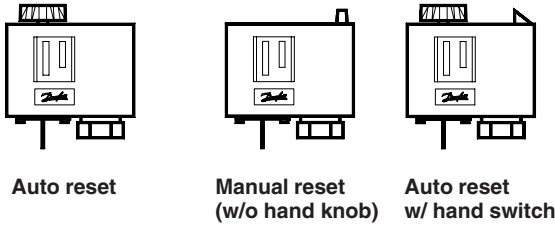


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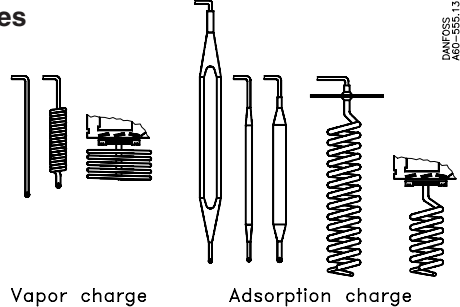
KP 61, 62, 63, 68, 69 vapor charge  
 KP 71, 73, 75, 77, 79, 81 adsorption charge (cross ambient)

### Types



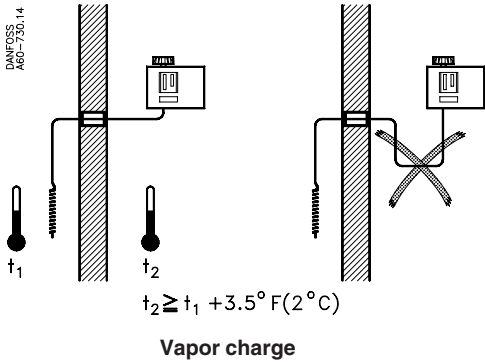
Auto reset      Manual reset (w/o hand knob)      Auto reset w/ hand switch

