

Installation Guide

Pressure Control

Types KP 15, KP 17W, KP 17B, KP 25

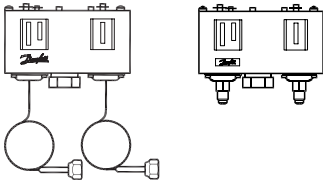
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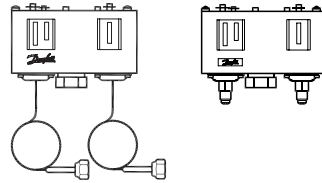
Refrigerants

KP15, KP17W, KP17B, KP25:
HCFC and non-flammable HFC

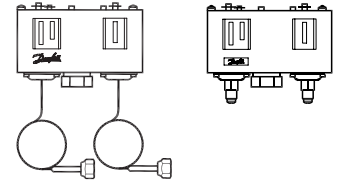
KP 15
 man. (LP) / man. (HP) reset



KP 15, KP 17B
 auto. (LP) / man. (HP) reset



KP 15, KP 17W, KP 25
 auto. (LP) / auto (HP) reset

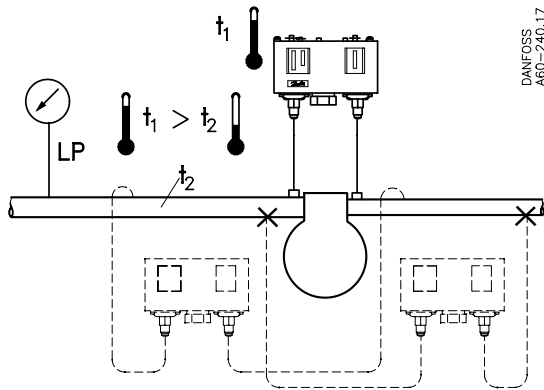


CAUTION:

Do not install these controls on ammonia systems

Ambient temperatures / Mounting requirements

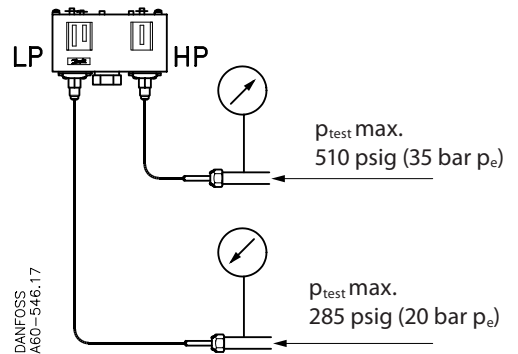
t_1 min.: -40 °F (-40 °C)
 -13 °F (-25 °C) (PED approved products)
 t_1 max.: 149 °F (65 °C)



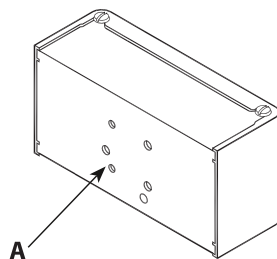
CAUTION:

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

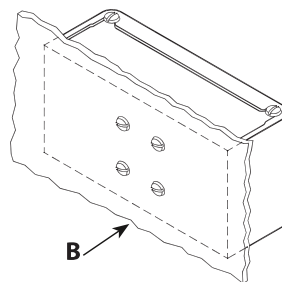
Test pressure (P_{test})



Enclosure

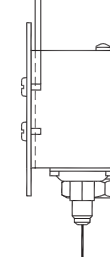


A: 10 – 32 UNC
 Threads (4 holes)



