



**BOURDON**  
The Original by Baumer

## Main Features

- Excellent repeatability
- Dead band adjustment for regulation
- Fix dead band for control and alarm

## Applications

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



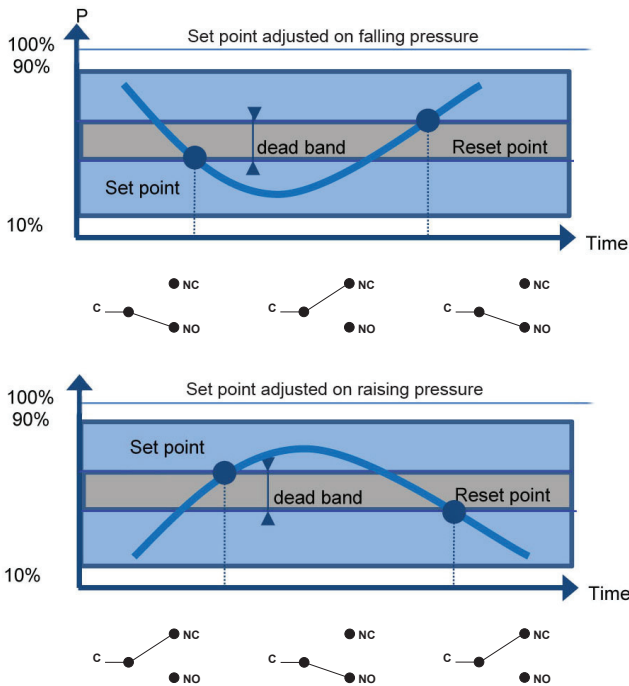
## Technical Data

Pressure range	-200 mbar ... 0 to 60 ... 600 bar	Scale	Internal. Accuracy on reading $\pm 5\%$ F.S.
Temperatures	<u>Pressure range codes 101 to 153</u>	Cover	Zamak blue painted Captive stainless steel screws
	Medium: -15 ... +150 °C	Case	Black Zamak
	Ambient: -25 ... + 70 °C		
	Storage: -40 ... + 70 °C	Mounting	Wall mounting bracket
	<u>Pressure range codes 200 to 602</u>	Ground connection	Via internal terminal block
Repeatability	Medium: -50 ... +200 °C	Electrical connection	Terminal block with plastic cable gland for $\varnothing 7$ to 10.5 mm
	Ambient: -25 ... + 55 °C		
	Storage: -40 ... + 70 °C	Electrical function	See ordering code details on page 5
CE conformity	Low Voltage Directive LVD 2006/95/EC	Adjustment	2 external adjustment screws on top of the case for set point and dead band
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)		
Piston:	<u>Pressure range codes 600 to 602</u>		
	Nickel plated steel		

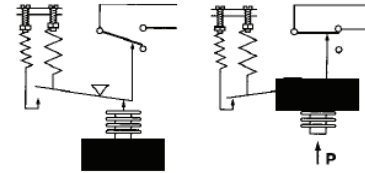
## Options

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

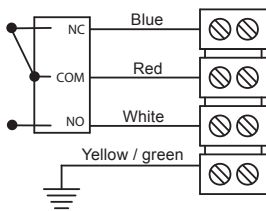
### Customer specific factory adjustment (option SETP)

The following specifications have to be given with the order:

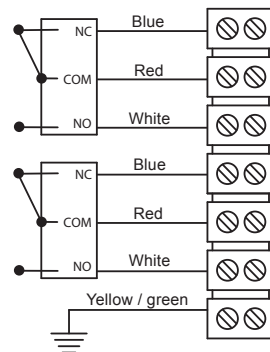
- Setpoint value
- Adjustment on falling or raising pressure
- Dead band value (as needed) when using an adjustable dead band switch

## Electrical connections

### 1 SPDT



### 2 SPDT



**Micro switches characteristics**

Switch code	A (B)	M (K)	C (W)	E (F)	H	D (V)	J
Type	Standard	Gold contact	Hermetic	Ultra sensitive	Manual reset	Ultra sensitive Hermetic	Manual reset
6 Vdc	0.4 ... 10 A	10 ... 50 mA	5 mA ... 4 A	0.4 ... 1 A	N/A	0.4 ... 4 A	N/A
12 Vdc	0.4 ... 10 A	10 ... 50 mA	5 mA ... 4 A	0.4 ... 1 A	N/A	0.4 ... 4 A	N/A
24 Vdc	0.4 ... 6 A	10 ... 50 mA	5 mA ... 4 A	0.4 ... 1 A	0.1 ... 8 A	0.4 ... 4 A	N/A
30 Vdc	0.4 ... 6 A	10 ... 50 mA	5 mA ... 3 A	0.4 ... 1 A	0.1 ... 8 A	0.4 ... 2 A	0.1 ... 10 A
48 Vdc	0.4 ... 6 A	10 ... 50 mA	5 mA ... 3 A	N/A	0.1 ... 8 A	N/A	0.1 ... 10 A
110 Vdc	0.1 ... 0.5 A	10 ... 50 mA	5 mA ... 1 A	N/A	N/A	N/A	N/A
220 Vdc	0.1 ... 0.25 A	10 ... 50 mA	5 mA ... 0.5 A	N/A	N/A	N/A	N/A
115 Vac	0.4 ... 10 A	10 ... 50 mA	50 mA ... 3 A	0.4 ... 10 A	0.1 ... 10 A	N/A	0.1 ... 10 A
250 Vac	0.2 ... 10 A	10 ... 50 mA	50 mA ... 2.5 A	0.2 ... 10 A	0.1 ... 5 A	N/A	0.1 ... 5 A
Dielectric rigidity between contacts and ground	2000 V	2000 V	1500 V	2000 V	2000 V	1000 V	2000 V

