Relative and differential pressure switch

Type 630

Differential pressure, vacuum and overpressure switches of type series 630 are suitable for monitoring neutral and slightly aggressive liquids and gases. Switching element isolated from medium. Ideal for use as flow monitor in sanitary piping/ heating installations or for level monitoring in general in process technology applications. Extremely rugged construction with high functionality due to 10/20 bar safety margin in both pressure chambers.

Pressure range

6 ... 5500 mbar

+ High overpressure safety margin at both connections (P1 + P2) up to 10/20 bar
+ Functionally simple, rugged mechanics with high operating reliability
+ Also for slightly aggressive liquids and gases
+ Specially economical version with switching points adjusted in the factory
+ Repeatability up to < ± 0.4 mbar
**Technical overview**

### Pressure range
- Relative und differential: 6 ... 5500 mbar

### Operating conditions
- **Medium:**
  - NBR-based
  - EPDM
  - FPM
  - Silicone
- **Temperature:**
  - NBR-based: 0 ... +80 °C
  - FPM: -10 ... +80 °C
  - EPDM: -10 ... +80 °C
  - Silicone: -40 ... +80 °C
  - Ambient: -40 ... +80 °C
- **Storage:** -40 ... +80 °C

### Tolerable overload and max. tolerable system pressure (P1 > P2)
- < 200 mbar: 10 bar
- > 200 mbar: 20 bar
- **Rupture pressure:** 30 bar
- **Lowest turn-on pressure:** > 6 mbar
- **Smallest switching difference:** > 3 mbar

### Materials in contact with the medium
- **Diaphragm:**
  - NBR-based
  - EPDM
  - FPM
  - Silicone
- **Case:**
  - Anodized aluminium
  - Brass
  - Brass chemically nickel plated
- **Other components:**
  - X14CrMoS17 1.4104
  - X5CrNi18-10 1.4301
  - X10CrNi18-8 1.4310
  - X1/2CrNi18-10 1.4301

### Contact material / Loading
- **Nominal voltage, type of current:** 250 V AC
- **Nominal current for resistive loading:** 1 A
- **Nominal current for motor loading:** 0.5 A
- **Contact system:** Changeover contact
- **Service life:** Mechanically 10^6 switching cycles

### Protection standard
- **Without cover:** IP 00
- **With cover (PG11)**:
  - IP 54
- **With cover (PG9)**:
  - IP 65

### Repeatability
- ±5% of the switching point
  - with diaphragm NBR-based / silicone: minimum ±0.4 mbar
- ±10% of the switching point
  - with diaphragm FPM / EPDM: minimum ±0.8 mbar

### Electrical connections
- **Screw terminals (Option):**
- **Tab connectors (AMP) 6.3 mm:**
- **Cable gland PG9 / PG11:**
  - with cover

### Pressure connections
- **Thread:** G 1/8
- **Straight screwed connection:**
  - Zinc plated steel with NBR seal for pipe (Ø 6 mm): G 1/8
  - Cu/Zn nickel plated for tube (Ø 6 mm): G 1/8

### Mounting instructions
- For switching points calibrated in the factory: Indicate installation arrangement
- In case of liquid media: Connections down
- Remark: By changing the mounting position the switching points also change. The adjustment ranges are in relation with the mounting position.

### Weight
- With aluminium base: ~ 380 g
- With base brass / nickel-plated brass: ~ 1000 g

### Packaging
- Single packaging in cardboard boxes

**Legend to cross-section drawing**

1. Pressure case
2. Diaphragm
3. Vent
4. Permanent magnet
   - P1: Higher pressure / lower vacuum
   - P2: Lower pressure / higher vacuum

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<table>
<thead>
<tr>
<th>Legend to cross-section drawing</th>
</tr>
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<tbody>
<tr>
<td>1. Pressure case</td>
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<td>P2: Lower pressure / higher vacuum</td>
</tr>
</tbody>
</table>

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Admissible switching difference has to be considered

For installation arrangement electrical connections upward

With O-Ring
### Order code selection table

<table>
<thead>
<tr>
<th>Pressure range</th>
<th>630</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 ... 20 mbar</td>
<td>9</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 ... 60 mbar</td>
<td>9</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 ... 200 mbar</td>
<td>9</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150 ... 1000 mbar</td>
<td>9</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>9</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 ... 5.5 bar</td>
<td>9</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Contact material**

- AgCdO
- Anodized aluminium, black
- Brass
- Nickel-plated brass
- Anodized aluminium, black with straight screwed connection G1/8 for pipe ø 6 mm
- Brass with straight screwed connection G1/8 for pipe ø 6 mm
- Nickel-plated brass with straight screwed connection G1/8 for pipe ø 6 mm
- Anodized aluminium, black with screwed socket G5/8 for tube ø 6 mm
- Brass with screwed socket G5/8 for tube ø 6 mm
- Nickel-plated brass with screwed socket G5/8 for tube ø 6 mm

**Pressure case**

- Anodized aluminium, black
- Brass
- Nickel-plated brass

**Diaphragm material**

- NBR
- FPM
- EPDM
- Q (silicone)

**Cover PG9 on side / Bracket**

- Without cover
- With cover (Fig.1) (PG11)
- With spec. cover (Fig.2) (PG9)

**Switching points (optional)**

- Two factory set switching points
- One factory set switching point high
- One factory set switching point low

### Setting ranges

- 6 ... 20 mbar
- 15 ... 60 mbar
- 40 ... 200 mbar
- 150 ... 1000 mbar
- 1000 ... 3000 mbar (1 ... 3 bar)
- 2000 ... 5500 mbar (2 ... 5.5 bar)

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Other pressure range on request.

Huba Control Type 630 | Technical data subject to change | Edition 09/2020
Dimensions in mm / Electrical connections

Fig. 1

Fig. 2

Type A

Type B

Straight screwed connector G ⅛

Screwed Socket G ⅛

Sealing NBR