

Installation guide

Pressure switch

KP 1, KP 2, KP 5, KP 7W, KP 7B

060R9746

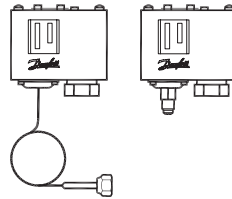
060R9746

Refrigerants:

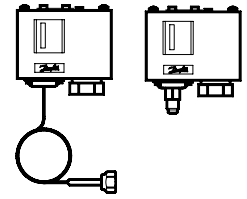
R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R448A, R449A, R450A, R452A, R507A, R513A

For complete list of approved refrigerants, go to <http://products.danfoss.com/all-products/>

Auto reset:
KP 1, KP 2, KP 5, KP 7W



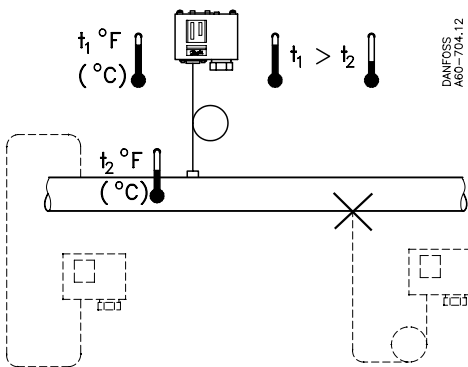
Manual reset:
KP 1, KP 5, KP 7B



CAUTION:

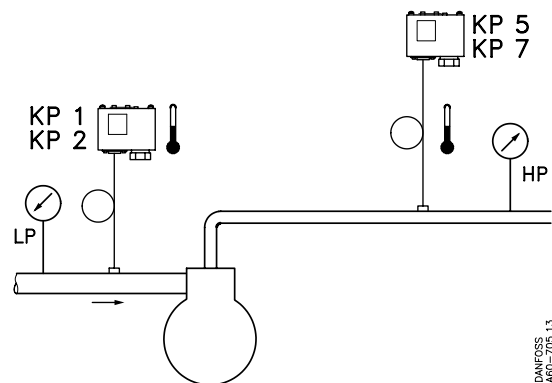
Do not install these controls on ammonia systems.

Mounting requirements



DANFOSS
A60-704.12

Ambient temperatures



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A60-706.13

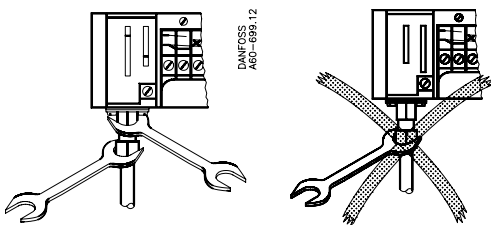


CAUTION:

Do not mount the control in a position where dirt, sediment or oil will affect the operation of the control.

t₁ min. KP 1, KP 2, KP 5: -40 °F (-40 °C)
t₁ min. KP 7: -13 °F (-25 °C)
t₁ max.: 149 °F (65 °C)

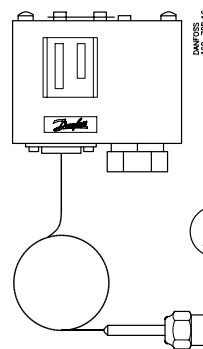
Mounting



DANFOSS
A60-699.12

DANFOSS
A60-468.12

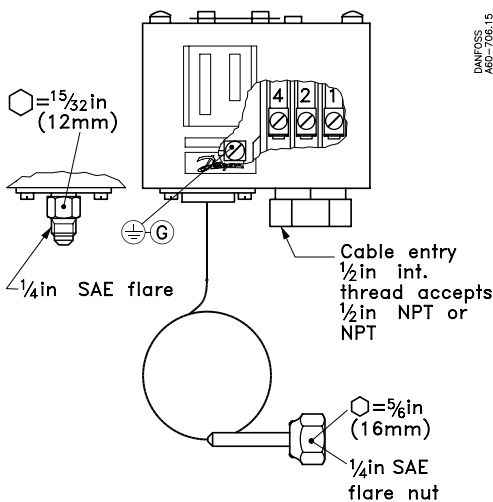
Test pressure (P_{test})



