Bourdon
Baumer Group

Pressure switches

RPPY3

Industrial pressure switch with intrinsic safety

RPPY-###.###/

Overview

- Excellent repeatability
- Dead band adjustment for regulation
- Fix dead band for control
- Intrinsic safety Hazardous area 0, 1, 2
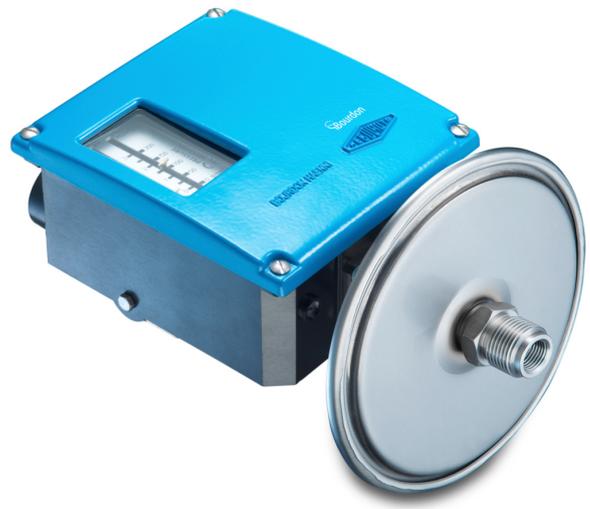
Picture similar

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 ± 5 % FS

Performance

Min. pressure range	-200 ... 0 mbar
Max. pressure range	0 ... 400 mbar
Repeatability	± 1 % FS

Temperature: Pressure range codes 101 to 153

Ambient temperature	-25°C ... +70°C (T5) -25°C ... +55°C (T6)
Storage temperature	-40°C ... +70°C
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 plastic cable gland for Ø 7 to 10.5 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 6123X IECEx LCIE 15.0060X
ATEX/IECEx	ATEX directive 2014/34/UE Ex I M1 Ex II 1 G 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.

Design and specifications subject to change without notice

2021-12-14

Dimensional drawings (mm)

130

144

76.5

125

139

58

64

5

100

45°

N

130

144

52

⬡ 24

ø 218
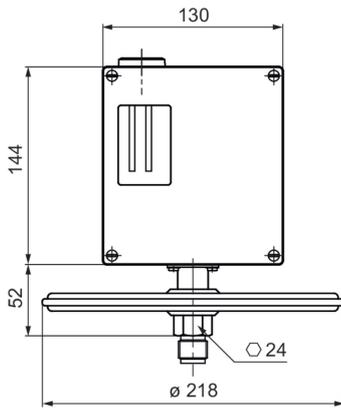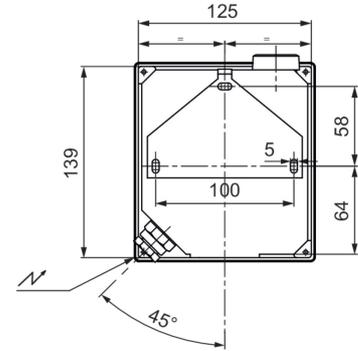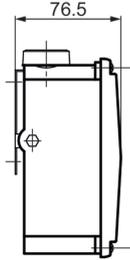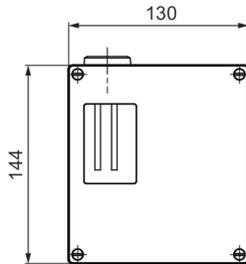
Pressure range codes: 101 - 102 - 103 - 104

Weight: 3 kg

130

144

52

⬡ 24

ø 146
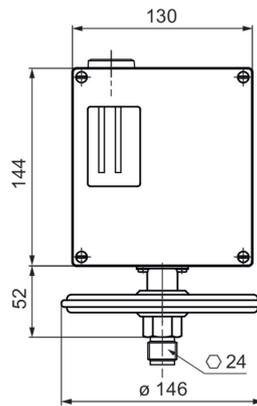
Pressure range codes: 151 - 152 - 153

Weight: 2.8 kg

Electrical connection

NC — Blue
COM — Red
NO — White
Yellow / Green

1 SPDT

NC — Blue
COM — Red
NO — White

NC — Blue
COM — Red
NO — White
Yellow / Green

2 SPDT

Electrical connection

Hazardous area
Zone 0, 1, 2

Certified safety
barrier

Non hazardous
area
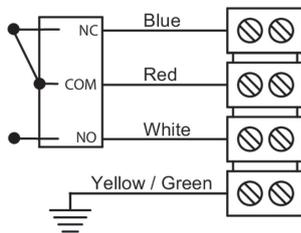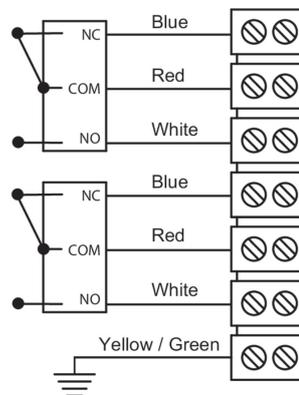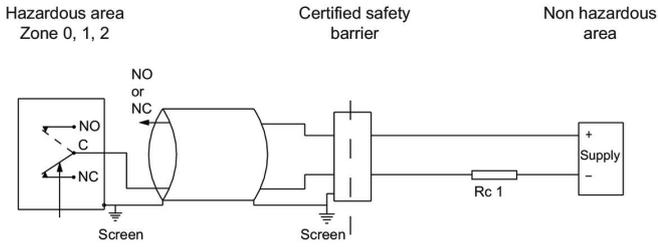
For max. ambient temperature according to temperature classes T5 and T6 refer to technical data.
The installation must be made in an intrinsically safe circuit whose certified electrical safety parameters do not exceed any of the values U_{max}, I_{max} and P_{max} given in the electrical data.

