

# Relative and differential pressure transmitter type 402

Pressure range  
0 ... 3 – 50 mbar



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.

- 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 <sub>2</sub> O <sub>3</sub> (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 <sup>1)</sup>
		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 <sup>2)</sup>	max. % fs	± 0.9	± 0.9	± 0.9	± 0.9	± 0.9
Tolerance full scale <sup>2)</sup>	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 <sup>3)</sup>	typ. % fs/10K	± 0.2	± 0.2	± 0.2	± 0.2	± 0.2
TC zero point <sup>3)</sup>	max. % fs/10K	± 0.4	± 0.4	± 0.4	± 0.4	± 0.4
TC sensitivity <sup>3)</sup>	typ. % fs/10K	± 0.3	± 0.3	± 0.2	± 0.2	± 0.2
TC sensitivity <sup>3)</sup>	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

<sup>1)</sup> max. 1.6 mm thickness

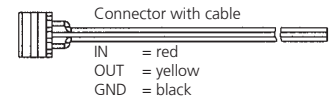
<sup>2)</sup> For changing diaphragm position from horizontal to vertical, approx. -0.13 mbar.

<sup>3)</sup> TC = Temperature coefficient

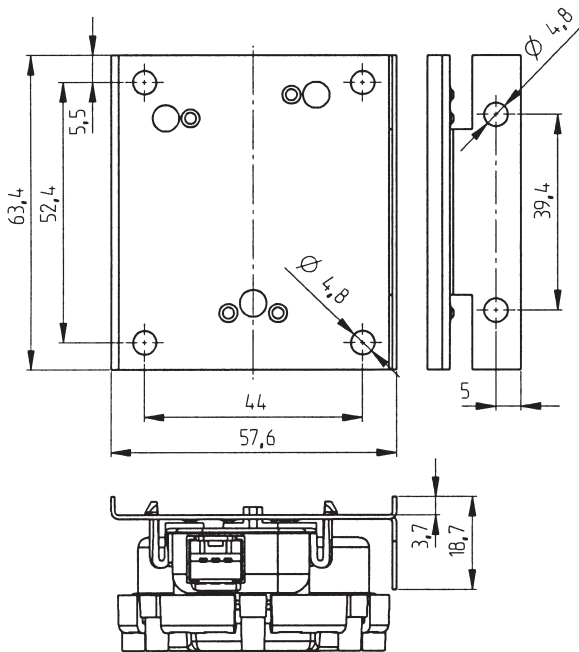
Order code selection table		1	2	3	4	5	6	7
		402. X X X X X X X						
Pressure range <sup>1)</sup>	0 ... 3 mbar	9	1					
	0 ... 5 mbar	9	2					
	0 ... 10 mbar	9	3					
	0 ... 30 mbar	9	4					
	0 ... 50 mbar	9	5					
▲ Full scale signal at these pressure								
Adjusting position <sup>2)</sup>	Diaphragm 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 <sup>3)</sup>		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

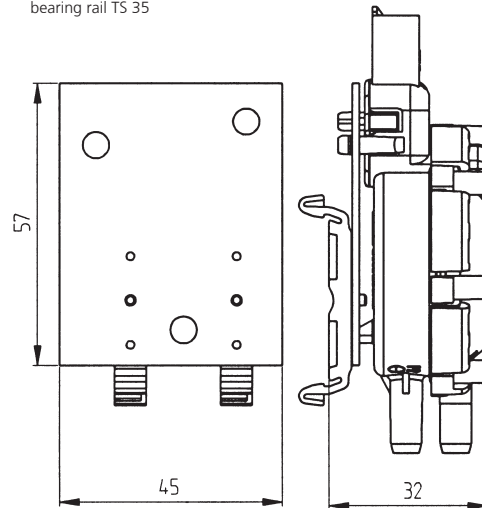
AMP connector <sup>4)</sup>	Manufacturer's Part No.	Colour	for flexible wire	Order number
	3-829868-3	grey	7 x 0.20 mm = 0.22 mm <sup>2</sup> or 12 x 0.20 mm = 0.35 mm <sup>2</sup>	102976
	1-966194-3	beige	7 x 0.25 mm = 0.35 mm <sup>2</sup>	112213



