



Differential pressure transmitter

Relative and differential pressure transmitter

Type 402

Type 402 pressure transmitters are ideally suited to measuring fine air flow in air conditioning systems, and fine pressures in the environmental / medical technology sectors. Individually ranged sensors ensure optimum accuracy and long term stability of measurement. Location is quick and easy, either via a mounting plate or directly onto a PCB.



Pressure range
0 ... 3 – 50 mbar

- + Attractive price / performance ratio
- + Excellent synergy of diaphragm technology and ceramic elements
- + Special adapter for top-hat rail mounting
- + Direct pcb mounting with simple snap-on system

Technical Overview

Pressure range

| | |
|---------------------------|-------------------|
| Relative and differential | 0 ... 3 – 50 mbar |
|---------------------------|-------------------|

Operating conditions

| | | |
|--------------------|---------------------|-----------------------|
| Medium | | Air and neutral gases |
| Temperature | Medium / ambient | 0 ... +70 °C |
| | Storage | -30 ... +70 °C |
| Tolerable overload | | 100 mbar |
| Rupture pressure | at room temperature | 200 mbar |
| | at 70 °C | 150 mbar |

Materials in contact with the medium

| | | |
|-------------------|--|--|
| Case construction | Polycarbonate (PC) / Polyamide (PA) | |
| Diaphragm | Silicone | |
| Sensor | Ceramic Al ₂ O ₃ (96%) | |

Electrical overview

| | | |
|-------------------------------|---|------------------------|
| Output | 0.5 ... 4.5 V | |
| Power supply | 10.2 ... 33.0 VDC | |
| Load | > 15 kOhm (to GND) | |
| Current consumption | < 8 mA | |
| Polarity reversal protection | Connector and pcb version | mechanically protected |
| Electromagnetic compatibility | The product is designed exclusively for installation in equipment. The customer is responsible for CE conformity. | |

Dynamic response

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

Protection standard

IP 00

Electrical connections

| | |
|---------------------------------|----------------------|
| Solderable pin in circuit board | |
| 3 pole connector RAST 2.5 | |
| Adapter plate | Mounted and soldered |

Pressure connection

Pipe Ø 6.2 mm

Mounting instruction

| | | |
|--------------------------|----------------------|--------------------------------------|
| Installation arrangement | Diaphragm vertical | Pressure connections facing downward |
| | Diaphragm horizontal | Pressure connection P1 upwards |
| Mounting | | Snap fitting ¹⁾ |
| | | Adapter |
| | | Mounting bracket |

Weight

~ 28 g

Packaging

Single packaging in cardboard boxes

Multiple packaging in cardboard boxes with blister pack inserts (25 pcs)

Accuracy

| Parameter | Unit | 0 .. 3 mbar | 0 ... 5 mbar | 0 ... 10 mbar | 0 ... 30 mbar | 0 ... 50 mbar |
|--|---------------|-------------|--------------|---------------|---------------|---------------|
| Tolerance zero point ²⁾ | max. % fs | ± 0.9 | ± 0.9 | ± 0.9 | ± 0.9 | ± 0.9 |
| Tolerance full scale ²⁾ | max. % fs | ± 1.3 | ± 1.3 | ± 1.3 | ± 0.7 | ± 0.7 |
| Resolution | % fs | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Total of linearity, hysteresis and repeatability | max. % fs | ± 1.0 | ± 1.0 | ± 0.6 | ± 0.6 | ± 0.6 |
| Long term stability acc. to DIN EN 60770 | % fs | ± 1.0 | ± 1.0 | ± 1.0 | ± 1.0 | ± 1.0 |
| TC zero point ³⁾ | typ. % fs/10K | ± 0.2 | ± 0.2 | ± 0.2 | ± 0.2 | ± 0.2 |
| TC zero point ³⁾ | max. % fs/10K | ± 0.4 | ± 0.4 | ± 0.4 | ± 0.4 | ± 0.4 |
| TC sensitivity ³⁾ | typ. % fs/10K | ± 0.3 | ± 0.3 | ± 0.2 | ± 0.2 | ± 0.2 |
| TC sensitivity ³⁾ | max. % fs/10K | ± 0.6 | ± 0.5 | ± 0.4 | ± 0.4 | ± 0.4 |

