

Danfoss
**KP 1 Series
Pressure
Switch**



Danfoss KP 1 Series Pressure Switch Installation Guide

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Danfoss KP 1 Series Pressure Switch



Product Specifications

- Model Numbers: KP 1, KP 1W, KP 1A, KP 2, KP 4, KP 5, KP 5A, KP 6W, KP 6B, KP 6S, KP 6AW, KP 6AB, KP 6AS, KP 7W, KP 7B, KP 7S
- Refrigerants: R22, R134a, R404A, R407A, R407C, R407F, R410A, R422B, R422D, R448A, R449A, R452A, R507A, R513A, R717
- Test Pressure (Ptest) Range: Maximum values vary by model
- Regulation Range: Varies by model
- Enclosure: IP30 for some models, IP44 for others
- Electrical Rating: AC-3: 16 A / 250 V AC, AC-15: 10 A / 250 V AC
- Voltage: 250V AC

Product Usage Instructions

Ambient Temperatures

- KP 1, KP 2, KP 4: Specific ambient temperature and mounting requirements apply
- KP 5, KP 6, KP 7: Different ambient temperature and mounting requirements compared to KP 1, KP 2, KP 4

-25 – 65 °C (PED approved units)

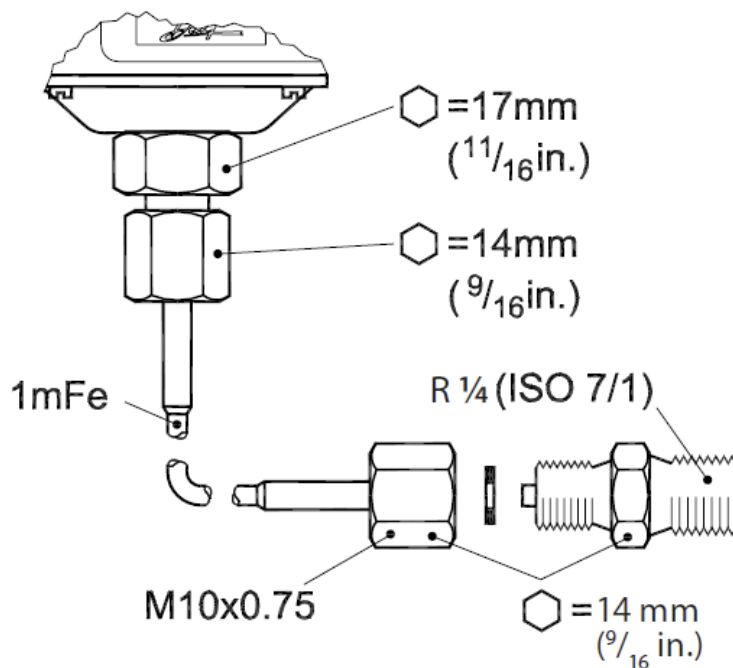


Ensure proper connections based on the model specifications. Test pressure values should not exceed the maximum working pressure.



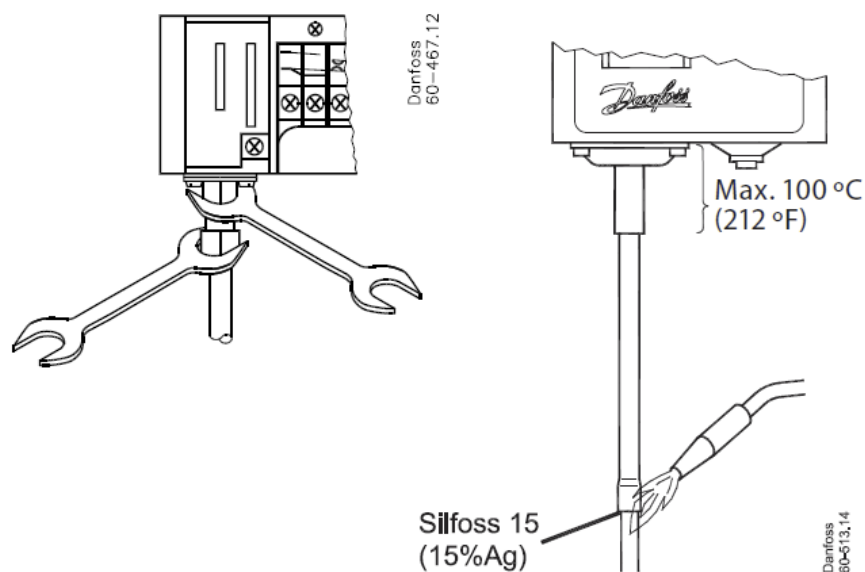
Adjust the regulation range according to the requirements of your system. Be aware of the maximum working pressure.

