



**BOURDON**  
The Original by Baumer

### Main Features

- Excellent repeatability
- Fix dead band for control and alarm
- Dead band adjustment for regulation
- Intrinsic safety Hazardous area 0, 1, 2

### Applications

- Power generation safety equipment
- Pressurized chambers control
- Liquid level control



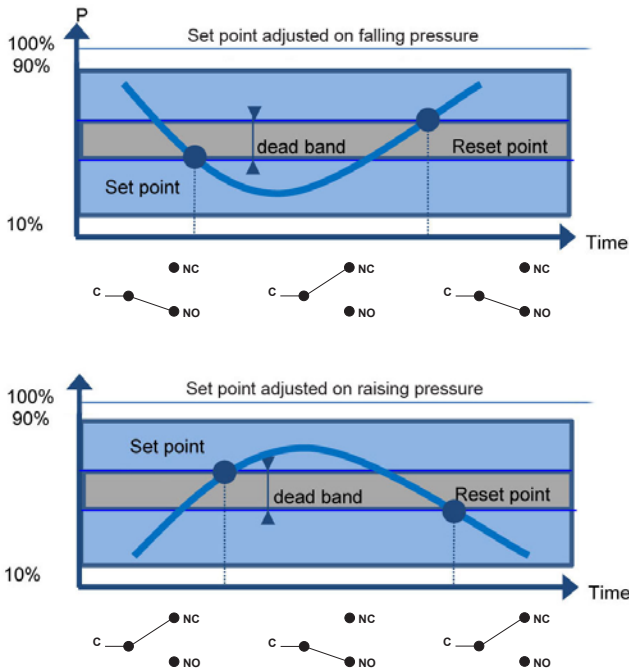
### Technical Data

Pressure range	-200 mbar ... 0 to 60 ... 600 bar	Cover	Zamak blue painted
Temperatures	<u>Pressure range codes 101 to 153</u>		Captive stainless steel screws
	Medium : -15 ... + 150°C	Case	Black Zamak
	Ambient : -25 ... + 70°C (T5)	Mounting	Wall mounting bracket
	-25 ... + 55°C (T6)	Ground connection	Via internal terminal block
Storage : -40 ... + 70°C	<u>Pressure range codes 200 to 602</u>	Electrical connection	Terminal block with plastic cable gland for Ø 7 to 10.5 mm
	Medium : -50 ... + 200°C	Electrical function	See ordering code details on page 5
	Ambient : -25 ... + 55°C (T6)	Adjustment	2 external adjustment screws on top of the case for set point and dead band
	Storage : -40 ... + 70°C	ATEX	<u>Type examination certificate</u> LCIE 03 ATEX 6123X EN 60079-0 : 2009 EN 60079-11 : 2012
Repeatability	± 1% F.S. @ constant pressure cycle		<u>Marking</u> CE 0081 Ex I M 1 Ex ia I Ma Ex II 1 G Ex ia IIC T6 or T5 Ga
CE conformity	Low Voltage Directive LVD 2006/95/EC Pressure Equipment Directive PED 97/23/EC ATEX Directive 94/9/EC		<u>Electrical data</u> U <sub>max</sub> = 28 Vdc I <sub>max</sub> = 120 mA P <sub>max</sub> = 0.84 W C <sub>i</sub> = Negligible ; L <sub>i</sub> = Negligible
Protection rating	IP 66 (EN 60529)		
Process connection	Stainless steel 1.4404 (316L)		
Sensing element	<u>Pressure range codes 101 to 153</u>		
	Flanges : Stainless steel 1.4404 (316L)		
	Diaphragm : Viton®		
	<u>Pressure range codes 200 to 209</u>		
Bellow : Stainless steel 1.4404 or 1.4432 (316L)			
	<u>Pressure range codes 600 to 602</u>		
	Piston : Nickel plated steel		
Scale	Internal. Accuracy on reading ± 5% FS		

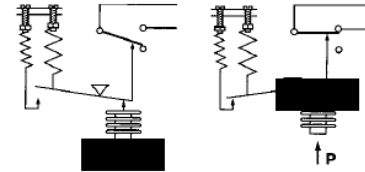
### Options

Customer specific set point adjustment	Code SETP
Oxygen application	Code 0765
Mounting on 2" pipe	Code 0407
Electrical connection : stainless steel connector (Souriau)	Code 2298
Mobile plug for stainless steel connector (Souriau)	Code 2249
Stainless steel tag plate and wire	Code 9941
Lead seal of the adjustment screws	Code 8990

## Principle



A flexible sensing element actuates a microswitch by means of a lever. The set point is adjusted by means of a compressible spring installed in opposition.



Set point and reset point must be between 10% and 90% of the selected scale.

