



NIPPON KAIJI KYOKAI

COPY

## TYPE APPROVAL CERTIFICATE FOR AUTOMATIC DEVICES AND EQUIPMENT

Certificate No. TA21099M

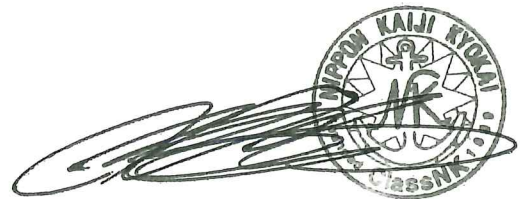
**This is to certify** that the undernoted product(s) has/have been approved in accordance with the requirements specified in Chapter 1, Part 7 of “Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use” and the relevant Society's Rules.

This certificate is issued to

Applicant:	<b>Danfoss A/S</b> <b>Nordborgvej 81, 6430 Nordborg, Denmark</b>
Manufacturer:	<b>Danfoss (Tianjin) Ltd.,</b> <b>9 Quanhui Road, Wuqing Development Area,</b> <b>301700 Tianjin, China</b>
Product description:	<b>Pressure Transmitter</b>
Model:	<b>MBS5100 / 5150 / 5103 / 5153</b>
Approval No.:	<b>95A109</b>
Valid until:	<b>6 June 2026</b>

This certificate is subject to the conditions specified in the attached sheet(s).

Issued at Tokyo on 7 June 2021.



T. Shimada  
General Manager  
Machinery Department

Note: The manufacturer, if desired, is requested to apply to the Society for renewal prior to the expiration date.

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Attached sheet -1/2 to the Certificate No. TA21099M

## Specification & documents:

### 1. Particulars:

Power supply: 24VDC

Output: 4-20 mA

### 2. Components and Reference Drawings:

Components		Drawing
Pressure Transmitter	MBS5100	060C0339, 060G2295, 060G2289, 060N0000, 060N9000, TR060N004, TR060N005, TR060N006 Technical report ( 2006-9017) Data sheet ( 520B7974 )
	MBS5150	
	MBS5103	
	MBS5153	

Proof for flammability (Technical Data sheet: Ixness Durethan PA66)

### 3. Documentation and Test reports:

Data sheet (Type MBS 5100 and MBS 5150 )

Doc No. AI369160646499en-000101

Engineering Sheet (MBS 5153 Pressure Transmitter)

Dwg No. ESH060N1279

Pressure Transmitter MBS 5100, ID172

Dwg No. 060N9000

#### FORCE TECHNOLOGY TEST REPORT

E10 Marine High Voltage test of 060X0271

Report No. 120-30437

E10 Marine Dry Heat and Cold test of 060X0271

Report No. 120-30437-1

E10 Damp Heat test of 060X0271

Report No. 120-30437-1

E10 Marine Vibration of 060X0271

Report No. 120-30437

PHOENIX TESTLAB Test Report

Report No. E201507E2

- To be continued -

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Attached sheet -2/2 to the Certificate No. TA21099M

**Test items & approval conditions:**

1. Test items:

(Applied testing items are marked with X.)

ENVIRONMENTAL TESTS (IACS UR E10 rev.7 basis)		Mark
External examination		X
Operation test and performance test		X
Electric power supply failure test		X
Power supply fluctuation test	Electric	X
	Pneumatic and Hydraulic	--
Insulation resistance test		X
High voltage test		X
Pressure test (Pneumatic and Hydraulic)		X
Dry heat test (Temperature 70°C × 16 hours)		X
Damp heat test		X
Vibration test (Acceleration ±0.7g × 1.5 hours)		X
Inclination test		X
Cold test (Temperature -25°C × 16 hours)		X
Salt mist test		X
Electrostatic discharge immunity test		X
Radiated radio frequency immunity test		X
Conducted low frequency immunity test		X
Conducted high frequency immunity test		X
Burst / Fast transient immunity test		X
Surge immunity test		X
Radiated emission test		X
Conducted emission test		X
Flame retardant test		--

2. Approval condition:

Nil

- The End -