Connections for KP 1A, KP 5A, KP 6AS



Mounting

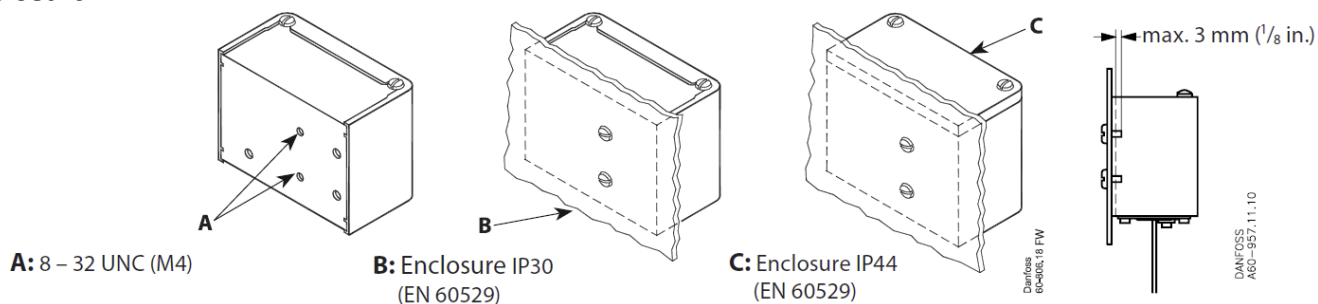
Follow the mounting guidelines provided in the manual. Use appropriate tools and materials for secure installation.



Electrical Wiring

Ensure power is disconnected before making any wiring connections. Follow the electrical rating guidelines for safe operation.

Enclosure



Adjustment and Reset

Use manual trip or automatic reset functions as needed. Follow the differential and range settings based on the model type.

Refrigerants

R22, R134a, R404A, R407A, R407C, R407F, R410A*) R422B, R422D, R448A, R449A, R452A, R507A, R513A, R717) For complete list of approved refrigerants, go to

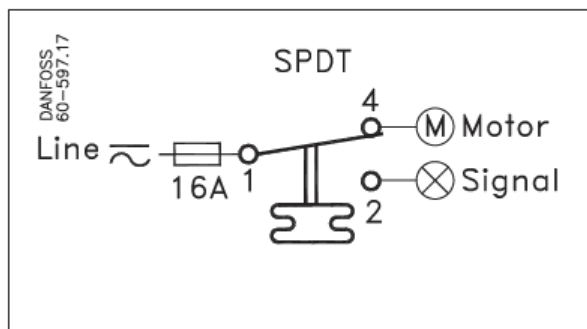
<http://products.danfoss.com/all-products>

- only for KP 6W, KP 6B, KP 6S, KP 6AW, KP 6AB, KP 6AS
- only for KP 1A, KP 5A, KP 6AW, KP 6AB, KP 6 AS

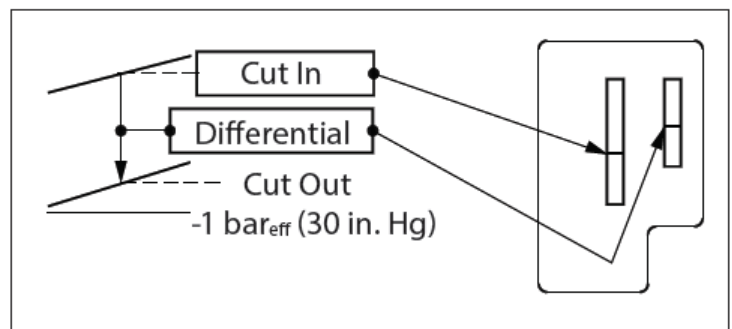
CAUTION

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.

