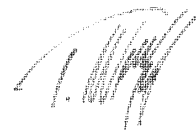


Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	Danfoss A/S
Address	Nordborgvej 81, Nordborg, 6430, Denmark
Place of Production	Danfoss (Tianjin) Co. Ltd. No. 9 Quanhui Road, Wuqing Development Area, Tianjin, 301700, China
Type	Transmitters/Transducers
Description	Temperature sensor with integrated transmitter
Trade Name	MBT 5560
Application	Marine, Offshore and Industrial applications for use in environmental categories ENV1, ENV2, ENV3 and ENV4, as defined in Lloyd's Register Type Approval System, Test Specification Number 1 – December 2021.
Specified Standard	Manufacturer's specification IACS unified requirements E10 (Rev.9 Aug 2023)
Ratings	Power Supply: 10-30 VDC / 5 VDC (ratiometric) Output: 4...20 mA or ratiometric 10 - 90% Measuring range: -50 °C – 200 °C Ambient temperature: -40 °C - 85 °C



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Type Approval Certificate

Additional Tests

Dry heat test (85 °C / 16 h)
Low temperature test (-50 °C / 16 h)
Ingress protection (IP65)
Shock test (Half-sine; 100 g; 6 ms)

Other Conditions

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: LR2003404TA-02

The Design Appraisal Document TSO/25-034583/AV/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.



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Certificate No: LR2573616TA
Issue Date: 12/06/2025
Expiry Date: 15/03/2030
Reference: TSO/25-034583/AV/TW

LLOYD'S REGISTER TYPE APPROVAL – DESIGN APPRAISAL DOCUMENT

Issued by: GLOBAL TECHNICAL SUPPORT OFFICE

Issued to: Danfoss A/S

For: Temperature sensor with integrated transmitter

Type: MBT 5560

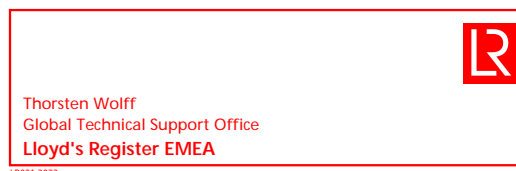
The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval Schemes Procedure (01/01/2025) and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

unnumbered	Type Approval Application Checklist	02.03.2025
175390	Request for Marine Services – Type Approval	10.04.2025
HPC1562012-22/MK	Design Appraisal Document of previous certificate no. LR2003404TA-02 and all the documentation listed in the same	13.12.2022
LR2003404TA-02	Previous Type Approval Certificate for MBT 5560 Transmitters/Transducers	13.12.2022
PRJ11100481212	Production quality assessment form	06.05.2025
DK016649 Ver. 2	Certificate ISO 9001:2015	06.06.2024



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Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations. Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.