

Data Sheet

Pressure switch
Type **CKB**Pressure switch for R744 (CO₂)

Safety pressure switch CKB are compact disc type pressure switches with fixed set-points for long-standing use in all CO₂ refrigeration systems.

CKB safety pressure switch is used to protect compressor and the system against too high pressure.

CKB safety pressure switch provides excellent performance, ensuring minimal drift of setting and extremely stable operation over the entire lifetime. It provides automatic or manual reset limit protection.

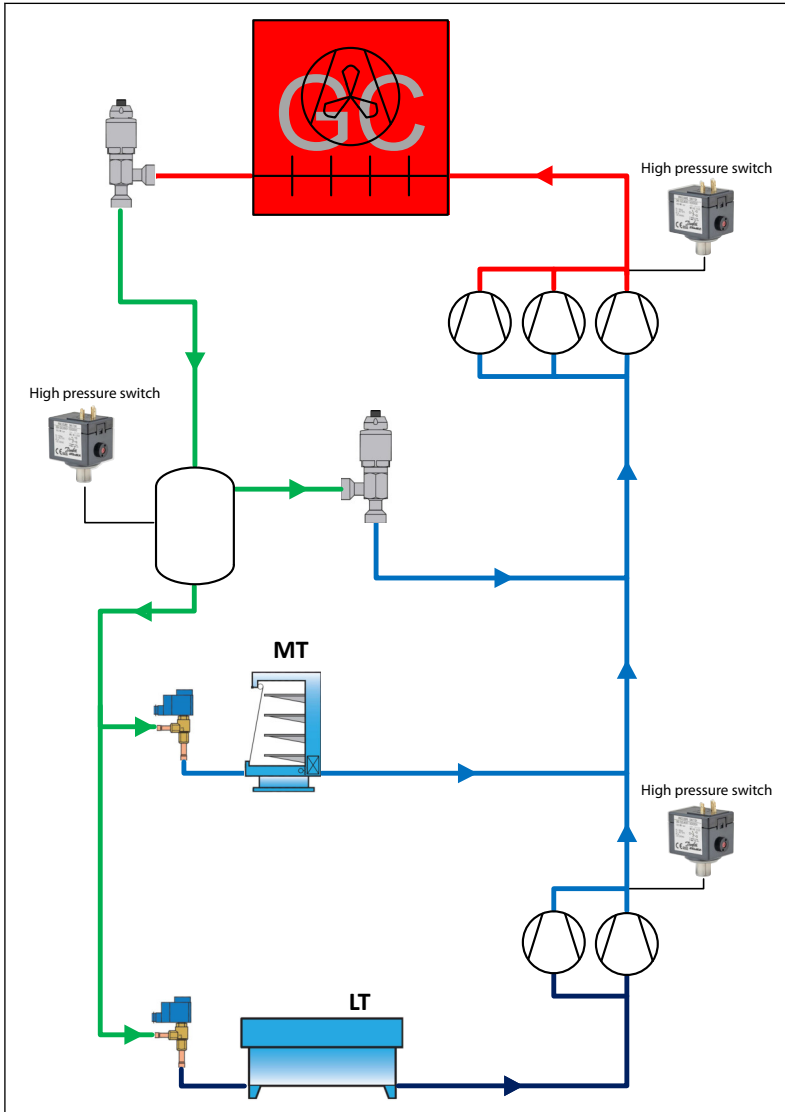
The small size, lightness and high degree of protection means that it can be mounted directly on the refrigeration systems. The switch is available with different pressure settings to suit customer requirements.

