

Installation guide

# Pressure switch

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

060R9747

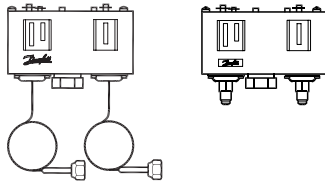
060R9747

**Refrigerants:**

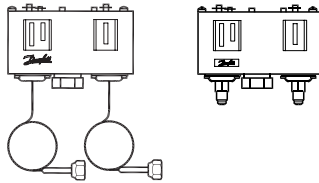
R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D,  
R448A, R449A, R450A, R452A, R507A, R513A

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

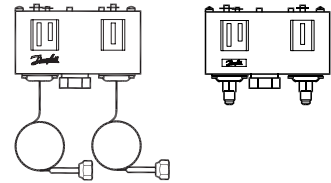
**KP 15**  
man. (LP) / man. (HP) reset



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



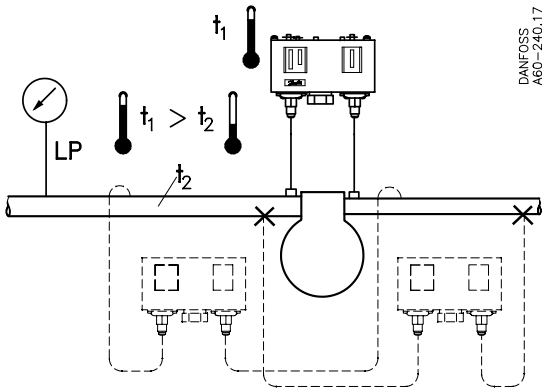
**KP 15, KP 17W, KP 25**  
auto. (LP) / auto. (HP) reset



**CAUTION:**  
Do not install these controls on ammonia systems.

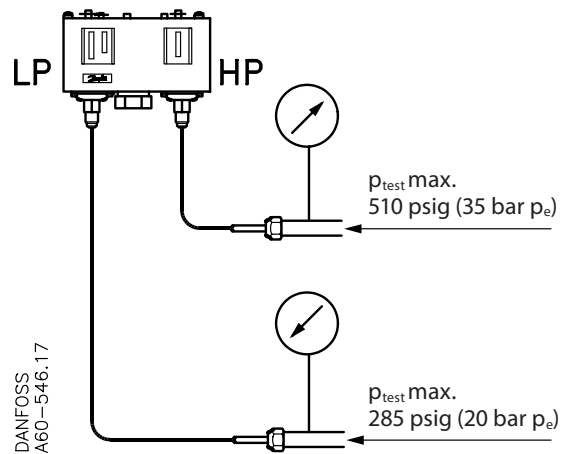
**Ambient temperatures / Mounting requirements**

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

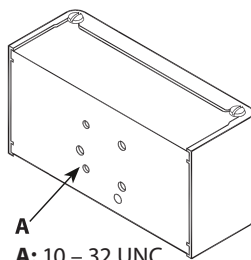


**CAUTION:**  
Do not mount the control in a position where dirt, sediment, or oil will affect the operation of the control.

