



Pressure transmitter



Huba Control

OEM Pressure sensor

Type 400

The type 400 pressure transmitter, with its proven ceramic lever technology, has adjusted temperature compensated sensor signals and is available with a voltage output. The voltage output (VDC) is an amplified, linear signal suitable for direct processing in electronic control systems. The sensors are ideal for continuous level measurement in washing machines, dishwashers etc.

Pressure range

0 ... 10 – 100 bar

- + Robust construction, sensor element has no contact with media
- + Special design developed for large scale manufacture at an attractive price
- + Fully automated manufacture, including in-line adjustment of zero point and full scale value
- + Special snap mounting bracket for easy single handed mounting in sheet steel of varying thicknesses

Technical Overview

Pressure range ¹⁾

Relative 0 ... 10 – 100 mbar

Operating conditions

| | | |
|--------------------|-----------------------------|--------------------------------|
| Medium | | Liquids and neutral gases |
| Temperature | Medium / ambient Storage | 0 ... +70 °C -10 ... +70 °C |
| Tolerable overload | | 200 mbar |
| Rupture pressure | | 500 mbar |
| Leak rate | | < 0.2 cm ³ /h (Air) |

Materials in contact with the medium

| | |
|-----------|-------------------------|
| Cover | Polypropylene |
| Diaphragm | Thermoplastic elastomer |

Electrical overview

| | | |
|-------------------------------------|---|------------------------|
| Output / Power supply ²⁾ | ration. 10 ... 70% | 5 VDC ±5% |
| Load | | > 50 kOhm / < 10 nF |
| Current consumption | At nominal voltage with 50 kOhm load | < 3 mA |
| Polarity reversal protection | | mechanically protected |
| Electromagnetic compatibility | The product is designed exclusively for installation in equipment. The customer is responsible for CE conformity. | |

Dynamical response

| | |
|---------------|---------|
| Response time | < 10 ms |
| Load cycle | < 10 Hz |

Protection standard

IP 00 Protection class III

Electrical connections

3-pole plug connector RAST 2.5

Pressure connection

Pipe Ø 6.2 mm

Mounting instruction

| | | |
|--------------------------|---|--|
| Installation arrangement | Diaphragm horizontal (Recommendation) | Pressure connection and electrical connections downward |
| | Diaphragm vertical (on request) | To be agreed, signal is approx. 0.3 mbar higher than real pressure ³⁾ |
| Mounting | Snap mounting in sheet steel from 0.9 to 1.5 mm | |

Weight

~ 17 g

Packaging

Cardboard boxes with blister pack inserts (35 pcs)

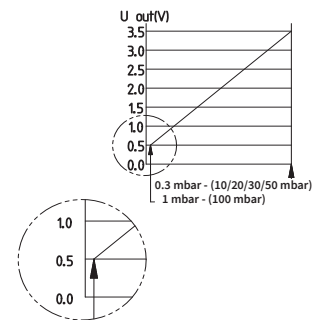
Ordering batches quantities / Transport volumes

| Pieces | Execution | Length (cm) | Width (cm) | Height (cm) | Weight (kg) | Blister (35 pcs) |
|--------|------------------------------|-------------|------------|-------------|-------------|------------------|
| 2520 | 12 boxes per Euro-pallet 120 | 80 | 93 | 103 | 72 | |
| 210 | 1 box | 59 | 39 | 26 | 6.9 | 6 |

Accuracy

Linearity

| Parameter | Unit | 10 mbar | 20 mbar | 30 mbar | 50 mbar | 100 mbar |
|--|---------------|---------|---------|---------|---------|----------|
| Tolerance zero point ⁴⁾ | max. % fs | - | ± 1.5 | ± 1.5 | ± 1.5 | ± 1.5 |
| Tolerance at 0.5 mbar | max. % fs | ± 1.5 | - | - | - | - |
| Tolerance full scale ⁴⁾ | max. % fs | ± 2.5 | ± 2.5 | ± 1.5 | ± 1.5 | ± 1.5 |
| Resolution | % fs | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Total of linearity, hysteresis and repeatability | | | | | | |
| at 0.3 mbar (10 ... 50 mbar) and 1 mbar (100 mbar) | % fs | ± 0.5 | ± 0.5 | ± 0.5 | ± 0.5 | ± 0.5 |
| Long term stability acc. to DIN IEC 60770 | % fs | ± 1.0 | ± 1.0 | ± 0.5 | ± 0.5 | ± 0.5 |
| TC zero point ⁵⁾ | typ. % fs/10K | ± 0.2 | ± 0.2 | ± 0.2 | ± 0.2 | ± 0.2 |
| TC zero point ⁵⁾ | max. % fs/10K | ± 0.4 | ± 0.4 | ± 0.4 | ± 0.4 | ± 0.4 |
| TC sensibility ⁵⁾ | max. % fs/10K | ± 0.2 | ± 0.2 | ± 0.2 | ± 0.2 | ± 0.4 |
| Positional error ⁴⁾ | mbar | ~ 0.3 | ~ 0.3 | ~ 0.3 | ~ 0.3 | ~ 0.3 |
| Ratiometric error | typ. % fs | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Ratiometric error | max. % fs | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |



Test conditions: 25 °C, 45% rF, Power supply 5 VDC
TK0 / TKE: 0 ... +70 °C

¹⁾ other pressure ranges on request

²⁾ Other supply voltages and outputs on request.