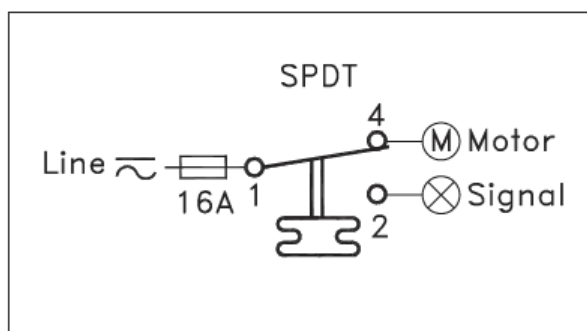
Contact 1-4 opens on pressure drop



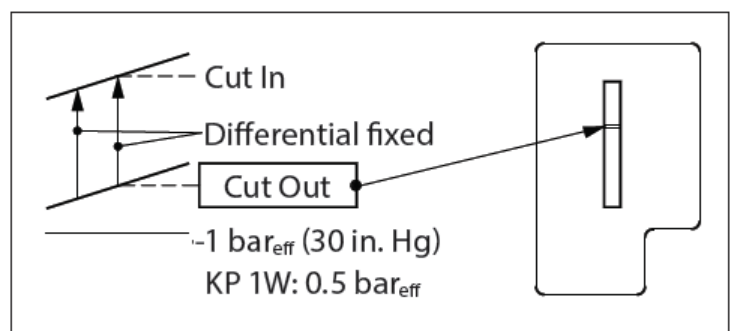
KP 1, KP 2, KP 4



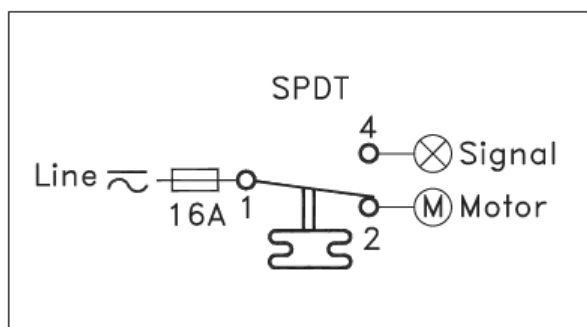
Contact 1-4 opens on pressure drop



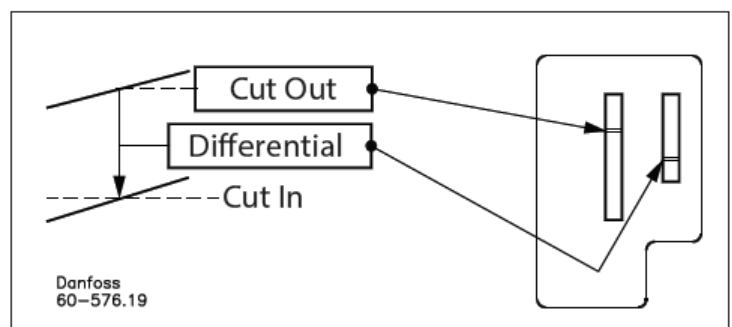
KP 1W, KP 1 manual reset



Contact 1-2 opens on pressure rise



KP 5, KP 5A, KP 6, KP 6A, KP 7



AC 1: 16 A		DC 1 3	
AC 3: 16 A	400 V a.c.	12 W	
AC 15: 10 A		220 V	

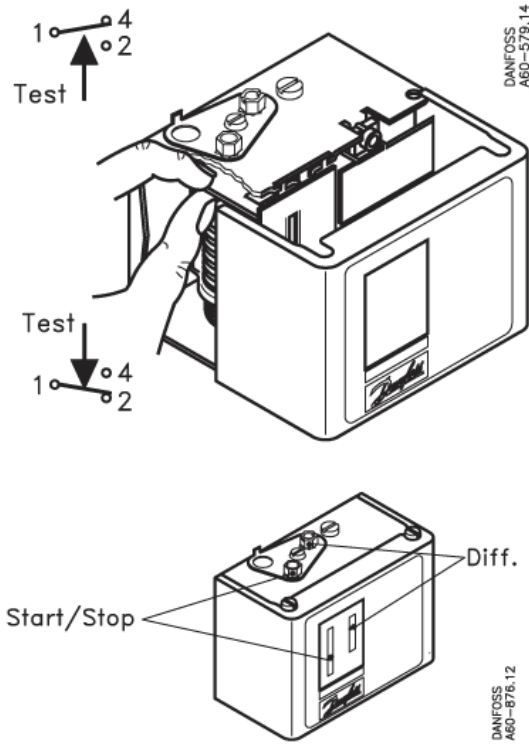
- Short circuit protection: Fuse 16 Amp.
