



Main Features


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

Applications

- Power generation safety equipment
- Pressurized chambers control
- Liquid level control



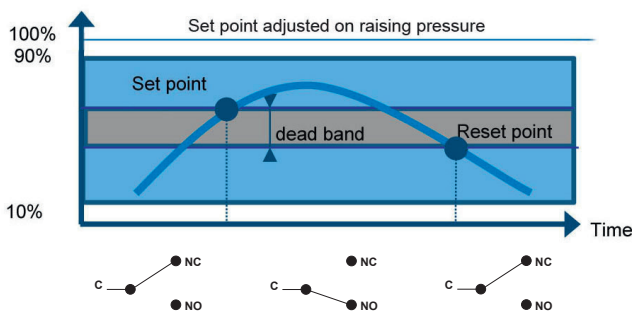
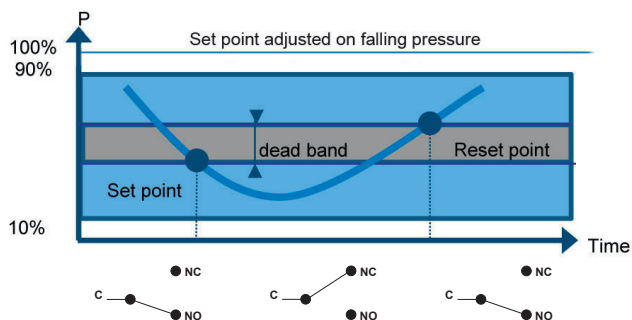
Technical Data

| | | | |
|--|---|-----------------------|---|
| Pressure range | -50 mbar ... 0 to 60 ... 600 bar | Scale | Internal. Accuracy on reading $\pm 5\%$ F.S. |
| Temperatures | <u>Pressure range codes 101 to 153</u> | Housing | Type RA80, explosion proof, flameproof Aluminium epoxy painted. Captive stainless steel screws |
| | Medium: -15 ... +150 °C | Mounting | 3 back lugs for wall mounting |
| | Ambient: -20 ... + 70 °C (T5) | | |
| | -20 ... + 60 °C (T6) | Ground connection | Via internal terminal block |
| Storage: -40 ... + 70 °C | <u>Pressure range codes 200 to 602</u> | Electrical connection | Terminal block with metallic cable gland for $\varnothing 7$ to 12 mm standard |
| Repeatability | Medium: -50 ... +200 °C | Electrical function | See ordering code details in page 5 |
| | Ambient: -25 ... + 60 °C (T6) | Adjustment | 2 external adjustment screws on top of the case for set point and dead band |
| Storage: -40 ... + 70 °C | CE conformity | ATEX/IECEX | <u>Certificate</u> LCIE 03 ATEX 6231X (Typ RA80) IECEX LCIE 15.0061X |
| CE conformity | Low Voltage Directive 2014/35/EU ATEX Directive 2014/34/EU | | <u>Classification</u> CE  II 2 G D Ex d IIC T6 oder T5 Gb Ex tb IIIC IIC T80 °C oder T95 °C Db |
| Protection rating | IP 66 (EN 60529) | | <u>T° ambient</u> -20 °C to +60 °C (T6 or T80 °C) or -20 °C to +70 °C (T5 or T95 °C) |
| Process Connection | Stainless steel 1.4404 (316L) | | |
| Sensing element | <u>Pressure range codes 101 to 153</u> | | |
| | Flanges: Stainless steel 1.4404 (316L) | | |
| | Diaphragm: Viton® | | |
| | <u>Pressure range codes 200 to 209</u> | | |
| Bellow: Stainless steel 1.4404 or 1.4432 (316L) | | | |
| <u>Pressure range codes 600 to 602</u> | | | |
| Piston: Nickel plated steel | | | |

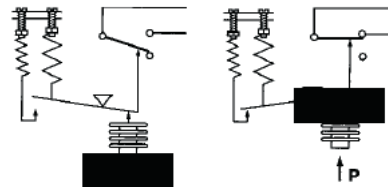
Options

| | |
|--|-----------|
| Customer specific set point adjustment | Code SETP |
| Oxygen application | Code 0765 |
| Mounting on 2" pipe | Code 0407 |
| Stainless steel tag plate and wire | Code 9941 |
| Lead seal of the adjustment screws | Code 8990 |