Features:

- Electromechanical design with diaphragm as sensing element
- Fixed pressure set points
- SPDT contact system
- Automatic (PSH) or manual reset (PZH / PZHH)
- Electrical connection with DIN plug
- Water-proof enclosure (IP65)
- For use as high pressure cut out
- For CO₂ subcritical and transcritical CO₂ systems up to 143 bar
- Compact design and easy to install
- PED 2014/68/EU Category IV according to EN 12263

Applications

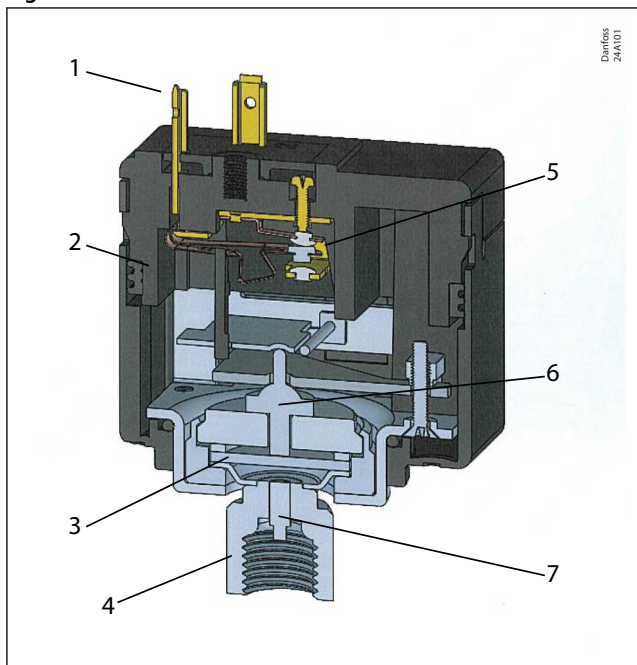
Figure 1: Safety pressure switch in subcritical and transcritical CO₂ systems



Product specification

Design and materials

Figure 2: CKB



1	Electrical connector
2	Water-proof casing
3	Diaphragm
4	Pressure connection (1/4 in female flare)
5	Micro-switch
6	Shaft
7	Depressure pin

As pressure is applied through the connection on to the diaphragm, the diaphragm is pushed up against the operation shaft.

When the operation shaft rises, it pushes up the contact plate in the micro-switch, so that contacts become connected or disconnected.

As the pressure in the connection decreases, the diaphragm returns to its original state, and the operation shaft lowers, causing the contact plate to return to its original position.

Technical data

Table 1: Type CKB

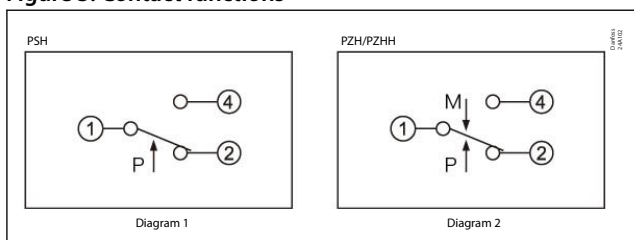
Type	CKB
Medium	R744 (CO ₂)
Range (fixed settings)	40 - 130 bar
Accuracy of setting	0/-8% (EN 12263)
Differential	auto reset: 10 bar / manual reset: 13 bar (setting ≤ 70 bar), 25 bar (setting above 70 bar)
Contact function	SPDT
Electrical connections	DIN plug (to be ordered separately)

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Type	CKB
Contact load	Full Load: Cosφ= 0,75 1 to 6A 240V AC Inrush current: Maximum 36A 240V AC
Pressure connections	7/16"-20UNF female thread with Schrader opener
Maximum working pressure PS / MWP	143 bar
Media temperature	-40 to +150°C (do not freeze)
Ambient humidity	30% RH to 85% RH (do not condense)
Vibrations resistance	4G (at 20 - 250Hz)
Ambient temperature for storage, transport and using	-40 to +70°C
Enclosure	IP65, if used with DIN plug (EN175301-803-A (ISO 4400))

