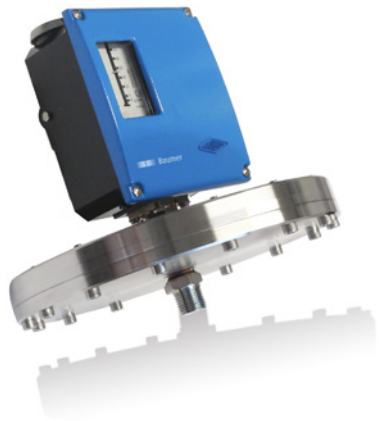
Baumer
Passion for Sensors

RPPY4

Industrial pressure switch with intrinsic safety and high overpressure resistance



BOURDON
The Original by Baumer

Main Features

- High over pressure resistant
- 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

IP 66

PED

Technical Data

Pressure range	-50 mbar ... 0 to 0 ... 2500 mbar
Temperature	Process : -15 ... +150°C Ambient : -25 ... +70°C (T5) -30 ... +55°C (T6) Storage : -40 ... +70°C
Repeatability	± 1% F.S. @ constant pressure cycle
CE conformity	Low Voltage Directive LVD 2006/95/EC Pressure Equipment Directive PED 97/23/EC ATEX Directive 94/9/EC
Protection rating	IP 66 (EN 60529)
Process connection	Stainless steel 1.4404 (316L)
Sensing element	Flanges : Stainless steel 1.4404 (316L) Diaphragm : Viton®
Scale	Internal. Accuracy on reading ± 5% FS
Cover	Zamak blue painted Captive stainless steel screws
Case	Black Zamak
Mounting	Wall mounting braket
Ground connection	Via internal terminal block

Electrical connection	Terminal block with plastic cable gland for Ø 7 to 10.5 mm
Electrical function	See ordering code details on page 5
Adjustment	2 external adjustment screws on top of the case for set point and dead band
ATEX	Type examination certificate LCIE 03 ATEX 6123X EN 60079-0 : 2009 EN 60079-11 : 2012 Marking CE 0081 Ex I M 1 Ex ia I Ma Ex II 1 G Ex ia IIC T6 or T5 Ga Electrical data U_{max} = 28 Vdc I_{max} = 120 mA P_{max} = 0.84 W C_i = Negligible ; L_i = Negligible

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

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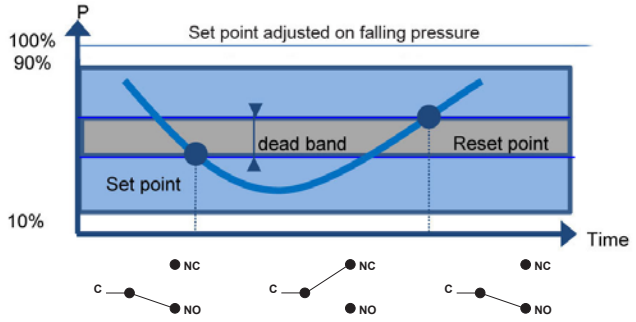
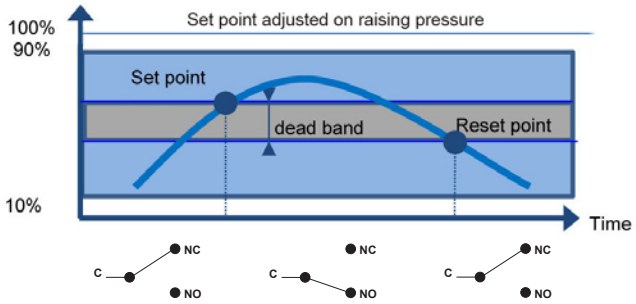
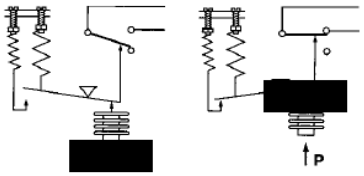
Principle





A vapour filled sensing element actuates a microswitch by means of a lever. The set point and the dead band are set by springs mounted in opposition



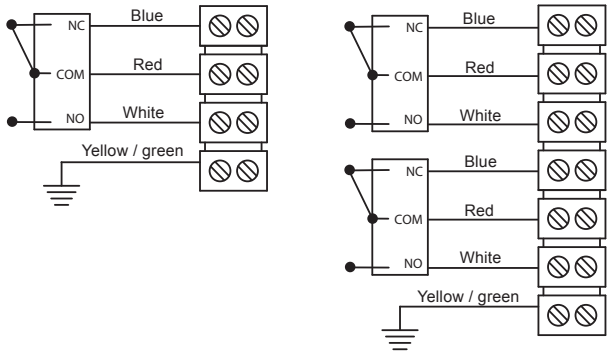
Set point and reset point must be between 10% and 90% of the selected scale.

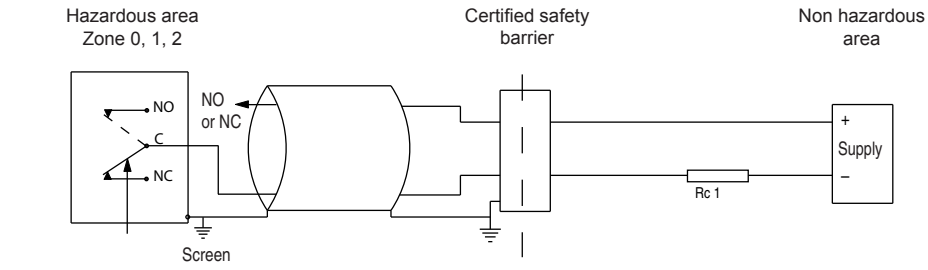
Standard factory adjustment
Setpoint at 50% of the scale on falling pressure

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**





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.

