



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

24-0064243-PDA
20-Nov-2024
19-Nov-2029
Busan Engineering Services

CERTIFICATE OF Product Design Assessment

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

SEWHACNM CO., LTD.

located at

**SAMJEONG-DONG, BUCHEON TECHNO PARK, SSANGYONG 3RD
504-302, 397, SEOKCHEON-RO, OJEONG-GU , BUCHEON, Korea,
Republic of**

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: **Electronic Engine Control System**

Model: **KC-E200 series**

Endorsements:

Tier: **5 - Unit Certification Required**

This Product Design Assessment (PDA) Certificate remains valid until 19/Nov/2029 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

Seong-Ju Kang, 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)

SEWHACNM CO., LTD.

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SSANGYONG 3RD 504-302

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Tier: 5 - Unit Certification Required

Product: Electronic Engine Control System**Model:** KC-E200 series**Endorsements:****Intended Service:**

Single or twin engines for vessels less than 500 GT having a length less than 90 meters.

Description:

KC-E200 series are engine controller consist of Electronic Engine Controller (E200) in propulsion machinery space and Control Head (H200) in the navigation bridge. According to the number of Electronic Engine Controller (E200) and Control Heads (H200), KC-E200 series may be used for single or twin engine with multiple control stations in the navigation bridge.

Model Numbering: "KC-E200-x-yH"

a) x: S - Single engine (E200 1ea) / T - Twin engine (E200 2ea)

b) y: 1 / 2 / 3 / 4 - The number of control head (H200)

Rating:

A. Electronic Engine Control Actuator (E200)

a) Input power: 24VDC

b) Display: LCD type blue background and white text (8 characters x 2 lines)

c) Front key: 5ea

d) Operating temperature: 5 to 55 degree C

e) Protection degree: IP66

f) Firmware 1.00 is provided

B. Control Head (H200)

a) Input power: 24VDC

b) Display: OLED type blue background and yellow text (12 characters x 2 lines)

c) Handle operating angle (forward & reverse): 80 to 80 degree

d) Operating temperature: 5 to 55 degree C

e) Enclosure: IP66

f) Firmware 1.13 is provided

Service Restriction:

a) Unit Certification is required for this product in case of main propulsion system.

b) If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

c) This product is not to be used for the vessels classed ACC, ACCU and ABCU notation.

Comments:

a) Application and use are to be in accordance with the manufacturer's instructions.

b) The manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

c) Any software modification is to be made evident by changing the relevant version identifier and is to be documented by the manufacturer. Subsequent significant modifications to the software and hardware for system are to be submitted for approval (note: a significant modification is a modification which influences the functionality and/or safety of the system).

Notes/Drawing/Documentation:

a) Manufacturer drawing nos. KC-H200-DIAGRAM-001-V1, KC-H200-HANDLE-AL-V1.1, KC-H200-MBC-AL-

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Tier: 5 - Unit Certification Required

V1, KC-E200-DIAGRAM-001-V1, KC-E200-DIAGRAM-0002-V.1, KC-E200-CA-AL0001-V1, KC-E200-S-1H-V.1, KC-E200-S-2H-V.1, KC-E200-S-3H-V.1, KC-E200-S-4H-V.1, KC-E200-T-1H-V.1, KC-E200-T-2H-V.1, KC-E200-T-3H-V.1 and KC-E200-T-4H-V.1

b) Manufacturer manual nos. V1.00 for KC-E200 and V1.1 for KC-H200

c) Manufacturer firmware version no. 1.00 for KC-E200 and 1.13 for KC-H200.

d) ONETECH type test report nos. OT-193-RED-148 issued on 25/Mar/2019 and OT-194-RRD-045 dated 25/Apr/2019

e) ICR type test report no. ICRT-TR-E242426-0A dated 04/Sep/2024

f) ABS survey report no. SE3614584-B dated 10/May/2019

Terms of Validity:

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STANDARDS**ABS Rules:**

2024 Marine Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-9-9/Table 1

National:

NA

International:

IACS UR E10 (Rev.9)

Government:

NA

EUMED:

NA

OTHERS:

NA