### Bulb types

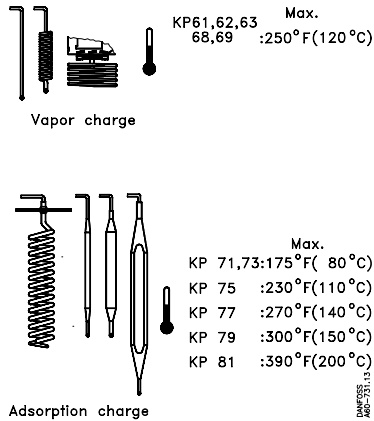


Vapor charge      Adsorption charge

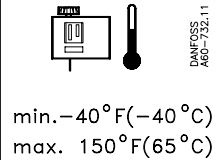
### Mounting requirement



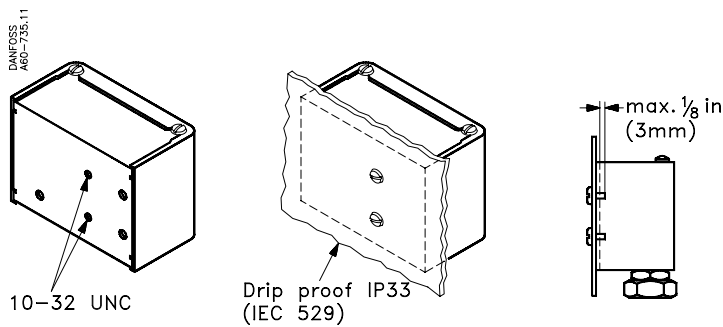
### Max. bulb temperature



### Ambient temperatures

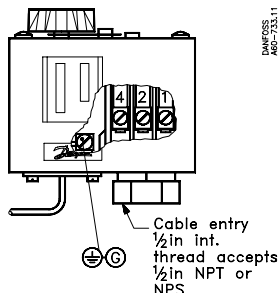


### Enclosure

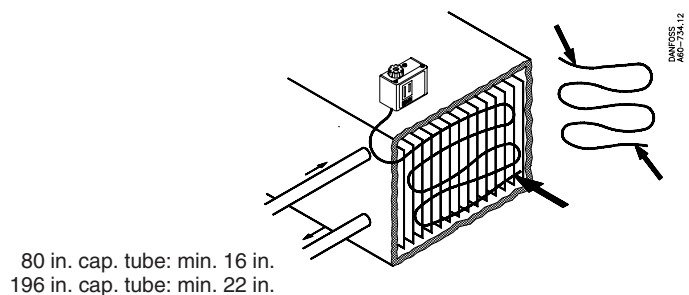


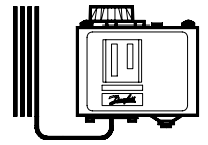
CAUTION: The mounting panel must be plane to avoid damage of control.

### Cable entry



### Required cap. tube length on evaporator

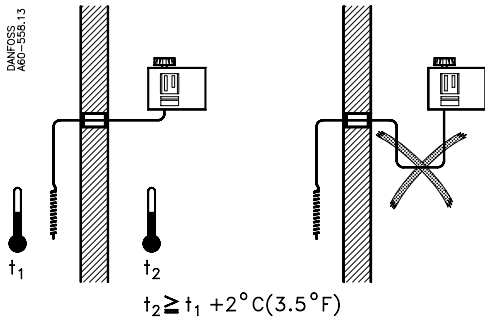
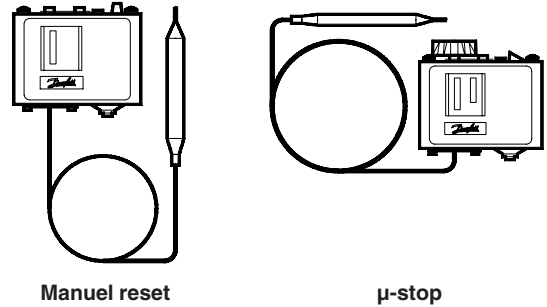
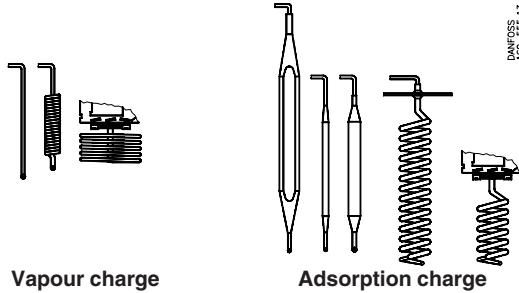




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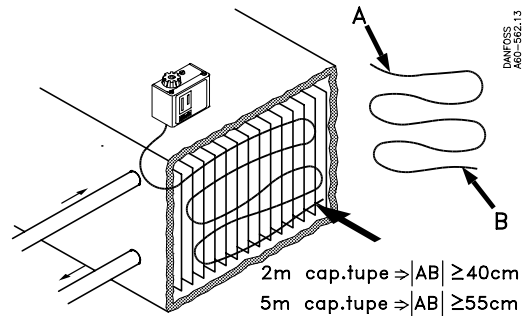
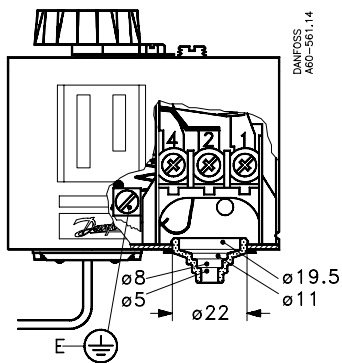
KP 61, 62, 63, 68, 69 vapour charge  
 KP 62, 71, 73, 75, 77, 79, 81 adsorption charge (cross ambient)



Vapour charge

	Max.
KP 62,71,73:	80°C (175°F)
KP 75	:110°C (230°F)
KP 77	:140°C (285°F)
KP 79	:150°C (300°F)
KP 81	:200°C (390°F)

min. -40°C (-40°F)  
 max. 65°C (150°F)