B: Enclosure
 ~NEMA1

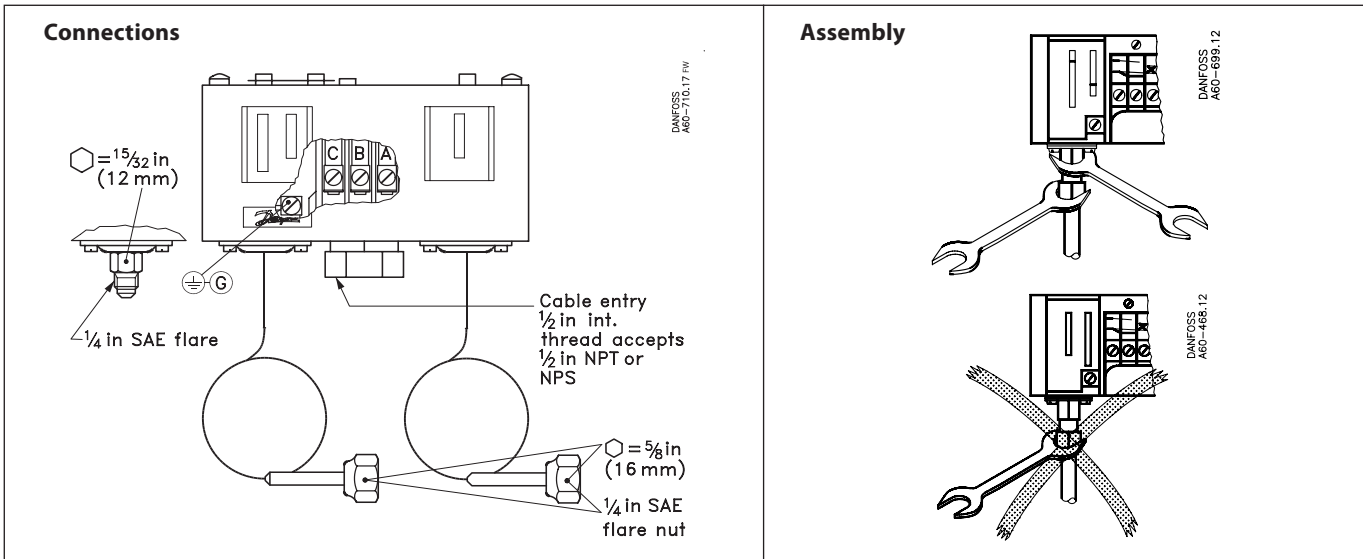
max. 1/8 in. (3 mm)



Danfoss
 BD-714, 14.0W

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.

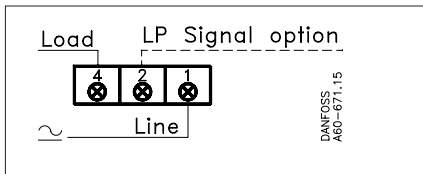
Wiring

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

SPDT

Controls with low pressure (LP) signal

Terminal block



CAUTION:

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

Low pressure (LP) side:

A-C close on LP rise
A-C open on LP drop

High pressure (HP) side.

A-C open on HP rise
A-C close on HP drop

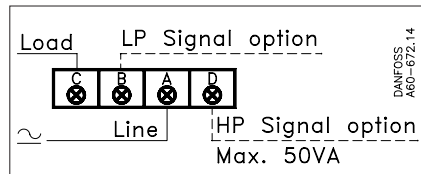
LP signal option:

A-B close on LP drop

See label for current wiring inside cover

Controls with low pressure (LP) and high pressure (HP) signal

Terminal block



CAUTION:

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

Low pressure (LP) side:

A-C close on LP rise
A-C open on LP drop

High pressure (HP) side.

A-C open on HP rise
A-C close on HP drop

LP signal option:

A-B close on LP drop

HP signal option:

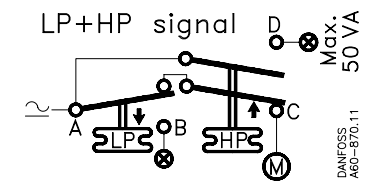
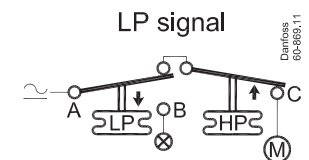
A-D close on HP rise

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

See label inside cover

Function



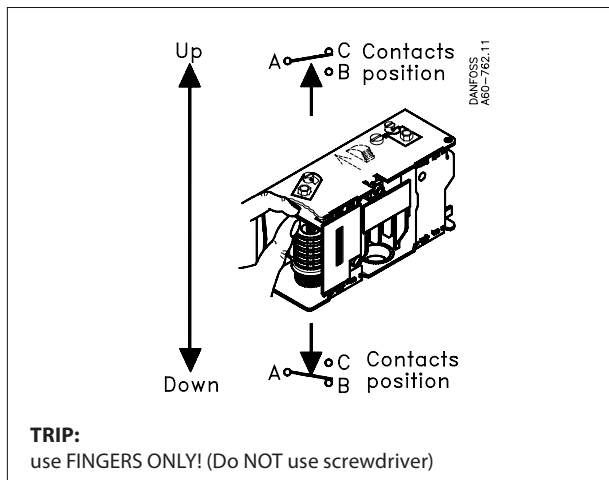
Note!

