

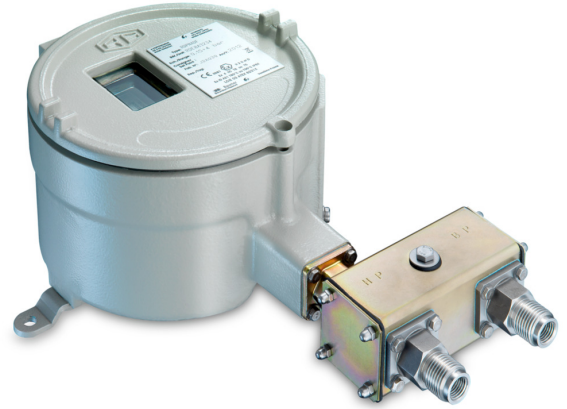
RDE8

Differential pressure switch, explosion proof

RDE-###.###/

Overview

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



Picture similar



Technical data

Housing

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

Process

Process connection	G1/2" 1/2" NPT 1/4" NPT female
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Temperature

Ambient temperature	-20°C ... +55°C (T6)
Storage temperature	-40°C ... +70°C
Media temperature	-50°C ... +200°C

Wetted parts

Bellow	Stainless steel 1.4404 / AISI 316L Stainless steel 1.4432 / AISI 316L
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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.

Sensing / Input

Min. measuring range	0.05 ... 0.5 bar
Max. measuring range	2.5 ... 30 bar

Performance

Repeatability	$\pm 1\%$ FS
Adjustment	2 external adjustment screws on top of the case for set point and deadband When set point adjustment is required it is necessary to know the static pressure, as it has an influence on the set point.

Electrical data

Ground connection	Via internal terminal block
Electrical connection	Via internal terminal block with metallic cable gland for $\varnothing 7$ to 12 mm

Approval / Conformities

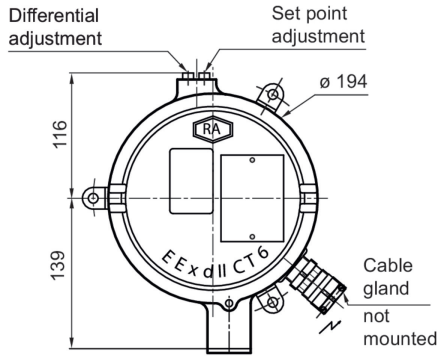
ATEX/IECEX Certificate	LCIE 03 ATEX 6231X (Type RA80) IECEX LCIE 15.0061X
ATEX/IECEX	Ex II 2 GD Further information can be found in the ATEX approval
CE conformity	ATEX directive 2014/34/UE

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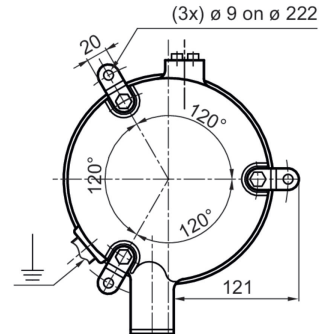
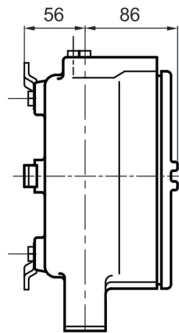
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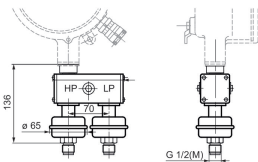
Dimensional drawings (mm)