**Adjustable ranges**

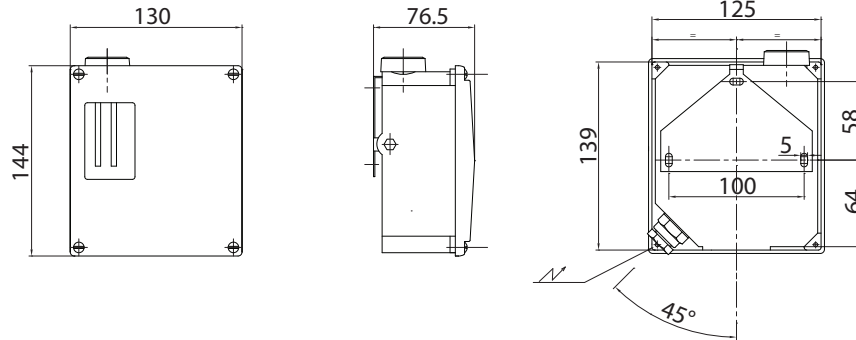
Scale	P. Max accidental	Code	Micro-switch dead band <sup>1)</sup>										
			Adjustable dead band				Fixed dead band						
			A (B*)		M (K*)		C (W*)		E (F*)		H	D (V*)	J
			10%	90%	10%	90%	10%	90%	10%	90%	10%	90%	
<b>mbar</b>	<b>bar</b>		<b>mbar</b>										
-50 ... 0	0.15	<b>101</b>	2 - 25	2.5 - 25	6.5 - 25	7.5 - 25	0.5	0.5	2.5	3			
-2 ... 10	0.15	<b>102</b>	1 - 5	1.2 - 5	4.5 - 5	4.5 - 5	0.3	0.3	1.5	1.5			
-5 ... 50	0.15	<b>103</b>	1.2 - 15	2 - 15	5 - 15	7 - 15	0.4	0.4	1.5	2.5			
-8 ... 100	0.15	<b>104</b>	1.5 - 25	2 - 25	5 - 25	10 - 25	0.5	0.5	2	2.5			
-200 ... 0	1	<b>151</b>	6 - 80	8 - 80	15 - 80	15 - 80	2	3	7.5	10			
0 ... 200	1	<b>152</b>	6 - 80	8 - 80	15 - 80	15 - 80	2	3	7.5	10			
0 ... 400	1	<b>153</b>	15 - 150	20 - 150	30 - 150	35 - 150	4	6	18	25			
<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	5	6	30	42			
-1 ... 2.5	7	<b>201</b>	80 - 1200	100 - 1200	150 - 1200	200 - 1200	22	25	96	120			
0 ... 0.2	1.5	<b>202</b>	15 - 100	20 - 100	60 - 100	65 - 100	4	5	18	24			
0.05 ... 1	1.5	<b>203</b>	20 - 400	25 - 400	80 - 400	95 - 400	4	5	24	30			
0.5 ... 10	30	<b>204</b>	200 - 3000	250 - 3000	650 - 3000	850 - 3000	45	50	240	300			
3.5 ... 25	30	<b>205</b>	600 - 5000	1200 - 5000	750 - 5000	1300 - 5000	60	100	720	1440			
<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	0.15	0.2	1.5	2.5			
5 ... 100	220	<b>207</b>	2.5 - 15	3 - 15	5.5 - 15	6.5 - 15	0.7	0.9	3	3.5			
20 ... 150	220	<b>208</b>	2.5 - 15	3.5 - 15	5.5 - 15	6.5 - 15	0.7	1	3	4.5			
-1 ... 3.5	30	<b>209</b>	0.15 - 1.5	0.2 - 1.5	0.65 - 1.5	0.85 - 1.5	0.045	0.050	0.2	0.25			
25 ... 175	800	<b>600</b>	20 - 80	30 - 80	30 - 80	35 - 80	14	14	24	36			
30 ... 350	800	<b>601</b>	20 - 100	30 - 100	30 - 100	35 - 100	16	16	24	36			
60 ... 600	800	<b>602</b>	20 - 120	30 - 120	30 - 120	35 - 120	16	16	24	36			

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

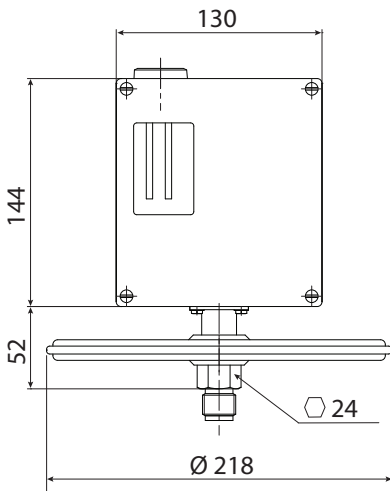
<sup>1)</sup> The value of the dead band is depending on the value of the set point.