- When used acc. to UL regulations
- Listed refrigeration controller 61B5

Voltage		FL	LR		
AC	DC	A	A	Resist. load	Pilot duty
240	—	8	48	8 A	3A
120	—	16	96	16 A	
—	240	—	—	—	12 W

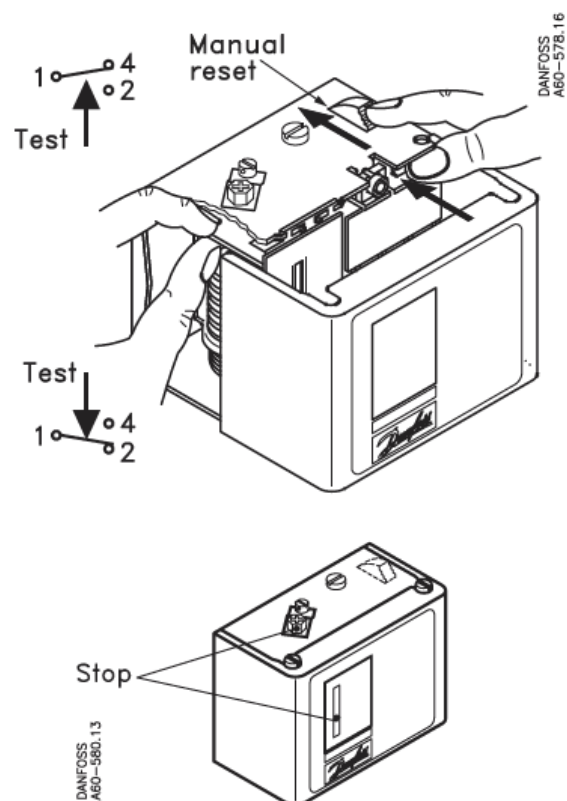
Use copper wire only. Tightening torque 20 lb.. in.

Manual trip function

Automatic reset

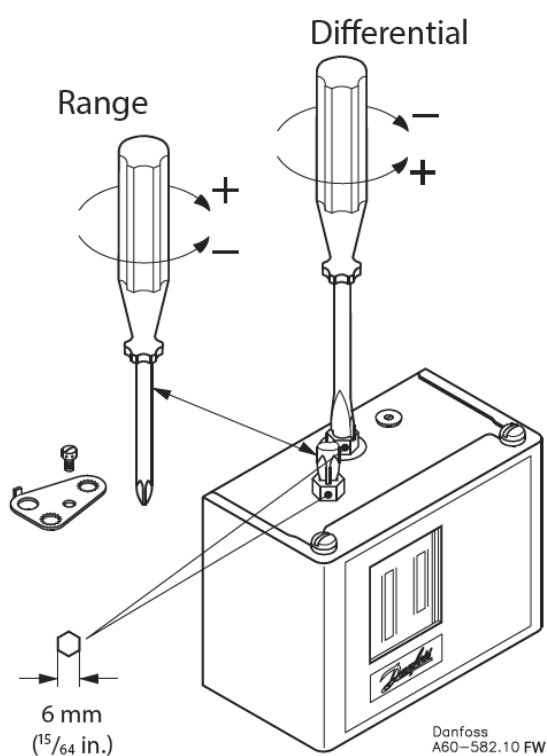


Manual reset



Type	Differential
KP 1, KP 1A	0.7 bar (10 psi)
KP 5, KP 5A	3 bar (43 psi)
KP 6B, KP 6S, KP 6AB, KP 6AS, KP 7B, KP 7S	4 bar (58 psi)

