



NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE FOR AUTOMATIC DEVICES AND EQUIPMENT

Certificate No. TA20389M

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

Manufacturer and Place of Manufacturing:	Danfoss A/S Nordborgvej 81, Dk-6430 Nordborg, Denmark Danfoss (Tianjin) Ltd, No 9 Quanhui Road , Wuqing Development Area 301700 Tianjin China
Product description:	Pressure Transmitter
Model:	MBS 3100/3150, MBS 3300/3350, DST P30M / 35M, MBS 33M
Approval No.:	99A105
Valid until:	19 July 2025

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

Issued at Tokyo on 20 July 2020.



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.

Specification & documents:

1. Particulars:

Component (Type)		MBS 3100 / 3150	MBS 3300 / 3350	DST P30M / P35M	MBS 33M
Power supply		DC 9 ~ 32 V (DC12/24Vnom.) DC 4.5 ~ 5.5 V (Ratiometric*, DC5V nom.)			
Output signal	4-20mA	✓	✓	✓	✓
	0-5/1-5/1-6V	✓	✓		
	0-10V	✓	✓		
	Ratiometric*	✓	✓	✓	
Operating temperature		-40 ~ 100°C (4-20mA output) -40 ~ 125°C			-40 ~ 85°C
Measuring range		0 ~ 1 bar 0 ~ 600 bar			

*) Ratiometric : 10 - 90 % of supply voltage

2. Components and reference drawings:

Component (Type)	Drawings
MBS 3100/3150	060R3050 Sh.1/Sh.2, 06C0335 Sh.01, 060G0215, 060C0337 Sh.1, 060G0299 Sh.2, 060G0319 Sh.TM1 AI308939294195en-000101/IC.PD.P21.1I01
MBS 3300/3350	IC.PD.P21.O2.02-520B4354 AI308943247202en-000101/IC.PD.P21.1K02
MBS 33M	060R3009, 060C0340, 060R3008 AI309032027214en-000101/IC.PD.P21.1N02
DST P30M / P35M	AI308939294195en-000101/IC.PD.P21.1G.02

- To be continued -

3. Documentation and Test Reports:

Danfoss EMC-lab. test report 2008-9027	(15 Sep. 2008)
Danfoss damp heat and vibration test report	(22 Feb. 2008)
Danfoss performance test report	(18 June 2008)
Danfoss overpressure test report	(3 July 2008)
Technical brochure	(IC.PD.P20.06.02 - 520B4866)
Test Report No 196/NZL/NBW/2010/O	
Comparison old and new versions	
Test for marine type approval of ID172 pressure transmitter	(119-30777-1, 29 Jan. 2020)
Current versus new ID172 General Purpose Pressure Transmitter	(3 Apr. 2018)

- To be continued -

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)		--
Dry heat test (Temperature 100°C × 16 hours for 4-20mA) (Temperature 125°C × 16 hours for others)		X
Damp heat test (Temperature 55°C, Humidity 95%, 2 cycles)		X
Vibration test (Acceleration ± 10.0g × 1.5 hours)		X
Inclination test		X
Cold test (Temperature -40°C × 16 hours)		X
Salt mist test		--
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 (Ta : 15 sec × 5 times)		X

2. Approval condition:

The products are not allowed to be installed on open decks.

- The End -