

RPPE4

Industrial pressure switch, explosion proof with high overpressure resistance

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Overview

- Excellent repeatability
- Dead band adjustment for regulation
- Fix dead band for control
- Overpressure up to 100 bar
- Explosion proof Hazardous area 0, 1, 2



Picture similar



Technical data

Housing

Protection rating (EN60529)	IP66
Case material	Epoxy painted, Aluminium Captive stainless steel screws Type RA80 Explosion-proof and flame-proof
Mounting	Wall mounting, 3 back lugs
Scale	Internal, accuracy on reading $\pm 5\%$ FS

Performance

Min. pressure range	-50 ... 0 mbar
Max. pressure range	0 ... 2500 mbar
Repeatability	$\pm 1\%$ FS

Temperature

Ambient temperature	-20°C ... +70°C (T5) -20°C ... +60°C (T6)
Storage temperature	-40°C ... +40°C ,Code 40
Media temperature	-15°C ... +150°C

Wetted parts

Process connection material	Stainless steel 1.4404 / AISI 316L
Diaphragm	FKM (Viton)

Electrical data

Electrical connection	Via internal terminal block with metallic cable gland for $\varnothing 7$ to 12 mm
Ground connection	Via internal terminal block
Adjustment	2 external adjustment screws on top of the case for set point and deadband

Approval / Conformities

ATEX/IECEX Certificate	LCIE 03 ATEX 6231X (Type RA80) IECEX LCIE 15.0061X
ATEX/IECEX	ATEX directive 2014/34/UE Ex II 2 GD Ex d IIC T6 or T5 Gb Ex tb IIC T80°C or T95°C Db Further information can be found in the ATEX approval

Remarks

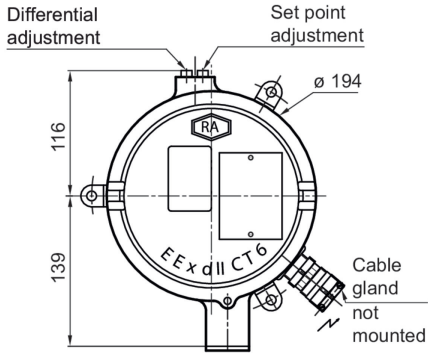
- These devices must be used as instruments that provide electrical information according to the value of the input variable. They are not intended to be used as a safety accessory. It is the responsibility of the user to check the compatibility of the device with its intended use.

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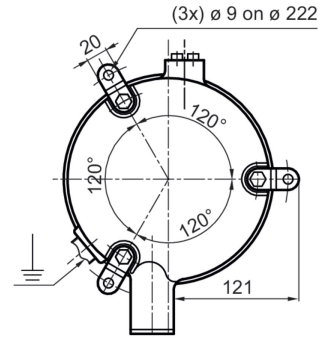
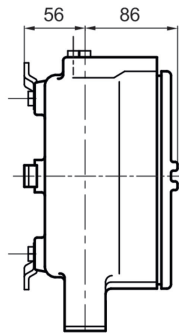
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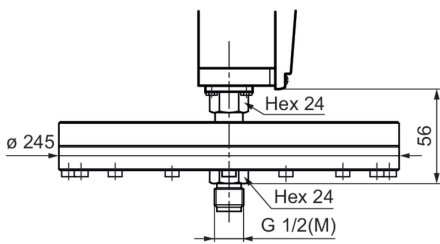
Dimensional drawings (mm)



