

BOURDON
The Original by Baumer



Main Features

- Excellent repeatability
- Dead band adjustment for regulation
- Fix dead band for control and alarm
- Intrinsic safety Hazardous area 0, 1, 2
- Static pressure max. 20 bar
- No influence of the static pressure on the setpoint

Applications

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

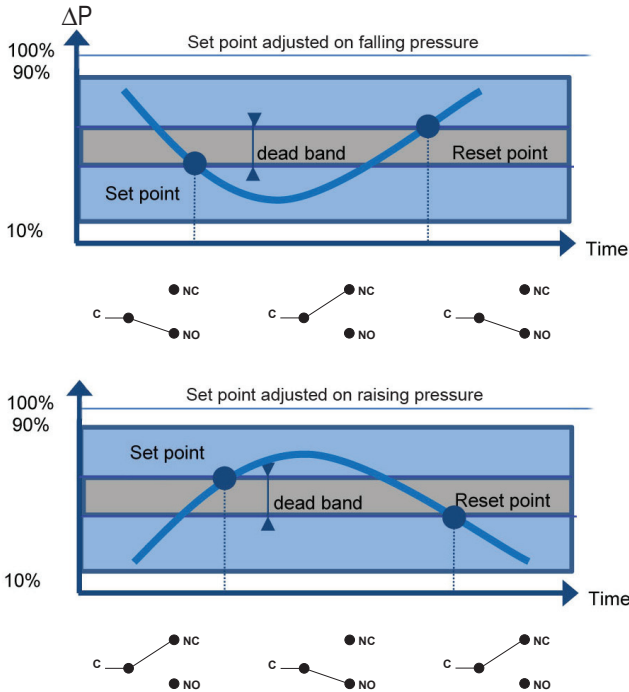
Technical Data

Pressure range	10 ... 200 mbar to 10 ... 2000 mbar	Electrical function	See ordering code details on page 5
Temperature	Process: -15 ... +150 °C Ambient: -25 ... + 55 °C Storage: -40 ... + 70 °C	Adjustment	2 external adjustment screws on top of the case for set point and dead band. The adjustment is not influenced by changes of the static pressure.
Repeatability	± 1% F.S. / constant pressure cycle	ATEX	<u>Type examination certificate</u> LCIE 03 ATEX 6123X EN 60079-0: 2012 (internal conformity analysis) EN 60079-11: 2012
CE conformity	Low Voltage Directive LVD 2006/95/EC ATEX Directive 94/9/EC		<u>Marking</u> CE 0081 Ex I M 1 Ex ia I Ma Ex II 1 G Ex ia IIC T6 or T5 Ga
Protection rating	IP 66 (EN 60529)		<u>Electrical data</u> U _{max} = 28 Vdc I _{max} = 120 mA P _{max} = 0.84 W C _i = Negligible ; L _i = Negligible
Process connection	Stainless steel 1.4404 (316L)		
Sensing element	Flanges: Stainless steel 1.4404 (316L) Diaphragm: Viton®		
Scale	Internal. Accuracy on reading ± 5% F.S.		
Cover	Zamak blue painted Captive stainless steel screws		
Case	Black Zamak		
Mounting	Wall mounting bracket		
Ground connection	Via internal terminal block		
Electrical connection	Terminal block with plastic cable gland for Ø 7 to 10.5 mm		

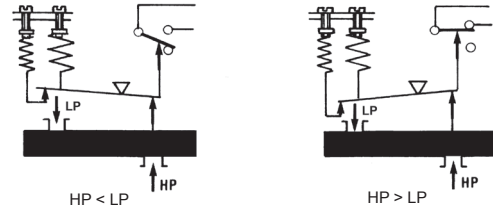
Options

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 piston. 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

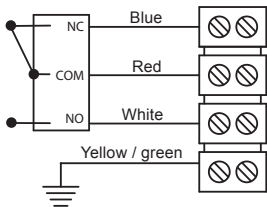
Customer specific factory adjustment (option SETP)

The following specifications have to be given with the order:

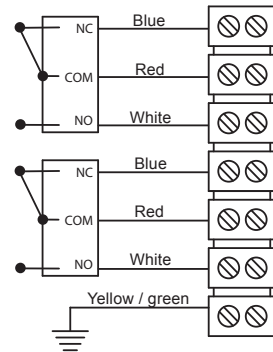
- Setpoint value
- Adjustment on falling or raising pressure.
- Dead band value (as needed) when using an adjustable dead band switch