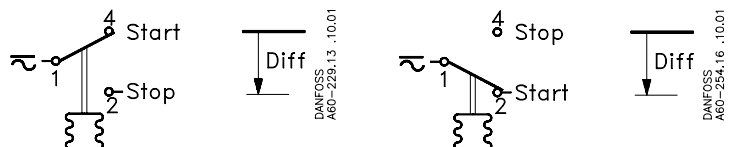
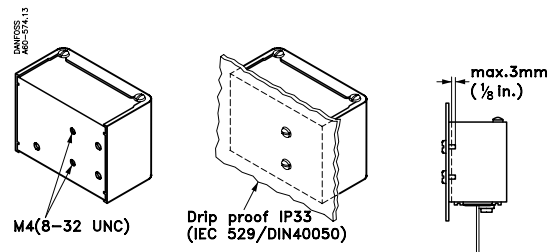
Electrical rating - General

LR 112A	AC 1: 16A AC 3: 16A AC 11: 10 A	400 V $\approx$	DC 11 12 W 220 V $\approx$
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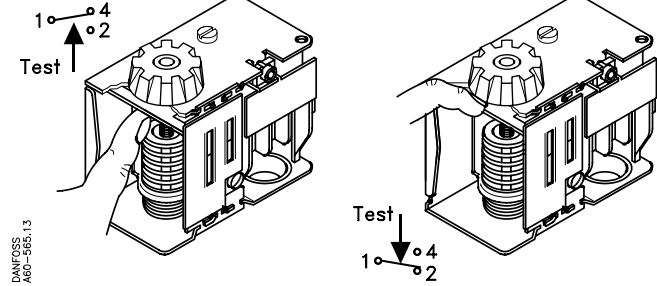
When used acc. to UL regulations

UL Listed refrigeration controller 61B5					
Voltage	FL	LR	Resist.	Pilot	duty
AC	DC	A	A	load	
240		8	48	8A	3A
120		16	96	16A	
	240				12W

Use copper wire only  
 Tightening torque 20lb.in.

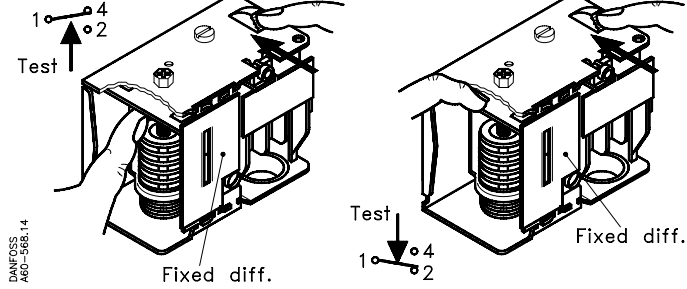


Automatic reset



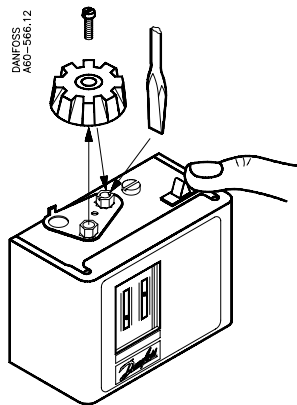
DANFOSS  
A60-565.13

Manual reset

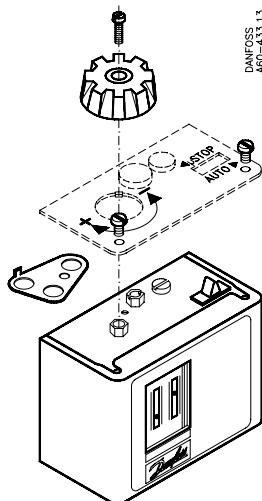


DANFOSS  
A60-568.14

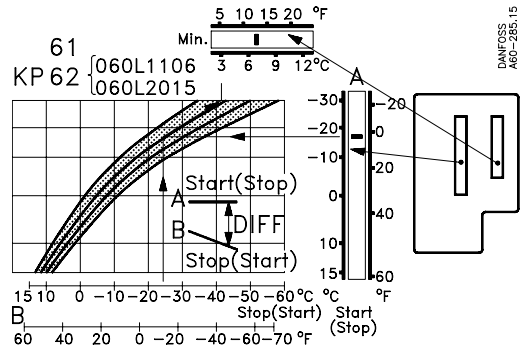
KP 61	060L1104, 060L1105	diff. = 3°C (5.4°F)
KP 71	060L1115	diff. = 3°C (5.4°F)
KP 73	060L1138	diff. = 3.5°C (6.3°F)