### Standard factory adjustment

Setpoint at 50% of the scale on falling pressure

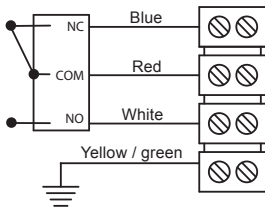
### Customer specific factory adjustment (option SETP)

The following specifications have to be given with the order:

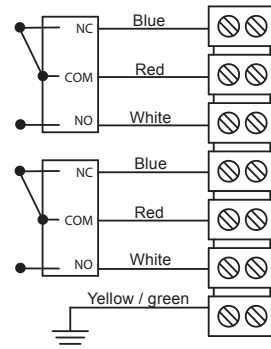
- Setpoint value
- Adjustment on falling or raising pressure
- Dead band value when using an adjustable dead band switch

## Electrical connections

### 1 SPDT



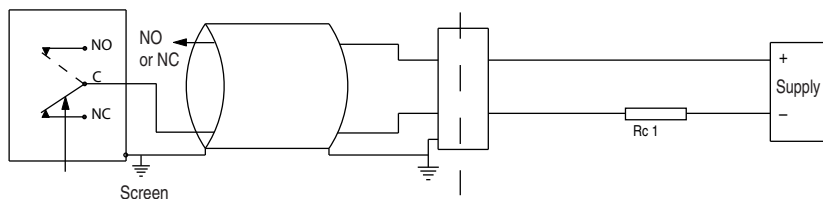
### 2 SPDT



Hazardous area  
Zone 0, 1, 2

Certified safety  
barrier

Non hazardous  
area



For max. ambient temperature according to temperature classes T5 and T6 refer to technical data on page 1.  
The installation must be made in an intrinsically safe circuit whose certified electrical safety parameters do not exceed any of the values  $U_{max}$ ,  $I_{max}$  and  $P_{max}$  given in the electrical data on page 1.

All necessary measures must be taken by the user, to avoid the calorific transfer from the fluid to the apparatus head increasing the head's temperature to such that it reaches the self-ignition temperature of the gas in which it is used.

## Micro switches characteristics

Switch code	N (T)	M (K)	C (W)	S
Type	Tropicalized	Gold contact	Hermetic	Ultrasensitive Gold contact
6 Vdc	0.1 ... 0.12 A	10 ... 50 mA	5 ... 120 mA	10 ... 50 mA
12 Vdc	N/A	10 ... 50 mA	5 ... 66 mA	10 ... 50 mA
24 Vdc	N/A	10 ... 33 mA	5 ... 33 mA	10 ... 33 mA
30 Vdc	N/A	N/A	N/A	N/A
48 Vdc	N/A	N/A	N/A	N/A
110 Vdc	N/A	N/A	N/A	N/A
220 Vdc	N/A	N/A	N/A	N/A
115 Vac	N/A	N/A	N/A	N/A
250 Vac	N/A	N/A	N/A	N/A
Dielectric rigidity between contacts and ground	2000 V	2000 V	1500 V	2000 V

