RPPE6 - RPPE8

Industrial pressure switch, explosion proof with high overpressure resistance

BOURDON
The Original by Baumer

Main Features

- Excellent repeatability
- Dead band adjustment for regulation
- Fix dead band for control and alarm
- Overpressure up to 100 bar
- Explosion proof Hazardous areas 1, 2, 21, 22

Applications

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

IP 66

Technical Data

Pressure range	-1 ... 2.5 bar to 0.2 ... 4 bar
Temperature	Process: -50 ... +200 °C Ambient: -20 ... +55 °C Storage: -40 ... +70 °C
Repeatability	± 1% F.S. / constant pressure cycle
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	Pressure range code 201 (RPPE6) Diaphragm: Perbunan® Flanges: Steel, galvanized, bichromate finish Pressure range code 204 to 210 (RPPE8) Diaphragm: Stainless steel 1.4404 (AISI 316L) Fitting: Stainless steel 1.4404 (AISI 316L)
Scale	Internal. Accuracy on reading ± 5% F.S.
Housing	Type RA80, explosion proof, flameproof Alumunium epoxy painted. Captive stainless steel screws
Mounting	3 back lugs for wall mounting
Ground connection	Via internal terminal block
Electrical connection	Terminal block with metallic cable gland for Ø 7 to 12 mm standard
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/IECEx	Certificate LCIE 03 ATEX 6231X (Type RA80) IECEx LCIE 15.0061X Classification CE II 2 G D Ex d IIC T6 or T5 Gb Ex tb IIIC IIC T80 °C or T95 °C Db T° ambient -20 °C to +60 °C (T6 or T80 °C) or -20 °C to +70 °C (T5 or T95 °C)

Options

Customer specific set point adjustment	Code SETP
Oxygen application	Code 0765
Lead seal of the adjustment screws	Code 8990
Mounting on 2" pipe	Code 0407
Stainless steel tag plate and wire	Code 9941

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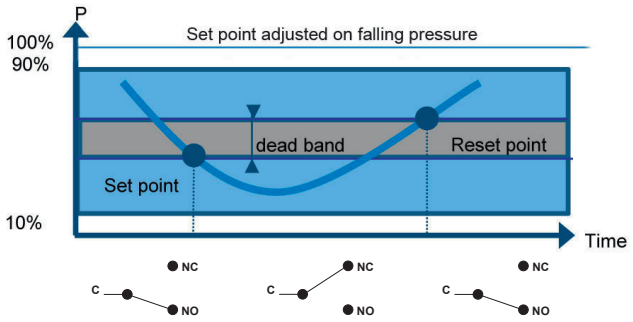
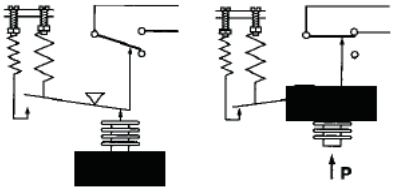
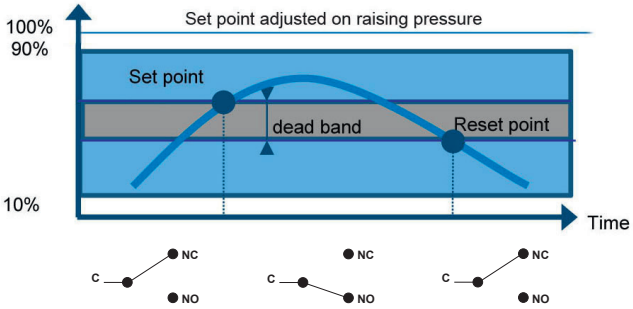
Principle



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.





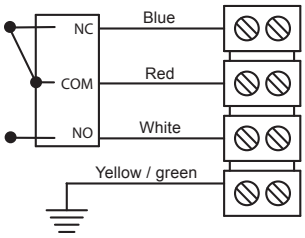
Set point and reset point must be between 10% and 90% of the selected scale.

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

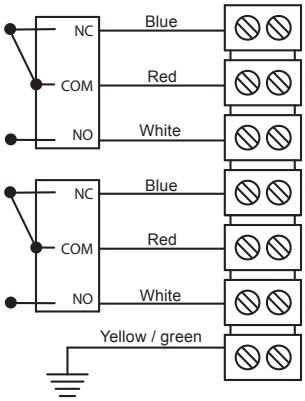
Customer speciffic factory adjustment (option SETP)
The following specifications have to be given with the order:
- Setpoint value
- Adjustment on falling or raising pressure
- Deadband value (as needed) when using an adjustable dead band switch

Electrical connections

1 SPDT



2 SPDT



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

<u>Important</u> : 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.