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%.

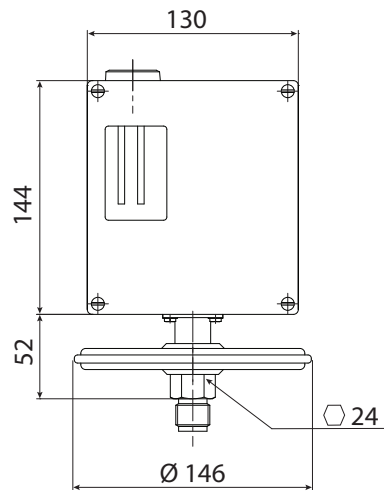
**Dimensions (mm)**



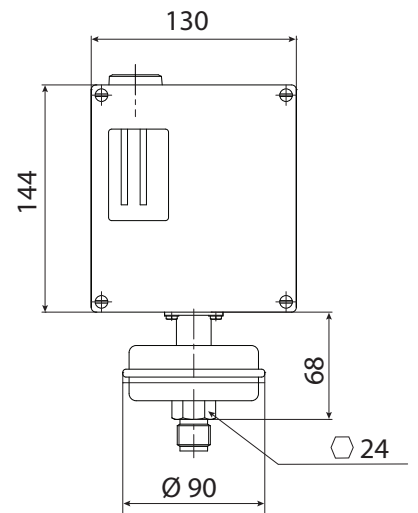
Pressure range codes: 101 - 102 - 103 - 104  
Weight: 3 kg



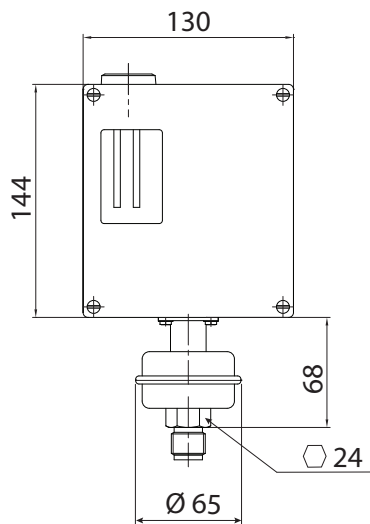
Pressure range codes: 151 - 152 - 153  
Weight: 2.8 kg



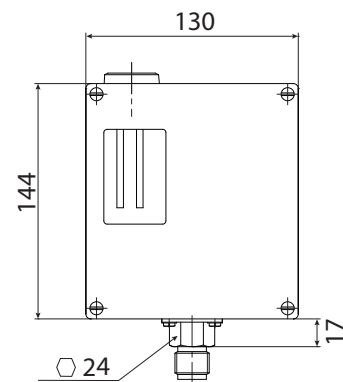
Pressure range codes: 200 - 202 - 203  
Weight: 2.5 kg



Pressure range codes: 201  
Weight: 2.4 kg



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



## Ordering details RPPN

	RP	PN	-				.	xxx	/
<b>Model</b>									
Industrial pressure switch	RP								
<b>Approvals</b>									
Standard version without ATEX approval		PN							
<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 standard changeover switch								Adjustable	A
2 SPDT standard changeover switch								Adjustable	B
1 SPDT hermetically changeover switch								Adjustable	C
2 SPDT hermetically changeover switch								Adjustable	W
1 SPDT ultra sensitive changeover switch								Fix	E
2 SPDT ultra sensitive changeover switch								Fix	F
1 SPDT hermetically, ultra sensitive changeover switch								Fix	D
2 SPDT hermetically, ultra sensitive changeover switch								Fix	V
1 SPDT gold contact changeover switch								Adjustable	M
2 SPDT gold contact changeover switch								Adjustable	K
1 SPDT changeover switch, manual reset, opening on raising pressure								Fix	H
1 SPDT changeover switch, manual reset, opening on falling pressure								Fix	J
Pneumatic changeover contact, NO									Z
Pneumatic changeover contact, NC									Y
<b>Process connection</b>									
G 1/2 male (standard)									3
1/2 NPT male									6
1/4 NPT female									8

Pressure range (mbar)	Pressure range (kPa)		
-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
Pressure range (bar)	Pressure range (kPa)		
-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

Options to be added behind the / (see example below)

- 1) Only RPPN3
- 2) Only RPPN7

## Ordering example with options

	RP	PN	-	3	A	3	.	101	/	0407	-	9941
Industrial pressure switch	RP	PN	-									
Without ATEX approval				3								
Diaphragm Viton®					A							
1 SPDT standard changeover switch						3						
Process connection G 1/2 male							.					
Pressure range -50 ... 0 mbar								101	/			
Option: Mounting on 2" pipe										0407		
Option: Stainless steel tag plate and wire											-	9941