

RDE6

Differential pressure switch, explosion proof for variable static pressure

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Overview

- Excellent repeatability
- Dead band adjustment for regulation
- Fix dead band for control
- Static pressure max. 20 bar
- No influence of the static pressure on the setpoint
- 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" G1/4" female, only for codes 161, 162, 163 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	-15°C ... +150°C

Wetted parts

Flange	Stainless steel 1.4404 / AISI 316L
Diaphragm	FKM (Viton)

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	10 ... 200 mbar
Max. measuring range	10 ... 2000 mbar

Performance

Repeatability	$\pm 1\%$ FS
Adjustment	2 external adjustment screws on top of the case for set point and deadband The adjustment is not influenced by changes of the static pressure

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

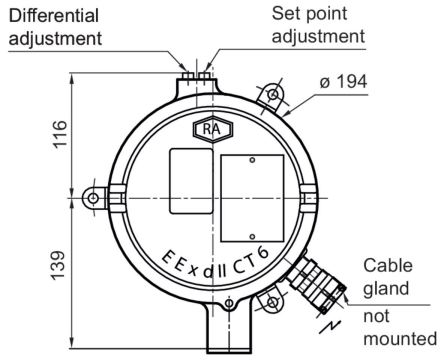
ATEX/IECEX Certificate	LCIE 03 ATEX 6231X (Type RA80) IECEX LCIE 15.0061X
ATEX/IECEX	Ex II 2 GD Further information can be found in the ATEX approval
CE conformity	ATEX directive 2014/34/UE

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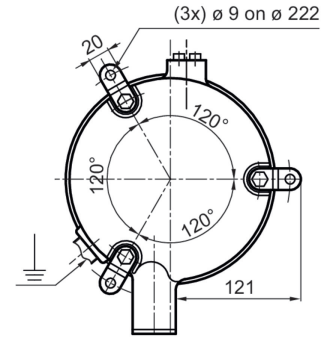
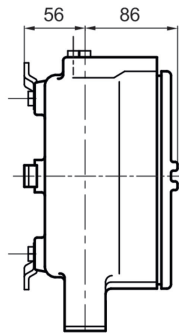
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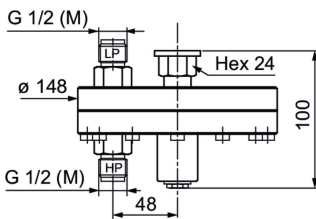
Dimensional drawings (mm)



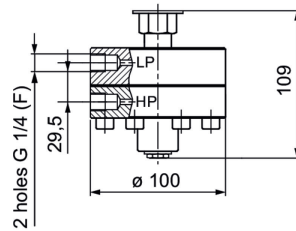
Weight: 4.4 kg



Weight: 4.4 kg

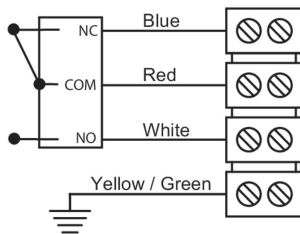


Pressure range codes: 156-157-158
Weight: 4.4 kg

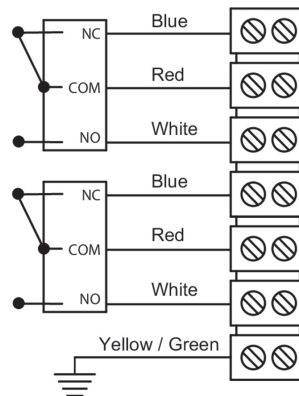


Pressure range codes: 161 - 162 - 163
Weight: 3.3 kg

Electrical connection



1 SPDT



2 SPDT

Electrical connection

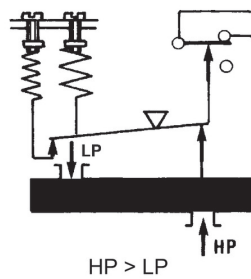
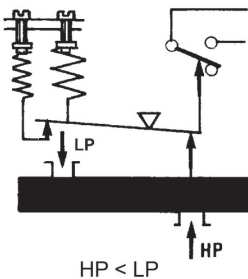
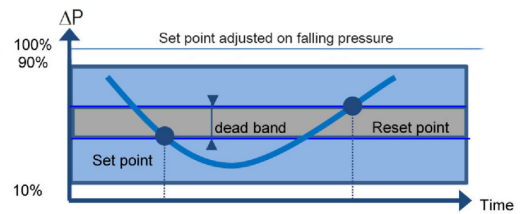
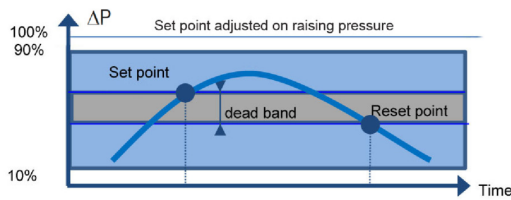
$-20^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	Dust IP6x	Gases
	T° surface	Class
Ta = 60°C	80°C	T6
Ta = 70°C	95°C	T5

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%		
mbar	mbar	bar		mbar									
10 ... 200	200	20	156	12 - 120	15.5 - 120	52 - 120	67 - 120	3.75	5.1	15	19.5		
10 ... 400	400	20	157	22 - 225	30 - 225	60 - 225	75 - 225	6.75	9	27	36		
10 ... 1000	1000	20	158	27 - 225	33 - 225	67 - 225	90 - 225	7.5	10.5	33	40		
10 ... 700	700	20	161**	45 - 375	67 - 375	195 - 675	225 - 675	19.5	22.5	54	81		
10 ... 1500	1500	20	162**	45 - 450	67 - 450	195 - 675	225 - 675	19.5	22.5	54	81		
10 ... 2000	2000	20	163**	67 - 450	135 - 450	270 - 675	450 - 675	27	37.5	81	162		

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

(**) G 1/4 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 and 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...	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

	RDE	-	6	#	#	.	###
Product	RDE						
Measuring element	Membran, Viton® (≤ 2 bar)		6				
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							
10 ... 200 mbar							156
10 ... 400 mbar							157
10 ... 1000 mbar							158
10 ... 700 mbar							161
10 ... 1500 mbar							162
10 ... 2000 mbar							163

Ordering example

	RDE	-	6	A	H	.	161	/	0765
Product	RDE								
Measuring element	Membran, Viton® (≤ 2 bar)		6						
Type of Microswitch	1xSPDT, Standard			A					
Process connection	G 1/4 Internal Screw				H				
Pressure range	10 ... 700 mbar						161		
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		