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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 deadband [1]							
			Adjustable deadband				Fixed deadband			
			A (B*) M (K*)		C (W*)		E (F*)		D (V*)	
			10%	90%	10%	90%	10%	90%	10%	90%
bar	bar		bar	bar	bar	bar	mbar	mbar	bar	bar
-1 ... 2.5	80	**201** [2]	0.37 - 3	0.45 - 3	1.2 - 3	1.5 - 3	97	112	0.45	0.52
0.5 ... 10	50	**204** [3]	0.45 - 4.5	0.82 - 4,5	0.94 - 4.5	1.2 - 4.5	67	93	0.37	0.45
3.5 ... 25	100	**205** [3]	0.67 - 15	1.3 - 15	2.2 - 15	4.6 - 15	225	300	0.82	1.6
5 ... 50	100	**206** [3]	1.5 - 15	3 - 15	5.2 - 15	10 - 15	300	450	2.25	3.7
0.2 ... 4	50	**210** [3]	0.15 - 4.5	0.27 - 4.5	0.52 - 4.5	0.94 - 4.5	60	75	0.22	0.37

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

[1] 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%.

[2] For RPPE6 only.
[3] For RPPE8 only.

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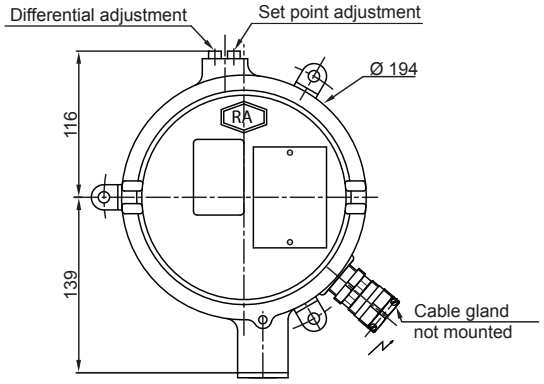
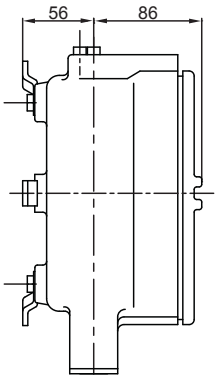
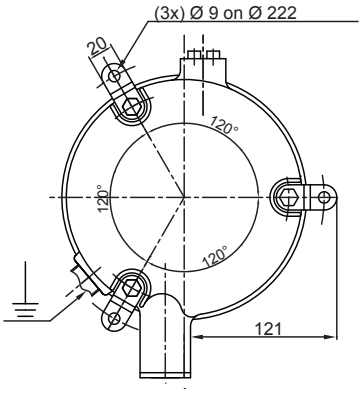
Dimensions (mm)



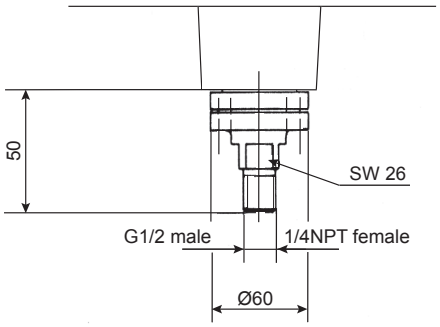




Weight: 4.4 kg

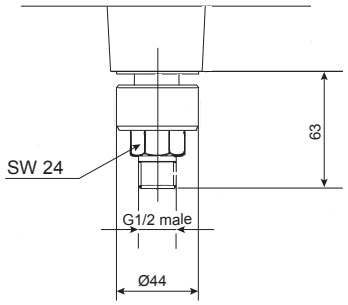
Pressure range code: 201

Weight: 2.4 kg



Pressure range code: 204 - 205 - 206 - 210

Weight: 2.4 kg



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Ordering details RPPE6 - RPPE8

	RP	PE	–				.	xxx	/
Model									
Industrial pressure switch	RP								
Approvals									
Explosion proof high over pressure		PE							
			–						
Sensing element									
Diaphragm (Perbunan®, code 201)				6					
Diaphragm (Stainless steel, range 204 to 210)				8					

Type of micro switches	**Deadband**	
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

Process connection	
G 1/2 male (standard)	3
1/2 NPT male	6
1/4 NPT female	8

Pressure range (bar)	**Pressure range (kPa)**	
-1 ... 2.5 [1]	-100 ... 250 [1]	201
0.5 ... 10 [2]	50 ... 1000 [2]	204
3.5 ... 25 [2]	350 ... 2500 [2]	205
5 ... 50 [2]	500 ... 5000 [2]	206
0.2 ... 4 [2]	20 ... 400 [2]	210

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

[1] RPPE6 only
[2] RPPE8 only

Ordering example with options

RP	PE	–	6	A	3	.	201	/	0407	_	9941

Industrial pressure switch
Explosion proof
Diaphragm Perbunan
1 SPDT standard changeover switch
Process connection G 1/2 male
Pressure range -1 ... 2.5 bar
Option: Mounting on 2" pipe
Option: Stainless steel tag plate and wire

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