

PRESSURE & TEMPERATURE SWITCHES

U SERIES

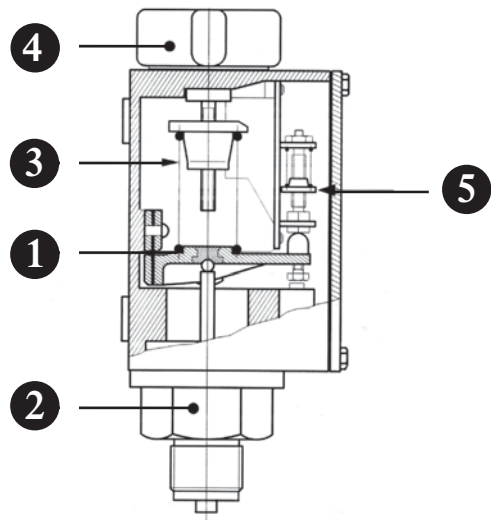


WORKING PRINCIPLE

Instruments from this series are fitted with a flexible arm mechanism ❶ which allows the device to withstand impacts or vibrations without set point drifting.

As load created by the sensing element ❷ is directly opposed to the load from the spring ❸, this arm undergoes no force which allows a linearity of measurement and dead band (Patent n° 86.08.498).

Set point is selected through external knob ❹ while dead band ❺ is adjusted from inside.



CONSTRUCTION

● MECHANICAL

Housing : Fiber glass and polyarylamide.
Polycarbonate cover.
IP 65 (according to EN60529).

Pressure element : NBR diaphragm and brass flange (as option FKM diaphragm for oxygen cleaning or EPDM diaphragm).
Connection 1/2 BSP male according to EN 837-1

Temperature element : 2 meters capillary with bulb Ø 9 x 120 mm in copper

General : Electrical connection : terminal 2.5 mm², cable gland ISO M20 for Ø 7.5 to 13 mm
Working temperature : - 20 to + 60 °C
Process temperature (for pressure) : - 20 to + 100 °C
Weight : 700 gr

Option : Pressure switches : welded connection, cocks, siphon - capillary
Temperature switches : bulb mechanical protection brass or st.st., capillary T.G.
Set point ajustable screw (to be defined at the order) instead of knob ❹.

● MICRO-SWITCH : 1 SPDT - DRY CONTACT - SNAP ACTION

Code	Current rating (resistive)				Dead Band
	AC		DC		
06	10 A	240 V	0.3 A	110 V	Adjustable
10	5 A	240 V	0.2 A	110 V	Fixed

Current ratings mentioned here above allow following cycles :

Code 06 : 300 000 to 500 000.

Code 10 : 100 000

Switch **code 06** accepts a rating of **16 A/240 VAC** (resistive) but with 100 000 cycles only.

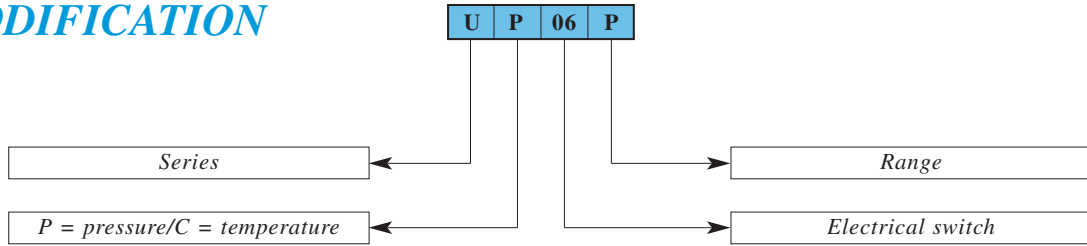
● CERTIFICATIONS :

Fire security : APSAD

Domestic use : NF EN60730-2-6 (ref. UP-N, K, P, Q only)



CODIFICATION



TECHNICAL SPECIFICATIONS

● PRESSURE

TYPE	RANGES (bar)	MAXIMUM PRESSURE (bar)	DEAD BAND		
			FIXED	AJUSTABLE	
				10	06
mini ≤	maxi ≥				
UP - N	0.2 to 2	10	0.09	0.18	1
UP - K	0.5 to 5	10	0.1	0.2	1
UP - P	1 to 10	20	0.2	0.4	2
UP - Q	2 to 25	40	0.5	1	4
UP - R	4 to 40	60	1.2	2.5	8

Small fixed dead band on request.

