



CERTIFICATE NUMBER 21-2164479-PDA

EFFECTIVE DATE 08-October-2021

EXPIRATION DATE 07-October-2026

ABS TECHNICAL OFFICE Singapore Engineering Services

CERTIFICATE OF

Product Design Assessment

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

HOPPE MARINE GMBH

located at

KIELER STRASSE 318, D- 22525 HAMBURG, GERMANY

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 Processing Unit & Motion Sensors

**Model HOMIP 2; Hoppe Electronic Inclination; HOSIM 2; Passive Power over Ethernet (PoE)
Module; Hoppe Linear Position Indicator**

This Product Design Assessment (PDA) Certificate remains valid until 07-October-2026 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

Vibin Chandrabose, Senior Engineer

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

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F-03285-00665-CE (1.

Tier: 5 - Unit Certification Required

Product: Processing Unit & Motion Sensors

Model: HOMIP 2; Hoppe Electronic Inclination; HOSIM 2; Passive Power over Ethernet (PoE) Module; Hoppe Linear Position Indicator

Endorsements:

Intended Service:

Programmable Logic Controller, Electronic Inclinator & Ships Inertial Measuring System; Passive Power over Ethernet (PoE) and Linear Position Indicator for applications on ships.

Description:

The Processing Units & Motion Sensors are crafted for a wide range of applications on ships.

The Hoppe Electronic Inclinator is capable of measuring the actual heel angle and determining the amplitude of the rolling oscillation of the ship over a range of $\pm 90^\circ$.

The Hoppe Ships Inertial Measuring System (HOSIM 2) is designed to enable an acceleration compensated determination of the actual roll and pitch movement and the associated period time.

The Hoppe Monitor Interact Process (HOMIP 2) is a powerful Soft-PLC, fulfilling the role as a communication and control master, with the added functionality of reporting.

The Hoppe Passive Power over Ethernet (PoE) is a transfer element, designed to inject (split) 24 VDC power at the spare wires from a non-terminated Ethernet cable.

The Hoppe Linear Position Indicator enables a contactless position indication of actuator movements based on reed-contacts.

Rating:

1) Electronic Inclinator

Power Supply: 24VDC, max 36VDC input voltage

Power Consumption: 12W

Protection Class: IP44

2) HOSIM 2

Power Supply: 24VDC, 48VDC with power over ethernet

Power Consumption: 10W

Protection Class: IP68

3) HOMIP 2

Power Supply: 24VDC

Power Consumption: 15W

Protection Class: IP44

4) Passive Power over Ethernet (PoE)

Power Supply: 24VDC

Max. Current: 1A

5) Linear Position Indicator

Power Supply: 24VDC

Max. Current: <10mA

Protection Class: IP68

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Service Restriction:

Unit Certification is required for this product in accordance with Section 4-1-1/Table 3 of the Marine Vessel Rules. 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.

Comments:

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

Notes/Drawing/Documentation:

Drawing No.: 01, Data sheets - Processing Units & Motion Sensors, Revision: 0, Pages: 11

Drawing No.: 02, Drawings - Processing Units & Motion Sensors, Revision: 0, Pages: 143

Drawing No.: 03, General Information - Processing Units & Motion Sensors, Revision: 0, Pages: 15

Drawing No.: 04, Quality Assurance - Processing Units & Motion Sensors, Revision: 0, Pages: 61

Drawing No.: 06, Manuals - Processing Units & Motion Sensors, Revision: 0, Pages: 266

Drawing No.: F-03102-08045-TD, Technical Datasheet HOSIM2, Revision: 2.5, Pages: 4

Drawing No.: F-03102-08047-HB, Operation Manual HOSIM2, Revision: 1.12, Pages: 34

Drawing No.: F-03102-08061-IB, Commissioning Guide HOSIM2, Revision: 1.16, Pages: 30

Drawing No.: F-03102-08062-TSG, Troubleshooting Guide HOSIM2, Revision: 1.6, Pages: 19

Drawing No.: F-03102-08072-CLOG, Change Log HOSIM2, Revision: 1.5, Pages: 2

Drawing No.: F-03102-09045-TD, Technical Datasheet Electronic Inclinator, Revision: 1.15, Pages: 4

Drawing No.: F-03102-09047-HB, Operation Manual Electronic Inclinator, Revision: 1.10, Pages: 35

Drawing No.: F-03102-09061-IB, Commissioning Guide Electronic Inclinator, Revision: 1.22, Pages: 35

Drawing No.: F-03102-09062-TSG, Troubleshooting Guide Electronic Inclinator, Revision: 1.12, Pages: 19

Drawing No.: F-03102-09072-CLOG, Change Log Electronic Inclinator, Revision: 1.4, Pages: 3

Drawing No.: F-09539-09045-TD, Technical Datasheet HOMIP2, Revision: 1.9, Pages: 3

Drawing No.: F-09539-09047-HB, Operation Manual HOMIP2, Revision: 1.11, Pages: 73

Drawing No.: F-09539-09061-IB, Commissioning Guide HOMIP2, Revision: 1.7, Pages: 25

Drawing No.: F-09539-09062-TSG, Troubleshooting Guide HOMIP2, Revision: 1.7, Pages: 39

Drawing No.: F-09539-09072-CLOG, Change log HOMIP2, Revision: 1.2, Pages: 5

Test Report No.: 05, Test Reports - Processing Units & Motion Sensors, Laboratory: Treo Labor für Umweltsimulation GmbH, Dated: 2016-09, Revision: 0, Pages: 263

Test Report No.: F-08025-00170-TRE, Test Report IACS UR E10 Rev.7, Laboratory: Treo Labor für Umweltsimulation GmbH, Dated: 2020-08, Revision: 1.0, Pages: 50

Terms of Validity:

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STANDARDS

ABS Rules:

2021 Rules for Conditions of Classification – 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

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Tier: 5 - Unit Certification Required

2021 Rules for Building and Classing Marine Vessels Rules: 4-8-3/1.7, 4-8-3/1.9, 4-8-3/1.11, 4-8-3/1.17, 4-9-9/15.7 Table 1

2021 Rules for Conditions of Classification – Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2021 Rules for Building and Classing Mobile Offshore Units: 4-3-1/9, 4-3-1/11, 4-3-1/15, 4-3-1/17

2021 Rules for Conditions of Classification – High Speed Craft 1-1-4/11.9, 1-1-A2, 1-1-A3, which cover the following:

2021 Rules for Building and Classing High Speed-Craft: 4-6-1/9, 4-6-1/11, 4-6-1/15, 4-6-1/17, 4-7-9/15.5 Table 9

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA