



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAA00002NM**  
Revision No:  
**1**

## This is to certify:

**That the Temperature Transmitter**

with type designation(s)  
**MBT 5550, MBT 5560**

Issued to

**Danfoss A/S**  
**Nordborg, Syddanmark, Denmark**

is found to comply with

**DNV rules for classification – Ships, offshore units, and high speed and light craft**

## Application :

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.**

## Location classes:

**Temperature B**  
**Humidity B**  
**Vibration B**  
**EMC B**  
**Enclosure B / IP65**

Issued at **Høvik** on **2022-09-13**

for **DNV**

This Certificate is valid until **2025-04-07**.

DNV local station: **Denmark CMC**

Approval Engineer: **Martin Skårerverket**

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**Frederik Tore Elter**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Product description

MBT 5550/5560 Temperature sensor with integrated transmitter:

	<b>MBT 5550</b>	<b>MBT 5560</b>
Sensing element	1 x Pt1000	
Measuring range	-15°C to +200°C	-50°C to +200°C
Output signal	4 to 20mA, ratiometric 10-90%	
Power supply	10 to 32V DC (24V DC rated) or ratiometric, power supply: 4.75 to 8V DC (5V DC rated)	
Insertion length	50mm to 250mm	
Process connection	G1 ½ A standard (other on request, see data sheet)	G1¼ A standard (other on request, see data sheet)
Electrical connection	plug, EN 175301/803, Pg 950mm to 250mm standard (others see data sheet)	
Response time	water (0.2 m/s) t0.5 = 10 s, t0.9 = 35 s, air (1 m/s) t0.5 = 95 s, t0.9 = 310 s	

## Place of production

Danfoss (Tianjin) Ltd.  
 Wuqing Development Area  
 9 Quanhui Road  
 301700 Tianjin  
 CHINA

## Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

## Type Approval documentation

### Test Reports:

Marine mutual recognition test of low temperature transmitters (MBT 5560), Drw No. 121-29917-1 dated 2022-01-26  
 Selected marine tests of MBT 5550 temperature transmitter, Drw No. 121-32519-1 dated 2022-01-06

### Datasheets:

Temperature Sensor Type MBT 5560 Drw No. AI202286432128en-000901 dated 2021-02  
 Temperature Sensor Type MBT 5550 Drw No. AI391832931068en-000102 dated 2022-03

Type approval renewal assessment report for TAA00002NM, DNV Tianjin 2020-03-30.

## Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.

## Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

### **Periodical assessment**

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE