Danfoss KP 7ABS,KP 7BS Pressure Switch Installation Guide

Contents

Danfoss KP 7ABS,KP 7BS Pressure Switch

Specifications

- **Product Name**: Pressure switch KP 7ABS and KP 7BS
- **Refrigerants**: R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R449A, R450A, R452A, R507A, R513A, R717
- **Enclosure:** IP30 (VDE)
- **Contact Load**: Max. start current = 112 A, 380 V
- **Short Circuit Protection**: Fuse 16 Amp

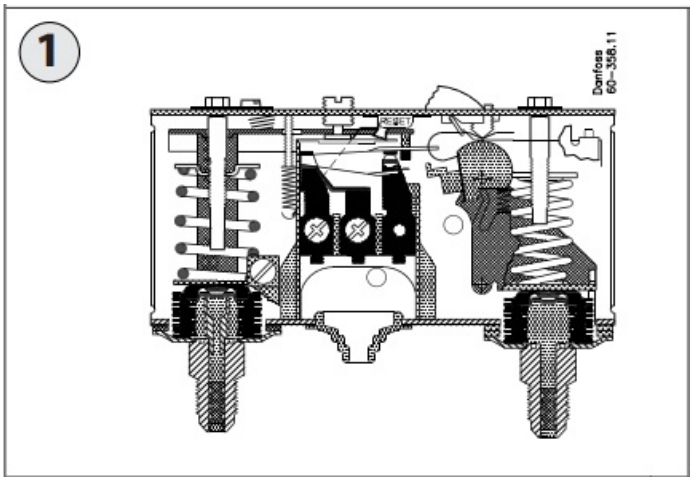
PRESSURE SWITCH

Tested and approved TÜV (Technischer Überwachungs Verein) in accordance with EN 12263

- B = Druckbegrenzer (Pressure switch with external reset) S = Sicherheitedruckbegrenzer
- (Pressure switch with internal reset)

In compliance with EN 12263, a rupture of the high-pressure bellows in the switch will stop the refrigeration plant compressor. It will not be possible to restart the compressor until the pressure switch has been replaced. A rupture of the outer bellows will cause the break pressure of the switch to fall approximately. 3 bar under the set value. This means that the switch will break at normal condensing pressure, i.e. a „fail safe“ function is ensured. The B side can be reset with the external button when the pressure has fallen approx. 4 bar under the set stop pressure. The S side can be reset with the internal button when the pressure has fallen approximately. 4 bar under the set stop pressure.

Fig. 1



- 1. Range spindle, S-side
- 3. Main arm
- 5. Range spindle, B-side
- 15. Cable entry
- 18. Locking plate
- 19. Arm

TECHNICAL DATA

- Permissible ambient temperature -25 – 65 °C (80 °C for max. 2 h)
- Range: 8 – 32 bar (pe)
- Relative humidity: 30 – 98%
- Vibration resistance: 4 g (10 – 1000 Hz)
- Max.. permissible test pressure: 35 bar (pe)
- Max.. working pressure: 35 bar (pe)
- Max. working pressure *KP7BS : 32 bar (pe)

Enclosure
In accordance with EN 60529: IP30 (VDE). It is assumed that the switch will be mounted on a smooth panel or bracket. The bracket must be positioned on the unit so that all clear holes are covered. See fig. 13.

Contact load
See the S scale in the switch. Max. start current = 112 A, 380 V. Short circuit protection: Fuse 16 Amp. Application in accordance with ULrequirements:

- 120 V AC; 16 FLA, 96 LRA
- 240 V AC; 8 FLA, 48 LRA
- 240 V DC; 12 W pilot duty

FITTING

The KP 7BS is fitted with a damping orifice.It is therefore not usually necessary to use damping coils. The KP 7BS is connected with 1/4 in. copper tube.

Figs. 2 and 3

As far as possible, position the switch above the plant piping system. A mounting bracket can be supplied. See fig. 12. Avoid connection in or near liquid pockets.

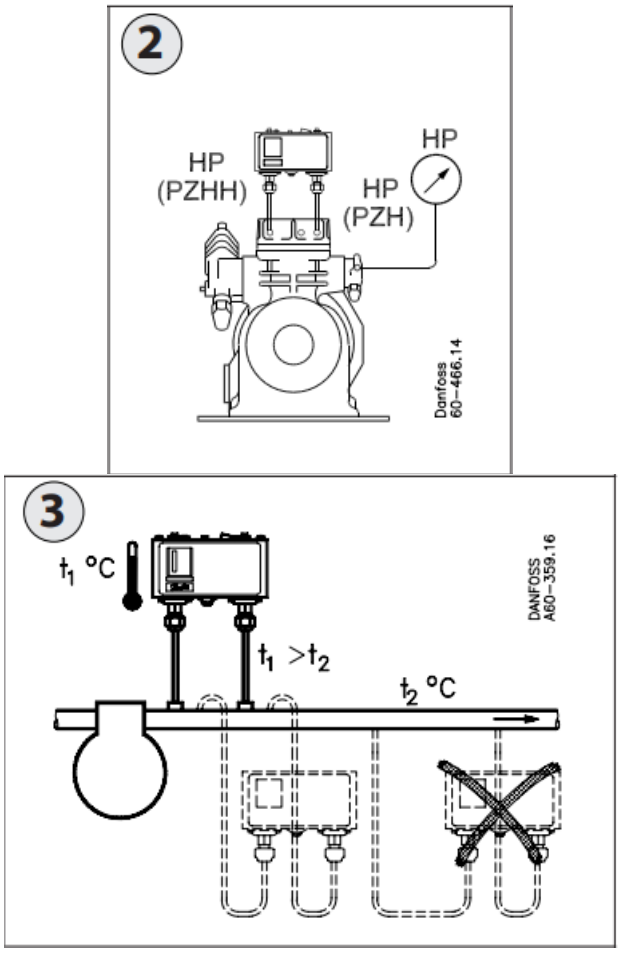
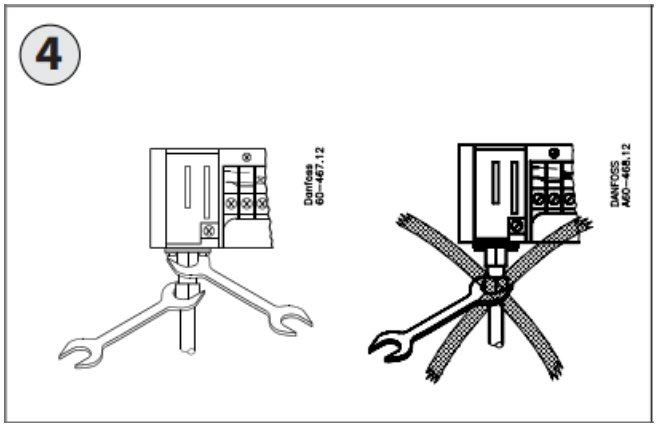


Fig. 4
When tightening or loosening the flare coupling, hold the connector steady by applying a counterforce.



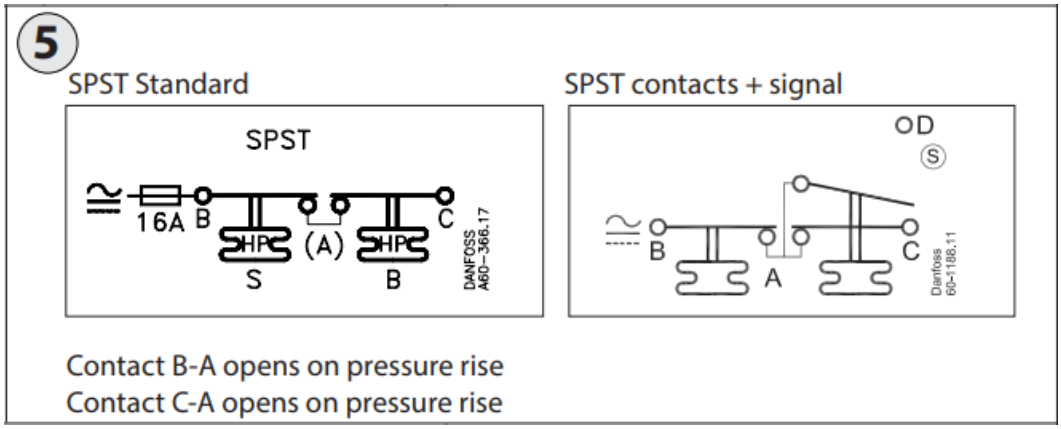
CAUTION!

- Disconnect power supply before wiring connections are made or service to avoid possible electrical shock or damage to equipment.
- Do never touch live parts with your fingers or with any tool.

ELECTRICAL CONNECTION

Fig. 5
The switch is equipped with a cable entry for 6 – 14 mm cable (15, fig. 1). This Pg 13.5 entry can be obtained as an accessory (fig. 14). Use terminals B and C. The order in which they are used is not important. Terminal A must

not be used.



TESTING

Fig. 6
S side Tilt the main arm (3). At the same time operate the internal RESET button

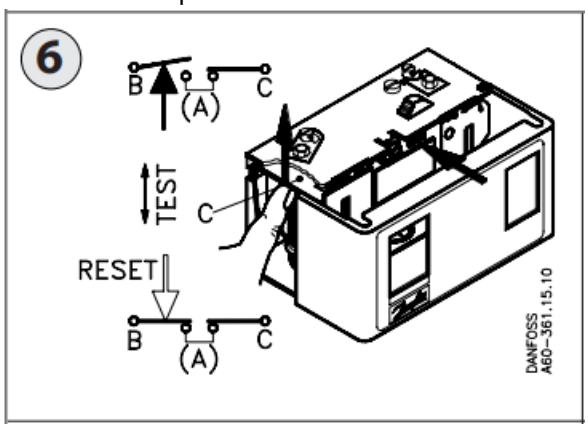
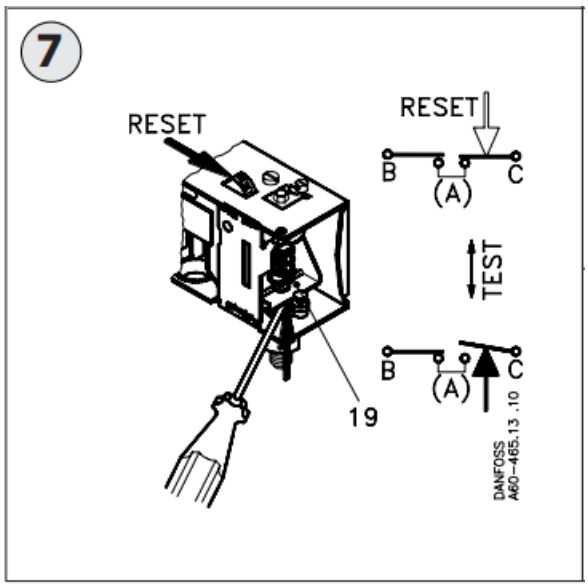


Fig. 7
B side Tilt the arm (19) with, for example, a screw-driver. At the same time operate the external RESET button. Be careful not to damage the bellows with the screwdriver!



NOTE! Use only the methods shown when testing. The contact system must never be activated with a screwdriver or similar tool.

SETTING

Fig. 8
Set the stop pressure on the STOP scales. Check the set pressure with a pressure gauge. Set the S side 2 – 3 bar higher than the B side. The differential is fixed at approx. 4 bar. The compressor motor can be restarted after stop by pressing the RESET buttons. Restart is possible only when the pressure has fallen approx. 4 bar under the set stop pressure.

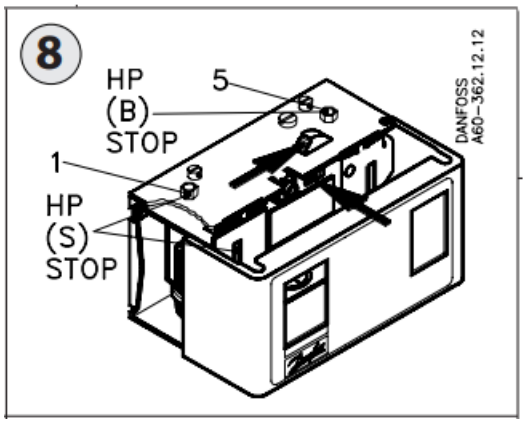


Fig. 9
Setting an example. Required stop pressure = 13 bar (pe), Differential = 4 bar. The compressor can be restarted when the pressure has fallen to 13 – 4 = 9 bar. Set the required stop pressure.

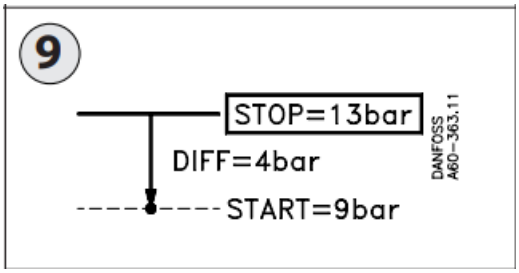


Fig. 10
Locking the setting. The range spindles can be locked with the locking plates.