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

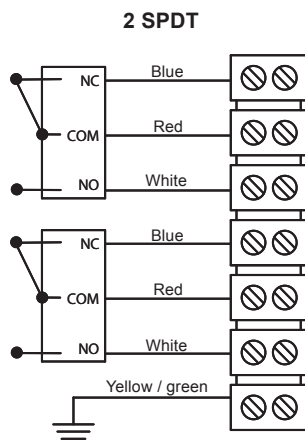
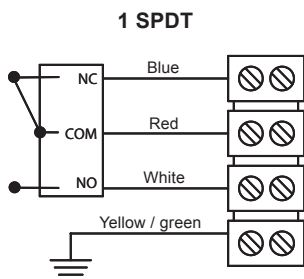
Setpoint at 50% of the scale on falling pressure

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

Electrical connections



Hazardous areas : 1, 2, 21, 22

| -20 °C ≤ Ta ≤ +70 °C | Dust IP6x | Gases |
|----------------------|------------|-------|
| | T° surface | Class |
| Ta = 60 °C | 80 °C | T6 |
| Ta = 70 °C | 95 °C | T5 |

Important: Maximum power dissipated inside enclosure does not exceed 5 W

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.

Micro switches 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 |

Adjustable ranges

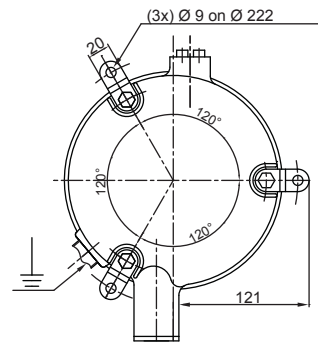
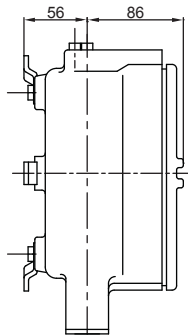
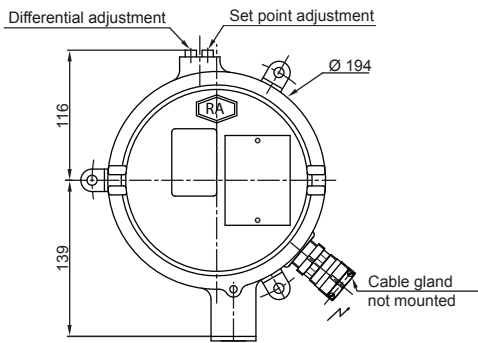
| Scale | P. Max accidental | Code | Micro-switch dead band ¹⁾ | | | | | | | | | |
|------------|-------------------|------------|--------------------------------------|-------------|-------------|-------------|-----------------|-------|--------|------|--------|--|
| | | | Adjustable dead band | | | | Fixed dead band | | | | | |
| | | | A (B*) | | M (K*) | | C (W*) | | E (F*) | | D (V*) | |
| | | | 10% | 90% | 10% | 90% | 10% | 90% | 10% | 90% | | |
| mbar | bar | | mbar | | | | | | | | | |
| -50 ... 0 | 0.15 | 101 | 3 - 37 | 3.8 - 37 | 9.8 - 37 | 11.3 - 37 | 0.75 | 0.75 | 3.8 | 4.5 | | |
| -2 ... 10 | 0.15 | 102 | 1.5 - 8 | 1.8 - 8 | 6.8 - 8 | 6.8 - 8 | 0.45 | 0.45 | 2.3 | 2.3 | | |
| -5 ... 50 | 0.15 | 103 | 1.8 - 22 | 3 - 22 | 7.5 - 22 | 11 - 22 | 0.6 | 0.6 | 2.3 | 3.8 | | |
| -8 ... 100 | 0.15 | 104 | 2.3 - 37 | 3 - 37 | 7.5 - 37 | 15 - 37 | 0.75 | 0.75 | 3 | 3.8 | | |
| -200 ... 0 | 1 | 151 | 9 - 120 | 12 - 120 | 23 - 120 | 23 - 120 | 3 | 4.5 | 11.3 | 15 | | |
| 0 ... 200 | 1 | 152 | 9 - 120 | 12 - 120 | 23 - 120 | 23 - 120 | 3 | 4.5 | 11.3 | 15 | | |
| 0 ... 400 | 1 | 153 | 23 - 220 | 30 - 220 | 45 - 220 | 53 - 220 | 6 | 9 | 27 | 37 | | |
| bar | bar | Code | mbar | | | | | | | | | |
| -1 ... 0 | 1.5 | 200 | 37 - 375 | 53 - 375 | 120 - 375 | 142 - 375 | 7.5 | 9 | 45 | 63 | | |
| -1 ... 2.5 | 7 | 201 | 120 - 1800 | 150 - 1800 | 225 - 1800 | 300 - 1800 | 33 | 37 | 144 | 180 | | |
| 0 ... 0.2 | 1.5 | 202 | 22 - 150 | 30 - 150 | 90 - 150 | 97 - 150 | 6 | 7.5 | 27 | 36 | | |
| 0.05 ... 1 | 1.5 | 203 | 30 - 600 | 37 - 600 | 120 - 600 | 142 - 600 | 6 | 7.5 | 36 | 45 | | |
| 0.5 ... 10 | 30 | 204 | 300 - 4500 | 375 - 4500 | 975 - 4500 | 1275 - 4500 | 67 | 75 | 360 | 450 | | |
| 3.5 ... 25 | 30 | 205 | 900 - 7500 | 1800 - 7500 | 1125 - 7500 | 1950 - 7500 | 90 | 150 | 1080 | 2160 | | |
| bar | bar | Code | bar | | | | | | | | | |
| 5 ... 50 | 65 | 206 | 1.5 - 15 | 3 - 15 | 3.7 - 15 | 4.5 - 15 | 0.225 | 0.3 | 2.2 | 3.7 | | |
| 5 ... 100 | 220 | 207 | 3.7 - 22 | 4.5 - 22 | 8.2 - 22 | 9.7 - 22 | 1.050 | 1.350 | 4.5 | 5.2 | | |
| 20 ... 150 | 220 | 208 | 3.7 - 22 | 5.2 - 22 | 8.2 - 22 | 9.7 - 22 | 1.050 | 1.500 | 4.5 | 6.7 | | |
| -1 ... 3.5 | 30 | 209 | 0.22 - 2.2 | 0.3 - 2.2 | 0.97 - 2.2 | 1.27 - 2.2 | 0.067 | 0.075 | 0.3 | 0.37 | | |
| 25 ... 175 | 800 | 600 | 30 - 120 | 45 - 120 | 45 - 120 | 52 - 120 | 22 | 22 | 36 | 54 | | |
| 30 ... 350 | 800 | 601 | 30 - 150 | 45 - 150 | 45 - 150 | 52 - 150 | 24 | 24 | 36 | 54 | | |
| 60 ... 600 | 800 | 602 | 30 - 180 | 45 - 180 | 45 - 180 | 52 - 180 | 24 | 24 | 36 | 54 | | |