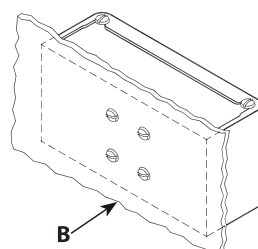
**Test pressure ( $P_{test}$ )**



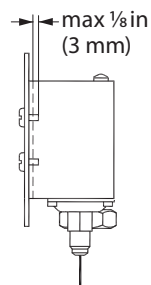
**Enclosure**



**A:** 10 - 32 UNC  
Threads (4 holes)



**B:** Enclosure ~NEMA1

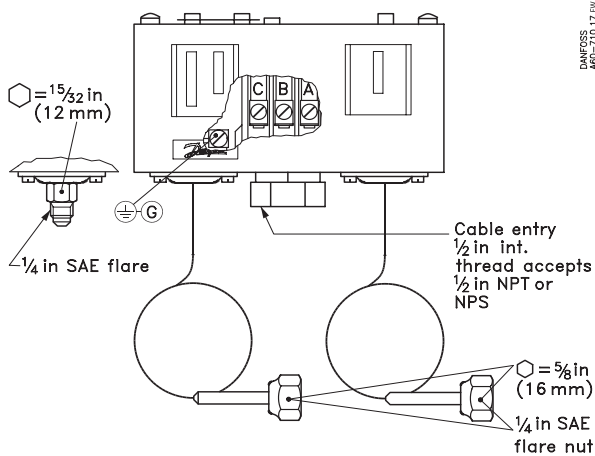


Danfoss  
60-714.14.FW

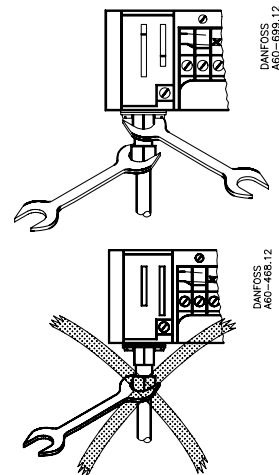


**CAUTION:**  
The mounting panel must be plane to avoid damage of control.

### Connections



### Assembly



#### 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

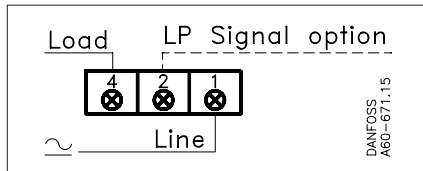
Controls with low pressure (LP) signal

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

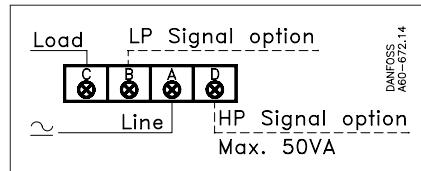
#### Contact load ratings

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

#### Terminal block

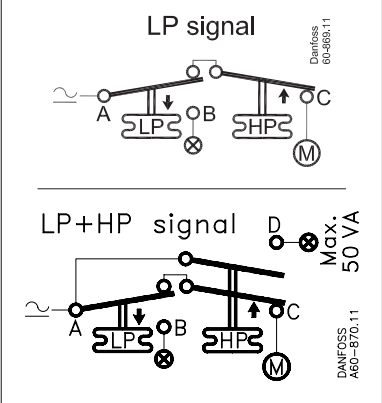


#### Terminal block



See label inside cover

#### Function



#### CAUTION:

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

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#### Low pressure (LP) side:

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

#### 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

#### 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

#### LP signal option:

A-B close on LP drop

#### HP signal option:

A-D close on HP rise

See label for current wiring inside cover.

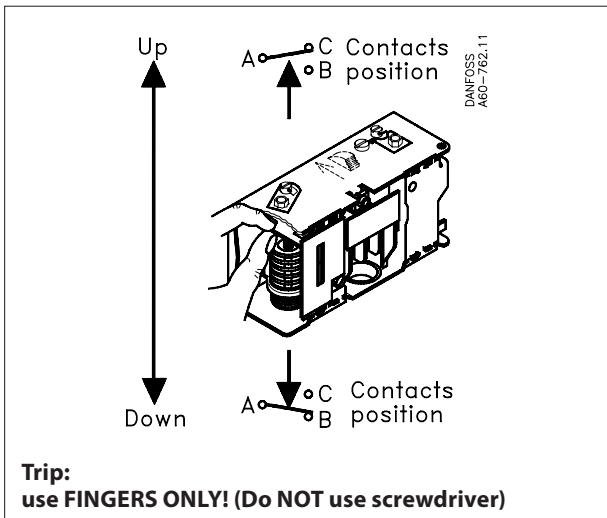
#### Note!

