



NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE FOR AUTOMATIC DEVICES AND EQUIPMENT

Certificate No. TA14270M

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

Applicant: **Danfoss A/S**
Place of Applicant: **DK-6430, Nordborg, Denmark**
Manufacturer: **Danfoss Sp. z o.o**
Place of Manufacturing: **U1. Chrzanowska 5 05-825 Grodzisk, Poland**
Product description: **Pressure Controls**
Model: **KPS31, KPS33, KPS35, KPS37, KPS39,
KPS43, KPS45, KPS47**
Approval No.: **84A107**
Valid until: **15 February 2019**

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

Issued at Tokyo on 16 February 2014.

Y. Shibata
General Manager
Machinery Department

Note: The manufacturer, if desired, is requested to apply to the Society for renewal prior to the expiration date.

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Attached sheet -1/2 to the Certificate No. TA14270M

Specification & documents:

1. Particulars: Pressure Range: 0 ~ 60 bar
 Contact Load : AC 440V 10A (Ohmic), 6A (Inductive)
 DC 220V 12W

2. Components and reference drawings:

Components	Drawings
KPS31, KPS33, KPS35, KPS37, KPS39, KPS43, KPS45, KPS47	060R0030, 060R0033, 060R0044, 060R0061

3. Test Reports:

Danfoss Test Report dated 26/10/2011

Polish test laboratory Test Report No. 250/NZL/NBW/2011/O dated 12/1/2012

Test items & approval conditions:

1. Test items:

(Applied testing items are marked with X.)

ENVIRONMENTAL TESTS		Mark
External examination		X
Operation test and performance test		X
Electric power supply failure test		--
Power supply fluctuation test	Electric	--
	Pneumatic and Hydraulic	X
Insulation resistance test		--
High voltage test		--
Pressure test (Pneumatic and Hydraulic)		X
Dry heat test (Temperature 80°C × 6 hours)		X
Damp heat test		X
Vibration test (Acceleration ±0.7g × 2 hours)		X
Inclination test		X
Cold test (Temperature -30°C × 16 hours)		X
Salt mist test		--
Electrostatic discharge immunity test		--
Radiated radio frequency immunity test		--
Conducted low frequency immunity test		--
Conducted high frequency immunity test		--
Burst / Fast transient immunity test		--
Surge immunity test		--
Radiated emission test		--
Conducted emission test		--
Flame retardant test		X

2. Approval condition:

The product is not allowed to be installed on open decks.