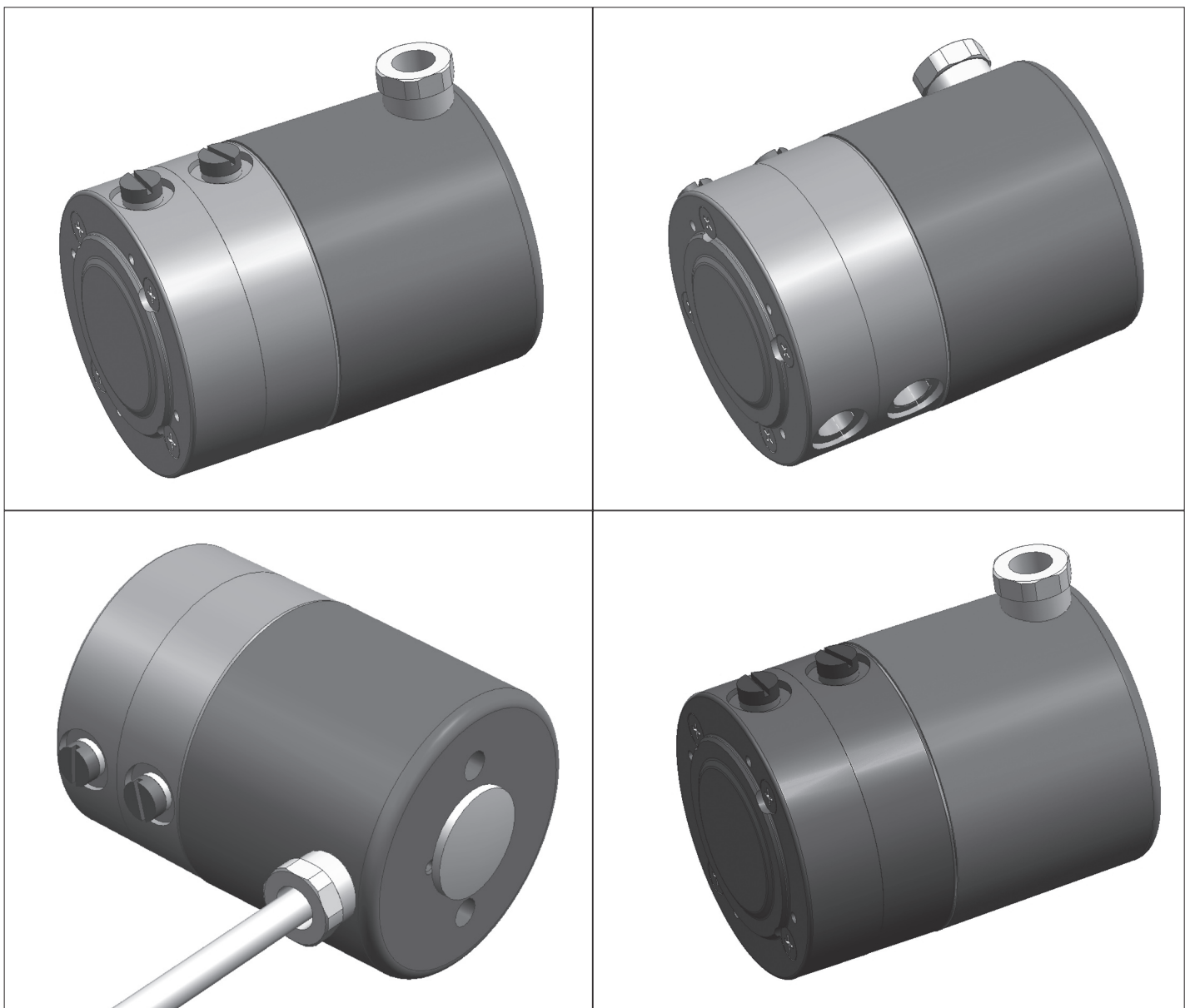


Differenz-, Vakuum-, Überdruck-Drucktransmitter

Differential pressure, vacuum, overpressure transmitter

Transmetteur de pression différentielle, dépression et surpression

0 ... 50 – 1000 mbar



 **Huba Control**

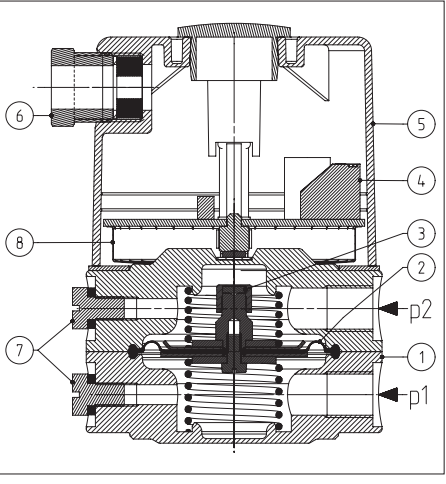
FEINE MESSIDEEN FÜR DRUCK UND STRÖMUNG
FOR FINE PRESSURE AND FLOW MEASUREMENT
LA FINESSE DES MESURES DE PRESSION ET DE DEBIT

Technical overview

The differential pressure transmitter of type 652 series are used for the long and short distance transmission of electrical pressure-proportional signals. They are specially suited for the continuous level or flow monitoring of neutral and slightly aggressive liquids and gases in heating, ventilation and process technology.

The pressure or differential pressure to be monitored acts on a diaphragm, which in turn acts against a spring. As a result of the pressure action and the resultant diaphragm movement a permanent magnet fastened on the diaphragm moves in the direction of a hall sensor arranged outside the pressure case.

This sensor emits an electrical signal which is proportional to the magnetic field. The signal is linearized, compensated and amplified.



Legend to cross-section drawing

- 1 Pressure case
- 2 Diaphragm
- 3 Permanent magnet
- 4 Electronics
- 5 Cover
- 6 PG9 Union
- 7 Ventilation screw
- 8 EMC Protection cover
- P1 Higher pressure / lower vacuum
- P2 Lower pressure / higher vacuum

The distinct advantages