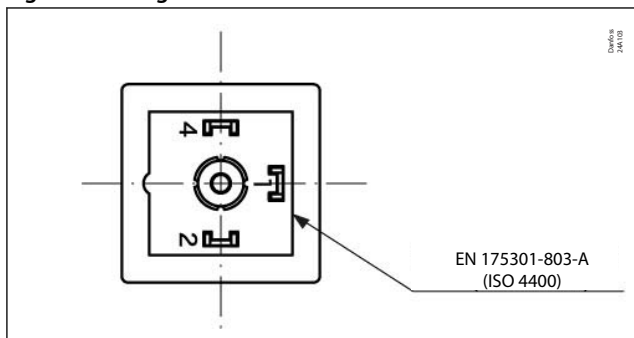
Electrical connections

Figure 3: Contact functions



- P** Operating direction on press. increase at high press. side
- M** Operating direction on manual reset

Figure 4: Wirings



Dimensions and weight

Figure 5: PSH-PZH-PZHH (weight 184g)

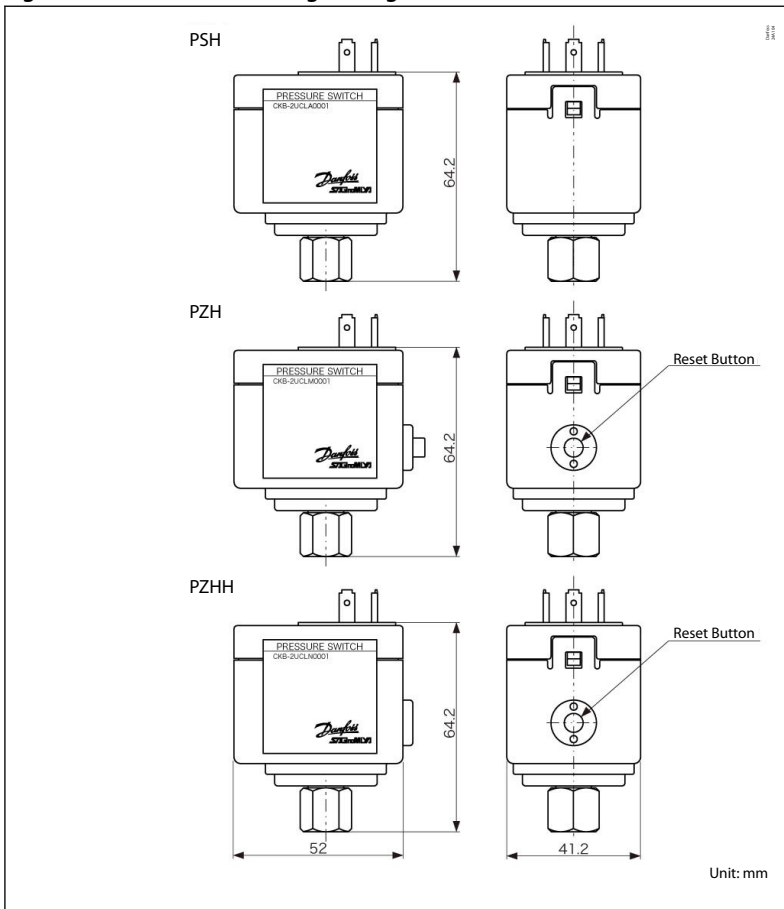
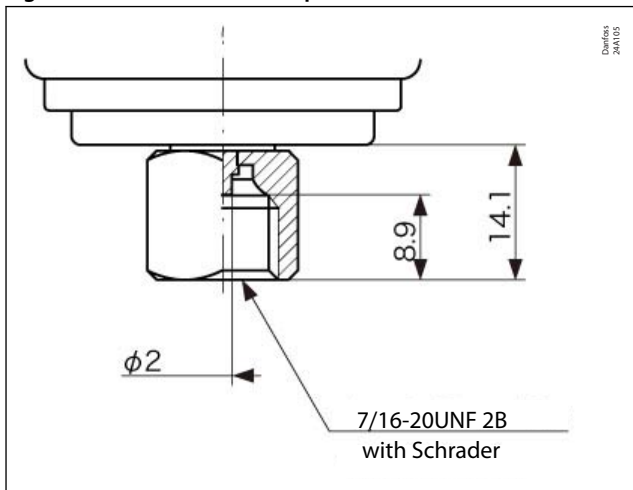


Figure 6: Pressure admission port (Details)



