



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 Poland Sp. z o.o. ul. Chrzanowska 5, Grodzisk Mazowiecki, 05-825, Poland
Type	Termostat
Description	Termostat, Type MBC 8100
Trade Name	MBC 8100
Application	Marine, offshore and industrial applications for use in environmental categories ENV2, ENV3 and ENV4 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – July 2024.
Specified Standard	EN 60947-1: 2007 +A1: 2011+A2 : 2014 IACS UR E10 Rev. 9: 2023
Ratings	Operating temperature range: -10 °C to 150 °C Contact type: SPDT Contact load: AC15: 0.5 A / 250 V DC13: 12 W / 125 V

Matthias Karg

Electrical & Control - Specialist to Lloyd's Register EMEA
A member of the Lloyd's Register group

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	Enclosure protection: IP65
Additional Tests	Enclosure protection IP65
Other Conditions	Cable and / or plug to be of fire-retardant type as minimum 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: 14/20046 (E1)

The Design Appraisal Document TSO/24-017863 and its supplementary Type Approval Terms and Conditions form part of this Certificate.



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Certificate No: LR24114895TA
Issue Date: 20/11/2024 (Issue 0)
Expiry Date: 15/06/2029
Reference: TSO/24-017863

LLOYD'S REGISTER TYPE APPROVAL – DESIGN APPRAISAL DOCUMENT

Issued by: HAMBURG TECHNICAL SUPPORT OFFICE

Issued to: DANFOSS A/S

For: THERMOSTAT; TYPE: MBC 8100

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System Procedure TA14 Version 04 (September 2020) and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

unnumbered	Type Approval Application Checklist	01.07.2024
427586	Request for Marine Services – Type Approval	23.09.2024
HTS/ETS 38566-19	Design Appraisal Document of previous certificate no. 14/20046 (E1)	06.08.2019
14/20046 (E1)	LR Type Approval Certificate for Thermostat MBC 8100	06.08.2019
PRJ11100457621	Production quality assessment (PQA) report of Danfoss Poland Sp. z o. o.	10.10.2024
DK016649-035	Certificate ISO 9001:2015 of Danfoss Poland	12.2023
001001	Product Data Sheet for Thermostat type MBC 8000 and MBC 8100	12.2023



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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.

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