³⁾ In Case of condensed water, auto-zero significant.

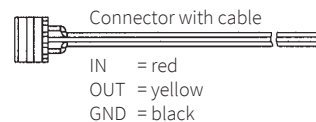
⁴⁾ For changing diaphragm position from horizontal to vertical, approx. 0.3 mbar. ⁵⁾ TC = Temperature coefficient

| Order code selection table | | Order number | | | | | | | | |
|----------------------------|----------------|--------------|---|---|---|---|---|---|---|---|
| Pressure range | 0 ... 10 mbar | 4 | 0 | 0 | . | 9 | 1 | 1 | 0 | 0 |
| | 0 ... 20 mbar | 4 | 0 | 0 | . | 9 | 2 | 1 | 0 | 0 |
| | 0 ... 30 mbar | 4 | 0 | 0 | . | 9 | 3 | 1 | 0 | 0 |
| | 0 ... 50 mbar | 4 | 0 | 0 | . | 9 | 5 | 1 | 0 | 0 |
| | 0 ... 100 mbar | 4 | 0 | 0 | . | 9 | 7 | 1 | 0 | 0 |

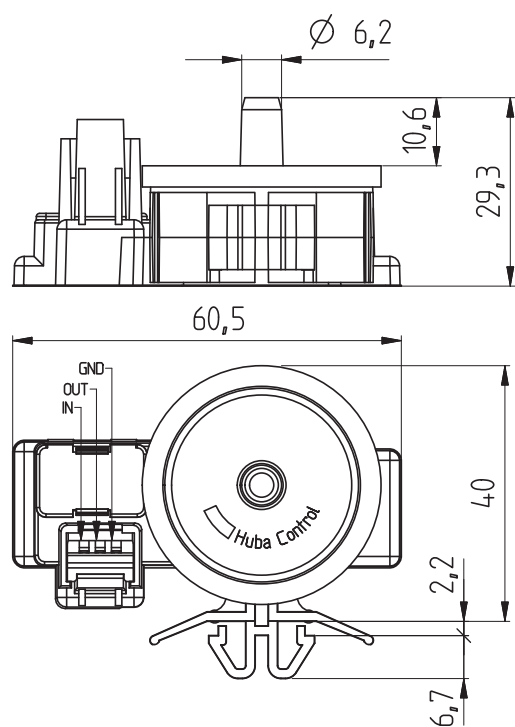
▲ Full scale signal at these pressure

| Accessories ¹⁾ | | Order number |
|--------------------------------------|--|--------------|
| Connector RAST 2.5 with cable 30 cm | | 111668 |
| Connector RAST 2.5 with cable 110 cm | | 101817 |
| Connector RAST 2.5 with cable 150 cm | | 112282 |
| Calibration certificat | | 104551 |

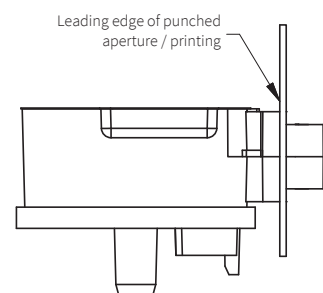
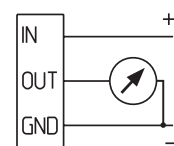
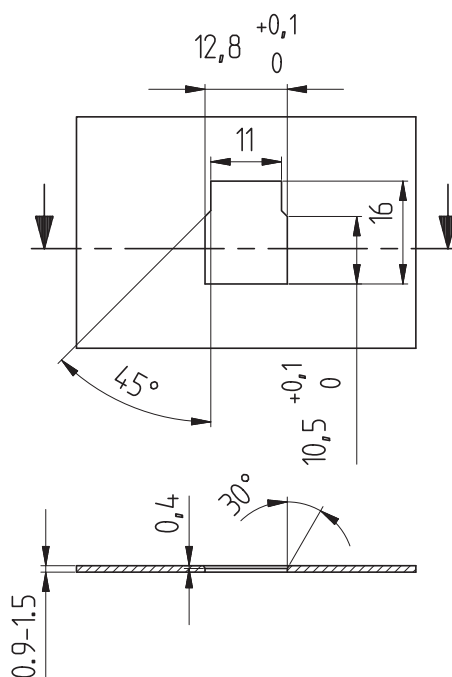
| AMP Connector ²⁾ | Manufacturer's Part No. | Colour | for flexible wire |
|-----------------------------|-------------------------|--------|--|
| | 3-829868-3 | grey | 7 x 0.20 mm = 0.22 mm ² or 12 x 0.20 mm = 0.35 mm ² |
| | 1-966194-3 | beige | 7 x 0.25 mm = 0.35 mm ² |



Dimensions in mm / Electrical connections



Hole pattern for mounting (supplied by the customer)



¹⁾ Accessories supplied loose

²⁾ To be ordered separately from original manufacturer. Further information can be found in the manufacturer specification No. 114-18049.

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