



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

24-2515035-PDA
25-Mar-2024
24-Mar-2029
Yokohama Engineering Services

CERTIFICATE OF Product Design Assessment

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

AUTO-MASKIN AS

located at

HVAMSVINGEN 22, , SKJETTEN, Norway, N-2013

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: Diesel Engine, Monitoring and Control Equipment
Model: DCU 408E, DCU 410E, RP 410E, SDU 410, SDU 404, RIO 410, RPS, RP480i, SDU 420
Endorsements:
Tier: 5 - Unit Certification Required

This Product Design Assessment (PDA) Certificate remains valid until 24/Mar/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

Motohiro Tamura, 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)

AUTO-MASKIN AS

HVAMSVINGEN 22

SKJETTEN

Norway N-2013

Telephone: 47-64 84 52 00

Fax: 47-64 84 52 12

Email: geir.olav.schulstad@auto-maskin.com

Web: www.auto-maskin.com

Tier: 5 - Unit Certification Required

Product: Diesel Engine, Monitoring and Control Equipment

Model: DCU 408E, DCU 410E, RP 410E, SDU 410, SDU 404, RIO 410, RPS, RP480i, SDU 420

Endorsements:

Intended Service:

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

Description:

Electronic marine engine control unit comprises of a main control unit DCU 410E with graphic / alarm list being indicated on a backlit LCD display with LEDs, buzzer and menu selection push buttons. Sensor signals are connected directly to the DCU as well as connected through Standard Expansion IO units RIO 410 via Modbus RS-485. DCU also communicates with Safety Unit SDU 410 via Modbus RS-485. The DCU could include an optional CLU external power selector dual supply unit. The remote / slave panel RP 410E is similar in appearance to the DCU and is used for monitoring of the DCU through an Ethernet switch using Ethernet links. SDU 404/410/420 Safety Unit may be utilized with direct SDU Link Connection to DCU at 19200 baud. Power supply may be via RPS - Redundant Power Selector

Rating:

Power supply: 18 -32 VDC, 24 V DC Nominal;

SDU 404 8-16 VDC or 18-32 VDC, 200-600mA (12 VDC or 24 VDC Nominal)

RPS: Primary 0-32 VDC (24 VDC Typical), Secondary 18-32 VDC (24 VDC Typical), Current Consumption 20mA at 24V DC. Output current Continuous 8A at 70C, 16A at 55C, 2 minutes 32A at 55C

Enclosure protection:

IP30 back and IP54 front panel; RPS IP44

DCU 410E, RP410E and RP 480i: IP 56 front panel

Operating temperatures: 0 to 70 degree C

Service Restriction:

Unit Certification is required if it is incorporated in a Category II or Category III system as detailed in 4-9-3/7.1 and 4-9-3/Table 1 of the ABS Rules for Building and Classing Marine Vessels. Unit Certification is to be carried out during Factory Acceptance Test of individual modules at the plant of manufacture or during Factory Acceptance Testing of the overall system.

Comments:

- Tests and approval are for hardware and firmware only. Each configuration and external connection is to be specifically approved.
- When incorporated in a system of Category I, II or III in accordance with 4-9-3/7.1 and 4-9-3/Table 1 of the ABS Rules for Building and Classing Marine Vessels the documentation detailed in 4-9-3/Table 2 is to be submitted to ABS or is to be available for review by ABS as applicable.
- The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- Unless specifically directed by the Administration, this approval is not to be construed as a substitute for flag Administration's approval for SOLAS (Consolidated Edition 2020), as amended.

Notes/Drawing/Documentation:

Drawing No. 5005, DCU 408 Firmware Revisions, Revision: -, Pages: 1

Drawing No. 5008, SDU 410 Firmware Revisions, Revision: -, Pages: 1

Drawing No. 5009, RIO 410 Firmware Revisions, Revision: -, Pages: 1

Drawing No. 5011, RP410E/RP480i Firmware Revisions, Revision: -, Pages: 1

Drawing No. 5022, SDU 404 Firmware Revisions, Revision: -, Pages: 1

Drawing No. DCU 410E Datasheet, Datasheet, Revision: -, Pages: 1

Drawing No. NO-900611, ISO 9001:2015 Certificate, Revision: -, Pages: 1

Drawing No. QIG_RIO 410 and RIO 210, Manual, Revision: -, Pages: 1

Drawing No. QIG_DC408E, Manual, Revision: -, Pages: 1

AUTO-MASKIN AS

HVAMSVINGEN 22

SKJETTEN

Norway N-2013

Telephone: 47-64 84 52 00

Fax: 47-64 84 52 12

Email: geir.olav.schulstad@auto-maskin.com

Web: www.auto-maskin.com

Tier: 5 - Unit Certification Required

Drawing No. QIG_DCU410E, Manual, Revision: -, Pages: 1
Drawing No. QIG_RP410E, Manual, Revision: -, Pages: 1
Drawing No. QIG_RPS, Manual, Revision: -, Pages: 1
Drawing No. QIG_SDU404, Manual, Revision: -, Pages: 1
Drawing No. QIG_SDU410, Manual, Revision: -, Pages: 1
Drawing No. 1500061, Datasheet RP 480i, Revision: n/a, Pages: 1
Drawing No. 1500158, Datasheet SDU 420, Revision: n/a, Pages: 1
Drawing No. 1500159, QIG SDU 420, Revision: 1, Pages: 1
Drawing No. 1500668, QIG RP 480i, Revision: 1, Pages: 1
Drawing No. 2P03725, Testreport Environmental, Revision: 1, Pages: 1
Drawing No. 9P04380, Testreport Environmental, Revision: 1, Pages: 1
Drawing No. 9P06118, Testreport EMC, Revision: B, Pages: 1
Drawing No. E21093, Testreport Acoustic & Compass, Revision: 0, Pages: 1
Drawing No. E21169.02, EMC Test Report - 6 GHz verification, Revision: n7a, Pages: 1
Drawing No. O156095, Testreport IP 56, Revision: 1, Pages: 1
Drawing No. P111935, Testreport EMC, Revision: B, Pages: 1
Drawing No. P113225, Testreport Damp heat, Revision: 1, Pages: 1

Terms of Validity:

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STANDARDS

ABS Rules:

- Marine Vessels Rules (2024): 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, 4-8-3/1.7, 4-9-3/5, 4-9-3/7, 4-9-3/9 Table 2, 4-9-9/7, 4-9-9/13, 4-9-9/Table1;
- Steel Vessels for Service on Rivers and Intracoastal Waterways (2024): 1A1-4/7.7, 1A-1-A3, 1A-1-A4
- Steel Barge Rules (2024): 1A-1-4/7.7, 1A-1-A3, 1A-1-A4
- Facilities on Offshore Installations (2024): 1B-1-4/9.7, 1B-1-A2, 1B-1-A3
- Mobile Offshore Units (2024): 1B-1-4/9.7, 1B-1-A2, 1B-1-A3, 4-1-1/7.9, 4-3-1/11, 6-1-1/9, 6-1-1/13

National:

NA

International:

IACS UR E10 Rev.8 Corr.1: Jan. 2022

IACS UR E22 Rev 3: June 2023 (CAT III)

Government:

NA

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Tier: 5 - Unit Certification Required

EUMED:

NA

OTHERS:

NA