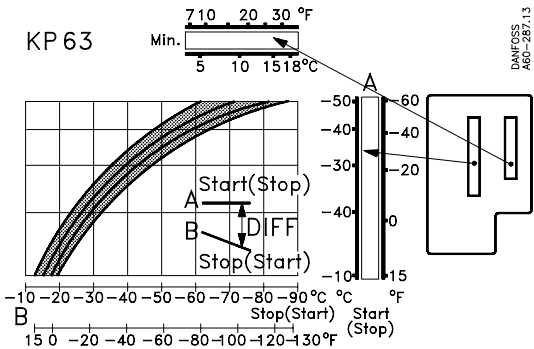
DANFOSS  
A60-566.12



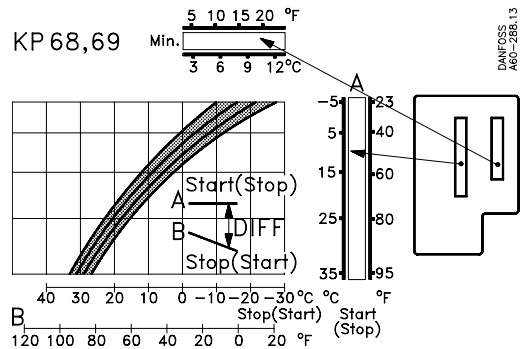
DANFOSS  
A60-433.13



DANFOSS  
A60-285.15

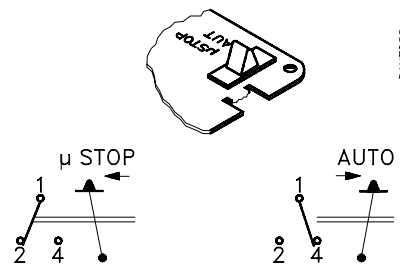


DANFOSS  
A60-287.13



DANFOSS  
A60-288.13

Vapour charge



DANFOSS  
A60-567.11

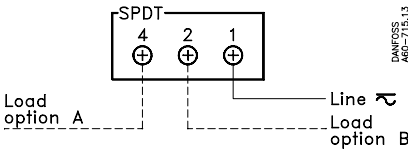
KP 61	060L1103, 1128	Vapour charge
KP 62	060L1110	Adsorption charge
KP 73	060L1118	Adsorption charge

## 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 temperature rise*

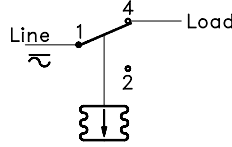
Wire terminals 1-4:

CUT-IN = High Set Point (HSP)

see "Setting"

CUT-OUT = Low Set Point (LSP)

see "Setting"



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

Example: CUT-IN = +50°F (+10°C)  
CUT-OUT = +40°C (+4.5°C)

This means

CUT-IN = HSP = +50°F (+10°C)

and

CUT-OUT = LSP = +40°F (+4.5°C)

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 temperature drop*

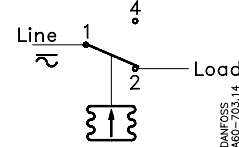
Wire terminals 1-2:

CUT-IN = Low Set Point (LSP)

see "Setting"

CUT-OUT = High Set Point (HSP)

see "Setting"



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

Example: CUT-IN = +32°F (+0°C)  
CUT-OUT = +50°F (+10°C)

This means

CUT-IN = LSP = +32°F (+0°C)