P_{test} max.:

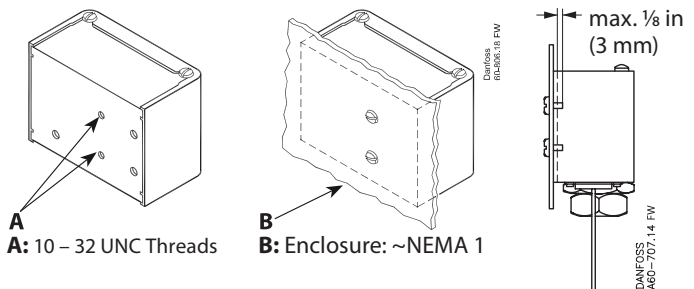
KP 1, KP 2: 285 psig (20 bar p_e)
KP 5, KP 7: 510 psig (35 bar p_e)
KP 2: 174 psig (12 bar p_e)

Connections



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A60-706.15

Enclosure



DANFOSS
A60-707.14 FW

DANFOSS
A60-707.14 FW



CAUTION:

The mounting panel must be plane to avoid damage of control.



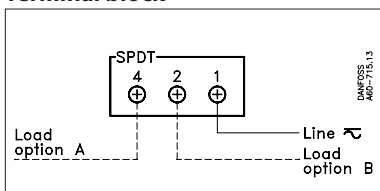
CAUTION:

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.

Wiring

All wiring should conform to the National Electrical Code and local regulations.

Terminal block



CAUTION:

Use terminal screws furnished in the contact block. Use tightening torque 20 lb. in (2.3 Nm). Use copper wire only.



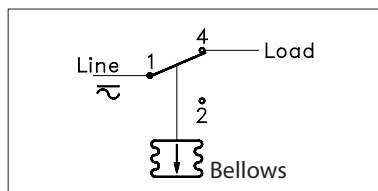
Load Option A

CUT-OUT on pressure drop

Wire terminals 1-4:

CUT-IN = High Set Point (HSP) see "Setting"

CUT-OUT = Low Set Point (LSP) see "Setting"



Terms 1-4 close on pressure rise
Terms 1-4 open on pressure drop

Example:

CUT-IN = 30 psig
CUT-OUT = 10 psig

This means:

CUT-IN = HSP = 30 psig
CUT-OUT = LSP = 10 psig

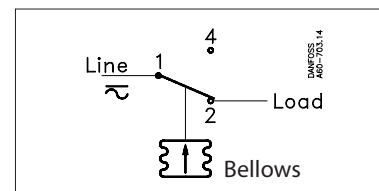
Load Option B

CUT-OUT on pressure rise

Wire terminals 1-2:

CUT-IN = Low Set Point (LSP) see "Setting"

CUT-OUT = High Set Point (HSP) see "Setting"



Terms 1-2 close on pressure drop
Terms 1-2 open on pressure rise

Example:

CUT-IN = 250 psig
CUT-OUT = 350 psig

This means:

CUT-IN = LSP = 250 psig
CUT-OUT = HSP = 350 psig

Contact load ratings

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

Note:

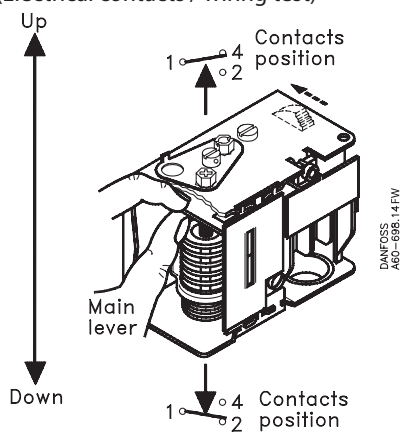
Bellows movement on pressure rise

Bellows movement on pressure drop

The free terminal can be used for signal purpose.