## Adjustable ranges

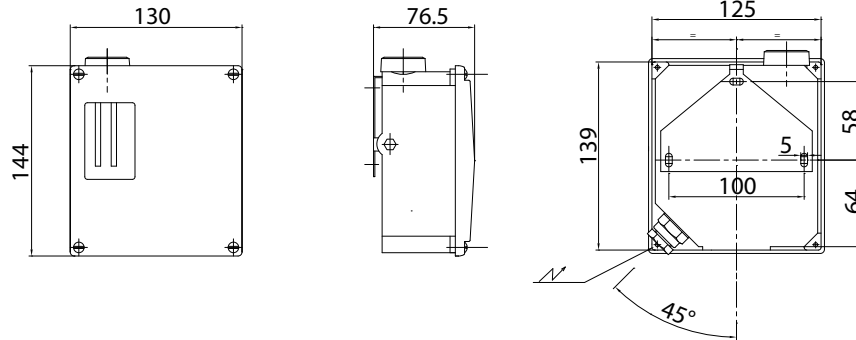
Scale	P. Max accidental	Code	Micro-switch dead band <sup>1)</sup>							
			Adjustable dead band				Fixed dead band			
			N (T*)		M (K*)		C (W*)		S	
			10%	90%	10%	90%	10%	90%		
<b>mbar</b>	<b>bar</b>		<b>mbar</b>							
-50 ... 0	0.15	<b>101</b>	2 - 25	2.5 - 25	6.5 - 25	7.5 - 25	1.2	1.4		
-2 ... 10	0.15	<b>102</b>	1 - 5	1.2 - 5	4.5 - 5	4.5 - 5	0.7	0.8		
-5 ... 50	0.15	<b>103</b>	1.2 - 15	2 - 15	5 - 15	7 - 15	1	11		
-8 ... 100	0.15	<b>104</b>	1.5 - 25	2 - 25	5 - 25	10 - 25	1.2	1.4		
-200 ... 0	1	<b>151</b>	6 - 80	8 - 80	15 - 80	15 - 80	4.6	8.4		
0 ... 200	1	<b>152</b>	6 - 80	8 - 80	15 - 80	15 - 80	4.6	8.4		
0 ... 400	1	<b>153</b>	15 - 150	20 - 150	30 - 150	35 - 150	9	17		
<b>bar</b>	<b>bar</b>	<b>Code</b>	<b>mbar</b>							
-1 ... 0	1.5	<b>200</b>	25 - 250	35 - 250	80 - 250	95 - 250	12	17		
-1 ... 2.5	7	<b>201</b>	80 - 1200	100 - 1200	150 - 1200	200 - 1200	50	70		
0 ... 0.2	1.5	<b>202</b>	15 - 100	20 - 100	60 - 100	65 - 100	10	14		
0.05 ... 1	1.5	<b>203</b>	20 - 400	25 - 400	80 - 400	95 - 400	10	14		
0.5 ... 10	30	<b>204</b>	200 - 3000	250 - 3000	650 - 3000	850 - 3000	105	140		
3.5 ... 25	30	<b>205</b>	600 - 5000	1200 - 5000	750 - 5000	1300 - 5000	140	280		
<b>bar</b>	<b>bar</b>	<b>Code</b>	<b>bar</b>							
5 ... 50	65	<b>206</b>	1 - 10	2 - 10	2.5 - 10	3 - 10	0.345	0.560		
5 ... 100	220	<b>207</b>	2.5 - 15	3 - 15	5.5 - 15	6.5 - 15	1.2	1.6		
20 ... 150	220	<b>208</b>	2.5 - 15	3.5 - 15	5.5 - 15	6.5 - 15	1.2	1.7		
-1 ... 3.5	30	<b>209</b>	0.15 - 1.5	0.2 - 1.5	0.65 - 1.5	0.85 - 1.5	0.105	0.140		
25 ... 175	800	<b>600</b>	20 - 80	30 - 80	30 - 80	10 - 25	23	40		
30 ... 350	800	<b>601</b>	20 - 100	30 - 100	30 - 100	35 - 100	26	50		
60 ... 600	800	<b>602</b>	20 - 120	30 - 120	30 - 120	35 - 120	26	60		

(\*) For version with 2 microswitches lower values of the dead band must be multiplied x 1.5

<sup>1)</sup> The value of the dead band is depending on the value of the set point.

This table contains the dead band values for set point adjustment at 10% and 90% of the selected scale. For adjustable dead band the lower value corresponds to the dead band spring totally released and the higher corresponds to the dead band spring fully tensed. For other set points the dead band value can be calculated by linear interpolation between the values at 10% and 90%.

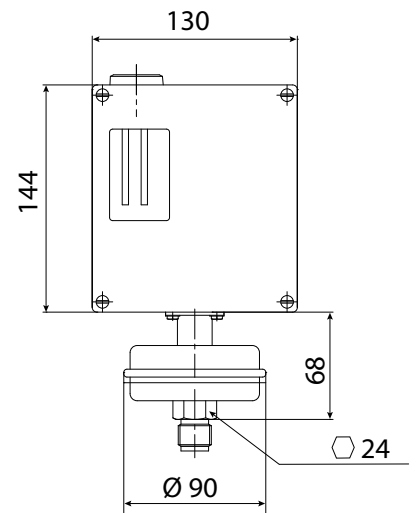
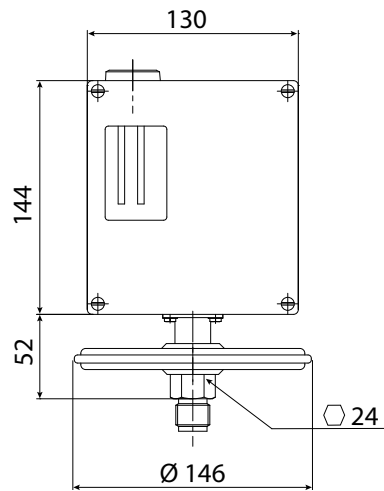
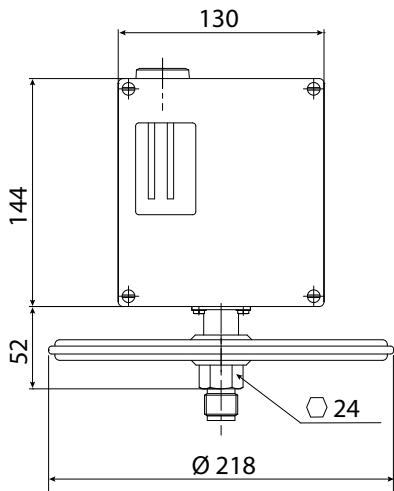
**Dimensions (mm)**



