Relative and differential pressure transmitter type 652

Pressure range
0 ... 50 – 1000 mbar

Type 652 pressure transmitters are ideally suited to the continuous monitoring of liquid or level, (especially in heating technology). Their especially rugged construction allows a single port over-pressure of up to 20 bar, depending upon pressure range.

- High overpressure safety margin 10/20 bar on P1
- 3 standardised output signals for direct Processing in control / monitoring systems
- Functionally simple, rugged mechanics with high operating reliability
- Attractive price / performance ratio
- Also for slightly aggressive liquids and gases
### Technical overview

#### Pressure range
- Relative and differential: 0 ... 50 - 1000 mbar

#### Operating conditions

<table>
<thead>
<tr>
<th>Medium</th>
<th>Liquids and neutral gases</th>
</tr>
</thead>
<tbody>
<tr>
<td>NBR-based</td>
<td>0 ... +80 °C</td>
</tr>
<tr>
<td>FPM</td>
<td>-10 ... +80 °C</td>
</tr>
<tr>
<td>EPDM</td>
<td>-10 ... +80 °C</td>
</tr>
<tr>
<td>Q (silicone)</td>
<td>-40 ... +80 °C</td>
</tr>
<tr>
<td>Storage</td>
<td>-40 ... +80 °C</td>
</tr>
</tbody>
</table>

#### Tolerable overload and max. tolerable system pressure (P1 > P2)
- < 200 mbar: 10 bar
- < 500 mbar: 20 bar
- > 500 mbar: 20 bar

#### Rupture pressure
- 30 bar

#### Materials in contact with the medium

**Diaphragm**
- NBR-based
- EPDM
- FPM
- Silicon

**Case**
- Anodized aluminium
- Brass
- Brass chemical nickel-plated
- X1CrNiMoTi17-10-3 1.4418
- X5CrNi18-10 1.4301
- X10CrNi18-8 1.4310
- X2CrNiMoN17-13-2 1.4462
- Metal category A2 for screws
- Polyacetate-C, Polyamide

#### Electrical overview

**Output (3 wire)**
- 0 ... 10 V
- 0 ... 20 mA
- 4 ... 20 mA

**Power supply**
- 20 ... 30 VDC / 24 VAC +15% / -10%

**Load**
- Current load: ≤ 800 Ω
- Voltage load: ≤ 10 kΩ

**Current consumption**
- 0 ... 10 V: 35 mA
- 0 ... 20 mA: max 55 mA
- 4 ... 20 mA: max 55 mA

**Polarity reversal protection**
- Short circuit proof and with polarity reversal protection

**Dynamic response**
- Response time: < 10 ms
- Load cycle: < 10 Hz

**Protection standard**
- With plastic cover (PG9): IP 65

**Electrical connection**
- Screw terminals

**Pressure connection (P1 > P2)**
- Inside thread: G 1/8
- Straight screwed connection: Zinc plated steel with NBR seal for pipe (Ø 6 mm)
- Screwed socket: CuZn nickel plated for tube (Ø 6 mm)

**Installation arrangement**
- Unrestricted. Recommendation: The transmitter is calibrated in the factory with the diaphragm positioned vertically. In the case of liquid media vent screw up, i.e. pressure connection down.

**Tests / Admissions**
- Electromagnetic compatibility: CE conformity acc. EN 61326-2-3

**Weight**
- With aluminum pressure case: ~ 394 g
- With brass pressure case: ~ 1020 g

**Packaging**
- Single packaging in cardboard

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**Legend to cross-section drawing**

1. Pressure case
2. Diaphragm
3. Permanent magnet
4. Electronics
5. Cover
6. PG9 Union
7. Vent
8. P1 Higher pressure / lower vacuum
9. P2 Lower pressure / higher vacuum
## Huba Control type 652 - Technical data subject to change - Edition 05/2016

### Accuracy

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tolerance zero point</td>
<td>% FS</td>
<td>± 1.0</td>
</tr>
<tr>
<td>Tolerance full scale</td>
<td>% FS</td>
<td>± 1.0</td>
</tr>
<tr>
<td>Resolution</td>
<td></td>
<td>± 0.2</td>
</tr>
<tr>
<td>Total of linearity, Hysteresis</td>
<td>% FS</td>
<td>± 1.5</td>
</tr>
<tr>
<td>TC zero point</td>
<td>°C/K</td>
<td>± 0.8</td>
</tr>
<tr>
<td>TC sensitivity</td>
<td>°C/K</td>
<td>± 0.3</td>
</tr>
</tbody>
</table>

Test conditions: 25 °C, 45% RH, power supply 24 VDC

### Order code selection table

<table>
<thead>
<tr>
<th>652</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
</tbody>
</table>

#### Pressure ranges

- 0 ... 50 mbar 0
- 0 ... 100 mbar 1
- 0 ... 200 mbar 2
- 0 ... 500 mbar 3
- 0 ... 1000 mbar 4

#### Output

- 0 ... 10 V 0
- 0 ... 20 mA 1
- 4 ... 20 mA 2

#### Linearity

- ± 1.5% FS 0

#### Power supply (IN)

- 20 ... 30 VDC / 24 VAC ±15% / -10% 0

#### Electrical connection

- Screw terminals (Protection class with cover IP 65) 0

#### Pressure connections

- Inside thread G ⅛ 0
- Straight screwed connection G ⅛ for pipe (± 6 mm) 1
- Screwed socket G ⅛ for tube (± 6 mm) 2

#### Pressure case

- Anodized aluminium black 0
- Brass 1
- Nickel-plated brass 2

#### Diaphragme

- NBR-based 0
- FPM 1
- EPDM 2
- Q (Silicon) 3

#### Mounting

- Without mounting bracket 0
- With mounting bracket type A 1
- With mounting bracket type B 2

### Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting bracket type A</td>
<td>100996</td>
</tr>
<tr>
<td>Mounting bracket type B</td>
<td>100997</td>
</tr>
<tr>
<td>Straight screwed connection G ⅛ for pipe (± 6 mm)</td>
<td>105860</td>
</tr>
<tr>
<td>Screwed socket G ⅛ for tube (± 6 mm)</td>
<td>108239</td>
</tr>
<tr>
<td>Calibration certificate</td>
<td>104551</td>
</tr>
</tbody>
</table>

1) TC = Temperature coefficient
2) Other pressure range on request
3) Other output signals on request
4) Accessories supplied loose