Manual trip function

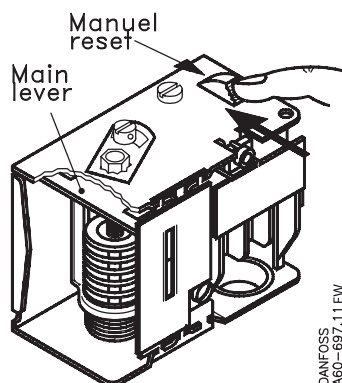
(Electrical contacts / wiring test)



TRIP (main lever) use FINGERS ONLY! (Do NOT use screwdriver)

Note:
KP 1, KP 5 and KP 7B with man. reset:
Push manual reset knob during manual tripping.

Manual reset

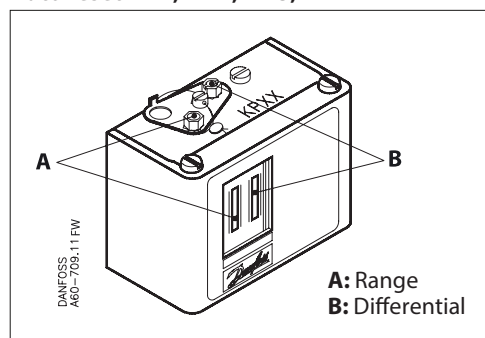


To resume control operation after safety cutout, push reset knob as indicated.

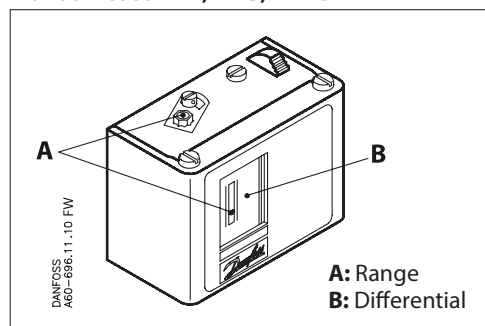
Note:
KP 1, man. reset is possible only after a pressure rise of 10 psi (0.7 bar). **KP 5** and **KP 7B**, man. reset is possible only after a pressure drop of respectively 43 psi (3.0 bar) and 58 psi (4.0 bar).

Adjustment spindle(s) location

Auto reset KP 1, KP 2, KP 5, KP 7W



Manual reset KP 1, KP 5, KP 7B

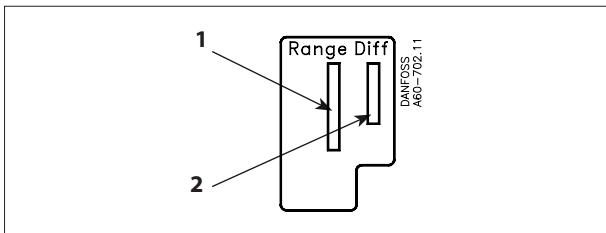


Type	Differential
KP 1	10 psi (0.7 bar)
KP 5	43 psi (3 bar)
KP 7B	58 psi (4 bar)

Setting

(see also "Wiring")

KP 1 (auto reset), KP 2, KP 5, KP 7W, KP 7B

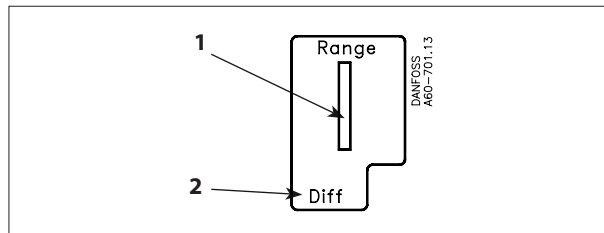


1. Adjust range spindle to desired HIGH SET POINT (HSP)
2. Adjust differential spindle to desired DIFFERENTIAL (DIFF.)

Note:

KP 5 (manual reset) and KP 7B have fixed diff. Value printed on scale plate.