- 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

Pressure ranges

0 ... 50 – 1000 mbar

Overload

Range up to 200 mbar: 10 bar
Range from 500 mbar: 20 bar

Rupture pressure

30 bar

Housing material

Anodized black aluminium, brass or nickel-plated brass

Cover: Plastic

Materials in contact with the medium

Diaphragm	
A (NBR-based)	
C (FPM)	
E (EPDM)	
F (Silicon)	
Case	
X12CrMoS17	1.4104
X5CrNi189	1.4301
X12CrNi177	1.4310

Temperature

Medium temperature	
A (NBR based)	0 ... + 80 °C
C (FPM)	- 10 ... + 80 °C
E (EPDM)	- 10 ... + 80 °C
F (Silicon)	- 40 ... + 80 °C

Storage temperature

- 40 ... + 80 °C

Outputs

- 3-wire cable
- 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

Dynamic response

Response time:	< 10 ms
Load charge:	< 10 Hz

Electrical connections

Screw terminals.

Protection standard

Short circuit proof and with polarity reversal protection.

Protection

With cover	IP 65
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Pressure connections

Inside thread G 1/8	P1 > P2
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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 connections down.

Test / Admissions

CE conform

Weight

Pressure case aluminium	394 g
brass / Nickel plated brass	1030 g

Accessories

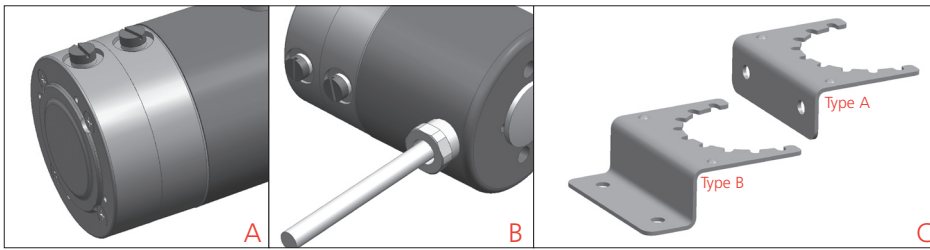
Mounting bracket

Options

± ranges symmetrical and adjustable versions on request

Packing

Single packing box



Versions

- A – Pressure case
- B – Cable connection with cover PG 9
- C – Mounting bracket type A / type B

