

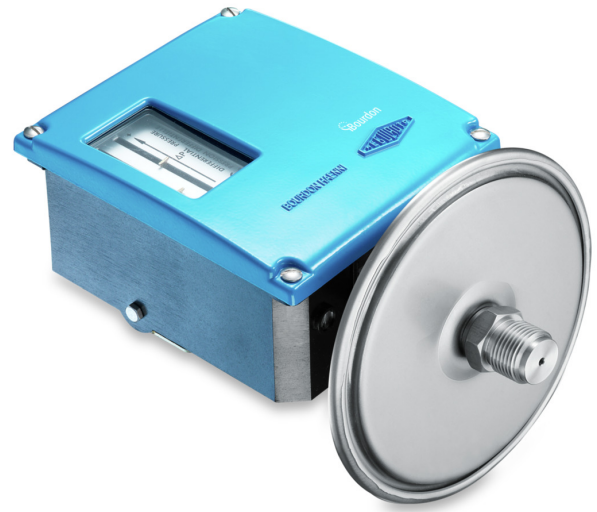
# RDN4

Differential pressure switch

RDN-###.###/

## Overview

- Excellent repeatability
- Dead band adjustment for regulation
- Fix dead band for control



Picture similar

## Technical data

### Housing

Protection rating (EN60529)	IP66
Cover	Blue painted, zamak Captive stainless steel screws
Case material	Black painted, zamak
Mounting	Wall mounting bracket
Scale	Internal, accuracy on reading $\pm 5\%$ FS

### Process

Process connection	G1/2" 1/4" NPT female 1/2" NPT
Process connection material	Stainless steel 1.4404 / AISI 316L

### Temperature

Ambient temperature	-25°C ... +55°C
Storage temperature	-40°C ... +70°C
Media temperature	-15°C ... +100°C

## 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.

### Wetted parts

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

### Sensing / Input

Min. measuring range	-2.5 ... 2.5 mbar
Max. measuring range	10 ... 400 mbar

### 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.

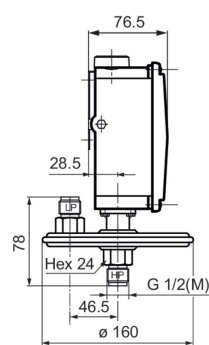
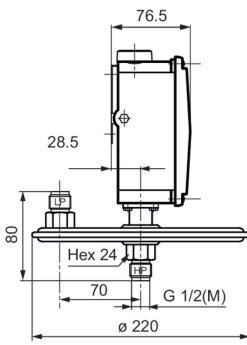
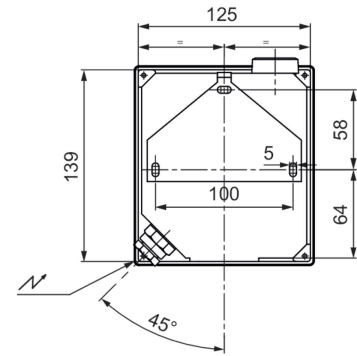
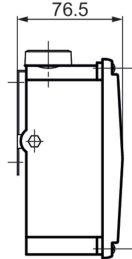
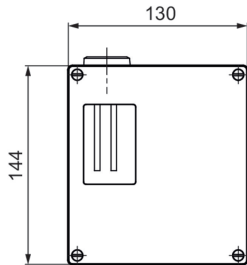
### Electrical data

Ground connection	Via internal terminal block
Electrical connection	Via internal terminal block with plastic cable gland for $\varnothing 7$ to 10.5 mm

### Approval / Conformities

CE conformity	Low Voltage Directive 2014/35/UE
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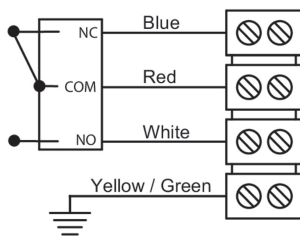
**Dimensional drawings (mm)**



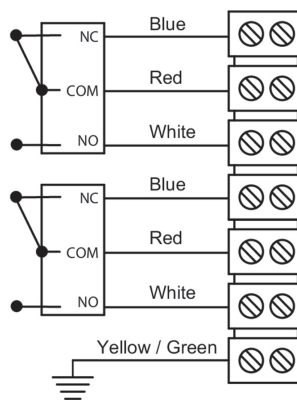
Pressure range codes: 111 - 121 - 131  
Weight: 3 kg

Pressure range codes: 156 - 157  
Weight: 3 kg

**Electrical connection**

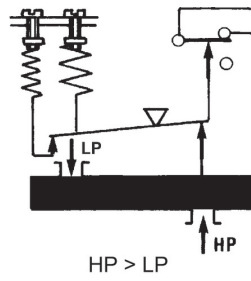
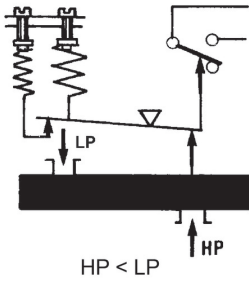
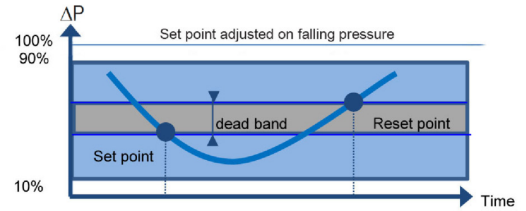
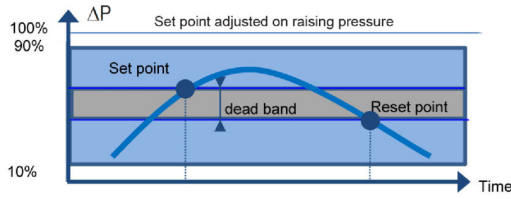