- = Load
- = Signal option
- = Bellows movement on pressure rise
- = Bellows movement on pressure drop

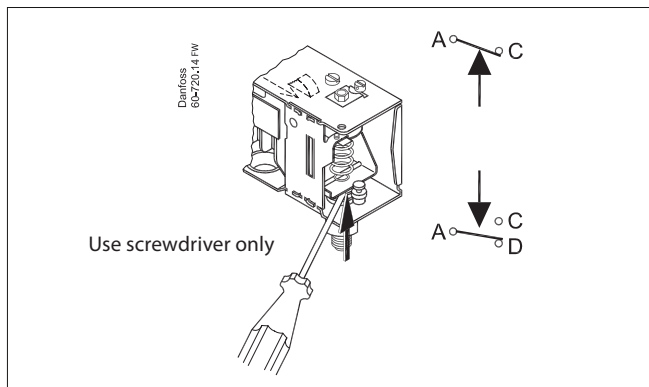
Manual tripping

(Electrical contacts/wiring test)

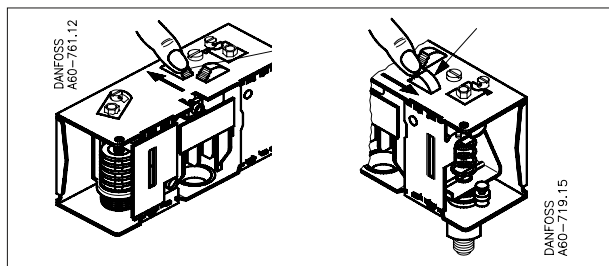
LP side



HP side

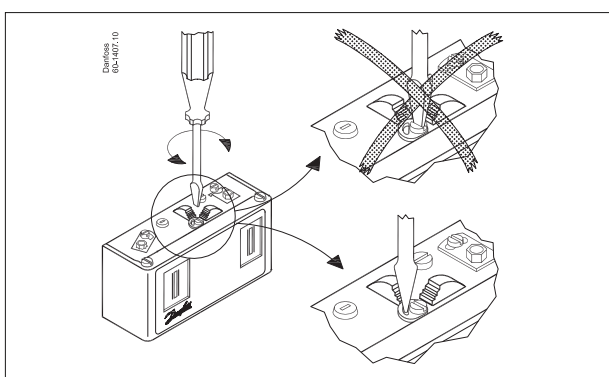


Manual reset



Convertible reset

Insert a screwdriver into the slot on the lock disc and turn it to desired reset configuration. Do not turn the screw on the lock disc as it may damage the convertible reset mechanism.



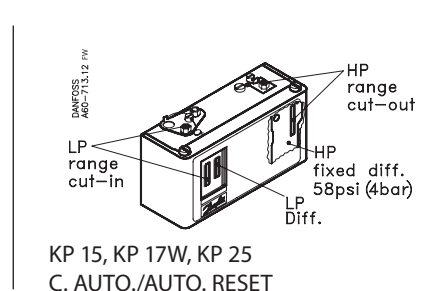
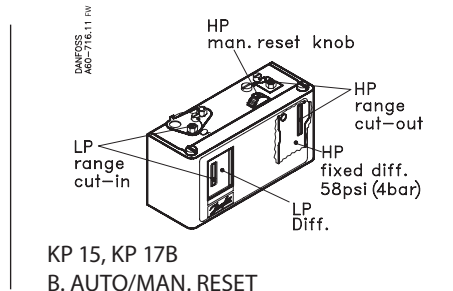
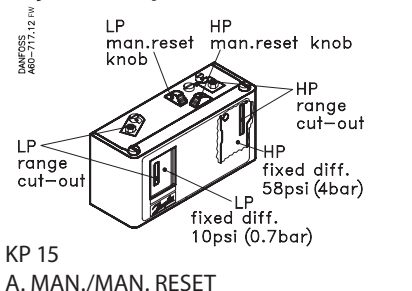
Reset options

LP man.	LP auto.	LP auto.	LP man.
HP man.	HP man.	HP auto.	HP auto.

Note:
Do not select automatic reset if safety of the system requires manual reset.

Note:
Selected reset configuration may be protected against unauthorized actions applying a seal.

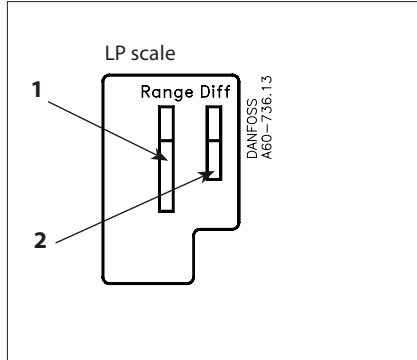
Adjustment spindle(s) location



Setting

Low pressure (LP) side setting

KP 15, KP 17W, KP 17B
and KP 25 with LP auto. reset only



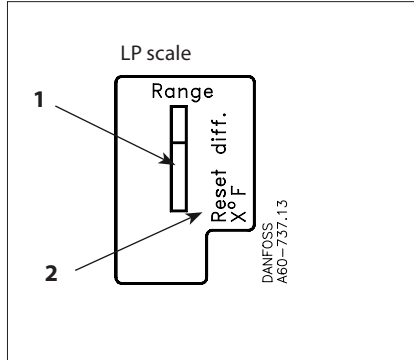
1. Adjust range spindle to desired CUT-IN value.
2. Adjust differential spindle to desired DIFFERENTIAL (DIFF.) value.