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

¹⁾ The value of the deadband is depending on the value of the set point.

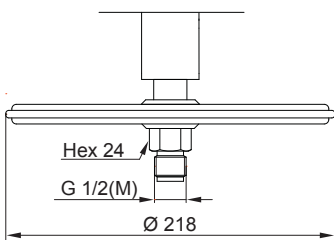
This table contains the deadband values for set point adjustment at 10% and 90% of the selected scale. For adjustable deadband the lower value corresponds to the deadband spring totally released and the higher corresponds to the deadband spring fully tensed. For other set points the deadband value can be calculated by linear interpolation between the values at 10% and 90%.

Dimensions (mm)

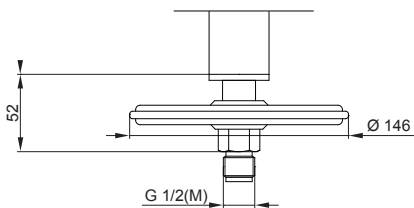


Weight of the housing: 4.4 kg

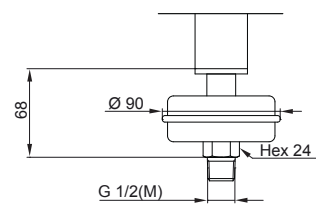
Pressure range code: 101 - 102 - 103 - 104
Weight: 3 kg



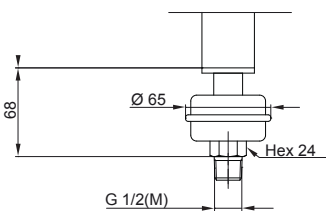
Pressure range code: 151 - 152 - 153
Weight: 2.8 kg



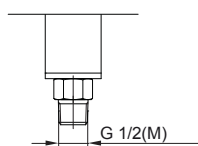
Pressure range code: 200 - 202 - 203
Weight: 2.5 kg



