



Certificate number: 04995/I0 BV

File number: AP 1640

Product code: 3812H

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

Kongsberg Maritime AS

Ranheim - NORWAY

for the type of product

TEMPERATURE SENSORS / PROBES / TRANSDUCERS

Type: MBxxxx and MNxxxx.

Requirements:

BV Rules for the Classification of Steel Ships.

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 is a renewal of certificate N° 04995/H0 BV expiring on 15/02/2026

This certificate will expire on: 15 Feb 2031

For Bureau Veritas Marine & Offshore,

At BV OSLO, on 27 Oct 2025,

Rune Marstein

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. 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.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=aaxkwc7c0j>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

- Product model or type designation :
Types: **MB0001 to 4999 and MN0001 to 9999.**

- Product description:
Temperature Sensors

1.1 - Technical Specification:

Element Type : Pt100, Pt1000, Thermocouple (TC)
Temperature Range: : 0-600°C(850°C) for MB Series
 : -200°C to 200°C(250°C) for MN Series (Pt element)
 : 0 to 100°C for MN Series(T802)
Max. Temperature : MB/MN Series 850/250°C
Material : AISI304 for sensors
 : AISI316 for protection wells

2. DOCUMENTS AND DRAWINGS:

- As per documentation filed under BV N° 1640 AP.
 - Framework Drawings MB810-811-812-814-828-970 and MN-1397-3288-3458-3469-3470-3473 all dated 2006.
 - Drawings of Sensors used in the test MB-158-235-236-237-286-864-1168-1186 and MN-524-531-1690-1847-2682-4004-4008 all dated 90.

3. TEST REPORTS:

- Autronica test report N° C-54.
 - Nemko Test Report N°E10123.00 dated 10.2009.

4. APPLICATION / LIMITATION:

4.1 - According to Bureau Veritas Rules for the Classification of Steel Ships.
 4.2 - Approval also valid for ships to be granted with the notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
 4.3 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev 9.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **KONGSBERG MARITIME AS** in compliance with the type 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 - **KONGSBERG MARITIME AS** 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, **KONGSBERG MARITIME AS** has declared to Bureau Veritas the following production sites:

Kongsberg Maritime AS
 Skonnertvegen 1
 N-7053 Ranheim
 NORWAY

Kongsberg Maritime China Jiangsu Ltd.
 No.711 Changjiang Road,
 Zhenjiang, Jiangsu Province
 212002 Zhenjiang
 CHINA

6. MARKING OF PRODUCT:

- Maker's name or trademark.
- Serial number of the units.
- Equipment type number or model identification under which it was type-tested.

7. OTHERS:

7.1 - It is **Kongsberg Maritime AS**'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.

7.2 - This certificate supersedes the Type Approval Certificate No. 04995/H0 BV issued by the Society.

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