



Type Approval Certificate

[Pressure Transmitter]

Initial Approval 27 April 1998

Manufacturer Danfoss (Tianjin) Ltd.
Wuqing Development Area 9 Quanhui Road, 301700 Tianjin China

Product Description Type : MBS 3100/3150, 3300/3350, MBS 33M, DST P30M/35M, MBS9300

* Applicant : Danfoss A/S
Nordborgvej 81, DK-6430 Nordborg, Denmark

" See Appendix 1 "

Approval Condition " See Appendix 1 "

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification, Steel Ships

This Certificate is valid until 1 June 2029

Issued at Shanghai, China on 29 July 2024



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME24037917221) and certificate No.(DLN34014-AE008).



KOREAN REGISTER

*General Manager of
China Plan Approval Center
CHINA KR Co., Ltd.*

- Note :**
1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
 2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
 3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
 4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

Product Description and/or Approval Condition

Date of Issue : 29 July 2024

A. Product Description

1. Product Specification

- 1) Product Description :
The MBS and DST series are pressure transmitters for marine applications
 - 2) Specification :
 - Power supply: 12-24 V DC (nom.) / 5V DC (ratiometric)
 - Output signal: 4-20 mA
Various ranges from 0V DC up to 10V DC
10-90% of supply (ratio metric)
 - Pressure ranges: 0-1 bar to 0-600 bar, -150-250 mbar for MBS9300
- Note) MBS xx50 and DST35M: Versions with integrated pulse-snubber

2. Approved Drawings and Documents

- Document package dated on 15th Dec. 1997
- AI309032027214en-000101 | IC.PD.P21.1N.02 dated 2019-06
- AI308943247202en-000101 | IC.PD.P21.1K.02 dated 2019-06
- AI308939294195en-000101 | IC.PD.P21.1I.02 dated 2019-12
- AI308926732183en-000101 | IC.PD.P21.1G.02 dated 2019-12
- IC.PD.P21.08.02 | 520B8582 dated 2018-05

3. Test Reports, etc.

- TR 060G, 2008-9027, 064G0571-01 & TR064G0547-01 & T204328 issued by Danfoss Laboratory,
- DANAK-1912858 rev. A,
- 119-30777-1 dated 2020-01-29, 119-21656-1 dated on 2019-04-10 issued by FORCE TECHNOLOGY

B. Approval Condition

1. Application & Limitation

- 1) This approval is granted on the basis of the approved documentation and test reports.
- 2) Degree of protection is to be complied with Rule Pt.6 Ch.1 Sec.2 201.2.(5).
- 3) Explosion-proof certification by a notified/recognized Certification Body is not covered by this certificate. Ratings and Special Condition for Safe Use in hazardous areas are to be obtained from the relevant valid Ex-Certificate.

2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual Product Certification is not required.

3. Marking

- 1) The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

4. Others

- 1) Test condition

Approved Testing	Approved location	Remark
EMC	All locations excluding the bridge and deck zone	1)
Temperature	+5 ~ +70°C	-
Vibration	Acceleration ±4g	-
Degree of protection	See remark 2)	2)

Approved Testing	Approved location	Remark
------------------	-------------------	--------

*Remark

- 1) EMC testings required by IACS UR E10 Rev.7 have been carried out for MBS 3100/3150, 3300/3350, MBS 33M, DST P30M/35M, MBS 9300
- 2) MBS 9300: IP65 / MBS33M: IP65(7)

< End of Certificate >