

# 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 overpressure 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
- Also for slightly aggressive liquids and gases
- Attractive price / performance ratio

## Technical overview

### Pressure range

Relative and differential	0 ... 50 – 1000 mbar
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### Operating conditions

Medium		Liquids and neutral gases
Temperature	NBR-based	0 ... +80 °C
	FPM	-10 ... +80 °C
	EPDM	-10 ... +80 °C
	Q (Silicone)	-40 ... +80 °C
	Storage	-40 ... +80 °C
Tolerable overload (P1 > P2)	≤ 200 mbar	10 bar
Rupture pressure	≥ 500 mbar	20 bar
		30 bar

### Materials in contact with the medium

Diaphragm		NBR-based	
		EPDM	
		FPM	
		Silicon	
Case		Anodized aluminium	
		Brass	
		Brass chemical nickel-plated	
Other components		X14CrMoS17	1.4104
		X5CrNi18-10	1.4301
		X10CrNi18-8	1.4310
		Steel 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	≤ 300 Ohm
	Voltage load	≥ 10 kOhm
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
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### Electrical connection

Screw terminals	
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### Pressure connection (P1 > P2)

Inside thread		G 1/8
Straight screwed connection	Zinc plated steel with NBR seal for pipe (Ø 6 mm)	G 1/8
Screwed Socket	CuZn nickel plated for tube(Ø 6 mm)	G 1/8

### Installation arrangement

Unrestricted. 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 <sup>1)</sup>

### Tests / Admissions

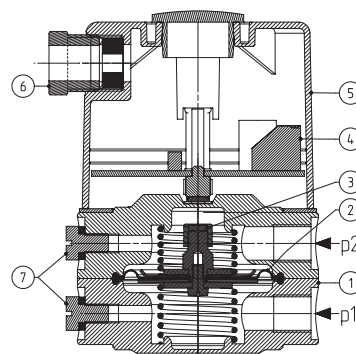
Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
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### Weight

With aluminium pressure case	~ 394 g
With brass pressure case	~ 1030 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
- P1 Higher pressure / lower vacuum
- P2 Lower pressure / higher vacuum

<sup>1)</sup> Recommendation

## Accuracy

Parameter		Unit	
Tolerance zero point	max.	% fs	± 1.0
Tolerance full scale	max.	% fs	± 1.0
Resolution		% fs	0.2
Total of linearity, Hysteresis and repeatability	max.	% fs	± 1.5
TC zero point <sup>1)</sup>	max.	% fs/10 K	± 0.8
TC sensitivity <sup>1)</sup>	typ.	% fs/10 K	± 0.3
TC sensitivity <sup>1)</sup>	max.	% fs/10 K	± 0.6

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

## Order code selection table type

		652.	X	X	X	X	X	X	X	X	X	X	X	X
Pressure ranges <sup>2)</sup>	0 ... 50 mbar	9	0											
	0 ... 100 mbar	9	1											
	0 ... 200 mbar	9	2											
	0 ... 500 mbar	9	3											
	0 ... 1000 mbar	9	4											
Output <sup>3)</sup>	0 ... 10 V							0						
	0 ... 20 mA							1						
	4 ... 20 mA							4						
Linearity	± 1.5% FS								1					
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 1/8										0			
	Straight screwed connection G 1/8 for pipe (Ø 6 mm)										1			
	Screwed socket G 1/8 for tube (Ø 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 0
	With mounting bracket type A													0 1
	With mounting bracket type B													0 2