Pressure range code : 101 - 102 - 103 - 104  
Weight : 3 kg

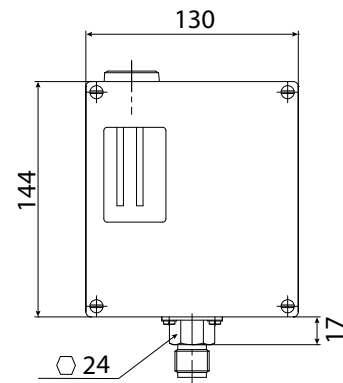
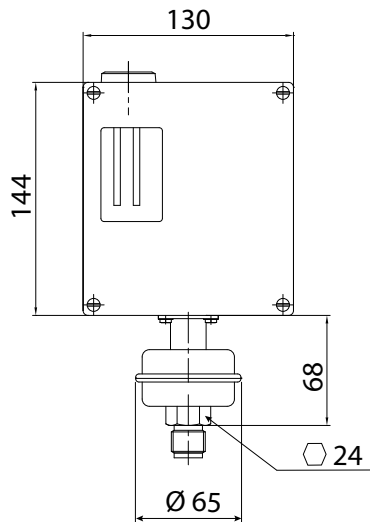
Pressure range code : 151 - 152 - 153  
Weight : 2.8 kg

Pressure range code : 200 - 202 - 203  
Weight : 2.5 kg



Pressure range code : 201  
Weight : 2.4 kg

Pressure range code : 204 - 205 - 206 - 207  
208 - 209 - 600 - 601 - 602  
Weight : 2 kg



## Ordering details RPPY

	RP	PY	-			.	xxx	/
<b>Model</b>								
Industrial pressure switch	RP							
<b>Approvals</b>								
ATEX intrinsic safety		PY						
<b>Sensing element</b>								
Diaphragm (Viton®, range 101 to 153)							3	
Bellow (stainless steel, range 200 to 209) or Piston (nickel plated steel, range 600 to 602)							7	
<b>Type of micro switches</b>								
<b>Deadband</b>								
1 SPDT hermetically changeover switch				Adjustable				C
2 SPDT hermetically changeover switch				Adjustable				W
1 SPDT gold contact changeover switch				Adjustable				M
2 SPDT gold contact changeover switch				Adjustable				K
1 SPDT tropicalized changeover switch				Adjustable				N
2 SPDT tropicalized changeover switch				Adjustable				T
1 SPDT ultrasensitive gold contact changeover switch				Fix				S
<b>Process connection</b>								
G 1/2 male (standard)								3
1/2 NPT male								6
1/4 NPT female								8
<b>Pressure range (mbar)</b>				<b>Pressure range (kPa)</b>				
-50 ... 0				-5 ... 0	1)			101
-2 ... 10				-0.2 ... 1	1)			102
-5 ... 50				-0.5 ... 5	1)			103
-8 ... 100				-0.8 ... 10	1)			104
-200 ... 0				-20 ... 0	1)			151
0 ... 200				0 ... 20	1)			152
0 ... 400				0 ... 40	1)			153
<b>Pressure range (bar)</b>				<b>Pressure range (kPa)</b>				
-1 ... 0				-100 ... 0	2)			200
-1 ... 2.5				-100 ... 250	2)			201
0 ... 0.2				0 ... 20	2)			202
0.05 ... 1				5 ... 100	2)			203
0.5 ... 10				50 ... 1000	2)			204
3.5 ... 25				350 ... 2500	2)			205
5 ... 50				500 ... 5000	2)			206
5 ... 100				500 ... 10000	2)			207
20 ... 150				2000 ... 15000	2)			208
-1 ... 3.5				-100 ... 350	2)			209
25 ... 175				2500 ... 17500	2)			600
30 ... 350				3000 ... 35000	2)			601
60 ... 600				6000 ... 60000	2)			602
<b>Options to be added behind the / (see example below)</b>								

1) Only RPPY3  
2) Only RPPY7

## Ordering example with options

	RP	PY	-	3	C	3	.	101	/	0407	-	9941
Industrial pressure switch	RP											
With ATEX approval intrinsic safety		PY										
Diaphragm Viton®					C							
1 SPDT hermetically changeover switch				3								
Process connection G 1/2 male						3						
Pressure range -50 ... 0 mbar							.	101				
Option : Mounting on 2" pipe									/	0407		
Option : Stainless steel tag plate and wire											-	9941