



# INSTRUCTIONS

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



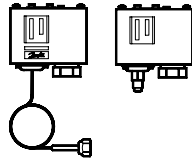
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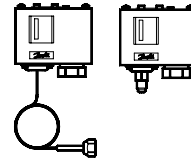
## Types

The controls can be used with CFC, HFC and HCFC refrigerants.

CAUTION: Do not install these controls on ammonia systems.

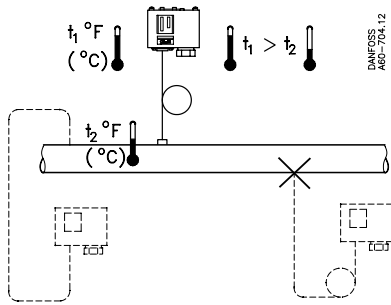


Auto reset: KP 1, KP 2, KP 5, KP 7W



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

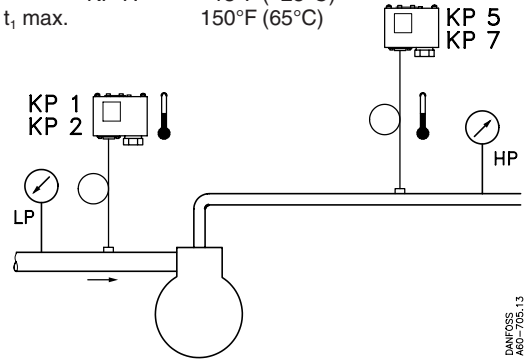
## Mounting requirements



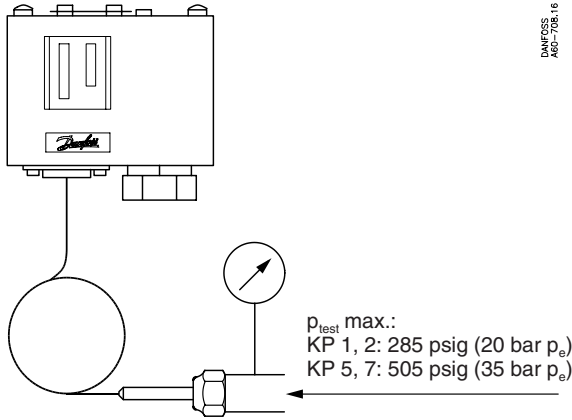
CAUTION: Do not mount the control in a position where dirt, sediment, or oil will affect the operation of the control.

## Ambient temperatures

$t_1$  min. KP 1, 2, 5:  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ )  
 KP 7:  $-13^{\circ}\text{F}$  ( $-25^{\circ}\text{C}$ )  
 $t_1$  max.  $150^{\circ}\text{F}$  ( $65^{\circ}\text{C}$ )

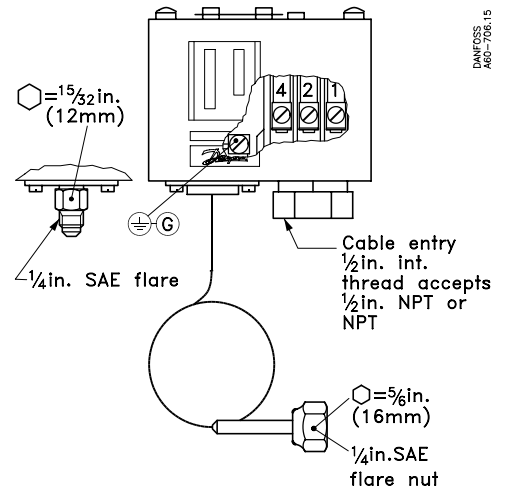


## Test pressure ( $p_{\text{TEST}}$ )

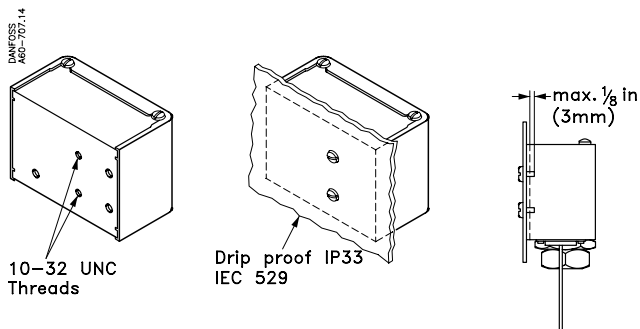


$p_{\text{test max.}}$ :  
 KP 1, 2: 285 psig (20 bar  $p_e$ )  
 KP 5, 7: 505 psig (35 bar  $p_e$ )

## Connections



## Enclosure



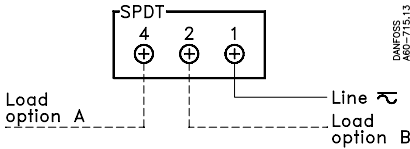
CAUTION: The mounting panel must be plane to avoid damage of control.

## Wiring

**CAUTION:** Disconnect power supply before wiring connections are made to avoid possible electrical shock or damage to equipment.

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.

### Contact load ratings

120 V a.c.	16 FLA, 96 LRA
240 V a.c.	8 FLA, 48 LRA
240 V d.c.	12 W pilot duty

## Load Option A

*CUT-OUT on pressure drop*

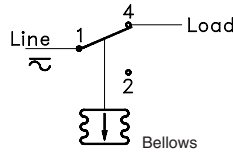
Wire terminals 1-4:

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

Note:

☐ = Bellows movement on pressure rise

☐ = Bellows movement on pressure drop

The free terminal can be used for signal purpose.

