard is to be performed under the surveillance of the Society.

4.8 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev 9

4.9 - This certificate demonstrates the compliance of this equipment with the requirements of UR E27 Rev.1 Sep 2023 as described in Annex.

## 5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The above products are to be supplied by **DEIF A/S** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **DEIF A/S** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - for information, **DEIF A/S** has declared to Bureau Veritas the following production site:

**DEIF A/S**  
**Frisenborgvej 33**  
**DK-7800 Skive**  
**DENMARK**

5.5 - The components listed as per Note in section 1 have to be covered by a valid type approval certificate, issued by the Society.

## 6. MARKING OF PRODUCT :

6.1 - Trade name.

6.2 - Date of manufacture and serial number.

6.3 - Equipment type or model identification under which it was type-tested.

## 7. OTHERS :

7.1 - It is **DEIF A/S** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

\*\*\* END OF CERTIFICATE \*\*\*



Marine &amp; Offshore



Attestation number: 80121/A1 BV

File number: TCF02\_67

Product code: RA-CYBER

*This attestation is not valid when presented without the full attached schedule  
composed of 7 sections*

## REVIEW ATTESTATION

*This attestation is issued to*

**DEIF A/S**

Skive - DENMARK

*for*

### CYBERSECURITY REVIEW

iE 250, iE 350 and iE 650

**Requirements:**

NR659 Bureau Veritas Rules on cyber security for the classification of marine units.

IACS UR E27 Rev.1 Sep 2023 Cyber resilience of on-board systems and equipment.

*This document is issued to attest that BUREAU VERITAS Marine & Offshore reviewed the technical documentation submitted for the equipment identified above. Details of this review are to be found in the "Schedule of Review" in the subsequent pages of this attestation.*

**For Bureau Veritas Marine & Offshore,**

At BV FREDERICIA, on 08 Jul 2025,

Jesper JENSEN

***This attestation was created electronically and is valid without signature***



This attestation will not be valid if the applicant makes any changes or modifications to the product which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. This attestation is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgment, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

## **SCHEDULE OF REVIEW**

### **1. PRODUCT DESCRIPTION :**

iE 250, iE 350 and iE 650 are described in the certificate 80626/XX BV

### **2. DOCUMENTS AND DRAWINGS :**

Filename	Reference
iE 350 E27 test specification	v. 1.0.0
iE 650 E27 test specification	v. 1.0.0
iE 250 E27 test specification	v. 1.1.0
CODESYS E27 test specification	v. 1.1.0
Handbook for Software development	v. 41.0.0
CODESYS Security Whitepaper	v. 9.0.0
Software life-cycle overview	v. 1.0.0
iEx50 Cyber Security E27 Recovery Plan	rev. A
iEx50 Cyber Security E27 Security Requirements	rev. B
iEx50 Security Capabilities	v. 1.0.0
iE x50 Asset Inventory	v. 1.2.0
PICUS PC Utility Software User's manual	v. 1.0.0
HW – Guide to construction changes	v. 1.0.0
Secure Development Lifecycle	v. 1.0.1
DEP SW Test Strategy	v. 1.0.0

*No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.*

### **3. TEST REPORTS :**

Test reports “CODESYS E27 testplan signed”, “iE 350 E27 testplan signed”, “iE 250 E27 testplan signed”, and “iE 650 E27 testplan signed” dated 06/04/2024 were reviewed and approved for this attestation.

The following subjects were investigated:

- Identification & Authentication Control (FR 1):
  - IEC 62443-3-3/SR 1.1: Human user identification and authentication
  - IEC 62443-3-3/SR 1.3: Account management
  - IEC 62443-3-3/SR 1.4: Identifier management
  - IEC 62443-3-3/SR 1.5: Authenticator management
  - IEC 62443-3-3/SR 1.7: Strength of password-based authentication
  - IEC 62443-3-3/SR 1.10: Authenticator feedback
- Use Control (FR 2):
  - IEC 62443-3-3/SR 2.1: Authorization enforcement
  - IEC 62443-3-3/SR 2.5: Session lock
  - IEC 62443-3-3/SR 2.8: Auditable events
  - IEC 62443-3-3/SR 2.9: Audit storage capacity
  - IEC 62443-3-3/SR 2.10: Response to audit processing failures

- IEC 62443-3-3/SR 2.11: Timestamps

-System Integrity (FR 3):

- IEC 62443-3-3/SR 3.1: Communication integrity
- IEC 62443-3-3/SR 3.2: Malicious code protection
- IEC 62443-3-3/SR 3.3: Security functionality verification
- IEC 62443-3-3/SR 3.6: Deterministic output

- Data Confidentiality (FR 4):

- IEC 62443-3-3/SR 4.1: Information confidentiality
- IEC 62443-3-3/SR 4.3: Use of cryptography

- Timely Response to Events (FR 6):

- IEC 62443-3-3/SR 6.1: Audit log accessibility

- Resource Availability (FR 7):

- IEC 62443-3-3/SR 7.1: Denial of service protection
- IEC 62443-3-3/SR 7.2: Resource management
- IEC 62443-3-3/SR 7.3: System back-up
- IEC 62443-3-3/SR 7.4: System recovery and reconstitution
- IEC 62443-3-3/SR 7.6: Network and security configuration
- IEC 62443-3-3/SR 7.7: Least functionality

#### 4. APPLICATION / LIMITATION :

4.1 - This attestation is an intermediate document and does not constitute by itself a BV Type Approval Certificate. This attestation is limited to cyber resilience of product described in 1. as per UR E27 Rev. 1 dated Sept.2023.

4.2 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.

4.3 - This attestation is only valid when attached to the valid Type Approval Certificate 80626/XX BV.

4.4 - This attestation has been issued based on the review of documentation provided for the Type Approval Certificate 80626/A0 BV.

4.5 - It is manufacturer's responsibility to inform the Society of any modification or changes which could impact the validity of this attestation.

#### 5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - This system product is to be supplied by **DEIF A/S** in compliance with the type described in this attestation.

5.2 - For information **DEIF A/S** has declared to Bureau Veritas the following production site:

**Frisenborgvej 33  
DK-7800 Skive  
DENMARK**

#### 6. MARKING OF PRODUCT :

N/A

#### 7. OTHERS :

7.1 - It is **DEIF A/S** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

\*\*\* END OF ATTESTATION \*\*\*