Adjustment



CAUTION

Only for selected A2L refrigerants: R455A, R454C, R1234yf, R1234yz, R1234ze For complete list of approved A2L refrigerants, go to <http://products.danfoss.com> all-products

Electrical rating

- AC-3: 16 A / 250 V AC
- AC-15: 10 A / 250 V AC

Voltage	Current range	Power factor (cos phi)	Frequency
250V AC	≤ 4.0 A	PF ≥ 0,400	50Hz/60Hz
250V AC	> 4.0 to 6.0 A	PF ≥ 0,594	50Hz/60Hz
250V AC	> 6.0 to 16,0 A	PF ≥ 0,780	50Hz/60Hz

IMPORTANT NOTICE



Safety requirements

1. KP pressure switches shall only be employed in the units/systems that comply with the requirements for charge limits and requirements for avoiding ignition sources of IEC 60335-2-24, IEC 60335-2-40, IEC 60335-2-89, ISO 5149, EN378-1, or equivalent.
2. Applying the overload on the KPs must be prevented. If by any chance it was damaged, the system/unit shall be stopped, and KP shall be replaced as necessary.
3. Electrostatic discharge protection and Electrical leakage protection shall be implemented by grounding or other measures.
4. Only trained personnel are authorized to handle flammable refrigerants systems and may do the installation, maintenance and exchange of the switch by using appropriate tools.
5. It is recommended to regularly check the function of the KP switch.
6. KP pressure switches must be installed in an area with a low risk of mechanical damage.
7. Corrosion protection of KP pressure switches must be taken into account when used in a corrosive environment.
8. Cables shall not be in contact with sharp edges. The cables shall be connected with adequate stress relieve in order to prevent that pulling forces can be carried thorough the cable to the terminal.
9. In the event of pressure pulsation in the system, where switch is connected, these must be effectively dumped to prevent failure of the bellows. The cycle frequency of KP switch shall be kept as low as possible.
10. The KP switches shall not be installed in places where a high level of vibration is present.

Disclaimer

The user is responsible for ensuring that third parties also comply with this Notice, e.g., in case the KP switches are supplied to third parties, and e.g., that all installation guides are available with the KP switches during installation. It is required that all conditions of this guide are met and secured when using KP pressure switches. Danfoss shall not be responsible for any kind of direct and indirect, or consequential damage or loss, including, but not limited to, loss of property, production, loss of profit, human injury arising out of the explosion or fire caused by the flammable nature of refrigerant.

FAQs

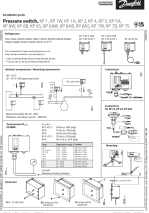
Q: Can I use any refrigerant with this pressure switch?

A: No, only approved refrigerants listed in the manual should be used. Refer to the complete list for more information.

Q: What safety requirements should be considered when using this product?

A: Ensure compliance with specific safety standards mentioned in the manual to prevent hazards and ensure proper functioning.

Documents / Resources

	<p>Danfoss KP 1 Series Pressure Switch [pdf] Installation Guide KP 1, KP 1W, KP 1A, KP 2, KP 4, KP 5, KP 5A, KP 6W, KP 6B, KP 6S, KP 6AW, KP 6AB, KP 6 AS, KP 7W, KP 7B, KP 7S, KP 1 Series Pressure Switch, KP 1 Series, Pressure Switch, Switch</p>
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References

-  [Danfoss Global Product Store | Homepage](#)
- [User Manual](#)

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