

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

## Technical overview

### Pressure range

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

Medium		Liquids and neutral gases
	NBR-based	0 ... +80 °C
	FPM	-10 ... +80 °C
	EPDM	-10 ... +80 °C
	Q (Silicone)	-40 ... +80 °C
	Storage	-40 ... +80 °C
Temperature		
Tolerable overload and max. tolerable system pressure (P1 > P2)	≤ 200 mbar	10 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	
Other components	X14CrMoS17	1.4104
	X5CrNi18-10	1.4301
	X10CrNi18-8	1.4310
	X2CrNiMoN	1.4462
	Steel category A2 for screws	
	Polyacetate-C, Polyamide	

### Electrical overview

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. 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

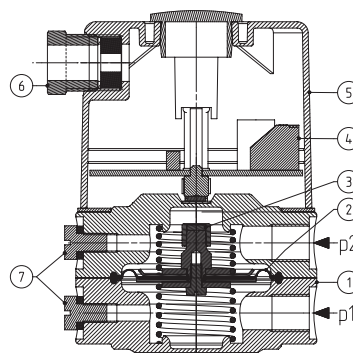
Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
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### Weight

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

## 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

		1	2	3	4	5	6	7	8	9	10	11
		652.	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			
Diaphragm	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>

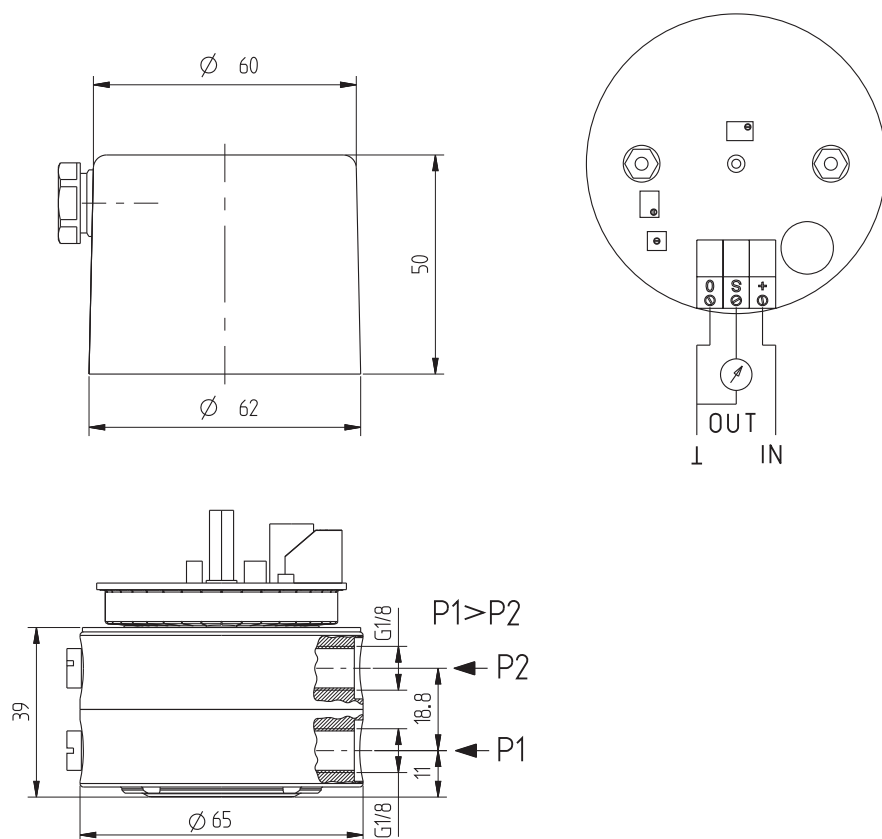
Mounting bracket type A		Order number
Mounting bracket type B		100996
Straight screwed connection G 1/8	for pipe (Ø 6 mm)	100997
Screwed Socket G 1/8	for tube (Ø 6 mm)	105860
Calibration certificate		108239
		104551

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

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

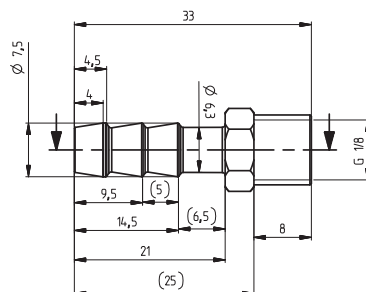
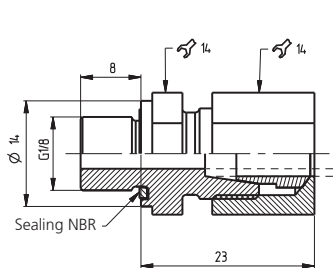
<sup>3)</sup> Other output signals on request

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



Straight screwed connector G 1/8

Screwed Socket G 1/8



Mounting bracket type A

Mounting bracket type B