## Accessories <sup>4)</sup>

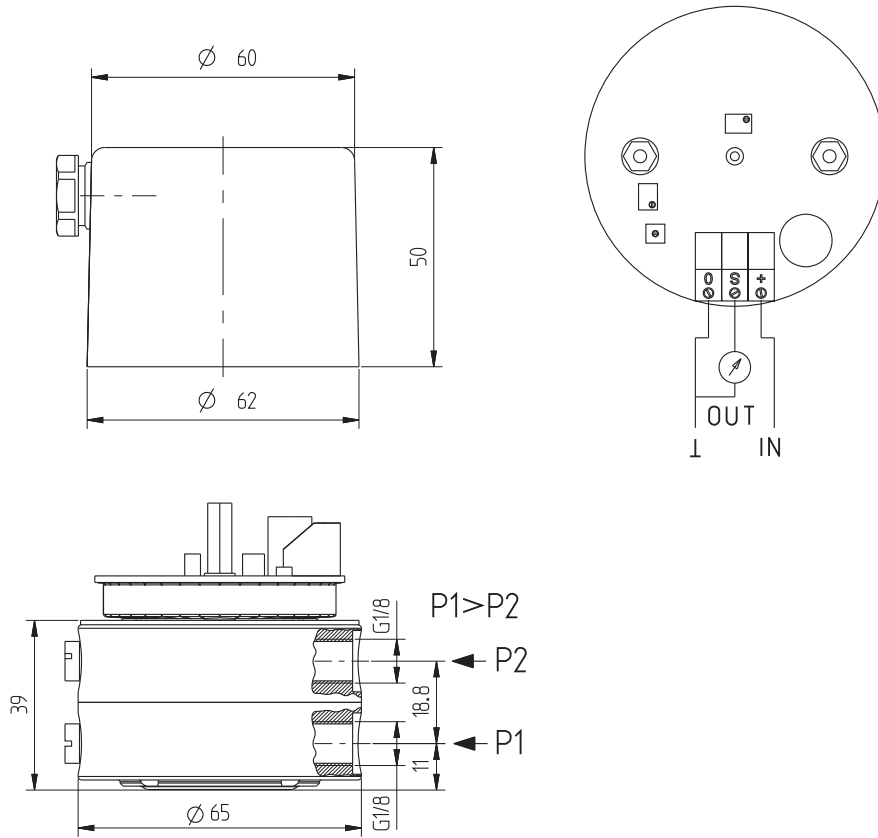
	Order number
Mounting bracket type A	100996
Mounting bracket type B	100997
Straight screwed connection G 1/8 for pipe (Ø 6 mm)	105860
Screwed Socket G 1/8 for tube (Ø 6 mm)	108239
Calibration certificate	104551

<sup>1)</sup> TC = Temperature coefficient

<sup>2)</sup> Other pressure range on request

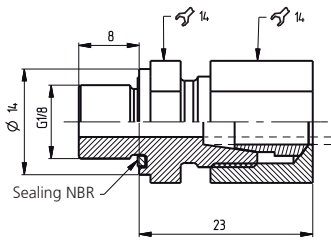
<sup>3)</sup> Other output signals on request

<sup>4)</sup> Accessories supplied loose

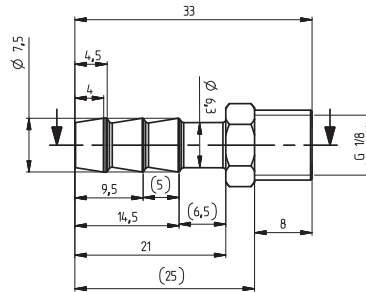


Accessories

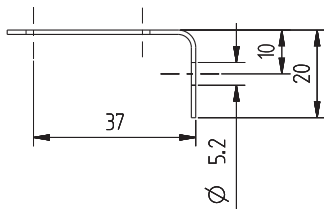
Straight screwed connector G 1/8



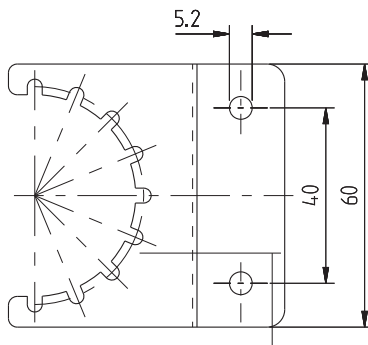
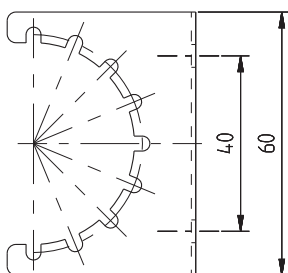
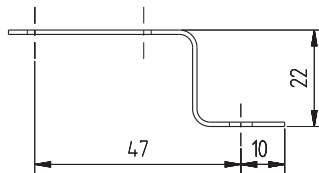
Screwed Socket G 1/8



Mounting bracket type A



Mounting bracket type B



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