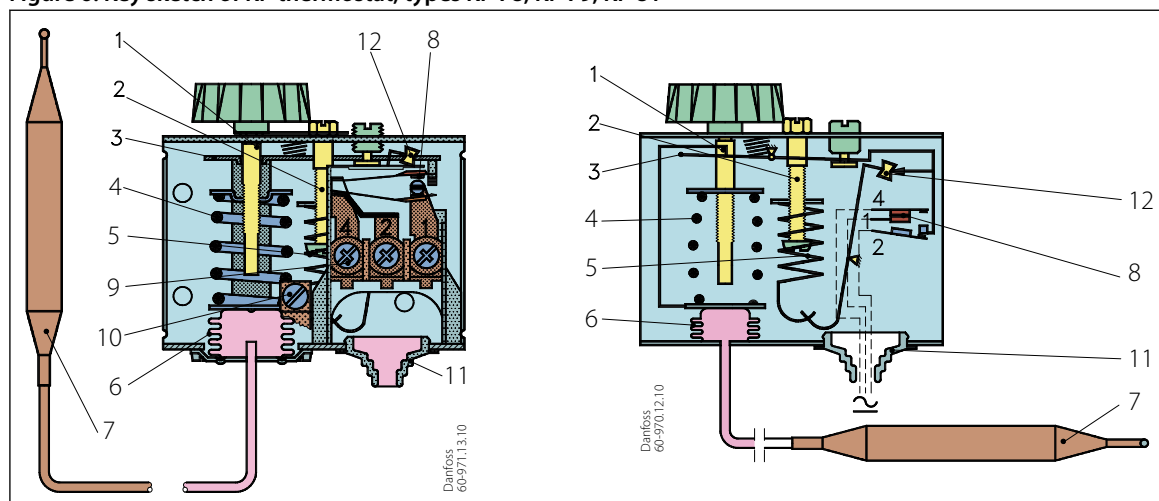


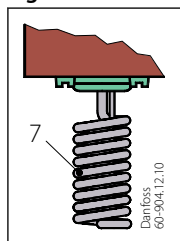
KP thermostat

Figure 6: Key sketch of KP thermostat, types KP 78, KP 79, KP 81



1	Temperature setting spindle	7	Sensor
2	Differential setting spindle	8	Contact system
3	Main arm	9	Connection terminals
4	Main spring	10	Earth terminal
5	Differential spring	11	Cable entry
6	Bellows	12	Tumbler

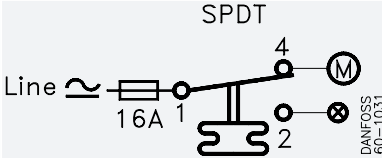
Figure 7: KP 75 room sensor



The contact system in KP thermostats has a snap function. This means that the bellows is active only when the cut-in or cut-out value is reached.

