

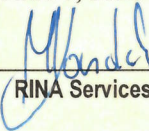


TYPE APPROVAL CERTIFICATE
No. ELE057221XP

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	Pressure switch and thermostat
<i>Type</i>	CAS
<i>Applicant</i>	DANFOSS A/S Nordborgvej DK 6430 Nordborg Denmark
<i>Manufacturer</i>	DANFOSS POLAND SP. Z.O.O.
<i>Place of manufacture</i>	UL. CHRZANOWSKA 5 PL-05-825 GRODZISK MAZOWIECKI POLAND
<i>Reference standards</i>	"RINA Rules for the Classification of Ships - Part C, Machinery, Systems and Fire Protection - Chapter 3, Section 6 , table 1"

Issued in **Gdansk** on **June 8, 2021**. This Certificate is valid until **June 7, 2026**


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This certificate consists of this page and 1 enclosure



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CAS

Thermostats Types CAS

Setting range °C	Mechanical differential adjustable/fixed °C	Max. sensor temperature °C	Suitable sensor length (see also "Accessories") mm	Capillary tube length m	Type
20 - 80	2.0	130	65; 75; 110; 160	2	CAS 178
70 - 120	2.0	220	65; 75; 110; 160	2	CAS 180
60 - 150	2.0	250	65; 75; 110; 160	2	CAS 181

Step Thermostats CAS 1080

Factory setting		Mechanical differential °C	Max. temperature °C	Insert sensor length mm	Type
Step 1	Step 2				
100°C	115°C	2.0	220	75	CAS 1080
80°C	80°C	2.0	220	200	CAS 1080

Standard pressure switches

Setting range p (bar)	Mechanical differential (bar)	Permissible operating pressure for low pressure (bar)	Max test pressure (bar)	Max burst pressure (bar)	Type
0 - 3.5	0.1	10	10	40	CAS 133
0 - 10	0.2	22	22	40	CAS 136
6 - 18	0.3	27	27	72	CAS 137
10 - 35	0.6	53	53	100	CAS 139

Pressure controls for high pressure and strongly pulsating media

Setting range p (bar)	Mechanical differential (bar)	Permissible operating pressure for low pressure (bar)	Max test pressure (bar)	Max burst pressure (bar)	Type
1 - 10	0.2 - 0.6	120	180	240	CAS 143
4 - 40	0.8 - 2.4	120	180	240	CAS 145
6 - 60	1 - 3	120	180	240	CAS 147

RINA Services S.p.A.
Via Corsica, 12 - 16128 Genova
Tel +39 010 53851
Fax +39 010 5351000



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CAS

Differential pressure switch

Setting range p (bar)	Mechanical differential (bar)	Permissible operating pressure for low pressure (bar)	Max test pressure (bar)	Max burst pressure (bar)	Type
0.2 - 2.5	0.1	0 - 8	22	42	CAS 155

Additional Technical Data

Switch: Microswitch with single pole changeover (SPDT) for CAS 178, CAS 180, CAS 181 and (2 x SPDT) for CAS 1080

Contact load: AC: 220V, 0,1A, AC-14 and AC-15 (inductive load)
DC: 125V, 12W DC-13 (inductive load)

Temperature of medium: -25 to +70°C
For water and sea water, max. 80°C
CAS 133 - 139: -40 to +100°C
CAS 143 -147: -25 to +100°C
For water and sea water, max. 80°C

Enclosure: IP67

Reference documents:

Data sheet: AI226486438268en-001001 dated 2020-06
Drawing: 060 R 0251, 060R0253, 060R0254

This certificate supersedes the Type Approval Certificate N° ELE090716XG/001, ELE090716XG/002, ELE090716XG/003 issued by the Society.

Gdansk June 8, 2021

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Via Corsica, 12 - 16128 Genova
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Fax +39 010 5351000

