



**BOURDON**  
The Original by Baumer



## Main Features

- Excellent repeatability
- Fix dead band for control and alarm
- Dead band adjustment for regulation
- Explosion proof Hazardous areas 1, 2, 21, 22

## Applications

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

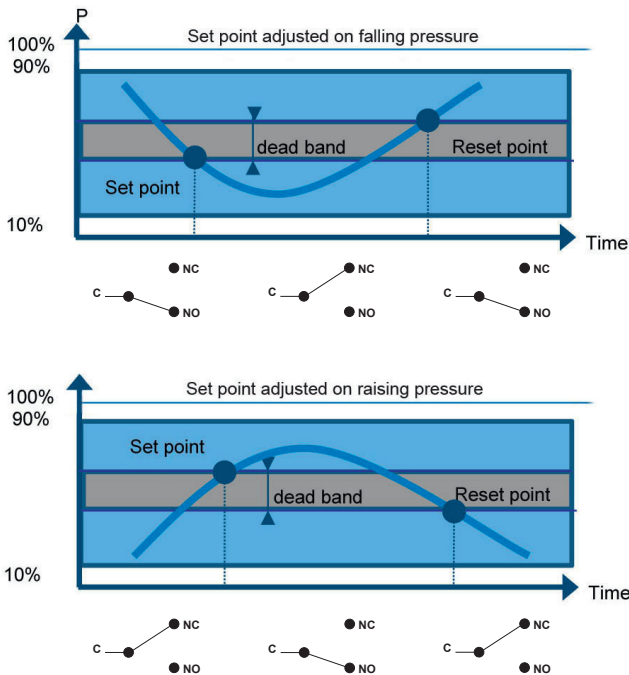
## Technical Data

Pressure range	-50 mbar ... 0 to 60 ... 600 bar	Scale	Internal. Accuracy on reading $\pm 5\%$ F.S.
Temperatures	<u>Pressure range codes 101 to 153</u>	Housing	Type RA80, explosion proof, flameproof Aluminium epoxy painted. Captive stainless steel screws
	Medium: -15 ... +150 °C	Mounting	3 back lugs for wall mounting
	Ambient: -20 ... + 70 °C (T5)		
	-20 ... + 60 °C (T6)	Ground connection	Via internal terminal block
	Storage: -40 ... + 70 °C	Electrical connection	Terminal block with metallic cable gland for $\varnothing 7$ to 12 mm standard
	<u>Pressure range codes 200 to 602</u>	Electrical function	See ordering code details in page 5
Repeatability	Medium: -50 ... +200 °C	Adjustment	2 external adjustment screws on top of the case for set point and dead band
	Ambient: -25 ... + 60 °C (T6)	ATEX/IECEX	<u>Certificate</u> LCIE 03 ATEX 6231X (Typ RA80) IECEX LCIE 15.0061X  <u>Classification</u> CE Ex II 2 G D Ex d IIC T6 oder T5 Gb Ex tb IIIC IIC T80 °C oder T95 °C Db  <u>T° ambient</u> -20 °C to +60 °C (T6 or T80 °C) or -20 °C to +70 °C (T5 or T95 °C)
Storage: -40 ... + 70 °C			
CE conformity	Low Voltage Directive 2014/35/EU ATEX Directive 2014/34/EU		
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			

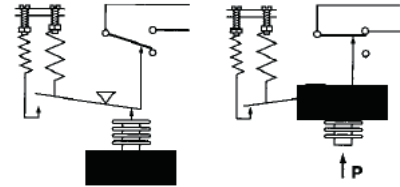
## Options

Customer specific set point adjustment	Code SETP
Oxygen application	Code 0765
Mounting on 2" pipe	Code 0407
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

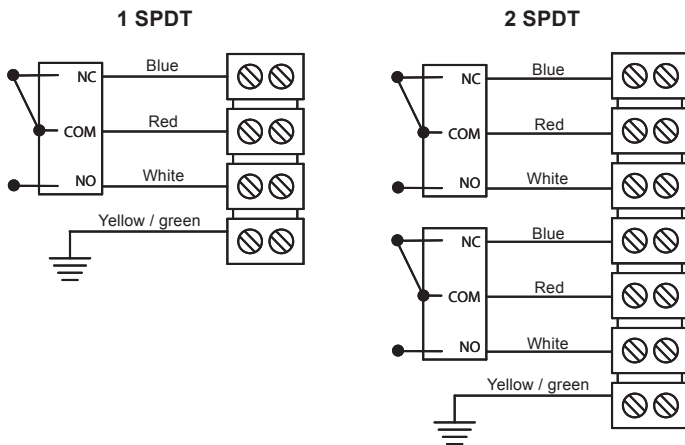
Setpoint at 50% of the scale on falling pressure