## Load Option B

*CUT-OUT on pressure rise*

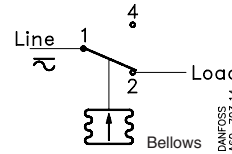
Wire terminals 1-2:

CUT-IN = Low Set Point (LSP)

see "Setting"

CUT-OUT = High Set Point (HSP)

see "Setting"



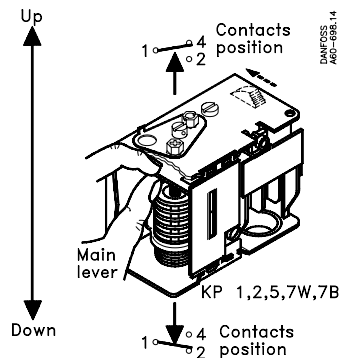
Terms 1-2 close on pressure drop  
Terms 1-2 open on pressure rise

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

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

## Electrical contacts/wiring test

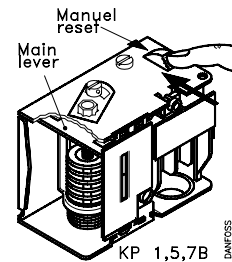
TRIP (main lever)  
use FINGERS ONLY!  
(Do NOT use screwdriver)



Note:

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

## Manual reset

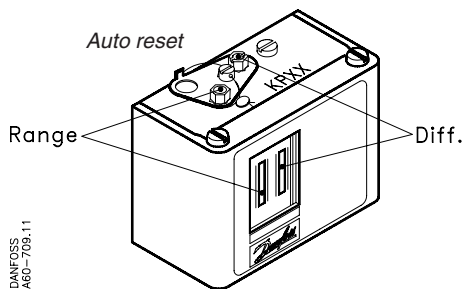


To resume control operation after safety cutout, push reset knob as indicated.

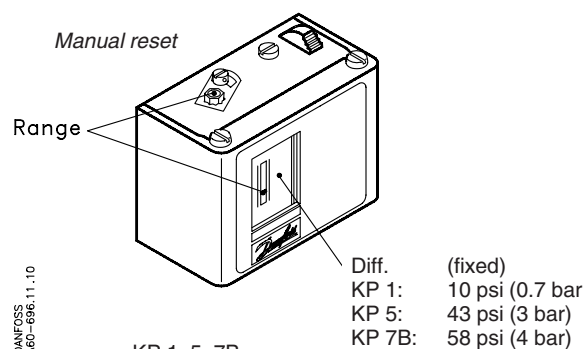
Note:

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



KP 1, 2, 5, 7W



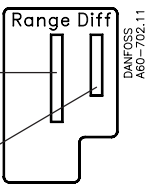
KP 1, 5, 7B

Diff. (fixed)  
KP 1: 10 psi (0.7 bar)  
KP 5: 43 psi (3 bar)  
KP 7B: 58 psi (4 bar)

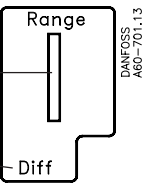
## Setting

(see also "Wiring")

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

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

KP 1 (manual reset ONLY)

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

Note:

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

HIGH SET POINT minus DIFFERENTIAL equals LOW SET POINT

LOW SET POINT plus DIFFERENTIAL equals HIGH SET POINT

Example:

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

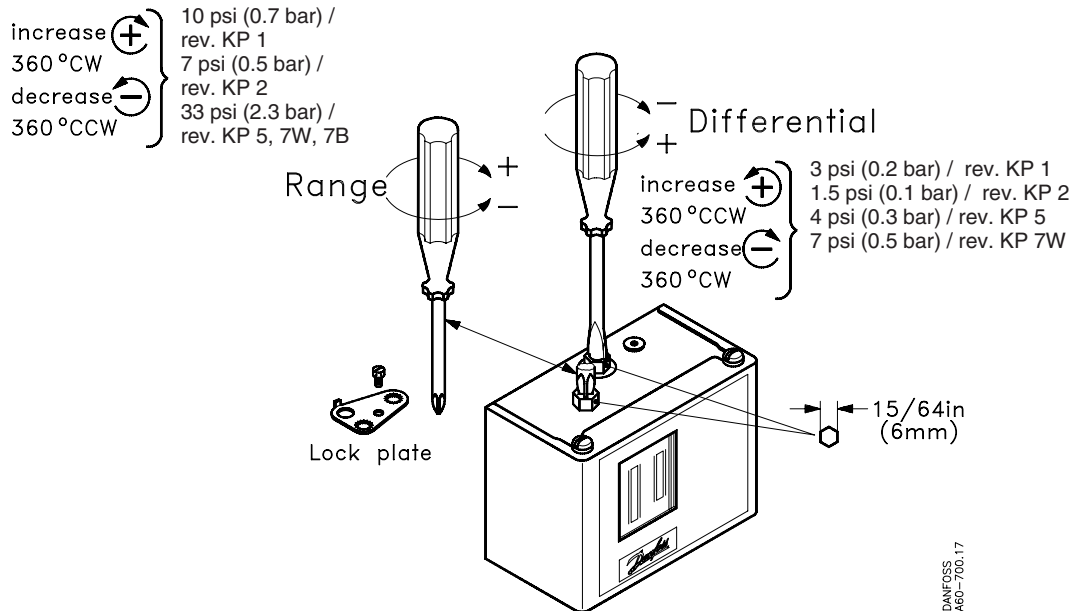
Example:

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

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 lock plate before adjustment.  
Replace lock plate after adjustment (if desired).