Test conditions: 25 °C, 45% RH, power supply 12 VDC
TC z.p. / TC s. 0 ... +70 °C

¹⁾ max. 1.6 mm thickness

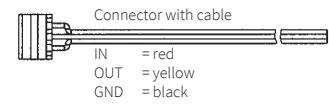
²⁾ For changing diaphragm position from horizontal to vertical, approx. -0.13 mbar.

³⁾ TC = Temperature coefficient

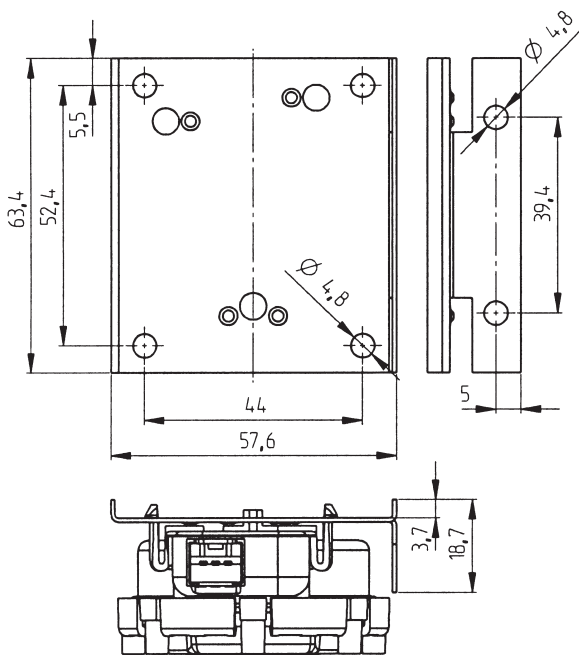
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|--|--------------------|---|---|---|---|---|---|
| Order code selection table | | 402. X X X X X X X | | | | | | |
| Pressure range ¹⁾ | 0 ... 3 mbar | 9 | 1 | | | | | |
| | 0 ... 5 mbar | 9 | 2 | | | | | |
| | 0 ... 10 mbar | 9 | 3 | | | | | |
| | 0 ... 30 mbar | 9 | 4 | | | | | |
| | 0 ... 50 mbar | 9 | 5 | | | | | |
| ▲ Full scale signal at these pressure | | | | | | | | |
| Adjusting position ²⁾ | Diaphragm vertical | | | 0 | | | | |
| | Diaphragm horizontal | | | 1 | | | | |
| Diaphragm | Silicone | | | 0 | | | | |
| Output / power supply | 0.5 ... 4.5 V 10.2 ... 33 VDC | | | | 0 | | | |
| | Print version | | | | | | | 1 |
| Electrical connection | Connector version Rast 2.5 | | | | | | | 2 |
| | Print version, mounted and soldered on adapter plate | | | | | | | 3 |
| Pressure connection | Pipe Ø 6.2 mm | | | | | | | 1 |

| Accessories (supplied loose) | Order number | |
|--|---|--------|
| Fixing screw for wall thickness 1 – 2 mm | Length of screw 6 mm (min. required 2 pcs) | 102976 |
| Fixing screw for wall thickness 4.1 – 6 mm | Length of screw 10 mm (min. required 2 pcs) | 112213 |
| Connector Rast 2.5 with cable (110 cm) | | 101817 |
| Base plate for rail mounting suitable for bearing rail TS 35 | | 110656 |
| Bracket | | 108222 |
| Calibration certificate | | 104551 |

