



Lloyd's
Register

Type Approval Certificate Extension

This is to certify that Certificate No. 04/70008(E1) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Danfoss A/S Nordborgvej 81 DK-6430 Nordborg Denmark
PLACE OF PRODUCTION	Danfoss Sp. Z.o.o. Ul. Chrzanowska 5 PL 05-825 Grodzisk Mazowiecki Poland
DESCRIPTION	Block temperature switch with sensor types: Capillary / armoured capillary or rigid long/short, all with fixed differential; setting range: -10 to +200°C Electrical connections: flying leads or plugs DIN43650: Pg9, Pg11, Pg13.5
TYPE	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 – 2002.
SPECIFIED STANDARDS	EN 60947-5-1:2004+A1:2009 EN 60947-4-1:2010 EN 60947-1:2007+A1:2010

Certificate No.	14/20046
Issue Date	6 August 2014
Expiry Date	15 June 2019
Sheet	1 of 2


Jörn Brüggemann
Hamburg Technical Support Office
Lloyd's Register EMEA

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



Lloyd's
Register

RATINGS

Standard ranges: -10 to +200°C
Fixed differential: 3 to 7°C (dependent on setting range)
Contact type / ratings: SPDT / AC15: 0,5A, 250V; DC13: 12W, 125V

OTHER CONDITIONS

Requirements to cable and / or plug to be of fire retardant type as minimum

"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."

The attached Design Appraisal Document No. HTS/ETS 30041-14 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 04/70008(E1) to which this extension should be attached.

Certificate No. 14/20046
Issue Date 6 August 2014
Expiry Date 15 June 2019
Sheet 2 of 2


Jörn Brüggemann
Hamburg Technical Support Office
Lloyd's Register EMEA

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



Marine Design Appraisal Document

Lloyd's Register EMEA
Hamburg Technical Support Office
Am Sandtorkai 41
20457 Hamburg
Telephone +49 (0)40 328107 - 0 Fax +49 (0)40 328107 - 480
E-mail: hamburg-technical-support@lr.org

Date
06 August 2014

Please quote this reference number on all future communications
HPC1462077/30041-14/JB/ND/SC

**THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2002
ISSUED TO: DANFOSS A/S, NORDBORG
FOR: BLOCK TEMPERATURE SWITCH WITH SENSOR
TYPE MBC 8100
TYPE APPROVAL CERTIFICATE EXTENSION NO. 14/20046**

The additional undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register's Type Approval System, 2002 and this Design Appraisal Document forms part of the Certificate.

ADDITIONAL APPROVAL DOCUMENTATION

Form LR6606	Approval Services – Request for Quotation	23.05.2014
IC.PD.P10.D6.02 / 520B5807	Data sheet Thermostat Types MBC 8000 and MBC 8100	11.2013
061R9603	EC-Declaration of conformity Rev.2	07.12.2011

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.

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

Lloyd's Register EMEA
Is a subsidiary of Lloyd's Register Group Limited

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Lloyd's Register EMEA
Hamburg Technical Support Office
Am Sandtorkal 41
20457 Hamburg
Telephone +49 (0)40 328107 - 0 Fax +49 (0)40 328107 - 480
E-mail: hamburg-technical-support@lr.org

Date
06 August 2014

Please quote this reference number on all future communications
HPC1462077/30041-14/IB/ND/SC

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 LR Type Approval System Procedure.



Jörn Brüggemann
Senior Specialist in Charge
Electrotechnical Systems
Hamburg Technical Support Office
Lloyd's Register EMEA
T +49 (0)40 328107-441
E joern.brueggemann@lr.org

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

Lloyd's Register EMEA
Is a subsidiary of Lloyd's Register Group Limited

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Part 3
Transmitters/Transducers

Producer/Licence No.	Item Description	Technical Details	Category/Additional Tests	Remarks	Cert. No.
Danfoss A/S, Nordborgvej 81, DK-6430 Nordborg, Denmark	Type: MBC 8100 Compact Temperature Switch / Thermostat	Sensor types: Capillary or Rigid Standard ranges -10° to +200°C (fixed differential) External Elect. Conn. Plug DIN43650, Pg11,13.5, Pg 9, Contact SPDT: Ratings: AC15: 0.5A, 250V DC13: 12W, 125V	ENV2, ENV3, ENV4 (2002)	Expires: 15 June 2019	14/20046 <i>NK 270</i> <i>P. Orlay</i>