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

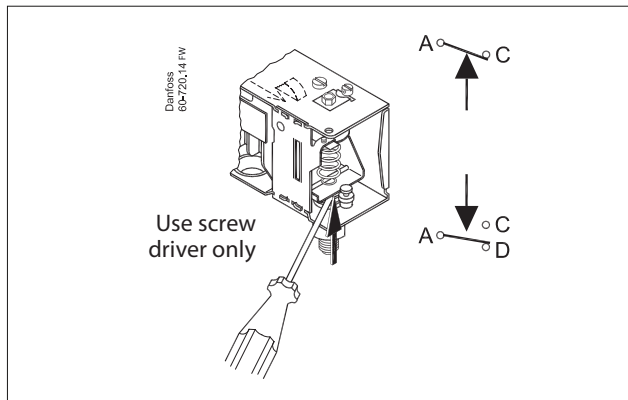
### Manual tripping

(Electrical contacts/wiring test)

#### LP side

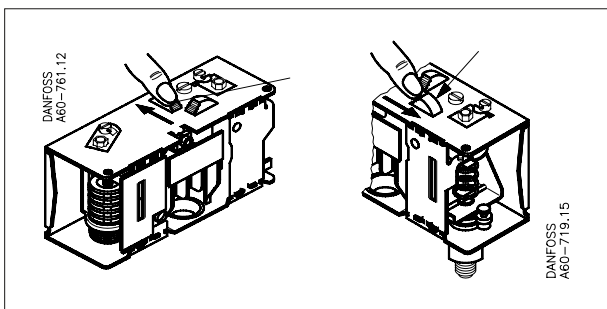


#### HP side



**Note:**  
On controls with LP and/or HP man. reset, push corresponding LP and/or HP man. reset knob during tripping.

### Manual reset

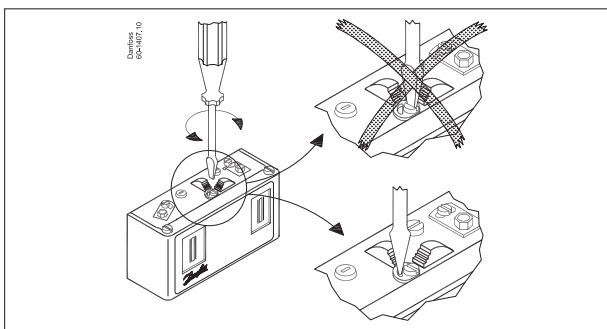


To resume control operation after safety cut-out, push man. reset knob as indicated.

**Note:**  
LP man. reset is possible only after system pressure has risen above cut-in value.  
HP man. reset is possible only after system pressure has dropped below cut-out value.

### 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.



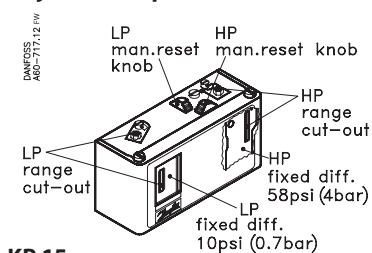
### Reset options

|         |          |          |          |
|---------|----------|----------|----------|
|         |          |          |          |
| LP man. | LP auto. | LP auto. | LP man.  |
| HP man. | HP man.  | HP auto. | HP auto. |

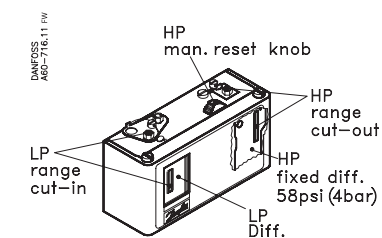
**Note:**  
Do not select automatic reset if safety of the system requires manual reset.