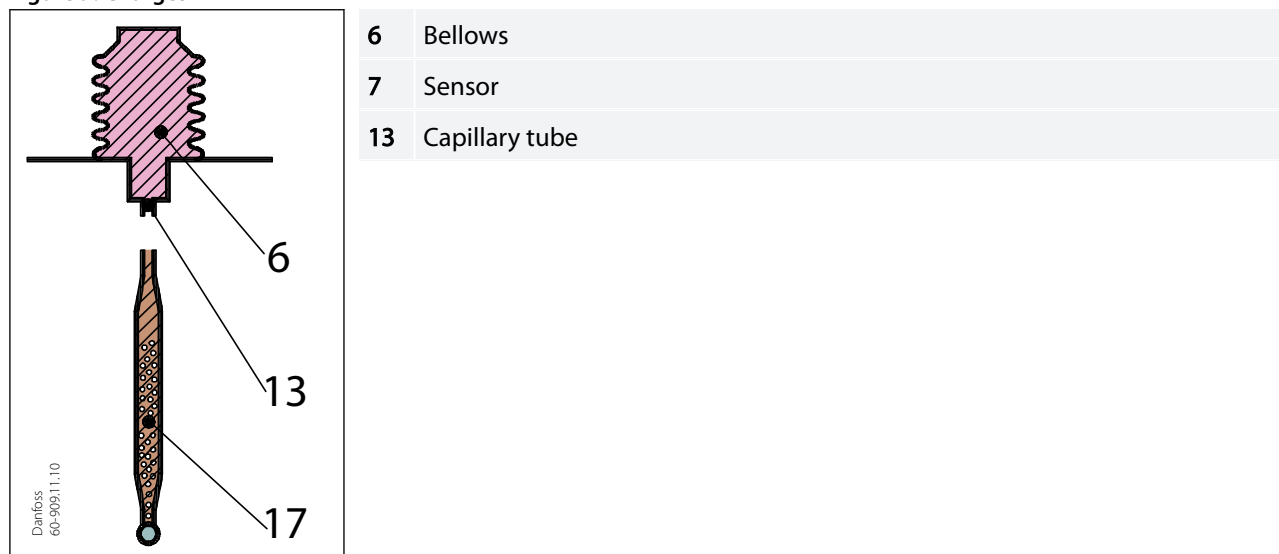
Thermostat

Table 5: Thermostat

Temperature	Range
Ambient temperature [°C]	-40 – 65 °C (for max. 2 hours up to 80 °C)
Sensor material	Tinned copper Cu/Sn5
Contact system	 Single-pole double throw (SPDT)
Contact load, Silver	Alternating current: AC-1: 16 A, 400 V AC-3: 16 A, 400 V AC-15: 10 A, 400 V Direct current: DC-13: 12 W, 220 V
Contact load, Gold plated contact set	See Table 6
Enclosure, IP30 grade	Unit must be mounted on a flat surface / a flat fitting and all unused holes covered
Enclosure, IP44 grade	Mounted as IP30 plus fitting of top cover, code no. 060-109766
Enclosure, IP55 grade	Unit mounted in a special IP55 enclosure, code no. 060-033066 or 060-062866. Exception: KP 75
Cable entry	Entry for 6 – 14 mm diameter cable
Mounted on backplate or wall bracket	Vibration-proof in the range 0 – 1000 Hz, 4 g [1 g = 9.81 m/s ²]
Mounted on angle bracket	Not recommended for areas where vibration occurs

Charges

Figure 9: Charges



Absorption charge

The charge consists partly of a superheated gas and partly of a solid substance with a large absorption surface.

The solid substance is concentrated in the sensor, and consequently it is always the sensor that comprises the temperature-regulating part of the thermostatic element.

The sensor can be placed both warmer or colder than the thermostat housing and capillary tube. However, placing it in an ambient temperature higher or lower than 20 °C can affect the accuracy of the scale.

Setting

Thermostats with automatic reset

Set the upper limit temperature on the range scale. Then set the differential on the DIFF scale. The temperature set on the range scale is also the temperature at which contact changeover re-occurs on rising temperature. The contacts changeover when the temperature has fallen to a value lower than that set on the DIFF scale.

If at lower settings the plant will not start/stop, the reason might be that the differential has been set too high.

Thermostats with minimum reset

Set the temperature on the range scale. The differential setting is fixed.

Min. reset units will restart after the temperature at the thermostat sensor has risen by a value greater than that of the fixed differential.

Thermostats with maximum reset

Set the stop temperature on the range scale. The differential setting is fixed.

Max. reset units will restart after the temperature at the thermostat sensor has fallen by a value greater than that of the fixed differential].

Dimensions [mm] and weights [kg]