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Figure 7: PSH-PZH-PZHH with extended pressure connector (weight 214g)

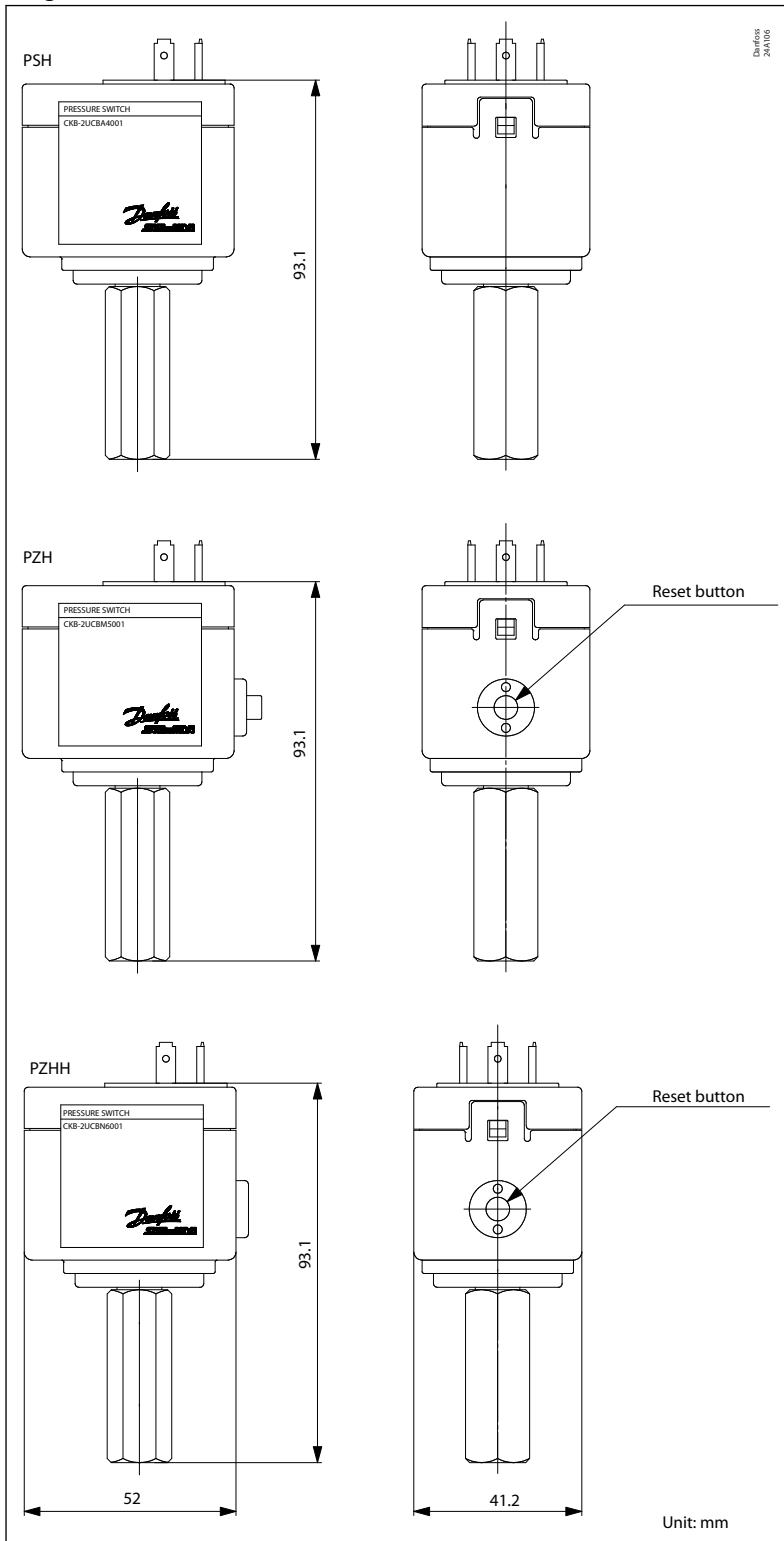
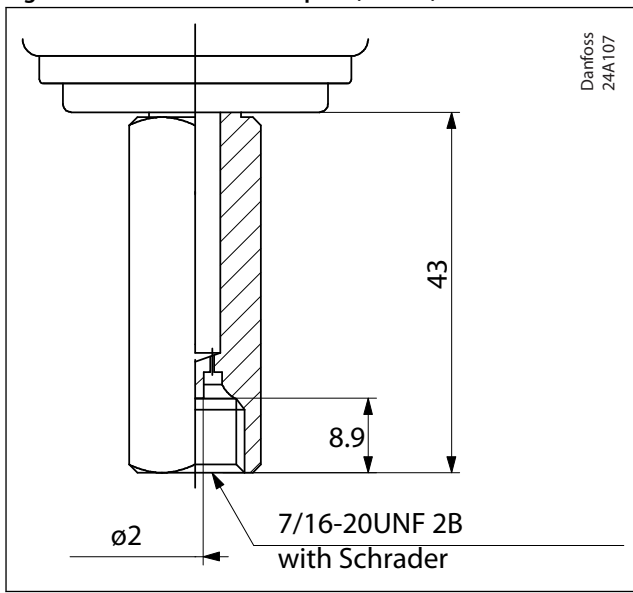