### Customer specific factory adjustment (option SETP)

The following specifications have to be given with the order:

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

## Electrical connections



### Hazardous areas : 1, 2, 21, 22

-20 °C ≤ Ta ≤ +70 °C	Dust IP6x	Gases
	T° surface	Class
Ta = 60 °C	80 °C	T6
Ta = 70 °C	95 °C	T5

**Important:** Maximum power dissipated inside enclosure does not exceed 5 W

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

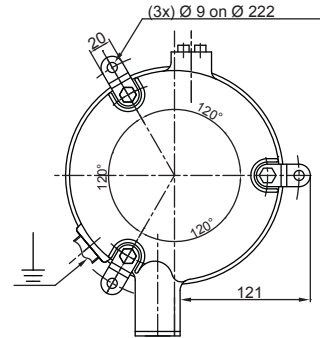
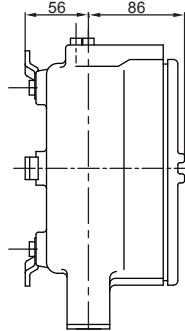
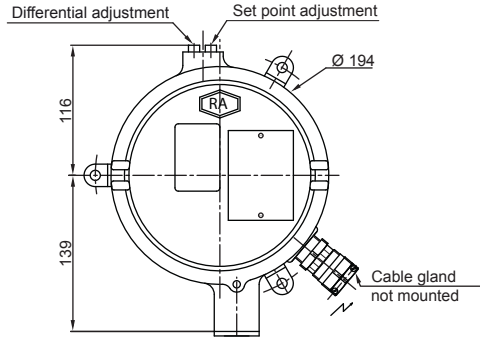
## Adjustable ranges

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*)		D (V*)	
			10%	90%	10%	90%	10%	90%	10%	90%	10%	90%
mbar	bar		mbar									
-50 ... 0	0.15	<b>101</b>	3 - 37	3.8 - 37	9.8 - 37	11.3 - 37	0.75	0.75	3.8	4.5		
-2 ... 10	0.15	<b>102</b>	1.5 - 8	1.8 - 8	6.8 - 8	6.8 - 8	0.45	0.45	2.3	2.3		
-5 ... 50	0.15	<b>103</b>	1.8 - 22	3 - 22	7.5 - 22	11 - 22	0.6	0.6	2.3	3.8		
-8 ... 100	0.15	<b>104</b>	2.3 - 37	3 - 37	7.5 - 37	15 - 37	0.75	0.75	3	3.8		
-200 ... 0	1	<b>151</b>	9 - 120	12 - 120	23 - 120	23 - 120	3	4.5	11.3	15		
0 ... 200	1	<b>152</b>	9 - 120	12 - 120	23 - 120	23 - 120	3	4.5	11.3	15		
0 ... 400	1	<b>153</b>	23 - 220	30 - 220	45 - 220	53 - 220	6	9	27	37		
bar	bar	Code	mbar									
-1 ... 0	1.5	<b>200</b>	37 - 375	53 - 375	120 - 375	142 - 375	7.5	9	45	63		
-1 ... 2.5	7	<b>201</b>	120 - 1800	150 - 1800	225 - 1800	300 - 1800	33	37	144	180		
0 ... 0.2	1.5	<b>202</b>	22 - 150	30 - 150	90 - 150	97 - 150	6	7.5	27	36		
0.05 ... 1	1.5	<b>203</b>	30 - 600	37 - 600	120 - 600	142 - 600	6	7.5	36	45		
0.5 ... 10	30	<b>204</b>	300 - 4500	375 - 4500	975 - 4500	1275 - 4500	67	75	360	450		
3.5 ... 25	30	<b>205</b>	900 - 7500	1800 - 7500	1125 - 7500	1950 - 7500	90	150	1080	2160		
bar	bar	Code	bar									
5 ... 50	65	<b>206</b>	1.5 - 15	3 - 15	3.7 - 15	4.5 - 15	0.225	0.3	2.2	3.7		
5 ... 100	220	<b>207</b>	3.7 - 22	4.5 - 22	8.2 - 22	9.7 - 22	1.050	1.350	4.5	5.2		
20 ... 150	220	<b>208</b>	3.7 - 22	5.2 - 22	8.2 - 22	9.7 - 22	1.050	1.500	4.5	6.7		
-1 ... 3.5	30	<b>209</b>	0.22 - 2.2	0.3 - 2.2	0.97 - 2.2	1.27 - 2.2	0.067	0.075	0.3	0.37		
25 ... 175	800	<b>600</b>	30 - 120	45 - 120	45 - 120	52 - 120	22	22	36	54		
30 ... 350	800	<b>601</b>	30 - 150	45 - 150	45 - 150	52 - 150	24	24	36	54		
60 ... 600	800	<b>602</b>	30 - 180	45 - 180	45 - 180	52 - 180	24	24	36	54		