Single pressure switch, type KP and KPI

Figure 10: KP 35, 36, KPI 35, 36, 38, Net weight 0.3 kg

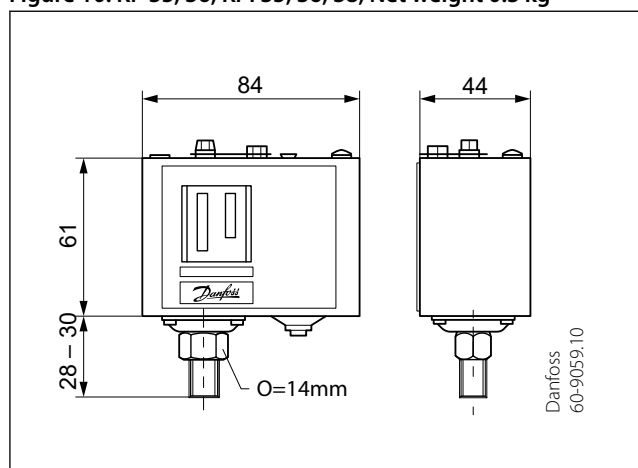


Figure 11: IP55 enclosure

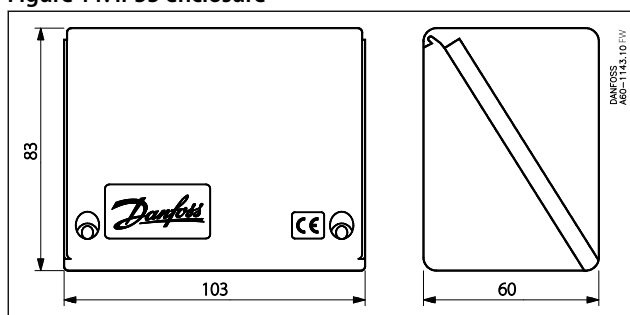


Figure 12: Wall bracket

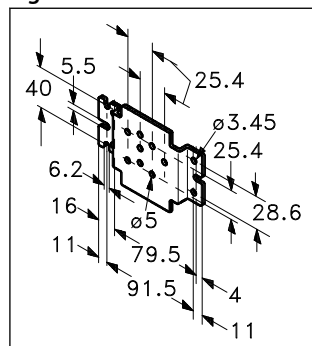
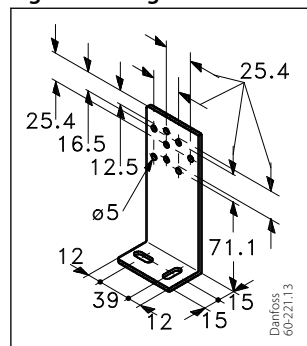


Figure 13: Angle bracket



Single pressure switch, type KP (Boiler version)

Figure 14: KP 35, 36 (net weight approx. 0.34 kg)

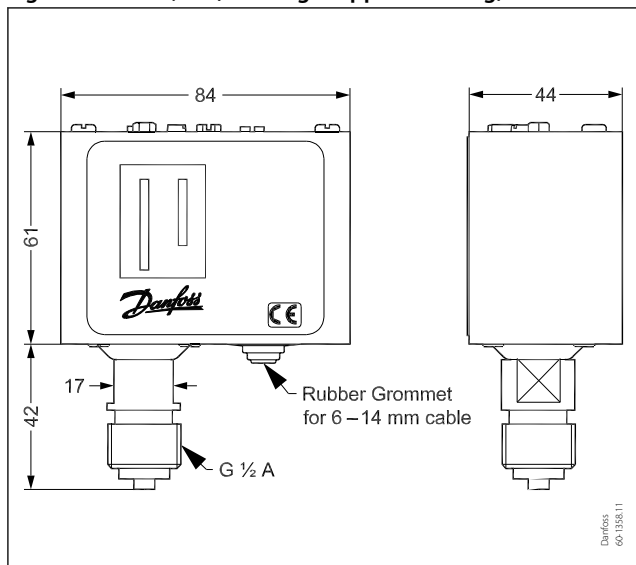
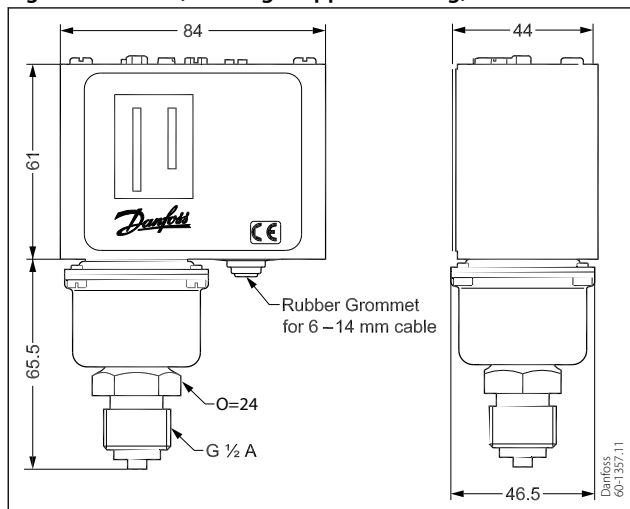
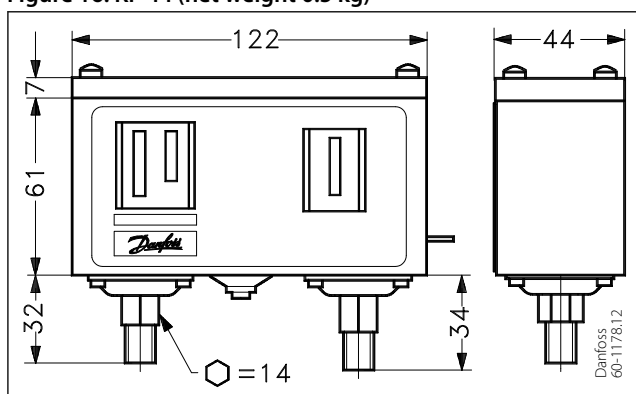


Figure 15: KP 34 (net weight approx. 0.43 kg)



Dual pressure switch, type KP 44

Figure 16: KP 44 (net weight 0.5 kg)



Thermostat, type KP

Figure 17: KP 75, 78, 79, 81 (net weight 0.4 kg)