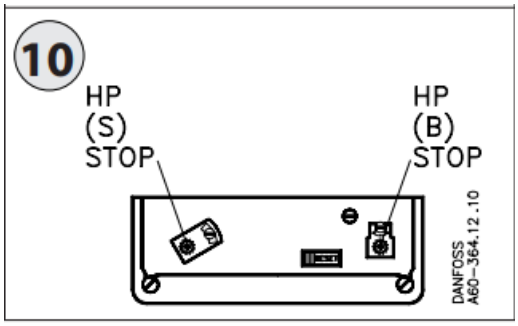
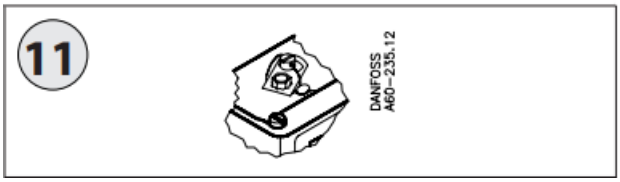


Fig. 11
Locking and sealing.



ACCESSORIES

Fig. 12
Two types of mounting brackets (wall bracket and angle bracket) complete with screws and washers can be supplied.

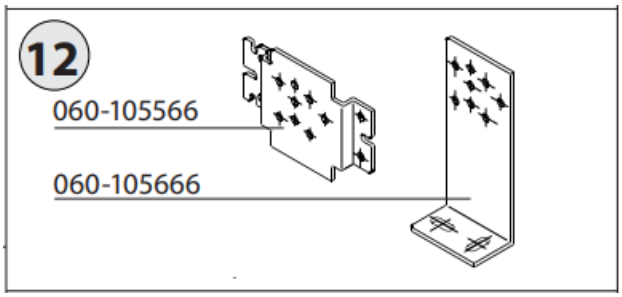


Fig. 13
Positioning the angle bracket.

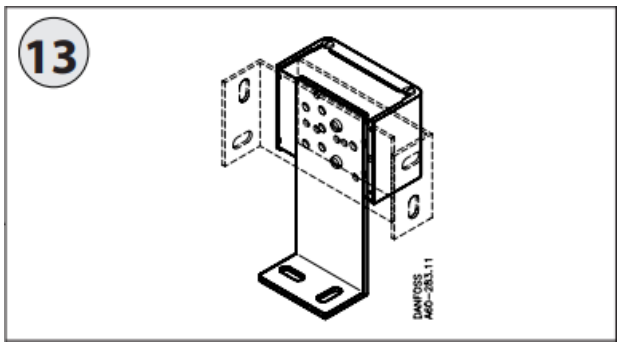
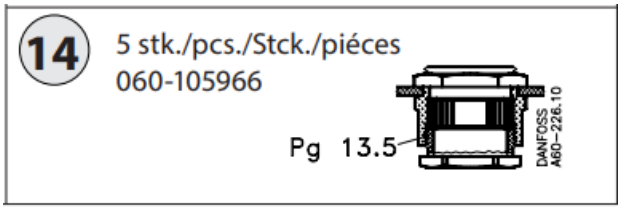


Fig. 14
Pg 13.5 screwed cable entry with special nut. To be ordered separately. For use with 6 – 14 mm cable. With 8 – 16 mm cable use a standard Pg 16 screwed cable entry.

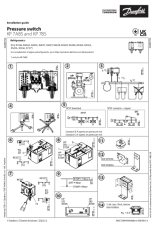


FAQs

Q: What refrigerants are approved for use with the KP 7ABS and KP 7BS pressure switches?
A: Approved refrigerants include R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R449A, R450A, R452A, R507A, R513A, and R717. For a complete list, refer to http://products.danfoss.com/all-products/ (only for KP7ABS).

Q: What is the maximum start current and short circuit protection for the pressure switch?
A: The maximum start current is 112 A at 380 V with short circuit protection provided by a 16-Amp fuse.

Documents / Resources

	Danfoss KP 7ABS,KP 7BS Pressure Switch [pdf] Installation Guide KP 7ABS, KP 7BS, KP 7ABS KP 7BS Pressure Switch, KP 7ABS KP 7BS, Pressure Switch, Switch

References

- Danfoss Global Product Store | Homepage

- **User Manual**