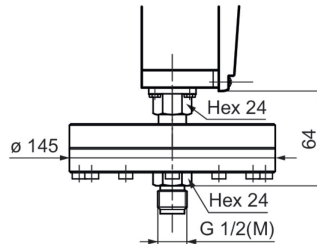
Weight: 4.4 kg



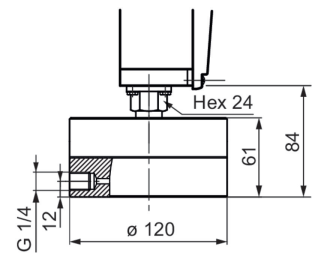
Weight: 4.4 kg



Pressure range codes: 101 - 102 - 103 - 104
Weight: 8.8 kg

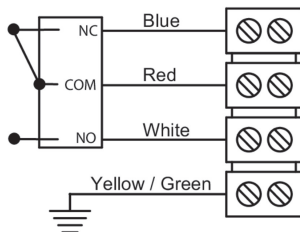


Pressure range codes: 151 - 152 - 153 - 154
Weight: 4.7 kg

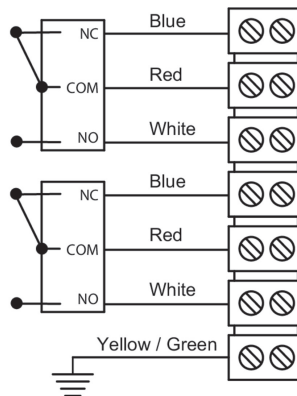


Pressure range codes: 171 - 172 - 173
Weight: 5.4 kg

Electrical connection



1 SPDT



2 SPDT

Electrical connection

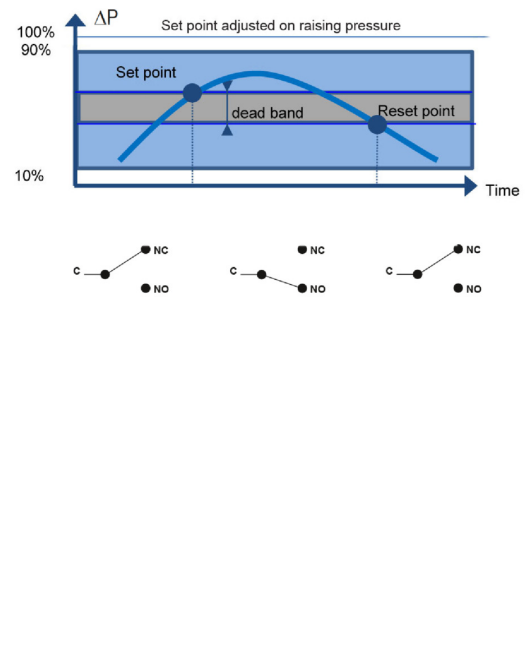
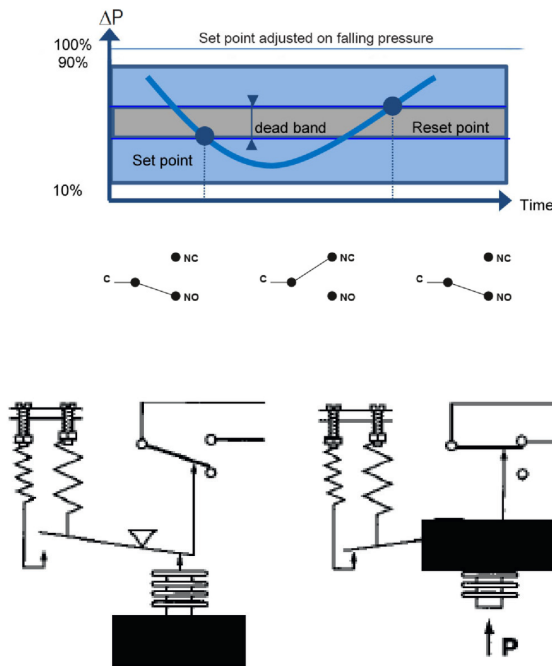
$-20^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	Dust IP6x	Gases
	T° surface	Class
Ta = 60°C	80°C	T6
Ta = 70°C	95°C	T5

Important : Maximum power dissipation in the case must not exceed 5 W

Hazardous areas: zone 1, 2, 21, 22

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.

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

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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%		
mbar	bar		10%	90%	10%	90%	10%	90%	10%	90%		
			mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar		
-50 ... 0	10	101	3 - 37	3.8 - 37	9.8 - 37	11.3 - 37	0.9	0.9	3.8	4.5		
-2 ... 10	10	102	1.5 - 10	1.5 - 10	N/A	N/A	0.6	0.6	2.3	2.3		
-5 ... 50	10	103	1.5 - 30	3 - 30	6.8 - 30	7.5 - 30	0.6	0.6	2.3	3.8		
-8 ... 100	10	104	2.3 - 37	3.8 - 37	7.5 - 37	15 - 37	0.75	0.75	3	4.5		
-200 ... 0	50	151	18 - 120	30 - 120	37 - 120	60 - 120	4.5	6	21.8	37		
0 ... 200	50	152	23 - 120	37 - 120	45 - 120	67 - 120	5.3	6	27	45		
0 ... 400	50	153	26 - 220	45 - 220	53 - 220	75 - 220	6	8.3	31	53		
0 ... 1000	50	154	33 - 220	53 - 220	67 - 220	90 - 220	9	10.5	40	67		
0 ... 700	100	171**	30 - 525	60 - 525	60 - 525	105 - 525	10.5	13.5	36	75		
0 ... 1500	100	172**	30 - 525	90 - 525	60 - 525	150 - 525	10.5	13.5	36	112		
0 ... 2500	100	173**	37 - 525	135 - 525	75 - 525	240 - 525	13.5	16.5	45	165		

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

(**) G1/4 female only

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%.

Micro switch 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

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Ordering reference

Ordering key - Configuration possibilities see website

	RPPE	-	4	#	#	.	###
Product	RPPE						
Sensing element	Diaphragm, Viton® (max.2.5 bar)			4			
Type of Microswitch	1xSPDT, Standard						A
	simultaneous						B
	1xSPDT, hermetically						C
	simultaneous						W
	1xSPDT, ultra sensitive						E
	simultaneous						F
	1xSPDT hermetic/ultra sensit.?						D
	simultaneous						V
	1 gold contact changeover switch						M
	simultaneous						K
Process connection	G 1/4 Internal Screw						H
	G 1/2						3
	1/2 NPT						6
	1/4 NPT F						8
Pressure range	-50 ... 0 mbar						101
	-2 ... 10 mbar						102
	-5 ... 50 mbar						103
	-8 ... 100 mbar						104
	-200 ... 0 mbar						151
	0 ... 200 mbar						152
	0 ... 400 mbar						153
	0 ... 1000 mbar						154
	0 ... 700 mbar						171
	0 ... 1500 mbar						172
	0 ... 2500 mbar						173

Ordering example

	RPPE	-	4	A	3	.	101
Product	RPPE						
Sensing element	Diaphragm, Viton® (max.2.5 bar)			4			
Type of Microswitch	1xSPDT, Standard						A
Process connection	G 1/2						3
Pressure range	-50 ... 0 mbar						101

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Options

Setpoint factory adjusted	SETP	2.1 Certificate	Q001
For oxygen applications	0765	2.2 Certificate	Q002
Setpoint adjust. lead sealed	8990	3.1 Material certificate	Q003
Mounting on 2 pipe	0407	3.1 Certif. setpoints adjust.	Q011
stainless steel label wired*	9941		