Pressure range code: 201
Weight: 2.4 kg



Pressure range code: 204 - 205 - 206 - 207 - 208 - 209 - 600 - 601 - 602
Weight: 2 kg



Ordering details RPPE3 - RPPE7

| | RP | PE | - | | | . | xxx | / |
|--|----|----|---|--|--|---|-----|-----------------|
| Model | RP | | | | | | | |
| Industrial pressure switch | | | | | | | | |
| Approvals | | | | | | | | |
| Explosion proof | | PE | | | | | | |
| Sensing element | | | | | | | | |
| Diaphragm (Viton®, range 101 to 153) | | | | | | | 3 | |
| Bellow (stainless steel, range 200 to 209) or Piston (nickel plated steel, range 600 to 602) | | | | | | | 7 | |
| Type of micro switches | | | | | | | | |
| | | | | | | | | Deadband |
| 1 SPDT standard changeover switch | | | | | | | | Adjustable A |
| 2 SPDT standard changeover switch | | | | | | | | Adjustable B |
| 1 SPDT hermetically changeover switch | | | | | | | | Adjustable C |
| 2 SPDT hermetically changeover switch | | | | | | | | Adjustable W |
| 1 SPDT ultra sensitive changeover switch | | | | | | | | Fix E |
| 2 SPDT ultra sensitive changeover switch | | | | | | | | Fix F |
| 1 SPDT hermetically, ultra sensitive changeover switch | | | | | | | | Fix D |
| 2 SPDT hermetically, ultra sensitive changeover switch | | | | | | | | Fix V |
| 1 SPDT gold contact changeover switch | | | | | | | | Adjustable M |
| 2 SPDT gold contact changeover switch | | | | | | | | Adjustable K |
| Process connection | | | | | | | | |
| G 1/2 male (standard) | | | | | | | 3 | |
| 1/2 NPT male | | | | | | | 6 | |
| 1/4 NPT female | | | | | | | 8 | |

| Pressure range (mbar) | Pressure range (kPa) | | |
|-----------------------|----------------------|----|-----|
| -50 ... 0 | -5 ... 0 | 1) | 101 |
| -2 ... 10 | -0.2 ... 1 | 1) | 102 |
| -5 ... 50 | -0.5 ... 5 | 1) | 103 |
| -8 ... 100 | -0.8 ... 10 | 1) | 104 |
| -200 ... 0 | -20 ... 0 | 1) | 151 |
| 0 ... 200 | 0 ... 20 | 1) | 152 |
| 0 ... 400 | 0 ... 40 | 1) | 153 |

| Pressure range (bar) | Pressure range (kPa) | | |
|----------------------|----------------------|----|-----|
| -1 ... 0 | -100 ... 0 | 2) | 200 |
| -1 ... 2.5 | -100 ... 250 | 2) | 201 |
| 0 ... 0.2 | 0 ... 20 | 2) | 202 |
| 0.05 ... 1 | 5 ... 100 | 2) | 203 |
| 0.5 ... 10 | 50 ... 1000 | 2) | 204 |
| 3.5 ... 25 | 350 ... 2500 | 2) | 205 |
| 5 ... 50 | 500 ... 5000 | 2) | 206 |
| 5 ... 100 | 500 ... 10000 | 2) | 207 |
| 20 ... 150 | 2000 ... 15000 | 2) | 208 |
| -1 ... 3.5 | -100 ... 350 | 2) | 209 |
| 25 ... 175 | 2500 ... 17500 | 2) | 600 |
| 30 ... 350 | 3000 ... 35000 | 2) | 601 |
| 60 ... 600 | 6000 ... 60000 | 2) | 602 |

Options to be added behind the / (see example below)

- 1) Only RPPE3
- 2) Only RPPE7

Ordering example with options

| | RP | PE | - | 3 | A | 3 | . | 101 | / | 0407 | - | 9941 |
|--|----|----|---|---|---|---|---|-----|---|------|---|------|
| Industrial pressure switch | RP | | | | | | | | | | | |
| Explosion proof | | PE | | | | | | | | | | |
| Diaphragm Viton® | | | | 3 | A | | | | | | | |
| 1 SPDT standard changeover switch | | | | | | 3 | | | | | | |
| Process connection G 1/2 male | | | | | | | | | | 0407 | | |
| Pressure range -50 ... 0 mbar | | | | | | | | 101 | | | | |
| Option: Mounting on 2" pipe | | | | | | | | | | | | |
| Option: Stainless steel tag plate and wire | | | | | | | | | | | | 9941 |