1 SPDT



2 SPDT

## 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

# RDN4

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RDN-###.###/

## Adjustable ranges

Scale	Max ΔP	Max P Static	Code	Micro-switch dead band <sup>o</sup>										
				Adjustable dead band				Fixed dead band						
				A (B*)		M (K*)		C(W*)		E(F*)		H	D (V*)	J
				10%	90%	10%	90%	10%	90%	10%	90%	10%	90%	
mbar	mbar	bar		mbar										
-2.5... 2.5	5	0.15	110	N/A	N/A	N/A	N/A	0.3	0.4	N/A	N/A			
2 ... 10	10	0.15	111	1.2 - 10	1.6 - 10	4.5 - 10	4.5 - 10	0.3	0.4	1.5	2			
2 ... 50	50	0.15	121	1.7 - 30	2.2 - 30	5 - 30	5.5 - 30	0.4	0.5	2	3			
2 ... 100	100	0.15	131	1.7 - 40	2.5 - 40	5.5 - 40	10 - 40	0.5	0.7	2	3			
10 ... 200	200	1	156	8 - 80	10.5 - 80	25 - 80	40 - 80	2.5	3.4	10	13			
10 ... 400	400	1	157	15 - 150	20 - 150	30 - 150	45 - 150	4.5	6	18	24			

(\*) 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 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)		H	D (V)		J
Type	Standard		Gold contact		Hermetic		Ultra sensitive		Manual reset	Ultra sensitive Hermetic		Manual reset
6 Vdc	0.4...	10 A	10...	50 mA	5 mA ...	4 A	0.4...	1 A	N/A	0.4...	4 A	N/A
12 Vdc	0.4...	10 A	10...	50 mA	5 mA ...	4 A	0.4...	1 A	N/A	0.4...	4 A	N/A
24 Vdc	0.4...	6 A	10...	50 mA	5 mA ...	4 A	0.4...	1 A	0.1... 8 A	0.4...	4 A	0.1... 8 A
30 Vdc	0.4...	6 A	10...	50 mA	5 mA ...	3 A	0.4...	1 A	0.1... 8 A	0.4...	2 A	0.1... 8 A
48 Vdc	0.4...	6 A	10...	50 mA	5 mA ...	3 A	N/A	N/A	N/A	N/A	N/A	N/A
110 Vdc	0.1...	0.5 A	10...	50 mA	5 mA ...	1 A	N/A	N/A	N/A	N/A	N/A	N/A
220 Vdc	0.1...	0.25 A	10...	50 mA	5 mA ...	0.5 A	N/A	N/A	N/A	N/A	N/A	N/A
115 Vac	0.4...	10 A	10...	50 mA	50 mA ...	3 A	0.4...	10 A	0.1... 10 A	N/A	N/A	0.1... 10 A
250 Vac	0.2...	10 A	N/A	N/A	50 mA ...	2.5 A	0.2 ...	10 A	0.1... 5 A	N/A	N/A	0.1... 5 A
Dielectric rigidity between contacts and ground	2000 V		2000 V		1500 V		2000 V		2000 V	1000 V		2000 V

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## Ordering reference

Ordering key - Configuration possibilities see website

	RDN	-	4	#	#	.	###
<b>Product</b>	RDN						
<b>Measuring element</b>	Membran, Viton® (≤400 mbar)		4				
<b>Type of Microswitch</b>	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		
	1xSPDT, manually, falling				H		
	1xSPDT, manually, rising				J		
	simultaneous				K		
	Pneumatic type, NO				Z		
	Pneumatic type, NC				Y		
<b>Process connection</b>	G 1/2						3
	1/2 NPT						6
	1/4 NPT F						8
<b>Pressure range</b>	-2.5 ... 2.5 mbar						110
	2 ... 10 mbar						111
	2 ... 50 mbar						121
	2 ... 100 mbar						131
	10 ... 200 mbar						156
	10 ... 400 mbar						157

## Ordering example

	RDN	-	4	A	3	.	111	/	0765
<b>Product</b>	RDN								
<b>Measuring element</b>	Membran, Viton® (≤400 mbar)		4						
<b>Type of Microswitch</b>	1xSPDT, Standard			A					
<b>Process connection</b>	G 1/2						3		
<b>Pressure range</b>	2 ... 10 mbar								111
<b>Cleanliness</b>	for oxygen applications free of oil and grease								0765

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### Options

Setpoint factory adjusted	SETP	2298	2298
For oxygen applications	0765	2.1 Certificate	Q001
Mounting on 2 pipe	0407	2.2 Certificate	Q002
stainless steel label wired*	9941	3.1 Material certificate	Q003
Setpoint adjust. lead sealed	8990	3.1 Certif. setpoints adjust.	Q011
Souriau mobile plug	2249		