KP 1 (manual reset ONLY)



1. Adjust range spindle to desired LOW SET POINT (LSP)
2. DIFFERENTIAL is fixed Value printed on scale plate

HIGH SET POINT minus DIFFERENTIAL equals LOW SET POINT

Example:

$$\begin{array}{rcl} \text{HSP} & - & \text{DIFF.} & = & \text{LSP} \\ 30 \text{ psig} & - & 20 \text{ psi} & = & 10 \text{ psig} \\ (2.1 \text{ bar}) & & (1.4 \text{ bar}) & & (0.7 \text{ bar}) \end{array}$$

LOW SET POINT plus DIFFERENTIAL equals HIGH SET POINT

Example:

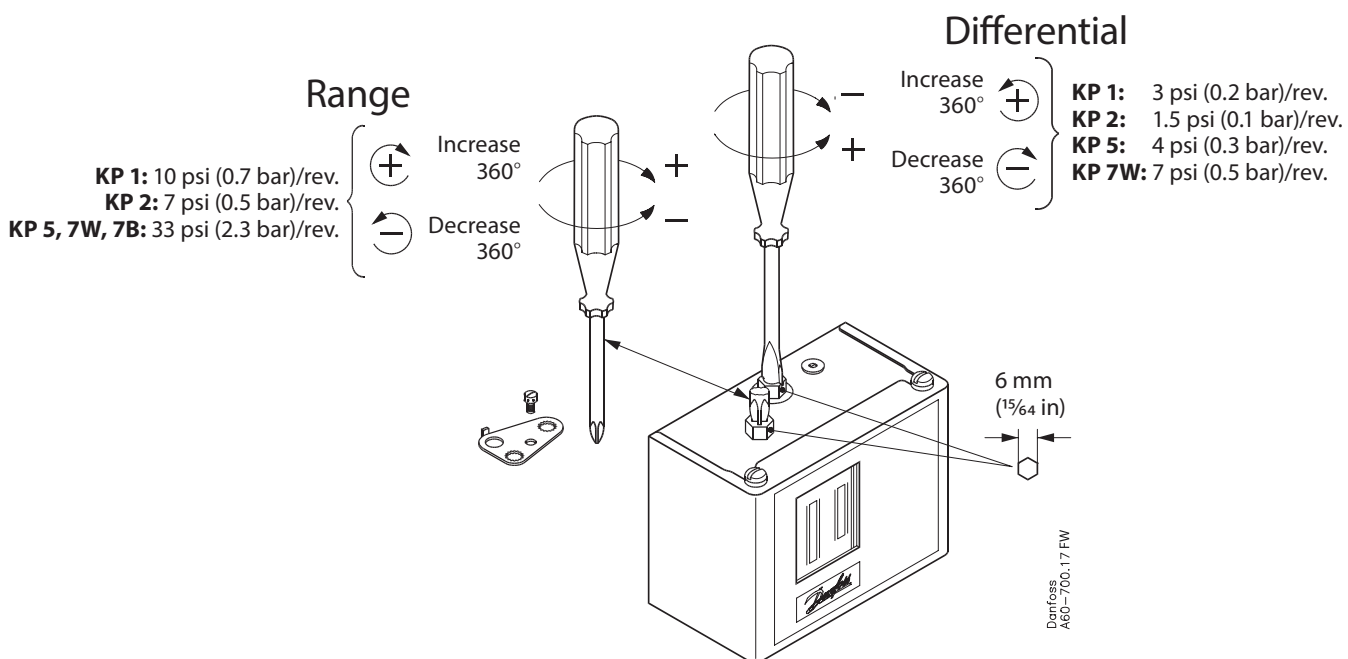
$$\begin{array}{rcl} \text{LSP} & + & \text{DIFF.} & = & \text{HSP} \\ 12 \text{ psig} & + & 10 \text{ psi} & = & 22 \text{ psig} \\ (0.8 \text{ bar}) & & (0.7 \text{ bar}) & & (1.5 \text{ bar}) \end{array}$$

If terminals 1-4 are used: CUT-IN = HSP
CUT-OUT = LSP

If terminals 1-2 are used: CUT-IN = LSP
CUT-OUT = HSP

Adjustment

See instruction printed on top of control



Note:

Remove lockplate before adjustment.
Replace lockplate after adjustment (if desired).