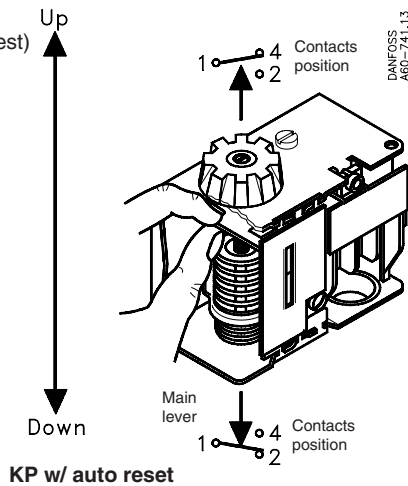
and

CUT-OUT = HSP = +50°F (+10°C)

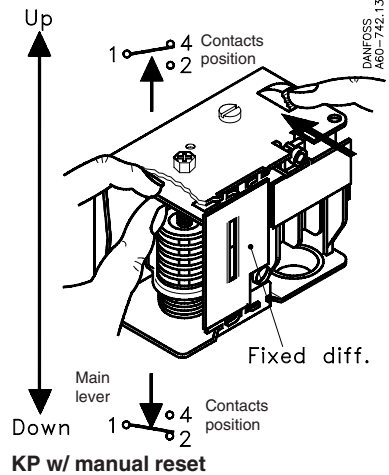
## Manual tripping

(Electrical contacts/wiring test)

Note:  
use FINGERS ONLY!  
(Do NOT use screwdriver)

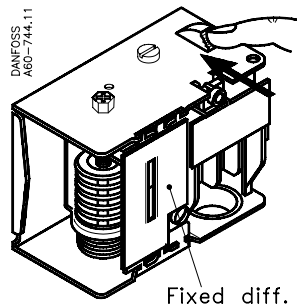


Note:  
use FINGERS ONLY!  
(Do NOT use screwdriver)



Note:  
Push manual reset knob during manual tripping.

## Manual reset



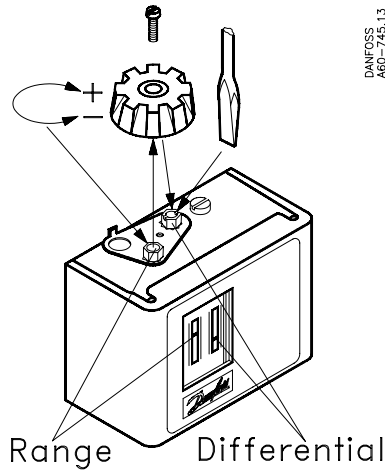
To resume control operation after safety cut-out, push reset knob as indicated.

Note:

Man. reset is possible only after a temperature rise of fixed differential (example 5.4°F)

## Adjustment spindles location

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



### RANGE

See printed instruction on top of control

- increase temp. (warmer): turn CW
  - decrease temp. (colder): turn CCW
- (use adjustment knob)