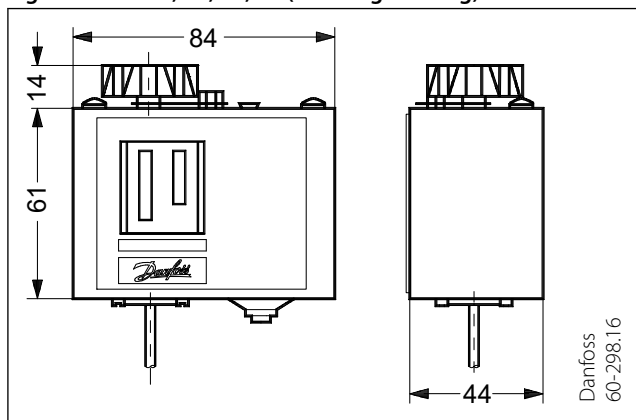


Figure 18: IP55 enclosure

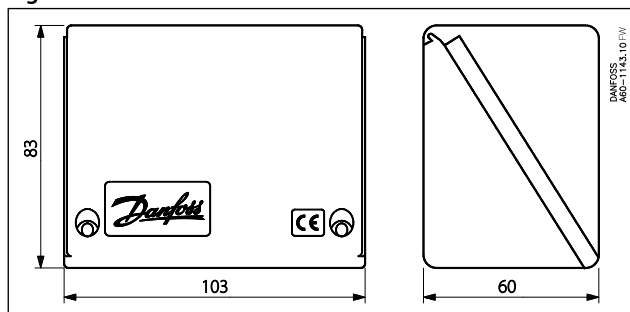


Figure 19: KP 75 Sensor: Tinned copper Cu/Sn 5 Figure 20: KP 78, 79, 81 Sensor: Tinned copper Cu/Sn 5

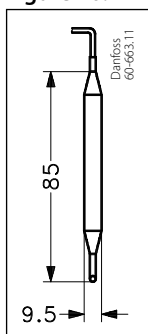
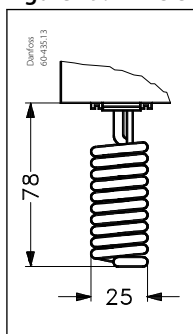


Figure 21: Wall bracket

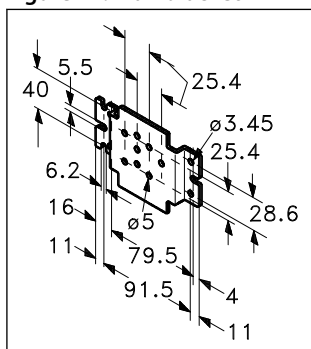
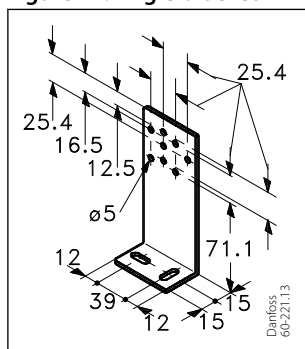


Figure 22: Angle bracket



General information gold contacts

Table 6: Gold contacts

Contact material	Gold-plated silver
Contact system	SPDT Single-pole double throw (SPDT)
Contact load (when Au surface is burnt away)	Alternating current: Ohmic load: AC-1: 10 A, 440 V Inductive load: AC-3: 6 A, 440 V and AC-15: 4 A, 440 V Direct current: DC-13: 12 W, 220 V

Pressure switch and Thermostat, Type KP and KPI

Table 10: Pressure switch, type KP 44

Pressure range		Differential		Permissible operating pressure p _e [bar]	Max. test pressure [bar]	Pressure connection	Contact material	Code no.
Control [bar]	Safety [bar]	Control [bar]	Safety [bar]					
2.0 – 12.0	0.5 – 6.0	0.7 – 4.0	1.0	Left side: 17 Right side: 17	Left side: 25 Right side: 19	2 × G ¼ A	Silver	060-001366

Thermostat, type KP

Table 11: Thermostat, types KP 75 – KP 81

Type	Setting range [°C]	Differential [°C]	Max. sensor temperature [°C]	Capillary tube length [m]	Contact material	Code no.
KP 75	0 – 40	3 – 10	80	Room sensor	silver	060L121266
KP 75	0 – 40	3 – 10	80	Room sensor	gold-plated	060L117166
KP 78	30 – 90	5 – 15	150	2	silver	060L118466
KP 79	50 – 100	5 – 15	150	2	silver	060L112666
KP 81	80 – 150	7 – 20	200	2	silver	060L112566
KP 81	80 – 150	7 – 20	200	3	silver	060L118366
KP 81	80 – 150	7 – 20	200	5	silver	060L117066
KP 81 (max. reset)	80 – 150	8 (max. reset)	200	2	silver	060L115566