● TEMPERATURE

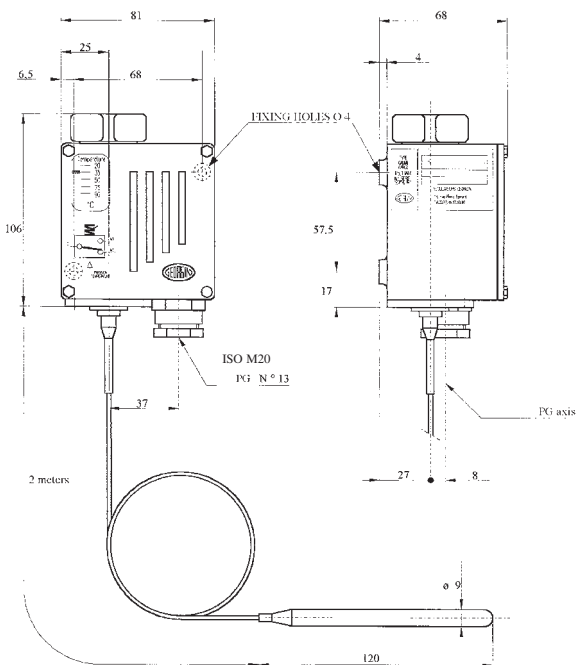
TYPE	RANGES (° C)	MAXIMUM TEMPERATURE (° C)	ADJUSTABLE DEAD BAND					
			FIXED		ADJUSTABLE			
			10		06			
					mini ≤		maxi ≥	
L	H	L	H	L	H			
UC - G	- 20 to 45	55	3.0	0.8	5.5	1.5	15	5
UC - P	20 to 95	105	3.5	1.0	6.5	1.6	20	5
UC - R	45 to 120	135	3.8	1.0	7.0	1.6	20	5
UC - T	115 to 210	225	3.5	1.2	6.5	2.5	17	6
UC - V	150 to 250	265	4.0	1.5	7.6	2.5	20	6

L and H means dead band in Lower and Higher part of the range.

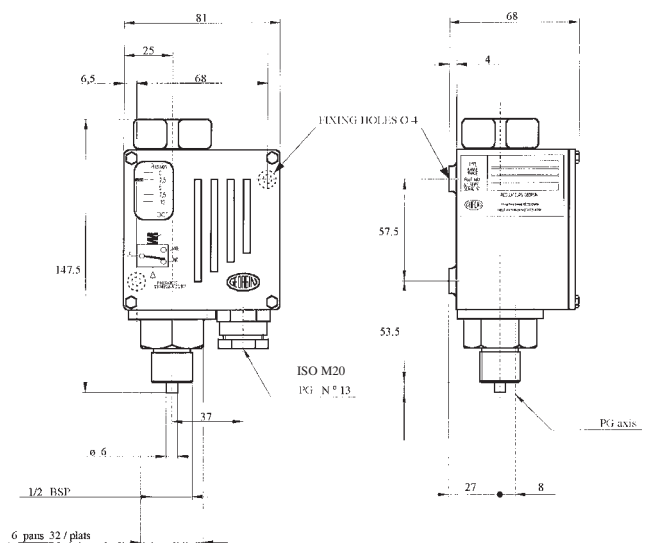
Small fixed dead band on request.

DIMENSIONS (mm)

TEMPERATURE SWITCHES



PRESSURE SWITCHES

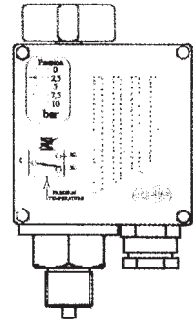


“U” SERIES

MOUNTING

• PRESSURE SWITCHES

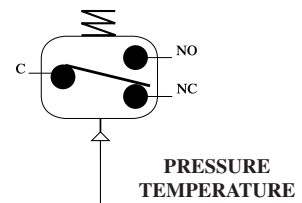
- ✧ Always use the correct spanner. Never apply force to the body.
- ✧ Maximum torque for connecting the instrument \Rightarrow 5 m.kg.
- ✧ Maximum torque on screw cover \Rightarrow 0.025 m.kg.
- ✧ Always ensure that impulse pipework applies no stress.
- ✧ It is advised to eliminate pulsations by using a capillary and to reduce peak pressures and vibrations.
- ✧ Respect normal operating conditions.
- ✧ If specific background concerned, contact us.



• TEMPERATURE SWITCHES

- ✧ Do not bend or wind capillary at less than 80 mm diameter.
- ✧ For liquid control, use a fully immersed thermowell.
- ✧ For surface contact, use a trap to fix the bulb on pipe directly with insulation over it.

ELECTRICAL CONNECTION (WITHOUT PRESSURE)



WIRING

- ✧ Pressure gland ISO M20 (for diameter 7.5 to 13 mm).
- ✧ Internal terminals (2.5 mm²).
- ✧ 1 SPDT microswitch.
- ✧ After wiring, the only test to be carried out, must be performed through the variation of pressure or temperature.

ADJUSTEMENT

- ✧ Curves (A and B) represent one cycle of pressure or temperature variation.
- ✧ External knob allows set point adjustement with front scale (when variation goes down).
- ✧ “A” curve shows cycle with fixed dead band (code 10) or smallest adjustable dead band (code 06).
- ✧ “B” curve shows cycle with adjustable dead band (code 06) when this one has been increased by adjusting internal corresponding knob.
- ✧ By acting on external knob, high and low points of setting value are both modified. While action on internal dead band knob does alter high point only.
- ✧ It is advised to calibrate the switch with a test banch :
 - Apply pressure or temperature corresponding to the set point requested.
 - Act on external knob until microswitch is actuated when variation decreases.
 - If dead band is adjustable, act on internal knob to obtain requested deactuation point of the microswitch when variation increases.
 - Check and repeat last process if necessary.

