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## Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

<b>Manufacturer</b>	<b>Danfoss A/S</b>
<b>Address</b>	Nordborgvej 81, Nordborg, 6430, Denmark
<b>Place of Production</b>	Danfoss Poland Sp. z o.o. ul. Chrzanowska 5, Grodzisk Mazowiecki, 05-825, Poland
<b>Type</b>	Switches - Pressure
<b>Description</b>	The RT pressure switches are single-pole double-throw (SPDT) switches
<b>Trade Name</b>	RT 5, RT 110, RT 112, RT 116, RT 117, RT 200
<b>Application</b>	Marine, Offshore and Industrial applications for use in environmental categories ENV1, ENV2 and ENV3, as defined in Lloyd's Register Type Approval System, Test Specification Number 1 – July 2015.
<b>Specified Standard</b>	EN 60947-1: 2007+A2: 2014 EN 60947-4-1: 2019 EN 60947-5-1: 2017 IACS E10 Rev. 8 / 2021
<b>Ratings</b>	Operating pressure range: RT 5: 4 to 17 bar RT 110: 0.2 to 3 bar



**Matthias Karg**

Specialist to Lloyd's Register EMEA  
A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

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## Type Approval Certificate

RT 112: 0.1 to 1.1 bar  
RT 116: 1 to 10 bar  
RT 117: 10 to 30 bar  
RT 200: 0.2 to 6 bar

Contact load at 400 VAC:  
AC-1: 10 A  
AC-3: 4 A  
AC-15: 3 A

Contact load at 230 VDC:  
DC-13: 12 W

**Additional Tests** Low temperature -25 °C / 16 h  
Enclosure test IP 66

**Other Conditions** Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re- approved prior to it being supplied to vessels to which the amended standards apply.

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 Design Appraisal Document HTS/ETS 41824-21/MK and its supplementary Type Approval Terms and Conditions form part of this Certificate.



**LLOYD'S REGISTER TYPE APPROVAL – DESIGN APPRAISAL DOCUMENT**  
**Issued by: HAMBURG TECHNICAL SUPPORT OFFICE (HPC1662100)**  
**Issued to: DANFOSS A/S**  
**For: PRESSURE SWITCH, TYPE RT-SERIES**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System Procedure TA14 Version 04 (September 2020) and this Design Appraisal Document forms part of the Certificate.

**APPROVAL DOCUMENTATION**

ETS 57354	Type Approval Application Checklist	23.04.2021
ETS 58309	Request for Marine Services – Type Approval	23.09.2021
ETS 36997-18	Design Appraisal Document of previous certificate no. 17-20067 (E1)	06.06.2018
KAT2000462	Production quality assessment report of Danfoss Poland	05.10.2020
DK009970-1	Certificate ISO 9001:2015 for Danfoss Poland	11.09.2018
060-9650 Rev. AE	EU Declaration of Conformity (Low Voltage) Pressure switch, RT-series	20.07.2021
AI241086442336en-001001	Product data sheet Pressure switch, Type RT	02.2021



Matthias Karg  
Specialist  
Electrotechnical Systems  
Hamburg Technical Support Office  
Lloyd's Register EMEA  
T +49 40 3497 0010 240  
E [matthias.karg@lr.org](mailto:matthias.karg@lr.org)

**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.*