(\*) When using 2 microswitches deadband lower values should be x1.5

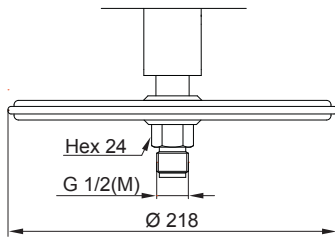
<sup>1)</sup> The value of the deadband is depending on the value of the set point. This table contains the deadband values for set point adjustment at 10% and 90% of the selected scale. For adjustable deadband the lower value corresponds to the deadband spring totally released and the higher corresponds to the deadband spring fully tensed. For other set points the deadband value can be calculated by linear interpolation between the values at 10% and 90%.

**Dimensions (mm)**

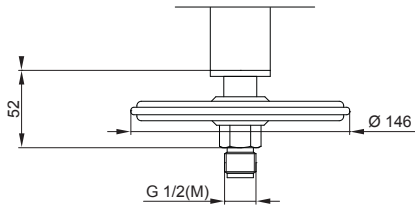


Weight of the housing: 4.4 kg

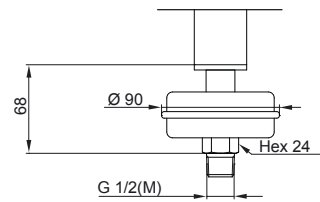
**Pressure range code: 101 - 102 - 103 - 104**  
Weight: 3 kg



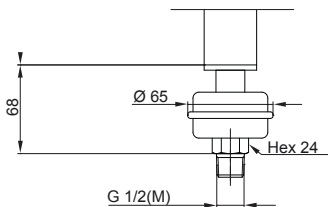
**Pressure range code: 151 - 152 - 153**  
Weight: 2.8 kg



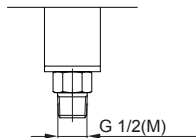
**Pressure range code: 200 - 202 - 203**  
Weight: 2.5 kg



**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 RPPE3 - RPPE7

	RP	PE	-			.	xxx	/
<b>Model</b>	RP							
Industrial pressure switch								
<b>Approvals</b>								
Explosion proof		PE						
<b>Sensing element</b>								
Diaphragm (Viton®, range 101 to 153)							3	
Below (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								A
2 SPDT standard changeover switch								B
1 SPDT hermetically changeover switch								C
2 SPDT hermetically changeover switch								W
1 SPDT ultra sensitive changeover switch								E
2 SPDT ultra sensitive changeover switch								F
1 SPDT hermetically, ultra sensitive changeover switch								D
2 SPDT hermetically, ultra sensitive changeover switch								V
1 SPDT gold contact changeover switch								M
2 SPDT gold contact changeover switch								K
<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 RPPE3
- 2) Only RPPE7

## Ordering example with options

	RP	PE	-	3	A	3	.	101	/	0407	-	9941
Industrial pressure switch												
Explosion proof												
Diaphragm Viton®												
1 SPDT standard changeover switch												
Process connection G 1/2 male												
Pressure range -50 ... 0 mbar												
Option: Mounting on 2" pipe												
Option: Stainless steel tag plate and wire												