



CERTIFICATE NUMBER 22-2216869-PDA
EFFECTIVE DATE 25-Feb-2022
EXPIRATION DATE 24-Feb-2027
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

DANFOSS A/S

located at

**NORDBORGVEJ 81 - BUILDING E14 S4A, APPROVALS DEPT.,
NORDBORG, DENMARK, DK-6430**

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 Temperature Sensor

Model MBT 5250 / 5252 / 5253 / 5260 - Standard and Customized

This Product Design Assessment (PDA) Certificate remains valid until 24-Feb-2027 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

DANFOSS A/S

NORDBORGVEJ 81 - BUILDING E14 S4A

APPROVALS DEPT.

NORDBORG

Denmark DK-6430

Telephone: 45-7488-2222

Fax: 45-7465 2580

Email: danfoss@danfoss.com

Web: www.danfoss.com

Tier: 3 - Type Approved, unit certification not required

Product: Temperature Sensor

Model: MBT 5250 / 5252 / 5253 / 5260 - Standard and Customized

Endorsements:

Intended Service:

For use on ABS Classed Vessels and Offshore Installation in accordance with the listed ABS Rules and International Standards.

Description:

Temperature Sensors with Measuring (fixed and interchangeable) Inserts

Rating:

Temperature Range of MBT 5250 / 5253 / 5260 : -50 degrees C to +200 degrees C

Temperature Range of MBT 5252: -50 degrees C to +400 degrees C

Enclosure: IP65

Service Restriction:

1. Unit Certification is not required for this product. 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.
2. ATEX certified equipment is not to be installed in hazardous areas on U.S. Flagged Vessels, unless it can be proven to have been tested to the IEC 60079 series standards by an independent laboratory accepted by the U.S. Coast Guard. USCG MI Notice 01-12 (February 7, 2012) refers.

Comments:

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

Notes/Drawing/Documentation:

Drawing No. AI208386431879en-000801, Datasheet - MBT 5250_5260_5252, Revision: N/A, Pages: 12;

Drawing No. AI202586427279en-000701, Datasheet - MBT 5253, Revision: N/A, Pages: 8;

Drawing No. TR087U0058-00 117-34687-2, Danfoss A_S - EMC Marine test of high temperature sensors dated 14 July 2021 , Revision: 2, Pages: 33;

Drawing No. 121-29917-1, Danfoss A_S - Marine mutual recognition test of low temperature transmitters, Report dated 26 January 2022 , Revision: N/A, Pages: 184;

Terms of Validity:

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STANDARDS

ABS Rules:

2022 Rules for Conditions of Classification 1-1-4/7.7, 1-1-A3 and 1-1-A4, which covers the following :

2022 Rules for Building and Classing Marine Vessel Rules: 4-8-3/1.7, 4-8-3/1.11, 4-8-3/1.17

2022 Rules for Building and Classing Steel Vessels For Service On Rivers & Intracoastal Waterways: 4-5-1/13, 4-5-1/17, 4-5-1/19

2022 Rules for Building and Classing Steel Barges: 4-1-3/5.7

2022 Rules for Conditions of Classification - Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2022 Rules for Building and Classing Mobile Offshore Units: 4-3-1/11, 4-3-1/15, 4-3-1/17

2022 Rules for Conditions of Classification - Light and High Speed Craft 1-1-4/11.9, 1-1-A2 and A3, which covers the following:

2022 Rules for Building and Classing High Speed Crafts: 4-6-1/11, 4-6-1/15, 4-6-1/17

National:

NA

International:

IACS UR E10: Rev. 8: February 2021 (Corr. January 2022)

Government:

NA

EUMED:

NA

OTHERS:

NA