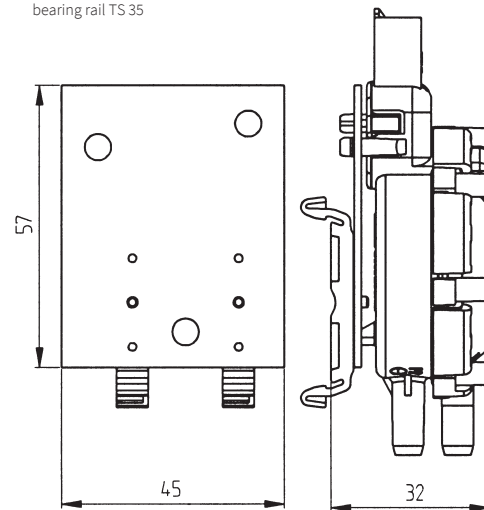
| AMP connector ⁴⁾ | Manufacturer's Part No. | Colour | for flexible wire |
|-----------------------------|-------------------------|--------|--|
| | 3-829868-3 | grey | 7 x 0.20 mm = 0.22 mm ² or 12 x 0.20 mm = 0.35 mm ² |
| | 1-966194-3 | beige | 7 x 0.25 mm = 0.35 mm ² |



Mounting Bracket



Base plate for rail mounting suitable for bearing rail TS 35

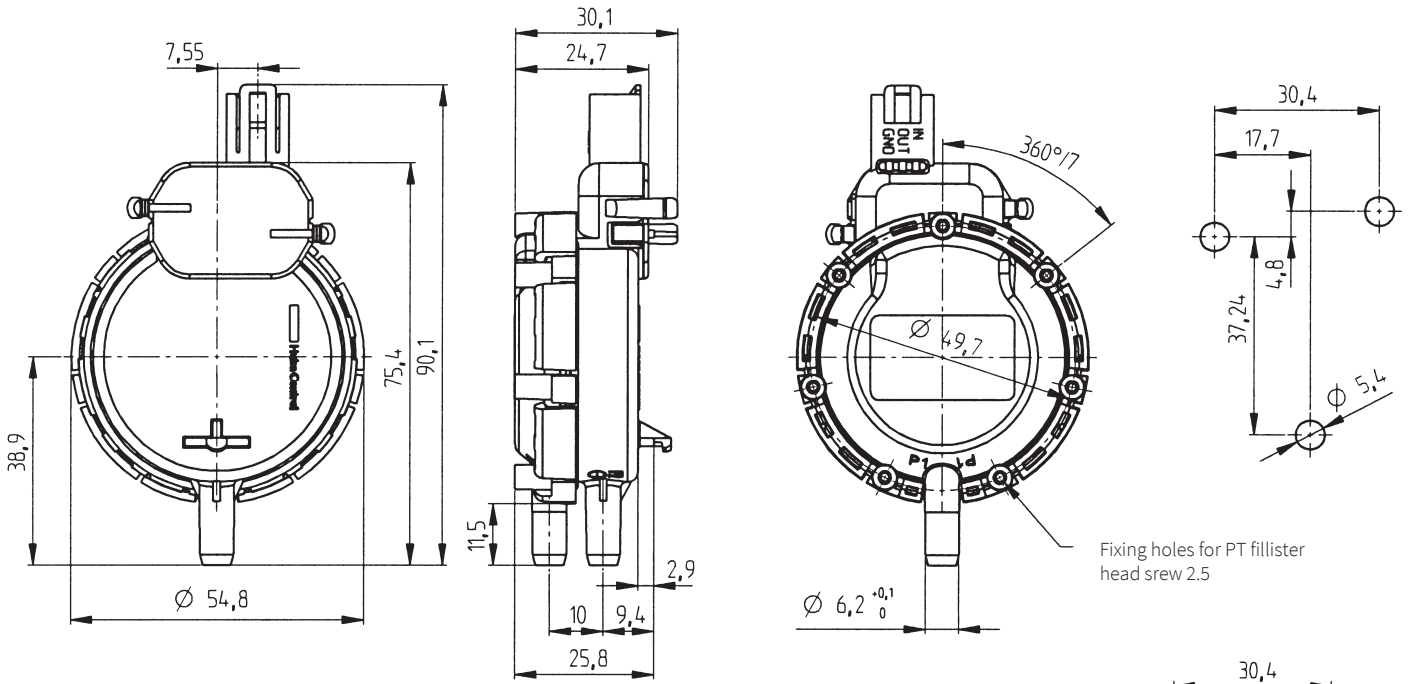


¹⁾ Other pressure range on request

