



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

25-0283426-PDA
14-Aug-2025
13-Aug-2030
London Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

DEIF A/S

located at

FRISENBORGVEJ 33, , SKIVE, Denmark, DK-7800

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: Remote Control System for Cyber Security function
Model: IE250 , IE350 , IE650 compliance of Cyber Security E27 ,IACS UR E27 (Rev.1)
Endorsements: CyberSecurity
Tier: 3 - Type Approved, unit certification not required

This Product Design Assessment (PDA) Certificate remains valid until 13/Aug/2030 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

SBarua

Siddharth Barua,Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

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Web: www.deif.com

Tier: 3 - Type Approved, unit certification not required

Product: Remote Control System for Cyber Security function
Model: IE250 , IE350 , IE650 compliance of Cyber Security E27 ,IACS UR E27 (Rev.1)
Endorsements: CyberSecurity

Intended Service:

ABS Classed Vessels and Offshore Facilities in accordance with the listed ABS Rules and International Standards.

Description:

The DEIF iE Series includes the iE 250, iE 350, and iE 650 models. These energy controllers are modular and scalable, designed for marine power generation, distribution, and automation systems. They support applications such as generator protection, power management, and hybrid energy integration. This PDA covers only the IACS E27 (rev1) requirements.

Rating:

Cybersecurity/resilience PDA so no ratings are applicable

Service Restriction:

1. Unit Certification is not required for this product. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
2. This PDA is issued to demonstrate that the subject control monitoring systems meet the IACS UR E27 "Cyber resilience of on-board systems and equipment" requirements
3. This PDA does not cover environmental/EMC performances for the system hardware, as required per IACS UR E10.
4. This PDA does not cover the functionality of the software embedded, as required by IACS UR E22.
5. This PDA is issued with the limitation that only "trusted networks" are to be directly connected to the system as defined in IEC 62443-3-3 Item 3.1.45.
6. During installation, defence-in-depth measures are expected to be provided by the external environment, such as physical arrangement, policies and procedures, to prevent unauthorised access and manipulation of hardware, software, cables, and data, as well as changing the network topology.
7. Recommended configuration settings of the security capabilities and specific default values need to be provided during the installation.
8. This PDA is issued on the contingent that the end user follows the DEIF Cybersecurity Guidelines in the IE 250, IE 350, or IE 650 designers' handbook.
9. When using the WebUI, the web browser in use must be up to date and be the latest version.
10. A topology drawing must be submitted to ABS for review for each specific installation.
11. At the first installation, the default password for the administrator must be changed to conform with IEC 62443-3-3/SR 1.7.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of, Asbestos in this product.
2. Any modification to the hardware, software or firmware that might have a significant impact on the performance of the cyber resilience capabilities must be reviewed by ABS Engineering.
3. When a type-approved computer-based system or component is proposed for use on board a vessel, a vessel-specific system certification verifying compliance with applicable requirements from Sections 4-9-3, 4-9-13 and 4-9-14 is still required since vessel-specific functions, parameter configurations and installation elements demand vessel-specific verification are to be reviewed and tested.
4. The system lacks any wireless capability, so wireless features are not addressed in this PDA.
5. In order to protect the equipment, freewheeling diodes need to be installed across the power supply to protect the devices during a power changeover.
6. The HMI log-out time must be set higher than 1 min

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Notes/Drawing/Documentation:

Drawing No. EPC 929-04_14, SW test strategy DEP 2023, Revision: NOV 2023, Pages: 14

Drawing No. EPC 929_17, iEx50 E27 Requirements EN, Revision: B, Pages: 10

Drawing No. EPC 929-04_08, RD Construction changes HW, Pages: 3

Drawing No. EPC 929_16, iEx50 E27 Recovery Plan, Revision: A, Pages: 4

Drawing No. EPC 929-04_22, Technical -Reply_abs, Revision: A, Pages: 3

Drawing No. EPC 929-04_11, 20240603_ie650_plc_e27_testplan, Pages: 15

Drawing No. EPC 929-04_09, Secure Development lifecycle, Pages: 2

Drawing No. EPC 929-04_12, 20240604_ie250_e27_testplan, Pages: 16

Drawing No. EPC 929-04_19, ie-250-designers-handbook-4189431350-uk, Revision: A, Pages:351

Drawing No. EPC 929-04_06, 4910000011AK- Guideline for Development of Software, Pages: 54

Drawing No. EPC 929-04_07, DEIF SW Q-Plan_SM, Pages: 1

Drawing No. EPC 929-04_10, 20240603_ie350_e27_testplan, Pages: 15

Drawing No. EPC 929-04_01, Required doc for ur e27 certification, Revision:1.2 , Pages:2

Drawing No. EPC 929-04_04, iex50_e27_asset_inventory, Pages: 3

Drawing No. EPC 929-04_21, manual_test_safeop, Revision: A, Pages:3

Drawing No. EPC 929-04_20, ie-350-marine-power-management-designers-handbook-4189341397-uk, Revision: A, Pages: 527

Drawing No. EPC 929-04_05, picus-manual-4189341362-uk, Pages: 130

Drawing No. EPC 929-04_18, ci-test-report, Revision: A, Pages: 24

Drawing No. EPC 929-04_13, 20240827_codesys_e27_testplan, Pages: 17

Drawing No. EPC 929-04_02, CODESYS-Security-Whitepaper, Revision:9 , Pages: 22

Terms of Validity:

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STANDARDS**ABS Rules:**

Marine Vessels Rules (2025): 1-1-4/7.7, 1-1-A3, 1-1-A4 which covers the following:

2025 Marine Vessel Rules: 4-9-9/14

National:

NA

International:

IEC Std. 62443-3-3 (2013 edition)

Government:

NA

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EUMED:

NA

OTHERS:

IACS UR E27 (Rev.1)