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

2021-12-14   Design and specifications subject to change without notice
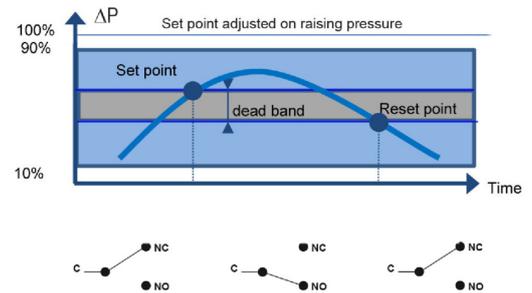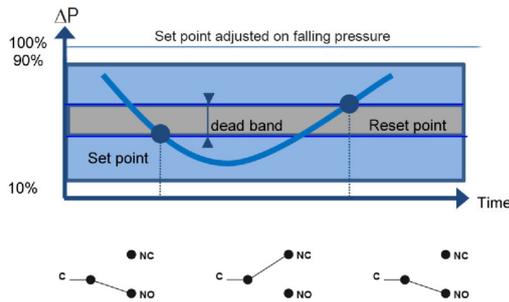
Principle
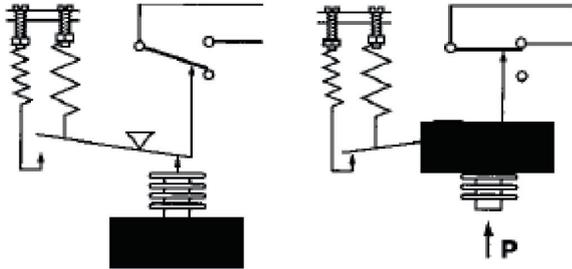
A flexible sensing element actuates a microswitch by means of a lever. The set point is adjusted by means of a compressible spring installed in opposition.
Set point and reset point must be between 10% and 90% of the selected scale.

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

Adjustable ranges

Scale		P. Max accidental	Code	Micro-switch dead band [1]					
				Adjustable dead band				Fixed dead band	
				M (K*)		C (W*)		S	
				10%	90%	10%	90%	10%	90%
mbar		bar		mbar					
-50 ... 0		0.15	101	2 - 25	2.5 - 25	6.5 - 25	7.5 - 25	1.2	1.4
-2 ... 10		0.15	102	1 - 5	1.2 - 5	4.5 - 5	4.5 - 5	0.7	0.8
-5 ... 50		0.15	103	1.2 - 15	2 - 15	5 - 15	7 - 15	1	11
-8 ... 100		0.15	104	1.5 - 25	2 - 25	5 - 25	10 - 25	1.2	1.4
-200 ... 0		1	151	6 - 80	8 - 80	15 - 80	15 - 80	4.6	8.4
0 ... 200		1	152	6 - 80	8 - 80	15 - 80	15 - 80	4.6	8.4
0 ... 400		1	153	15 - 150	20 - 150	30 - 150	35 - 150	9	17

(*) 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	M (K)	C (W)	S
Type	Gold contact	Hermetic	Ultrasensitive Gold contact
6 Vdc	10 ... 50 mA	5 ... 120 mA	10 ... 50 mA
12 Vdc	10 ... 50 mA	5 ... 120 mA	10 ... 50 mA
24 Vdc	10 ... 50 mA	5 ... 120 mA	10 ... 50 mA
30 Vdc	N/A	N/A	N/A
48 Vdc	N/A	N/A	N/A
110 Vdc	N/A	N/A	N/A
220 Vdc	N/A	N/A	N/A
115 Vac	N/A	N/A	N/A
250 Vac	N/A	N/A	N/A
Dielectric rigidity between contacts and ground	2000 V	1500 V	2000 V

Ordering reference

Ordering key - Configuration possibilities see website

	RPPY	-	3	#	#	.	###
Product							
RPPY	RPPY						
Sensing element							
Diaphragm,Viton® (max.400mbar)			3				
Type of Microswitch							
1xSPDT, hermetically				C			
simultaneous				W			
1 gold contact changeover switch				M			
simultaneous				K			
1xSPDT, gold, ultra sensitive				S			
Process connection							
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

Ordering example

	RPPY	-	3	C	3	.	101	/	SETP
Product									
RPPY	RPPY								
Sensing element									
Diaphragm,Viton® (max.400mbar)			3						
Type of Microswitch									
1xSPDT, hermetically				C					
Process connection									
G 1/2					3				
Pressure range									
-50 ... 0 mbar							101		
Adjustment									
Setpoint factory adjusted									SETP

Options

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