Figure 8: Pressure admission port (details)



Ordering

Standard models

Table 2: PSH - PZH - PZHH




Reset type		Set pressure [bar]	Code number
PSH	Automatic	40	061Z1001
PSH	Automatic	46	061Z1002
PSH	Automatic	48	061Z1003
PSH	Automatic	50	061Z1012
PSH	Automatic	54	061Z1007
PSH	Automatic	105	061Z1004
PSH	Automatic	106	061Z1016
PSH	Automatic	108	061Z1005
PSH	Automatic	110	061Z1011
PSH	Automatic	114	061Z1019
PSH	Automatic	117	061Z1017
PSH	Automatic	123	061Z1021
PZH	Manual	40	061Z2001
PZH	Manual	46	061Z2007
PZH	Manual	108	061Z2002
PZH	Manual	110	061Z2003
PZH	Manual	118	061Z2008
PZH	Manual	130	061Z2006
PZHH	Manual with tool	120	061Z3001
PZHH	Manual with tool	130	061Z3002

Table 3: PSH - PZH - PZHH with extended pressure connector

Reset type		Set pressure [bar]	Code number
PSH	Automatic	40	061Z4007
PSH	Automatic	46	061Z4010
PSH	Automatic	48	061Z4008
PSH	Automatic	54	061Z4011
PSH	Automatic	106	061Z4012
PSH	Automatic	108	061Z4014
PSH	Automatic	114	061Z4013
PSH	Automatic	117	061Z4001
PZH	Manual	40	061Z5002
PZH	Manual	46	061Z5003
PZH	Manual	50	061Z5004
PZH	Manual	54	061Z5007
PZH	Manual	115	061Z5005
PZH	Manual	118	061Z5001
PZH	Manual	123	061Z5006
PZHH	Manual with tool	130	061Z6003

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Table 4: Accessories

Part	Description	Code number
	DIN Plug PG9 (EN175301-803)	060G0008
	DIN Plug PG11 (EN175301-803)	060G0007
	DIN Plug with 5m cable (EN175301-803)	060G1034

Certificates, declarations, and approvals

The list contains all certificates, declarations, and approvals for the product. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.

Table 5: Certificates, declarations, and approvals

Document name	Document type	Document topic	Approval authority
Danfoss EU Saginomiya 2022-12-14 CKB	EU Declaration	PED, LVD	Danfoss-Saginomiya
Danfoss UK Saginomiya 2023.01.30 CKB	UK Declaration	Pressure Safety, Electrical Safety, RoHS	Danfoss-Saginomiya
TÜV 01 202 641_B-19 0023	Pressure Safety Certificate	PED	TUV
E43867-20230407	Electrical Safety Certificate	UL Certificate Of Compliance	UL

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