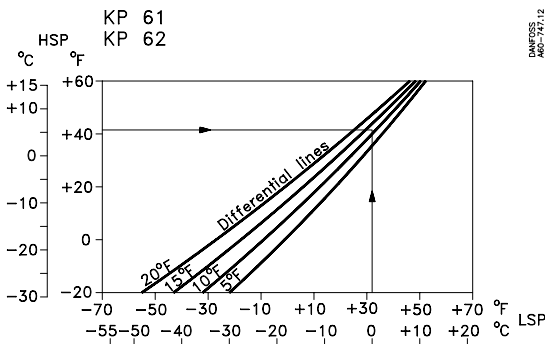
### DIFFERENTIAL

See printed instruction on top of control

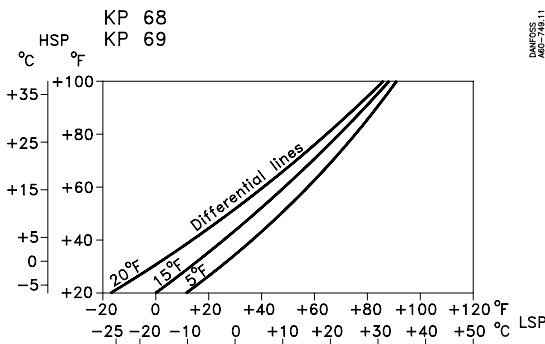
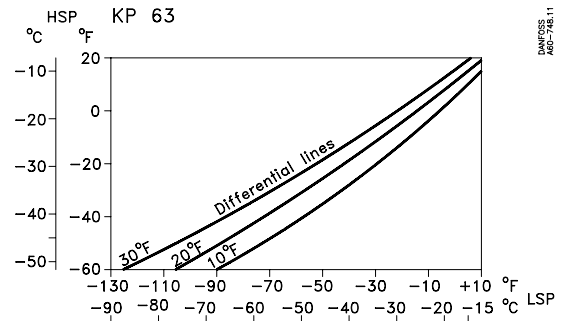
- Increase: turn CW
  - decrease: turn CCW
- (use adjustment knob or screwdriver)

## Determination of differential

For KP w/ vapor charge and auto. reset (KP 61, KP 62, KP 63, KP 68, KP 69): Use graphs to determine correct differential



Example:  
HSP = +45°F (+5.6°C)  
LSP = +32°F (0°C) ⇒ DIFF (from graph):  
13°F (7.2°C) (value which has to be set on diff. scale).



For KP w/ adsorption charge (KP 71, KP 73, KP 75, KP 77, KP 79, KP 81):

The differential will be HSP less LSP

Example: HSP - LSP = DIFF.  
45°F - 35°F = 10°F  
(7°C) (5°C) (2°C)

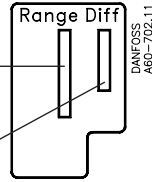
Note:  
(Load Option A) CUT-IN = HSP or (Load Option B) CUT-IN = LSP  
CUT-OUT = LSP or CUT-OUT = HSP  
See "Wiring"

# Setting

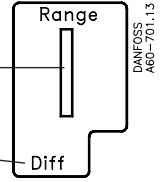
For KP 61, 62, 63, 68, 69, 71, 73, 75, 77, 79 and 81 w/ AUTO RESET

KP 61 and KP 71 w/ MAN. RESET

1. Adjust range spindle to desired HIGH SET POINT (use hand knob)
2. Adjust differential spindle to desired DIFFERENTIAL



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



Note:

To find correct differential, see "Determination of differential"

HIGH SET POINT minus DIFFERENTIAL equals LOW SET POINT

HIGH SET POINT minus DIFFERENTIAL equals LOW SET POINT

Example:

$$\begin{array}{rclcl} \text{HSP} & - & \text{DIFF.} & = & \text{LSP} \\ 45^{\circ}\text{F} & - & 10^{\circ}\text{F} & = & 35^{\circ}\text{F} \\ (7^{\circ}\text{C}) & & (5^{\circ}\text{C}) & & (2^{\circ}\text{C}) \end{array}$$

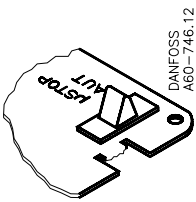
Example:

$$\begin{array}{rclcl} \text{HSP} & - & \text{DIFF.} & = & \text{LSP} \\ 37.4^{\circ}\text{F} & - & 5.4^{\circ}\text{F} & = & 32^{\circ}\text{F} \\ (3^{\circ}\text{C}) & & (3^{\circ}\text{C}) & & (0^{\circ}\text{C}) \end{array}$$

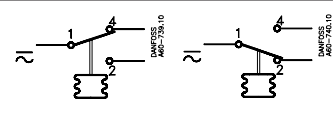
## KP w/ hand switch

CAUTION:

- Hand switch breaks circuit by micro contact gap.
- Use hand switch for service on refrigeration parts only
- Cut out main switch before service on electrical parts



KP 61	060L2003	Vapor charge
KP 73	060L2014	Adsorption charge

Switch position	Contacts position
Aut.	Automatic control operation 
μ Stop	1 and 2 are closed 