Mounting Bracket



Base plate for rail mounting suitable for bearing rail TS 35



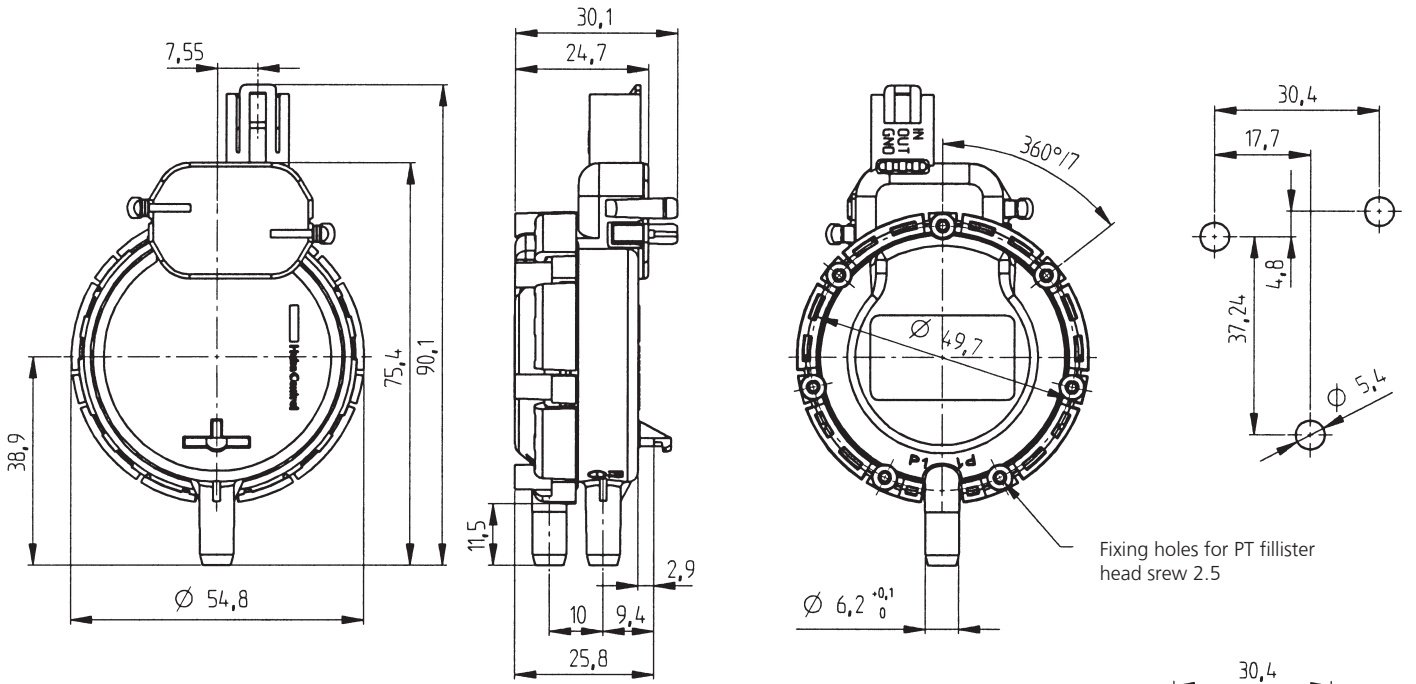
<sup>1)</sup> Other pressure range on request

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

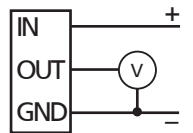
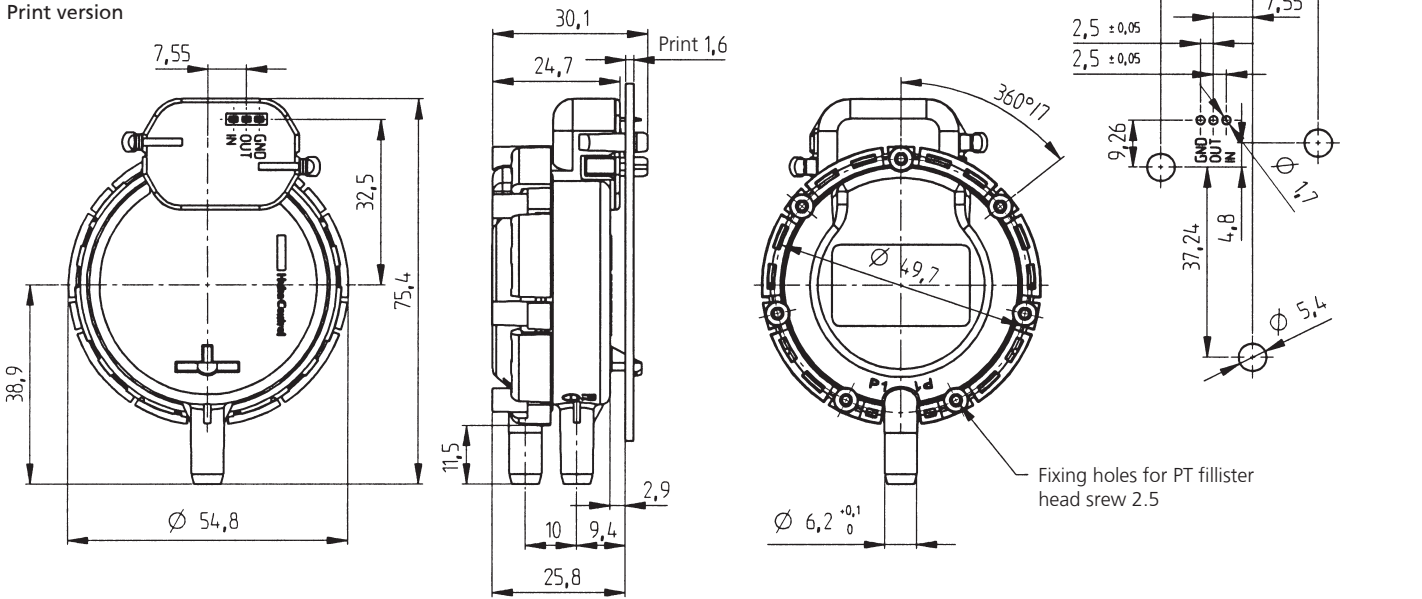
<sup>3)</sup> Accessories supplied loose

<sup>4)</sup> To be ordered separately from original manufacturer. Further information can be found in the manufacturer specification No. 114-18049.

Connector version



Print version



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