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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 [1]					
			Adjustable dead band				Fixed dead band	
			N (T*) M (K*)		C (W*)		S	
			10%	90%	10%	90%	10%	90%
mbar	bar		mbar	mbar	mbar	mbar	mbar	mbar
-50 ... 0	10	**101**	2 - 25	2.5 - 25	6.5 - 25	7.5 - 25	1.4	1.7
-2 ... 10	10	**102**	1 - 10	1 - 10	4.5 - 10	4.5 - 10	1	1.1
-5 ... 50	10	**103**	1 - 20	2 - 20	4.5 - 20	5 - 20	1	1.1
-8 ... 100	10	**104**	1.5 - 25	2.5 - 25	5 - 25	10 - 25	1.2	1.4
-200 ... 0	50	**151**	12 - 80	20 - 80	25 - 80	40 - 80	7	11
0 ... 200	50	**152**	15 - 80	25 - 80	30 - 80	45 - 80	8	11
0 ... 400	50	**153**	17 - 150	30 - 150	35 - 150	50 - 150	9.2	15.4
0 ... 1000	50	**154**	22 - 150	35 - 150	45 - 150	60 - 150	14	19.5
0 ... 700	100	**171****	20 - 350	40 - 350	40 - 350	70 - 350	16	25
0 ... 1500	100	**172****	20 - 350	60 - 350	40 - 350	100 - 350	16	25
0 ... 2500	100	**173****	25 - 350	90 - 350	50 - 350	160 - 350	21	31

(*) 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%.

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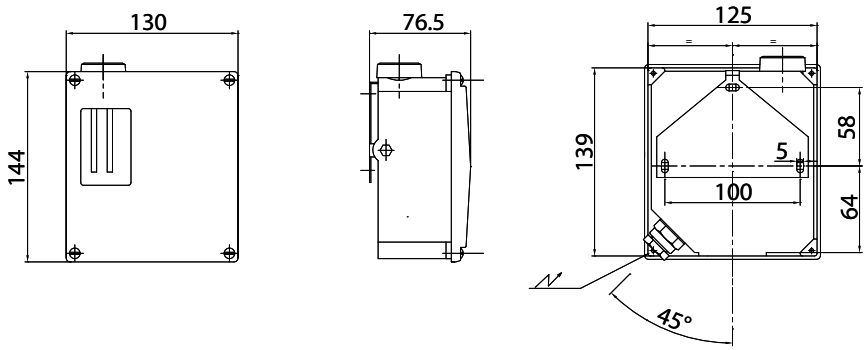
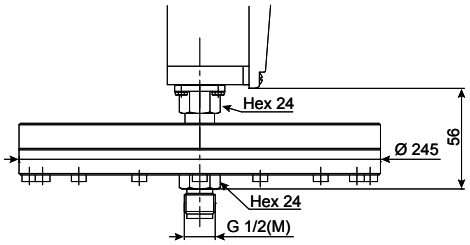
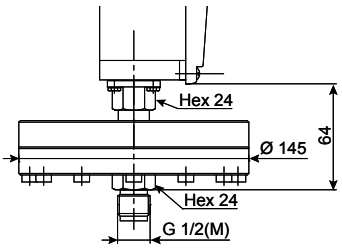
Dimensions (mm)



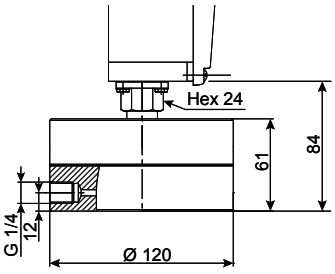
Pressure range code : 101 - 102 - 103 - 104
Weight : 10 kg



Pressure range code : 151 - 152 - 153 - 154
Weight : 6.4 kg



Pressure range code : 171 - 172 - 173
Weight : 7 kg



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Ordering details RPPY4

RP	PY	–	4			.	xxx	/

Model		
Industrial pressure switch		RP
Approvals		
ATEX intrinsic safety		PY
		–
Sensing element		
Diaphragm (Viton®), high overpressure resistance		4
Type of micro switches	**Deadband**	
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
Process connection		
G 1/4 female (only pressure ranges 171, 172, 173)		H
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		101
-2 ... 10	-0.2 ... 1		102
-5 ... 50	-0.5 ... 5		103
-8 ... 100	-0.8 ... 10		104
-200 ... 0	-20 ... 0		151
0 ... 200	0 ... 20		152
0 ... 400	0 ... 40		153
0 ... 1000	0 ... 100		154
0 ... 700	0 ... 70	Process connection G1/4 female	171
0 ... 1500	0 ... 150	Process connection G1/4 female	172
0 ... 2500	0 ... 250	Process connection G1/4 female	173
Options to be added behind the / (see example below)			/

Ordering example with options

RP	PY	–	4	C	3	.	101	/	0407	_	9941

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