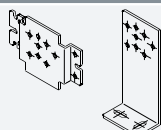
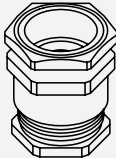
Accessories for KP pressure switches

Table 12: KP pressure switches

Part	Symbol	Description	Code no
Brackets with mounting screws and washers		Wall bracket for KP	060-105566
		Angle bracket for KP	060-105666
Screwed cable entry		PG 13.5 with special nut For 6 – 14 mm diameter cables	060-105966
Sealing screw		For sealing the setting on KP	060-105766
Top cover		If a bracket is mounted on the backplate of the housing, the KP thermostats will have an IP44 grade of enclosure. The cover protects the setting spindles	060-109766
Protective cap		Protective cap for KP pressure switches and thermostats. To protect the unit against rain and humidity. Grade of enclosure: IP44 Material: Polyethylene Max. ambient temperature: 65 °C Min. ambient temperature: -40 °C	060-003166
IP55 nontransparent enclosure		If the unit risk being exposed to heavy water influence a better grade of enclosure can be achieved when mounting product in a special IP55 enclosure	060-033066
IP55 transparent enclosure		If the unit risk being exposed to heavy water influence a better grade of enclosure can be achieved when mounting product in a special IP55 enclosure	060-062866

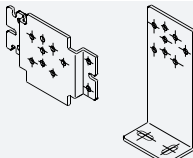
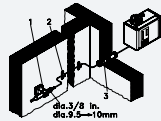
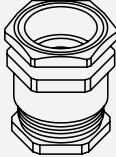
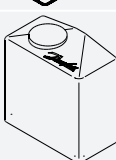
Accessories for KP 44 pressure switches

Table 13: KP 44 pressure switches

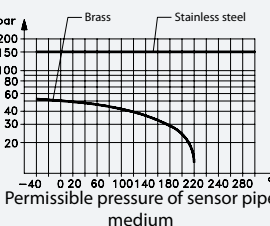
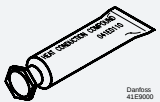
Part	Symbol	Description	Total	Code no.
Brackets with mounting screws and washers		Wall bracket	1	060-105566
		Angle bracket	1	060-105666
Screwed cable entry		PG 13.5 with special nut for 6 – 14 mm diameter cables	1	060-105966
Sealing screw		For sealing the setting on KP	2	060-105766

Accessories for KP thermostats

Table 14: Accessories

Part	Symbol	Description	Total	Code no.
Brackets with mounting screws and washers		Wall bracket for KP	1	060-105566
		Angle bracket for KP	1	060-105666
Sensor holder		Sensor holder for wall mounting with four capillary tube clips and 9-off 12 mm pins	1	017-420166
Screwed cable entry		PG 13.5 with special nut For 6 – 14 mm diameter cables A standard Pg 16 cable entry can be used for 8 – 16 mm diameter cables	1	060-105966
Sealing screw		For sealing the setting on KP	2	060-105766
Top cover		If a bracket is mounted on the backplate of the housing, the KP thermostats will have an IP44 grade of enclosure. The cover protects the setting spindles	1	060-109766
Protective cap		Protective cap for KP pressure switches and thermostats. To protect the unit against rain and humidity. Grade of enclosure: IP44 Material: Polyethylene Max. ambient temperature: 65 °C Min. ambient temperature: -40 °C	1	060-003166

Pressure switch and Thermostat, Type KP and KPI

Part	Symbol	Description	Total	Code no.
Sensor pocket	 	For all KP thermostats with cylindrical remote sensor. Sensor pocket, gasket and union for screwing into G½ connectors welded onto tubes, containers, etc.		
		Int. diameter 9.6 mm, insert depth 112 mm (brass). Ext. diameter 11 mm.	1	017-437066
		Int. diameter 9.6 mm, insert depth 112 mm (st 18/8). Ext. diameter 11 mm.	1	017-436966
		Int. diameter 9.6 mm, insert depth 465 mm (brass). Ext. diameter 11 mm.	1	017-421666
		Media temperature for sensor: 250 °C This temperature can be increased by applying a different gasket material		
Heat-conductive aluminium paste	Tube 	For KP and RT thermostats with sensor mounted in a sensor pocket. Temperature range: -20 – 150 °C (short-lived 220 °C) Tube with 6 g aluminium paste	1	041E0115