²⁾ For changing diaphragm position from horizontal to vertical, approx. -0.13 mbar.

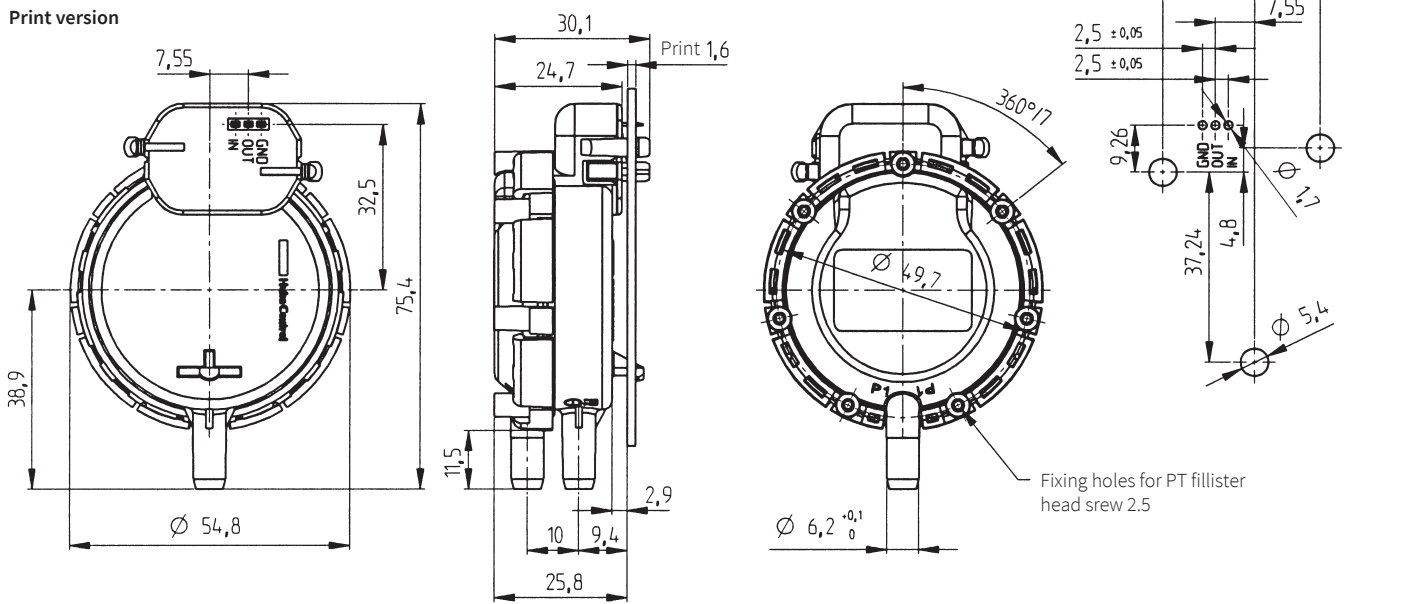
³⁾ To be ordered separately from original manufacturer. Further information can be found in the manufacturer specification No. 114-18049.

Connector version

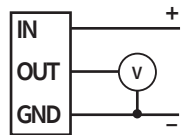


Fixing holes for PT fillister head screw 2.5

Print version



Fixing holes for PT fillister head screw 2.5





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