Weight: 4.4 kg

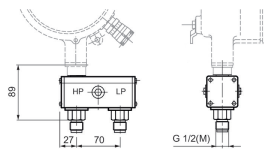


Weight: 4.4 kg



Pressure range codes: 211 - 221

Weight: 1.6 kg

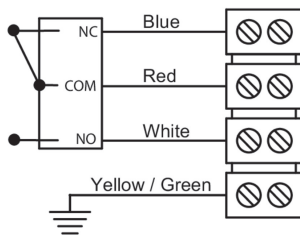


Pressure range codes: 214 - 224 - 234 - 235

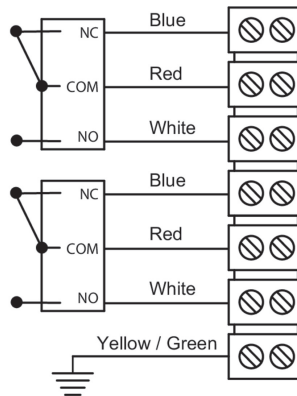
- 245 - 246 - 256 - 257 - 258

Weight: 1.2 kg

Electrical connection



1 SPDT



2 SPDT

Electrical connection

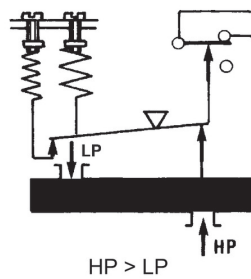
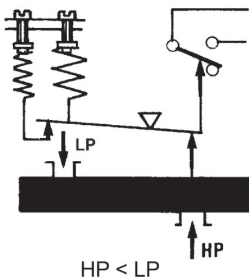
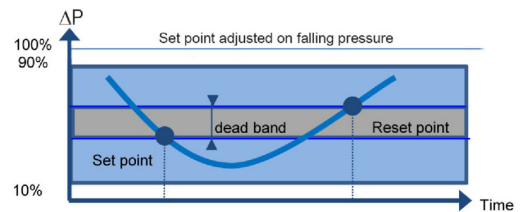
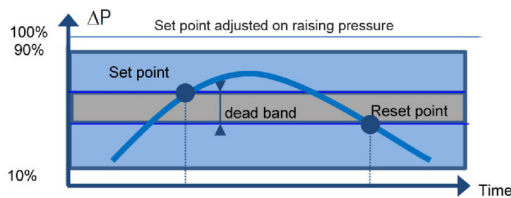
$-20^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	Dust IP6x	Gases
	T° surface	Class
Ta = 60°C	80°C	T6
Ta = 70°C	95°C	T5

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 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
- Static pressure (except RDx6)
- Dead band value (as needed) when using an adjustable dead band switch

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Adjustable ranges

Scale	Max ΔP	Max P Static	Code	Micro-switch dead band ⁽¹⁾									
				Adjustable dead band				Fixed dead band					
				A (B*)		M (K*)		C (W*)		E (F*)		D (V*)	
				10%	90%	10%	90%	10%	90%	10%	90%		
bar				bar				mbar		bar			
0.05... 0.5	0.5	7	211	0.13 - 0.45	0.15 - 0.45	0.22 - 0.6	0.3 - 0.6	37.5	45	0.17	0.18		
0.05... 1	1	7	221	0.13 - 0.45	0.15 - 0.45	0.22 - 0.75	0.33 - 0.75	37.5	45	0.17	0.18		
0.15... 0.5	0.5	20	214	0.22 - 0.75	0.27 - 0.75	N/A	N/A	82.5	90	0.26	0.33		
0.15... 1	1	20	224	0.22 - 0.9	0.3 - 0.9	N/A	N/A	82.5	90	0.26	0.36		
0.15... 4	4	20	234	0.22 - 2.2	0.37 - 2.2	0.97 - 3	1.2 - 3	82.5	97.5	0.26	0.4		
0.8... 4	4	30	235	1 - 3.7	1.6 - 3.7	1.12 - 3.7	1.6 - 3.7	105	150	1.26	2.03		
0.8... 10	10	30	245	1 - 3.7	1.6 - 3.7	1.12 - 3.7	1.6 - 3.7	105	150	1.26	2.03		
1.5... 10	10	65	246	1.8 - 7.5	3.7 - 7.5	3.7 - 9	5.2 - 9	270	360	2.18	4.5		
1.5... 20	20	65	256	1.8 - 7.5	3.7 - 7.5	3.7 - 9	5.2 - 9	270	360	2.18	4.5		
2.5... 20	20	220	257	3.7 - 20	5.2 - 20	9 - 20	10 - 20	1200	1500	4.5	6.3		
2.5... 30	30	220	258	4.5 - 30	6 - 30	9 - 30	10 - 30	1275	1500	5.4	7.2		

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

(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%.

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...	10 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

	RDE	-	8	#	#	.	###
Product	RDE						
Measuring element	Bellow or piston, st. steel		8				
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 1/2						3
	1/2 NPT						6
	1/4 NPT F						8
Pressure range	0.05 ... 0.5 bar						211
	0.05 ... 1 bar						221
	0.15 ... 0.5 bar						214
	0.15 ... 1 bar						224
	0.15 ... 4 bar						234
	0.8 ... 4 bar						235
	0.8 ... 10 bar						245
	1.5 ... 10 bar						246
	1.5 ... 20 bar						256
	2.5 ... 20 bar						257
	2.5 ... 30 bar						258

Ordering example

	RDE	-	8	A	3	.	211	/	0765
Product	RDE								
Measuring element	Bellow or piston, st. steel		8						
Type of Microswitch	1xSPDT, Standard			A					
Process connection	G 1/2						3		
Pressure range	0.05 ... 0.5 bar						211		
Cleanliness	for oxygen applications free of oil and grease								0765

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Options

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