Electrical connections

1 SPDT



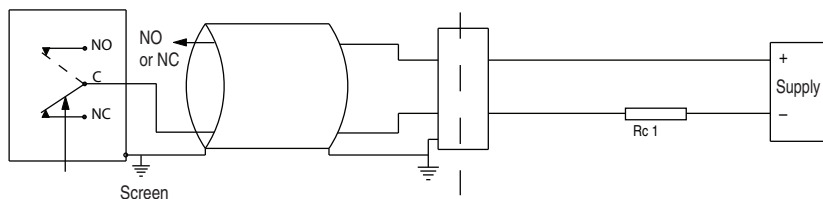
2 SPDT



Hazardous area
Zone 0, 1, 2

Certified safety
barrier

Non hazardous
area



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

Adjustable ranges

Scale	Max ΔP	Max P Static	Code	Micro-switch dead band ⁽¹⁾					
				Adjustable dead band				Fixed dead band	
				M (K*)		C(W*)		S	
				10%	90%	10%	90%	10%	90%
mbar	mbar	bar		mbar					
10 ... 200	200	20	156	8 - 80	10.5 - 80	35 - 80	45 - 80	5.8	9.5
10 ... 400	400	20	157	15 - 150	20 - 150	40 - 150	50 - 150	10.5	17
10 ... 1000	1000	20	158	18 - 150	22 - 150	45 - 150	60 - 150	11.5	19.6
10 ... 700	700	20	161**	30 - 250	45 - 250	130 - 450	150 - 450	27.5	34
10 ... 1500	1500	20	162**	30 - 300	45 - 300	130 - 450	150 - 450	27.5	34
10 ... 2000	2000	20	163**	45 - 300	90 - 300	180 - 450	300 - 450	31	50

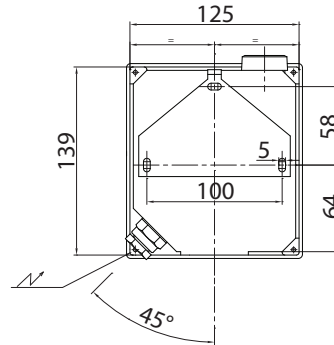
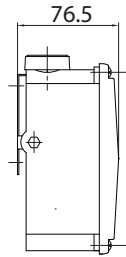
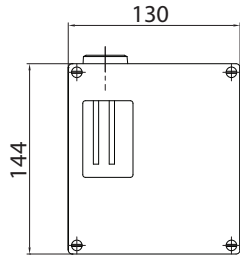
(*) For version with 2 microswitches lower values of the dead band must be multiplied x 1.5

(**) G1/4 female only

⁽¹⁾ 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)

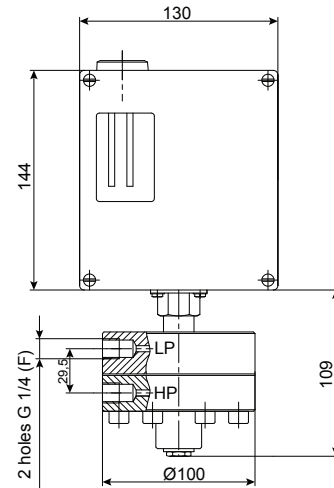
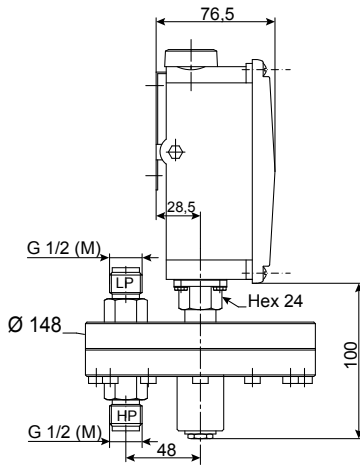


Pressure range codes: 156 - 157 - 158

Weight: 6.6 kg

Pressure range codes: 161 - 162 - 163

Weight: 7 kg



Ordering details RDY6

RD	Y	-	6		.	xxx	/
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Model

Differential pressure switch for variable static pressure

RD

Approvals

ATEX intrinsic safety

Y

Sensing element

Diaphragm (Viton®)

6

Type of micro switches

1 SPDT hermetically changeover switch
2 SPDT hermetically changeover switch
1 SPDT gold contact changeover switch
2 SPDT gold contact changeover switch
1 SPDT ultrasensitive gold contact changeover switch

Deadband

Adjustable
Adjustable
Adjustable
Adjustable
Fix

C
W
M
K
S

Process connection

G 1/4 female (only pressure ranges 161, 162, 163)
G 1/2 male (standard)
1/2 NPT male
1/4 NPT female

H
3
6
8

Pressure range (mbar)

10 ... 200
10 ... 400
10 ... 1000
10 ... 700
10 ... 1500
10 ... 2000

Pressure range (kPa)

1 ... 20
1 ... 40
1 ... 100
1 ... 70
1 ... 150
1 ... 200

Process connection G1/4 female
Process connection G1/4 female
Process connection G1/4 female

156
157
158
161
162
163

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

Ordering example with options

RD	Y	-	6	C	3	.	156	/	0407	-	9941
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- Differential pressure switch
- With ATEX approval intrinsic safety
- Sensing element diaphragm
- 1 SPDT hermetically changeover switch
- Process connection G 1/2 male
- Pressure range 10 ... 200 mbar
- Option: Mounting on 2" pipe
- Option: Stainless steel tag plate and wire