



Lloyd's
Register

Type Approval Certificate Extension

This is to certify that Certificate No. TA 93/70193(E4) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Danfoss A/S	
PLACE OF PRODUCTION	DK-6430 Nordborg Denmark	No 9 Quanhui Road Wuqing Development Area Tianjin 301700 P.R.C.
DESCRIPTION	Gauge Pressure Transmitters in standard and intrinsically safe executions in rages as specified in Danfoss Tech Brochure	
TYPE	MBS 33M Hermetically sealed version MBS 4201 Intrinsically safe type w/ fixed zero and span MBS 4251 Intrinsically safe type w/ fixed zero and span and puls snupper MBS 4701 Intrinsically safe type w/ adjustable zero and span MBS 4751 Intrinsically safe type w/ adjustable zero and span and puls snupper	
APPLICATION	Marine, offshore and Industrial applications in environmental categories, ENV1, ENV2, ENV3, ENV4 and ENV5 as defined in LR Test Specification No.1: 2002 where the Test Specification is satisfactory for the intended operation/location.	
STANDARD	LR Rules and Regulations for the Classification of Ships Part 6, Chapter 2.	
Certificate No.	93/70193(E5)	
Issue Date	04 March 2014	
Expiry Date	15 December 2018	
Sheet	1 of 2	

Poul Erik Hansen
Copenhagen Tech. Support Office

*Lloyd's Register EMEA
Strandvejen 104A, DK-2900, Hellerup*

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	Manufacturer's Specification IEC60529 ed. 2.1.2001-0
ADDITIONAL TESTS	Enclosure Protection: IP667 (continuous immersion)
EX-PROTECTION	MBS 4201 / 4251: Ex ia IIC T6...T4 (ATEX Dir 94/9/EC) MBS 4701 / 4751: Ex ia IIC T4 (ATEX Dir 94/9/EC)
LIMITATIONS IN USE	Conditions for safe use as stated in DEMKO Certificates numbered DEMKO 01 ATEX 127938X Rev. 1 DEMKO 01 ATEX 127938X Rev. 0
RATINGS	Volt supply: 10-28 V dc polarity protected Output signal : 4-20 mA

"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. TA93/70193(E5) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No.93/70193(E4) to which this extension should be attached.

Certificate No.	93/70193(E5)
Issue Date	04 March 2014
Expiry Date	15 December 2018
Sheet	2 of 2

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Document number TA93/70193(E5)
Issue number 01

DESIGN APPRAISAL DOCUMENT

Date 04 March 2014	Quote this reference on all future communications TA/I1103813/1300397/PEH
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LLOYD'S REGISTER TYPE APPROVAL SYSTEM, 2002.

Issued to: Danfoss A/S Nordborg - Denmark

for: Pressure Transmitter types: MBS 33M, MBS4201, MBS 4251, MBS4701, MBS4751

TYPE APPROVAL CERTIFICATE No. 93/70193(E5)

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

APPROVAL DOCUMENTATION

Request for Type Approval form LR6606	20.11.2013
Danfoss Tech Brochure: IS Pressure Transmitter types, MBS4201, MBS4251, MBS4701, MBS4751	-
Danfoss Draw no. 060R3065 Press Transmitter type 4500	-
Danfoss Draw no. 060R3066 Press Transmitter type 4500	-

TEST REPORTS

Tech Report on Press Transmitter types MBS 42XX & 4700 - E10 Marine EMC Tests	18.03.2013
Danfoss RC EMC Lab. E10 Marine EMC Tests: pressure Transmitter MBS42XX and MBS47XX	
DELTA Ref. T204616, Cold Test of MBS Press Transmitter, -25°C-2 hrs	07.03.2013
DELTA Ref. T204616, Damp Heat, Press Transmitter, -55-16 Hrs IEC 60068-2-2 Test B	06.03.2013
DELTA Ref. T204616, MBS Press Transmitter Damp Heat, Tightness to IP65 - IEC60529	06.03.2013
DELTA Ref. T204616, MBS Press Transmitter Damp Heat, Tightness to IP67 - IEC60529	06.03.2013
DELTA Ref. T204616, MBS Press Transmitter Damp Heat, Vibration Tests-Resonance Search and Endurance - IEC60068-2-6 Test Fc	06.03.2013

EX-CERTIFICATES

DEMKO 01 ATEX 127938X Rev.1: Pressure Transmitter MBS Type 4XX1-xxxx-xxxx	27.01.2014
DEMKO 01 ATEX 127938X Rev.0: Pressure Transmitter MBS Type 4XX1-xxxx-xxxx	18.10.2013

All other conditions remain as listed to the Design Appraisal Document of the previous certificate no. TA93/70193(E4).

Poul Erik Hansen
Senior Surveyor, Electrical Section

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.

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 Lloyd's Register Type Approval System Procedure.

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Part 3
Transmitters/Transducers

Producer/Licence No.	Item Description	Technical Details	Category/ Additional Tests	Remarks	Cert. No.
<p>Danfoss A/S Nordborgvej 81 DK-6430 Nordborg Denmark</p>	<p>Gauge Pressure Transmitters for installation in non- or gas hazardous areas.</p> <p>Types: MBS 33M non-IS-type MBS 4201 IS-type w/ fixed zero and span MBS 4251 IS-type w/ fixed zero and span and puls snupper MBS 4701, IS-type w/ adj. zero and adj. span MBS 4751 IS-type w/ adj. zero and adj. span and puls snubber</p>	<p>Power supply (Vdc): 10-30 Output two wire (mA) 4-20 Range bar: 0-600</p>	<p>ENV1 ENV2 ENV3 ENV4 ENV5 (2002)</p> <p>Ingress protection: IP67</p>	<p>Expires: 15 December 2018</p> <p>Ex certification: MBS 4201/ MBS 4251: Ex ia IIC T6 T4 Ga (ATEX Dir 94/9/EC)</p> <p>MBS 4701/ MBS 4751: Ex ia IIC T4 (ATEX Dir 94/9/EC)</p> <p>Certificate number DEMKO 01 ATEX 127938X Rev.1</p> <p>Conditions for safe installation/ operation stated in the certificate shall be complied with.</p>	<p>93/70193(E5)</p>