CUT-IN minus DIFFERENTIAL
equals CUT-OUT

Example:

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

KP 15A with LP man. reset only
KP 15A with convertible LP auto.
man. reset



1. Adjust range spindle to desired CUT-IN value.
2. DIFFERENTIAL (DIFF.) is fixed. Value printed on scale plate.

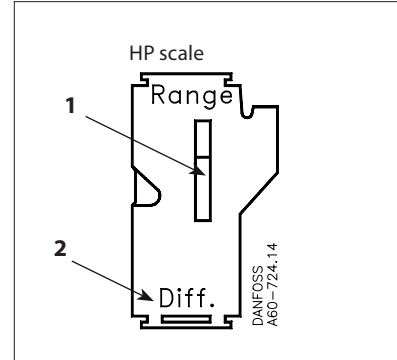
CUT-IN equals CUT-OUT plus
DIFFERENTIAL

Example:

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

High pressure (HP) side setting

KP 15, KP 17W, KP 17B and KP 25
with HP auto. or man. reset



1. Adjust range spindle to desired CUT-OUT value.
2. DIFFERENTIAL (DIFF.) is fixed. Value printed on scale plate.

CUT-OUT minus DIFFERENTIAL
equals CUT-IN

Example:

$$\begin{array}{rcl} \text{CUT-OUT} - & \text{DIFF.} = & \text{CUT-IN} \\ 203 \text{ psig} - & 58 \text{ psi} = & 145 \text{ psig} \\ (14 \text{ bar}) & (4 \text{ bar}) & (10 \text{ bar}) \end{array}$$

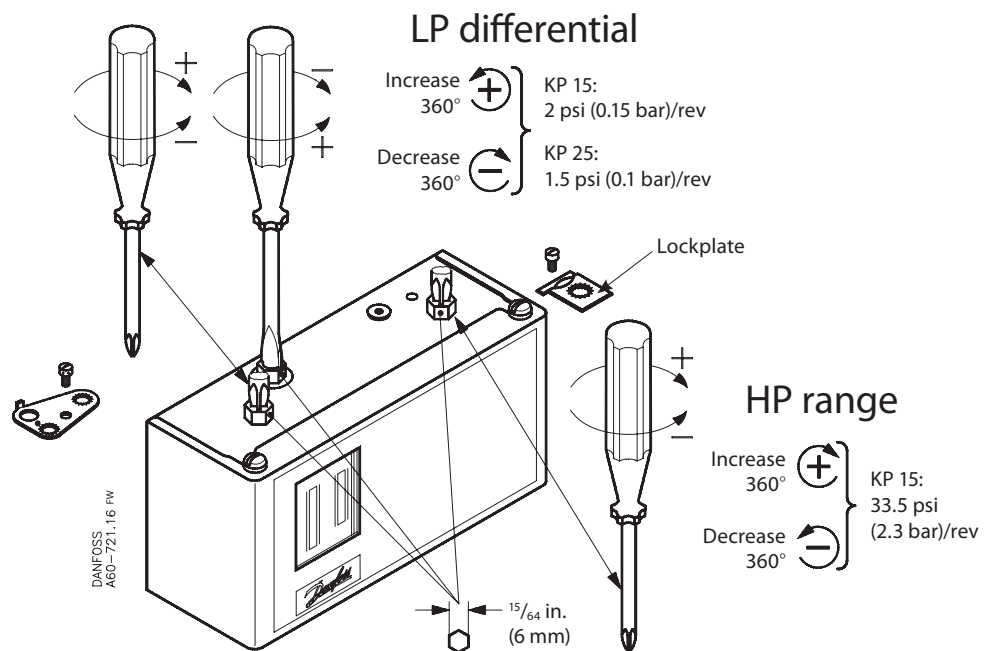
Adjustment

LP range

- Increase 360° (+) KP 15:
10 psi (0.7 bar)/rev
- Decrease 360° (-) KP 25:
7 psi (0.5 bar)/rev

LP differential

- Increase 360° (+) KP 15:
2 psi (0.15 bar)/rev
- Decrease 360° (-) KP 25:
1.5 psi (0.1 bar)/rev



HP range

- Increase 360° (+) KP 15:
33.5 psi
(2.3 bar)/rev
- Decrease 360° (-)

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