

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.

Manufacturer	Danfoss A/S
Address	Nordborgvej 81, Nordborg, 6430, Denmark
Place of Production	Danfoss Poland Sp. z o.o. ul. Chrzanowska 5, Grodzisk Mazowiecki, 05-825, Poland
Type	Switches - Temperature
Description	The KP and KPS Thermostats are single-pole, double-throw (SPDT) temperature-controlled switches
Trade Name	KP 61, KP 62, KP 63, KP 68, KP 69, KP 71, KP 73, KP 75, KP 77, KPS 76, KPS 77, KPS 79, KPS 80, KPS 81, KPS 83
Application	Marine, Offshore and Industrial applications for use in environmental categories ENV1, ENV2, ENV3 and ENV4, as defined in Lloyd's Register Type Approval System, Test Specification Number 1 – March 2015.
Specified Standard	EN 60947-1: 2007+A2: 2014 EN 60947-4-1: 2019 EN 60947-5-1: 2017 IACS E10 Rev. 8 / 2021



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Ratings	For detailed ratings, pls. refer to appendix.
Additional Tests	Low temperature: -40 °C / 24 h Enclosure test IP33 for KP-series Enclosure test IP67 for KPS-series
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 41705-21/MK and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Appendix

DESCRIPTION

Thermostats (temperature-controlled switch), KP-series and KPS-series
 Types:
 KP 61, KP 62, KP 63, KP 68, KP 69, KP 71, KP 73, KP 75, KP 77
 KPS 76, KPS 77, KPS 79, KPS 80, KPS 81, KPS 83

RATINGS

	KP-series	KPS-series
Ambient temperature range:		
	-40 to 65 °C	-40 to 70 °C
Operating temperature range:		
	KP 61: -30 to 15 °C	KPS 76: -10 to 30 °C
	KP 62: -30 to 15 °C	KPS 77: 20 to 60 °C
	KP 63: -50 to 10 °C	KPS 79: 50 to 100 °C
	KP 68: -5 to 35 °C	KPS 80: 70 to 120 °C
	KP 69: -5 to 35 °C	KPS 81: 60 to 150 °C
	KP 71: -5 to 20 °C	KPS 83: 100 to 200 °C
	KP 73: -25 to 15 °C	
	KP 75: 0 to 35 °C	
	KP 77: 20 to 60 °C	
Contact load AC:		
AC-1	16 A, 400 VAC	10 A, 440 VAC
AC-3	16 A, 400 VAC	6 A, 440 VAC
AC-15	10 A, 400 VAC	4 A, 440 VAC
Contact load DC:		
DC-13	12 W, 220 VDC	12 W, 230 VDC

LLOYD'S REGISTER TYPE APPROVAL – DESIGN APPRAISAL DOCUMENT

Issued by: HAMBURG TECHNICAL SUPPORT OFFICE (HPC1662069)

Issued to: DANFOSS A/S

For: THERMOSTAT KP-SERIES AND KPS-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 57355	Type Approval Application Checklist	23.04.2021
ETS 58233	Request for Marine Services – Type Approval	16.09.2021
ETS 35204-17	Design Appraisal Document of previous certificate no. 16-20046	28.04.2017
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) Temperature switch, KP-series	20.07.2021
060-9680 Rev AB	EU Declaration of Conformity (Low Voltage) Temperature switch, KPS-series	20.07.2021
AI203586420959en-000801	Product data sheet Thermostat, Type KP	03.2021
IC.PD.P10.I6.02	Product data sheet Thermostat, Type KPS	03.2017



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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.