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

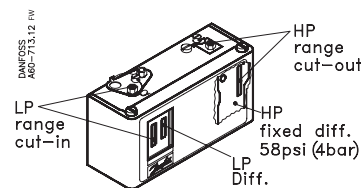
### Adjustment spindle(s) location



**KP 15**  
**A. MAN./MAN. RESET**



**KP 15, KP 17B**  
**B. AUTO/MAN. RESET**

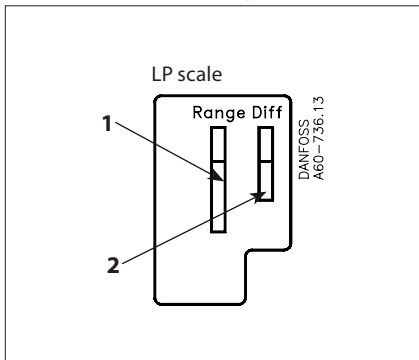


**KP 15, KP 17W, KP 25**  
**C. AUTO./AUTO. RESET**

### Setting

#### Low pressure (LP) side setting

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



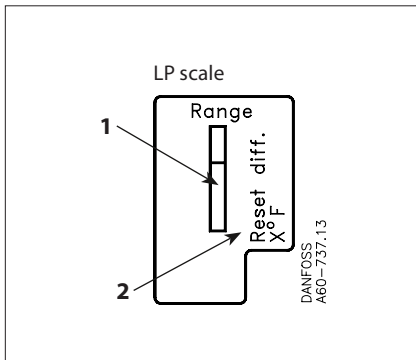
1. Adjust range spindle to desired CUT-IN value.
2. Adjust differential spindle to desired DIFFERENTIAL (DIFF.) value.

CUT-IN minus DIFFERENTIAL equals CUT-OUT

**Example:**

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

**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.

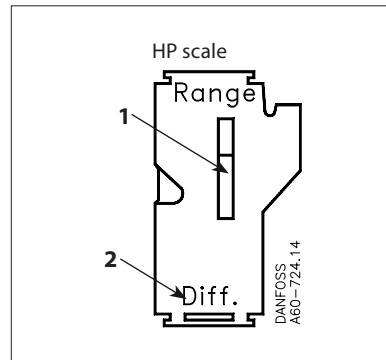
CUT-IN equals CUT-OUT plus DIFFERENTIAL

**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**



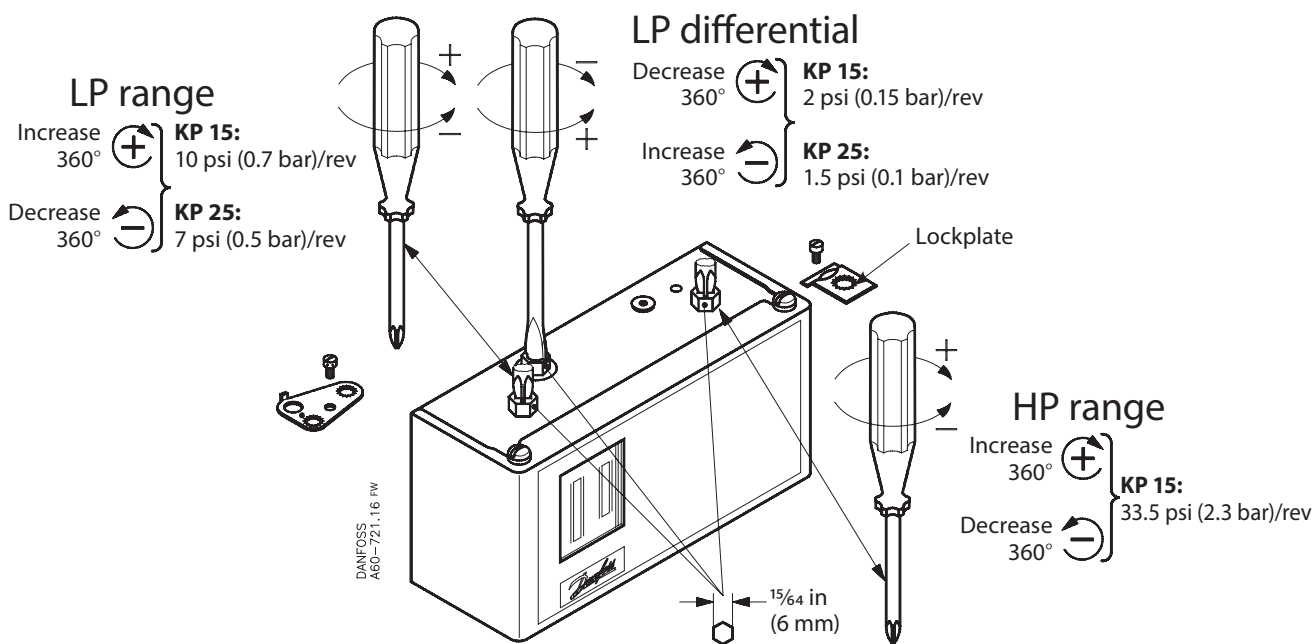
1. Adjust range spindle to desired CUT-OUT value.
2. DIFFERENTIAL (DIFF.) is fixed. Value printed on scale plate.

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



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