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 ¹⁾	max.	% FS/10 K	± 0.8
TC sensibility ¹⁾	typ.	% FS/10 K	± 0.3
TC sensibility ¹⁾	max.	% FS/10 K	± 0.6

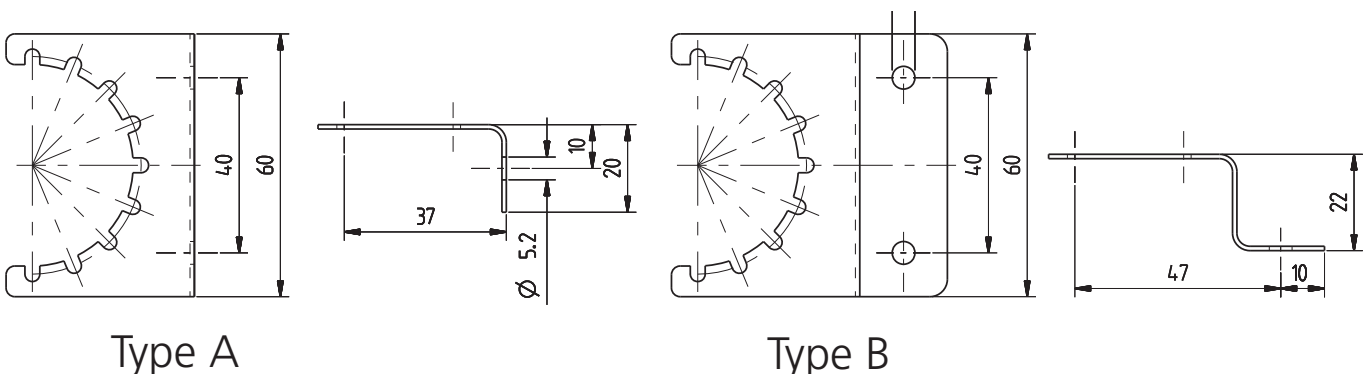
Test conditions: 25 °C, 45% RH, Power supply 24 VDC

Order code selection table

		652.	X	X	X	X	X	X	X	X	X	X	X	X
Pressure ranges ²⁾	Operation pressure max.													
	0 ... 50 mbar		9	0										
	0 ... 100 mbar		9	1										
	0 ... 200 mbar		9	2										
	0 ... 500 mbar		9	3										
	0 ... 1'000 mbar		9	4										
Outputs ³⁾	0 – 10 V			0										
	0 – 20 mA			1										
	4 – 20 mA			4										
Linearity	± 1.5% FS					1								
Power supply (IN)	20 – 30 VDC						0							
	24 VAC + 15 / – 10%						1							
Electrical connection	Screw terminals	(Protection class with cover IP 65)						0						
Pressure connections	Inside thread	G 1/8						0						
Pressure case	Anodized aluminium black												0	
	Brass	(CuZn)											1	
	Nickel-plated brass	(CuZn vni)											2	
Diaphragm	Type A – NBR-based													0
	Type C – FPM													1
	Type E – EPDM													2
	Type D – Q (Silicon)													3
Mounting	Without mounting bracket													0
	With mounting bracket type A													0
	With mounting bracket type B													2
Accessories	Mounting bracket type A		1	0	0	9	9	6						
	Mounting bracket type B		1	0	0	9	9	7						

Accessories

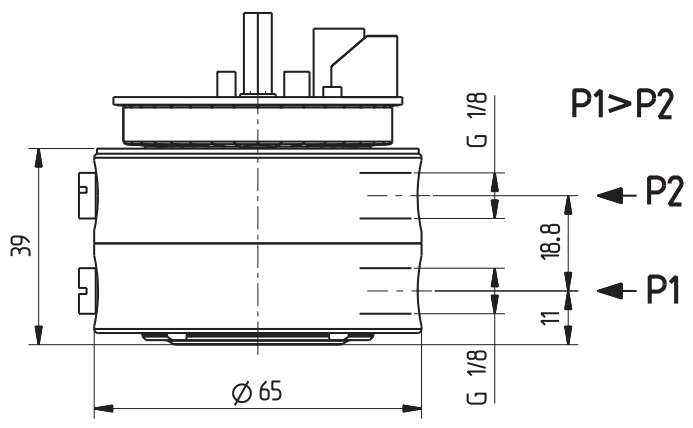
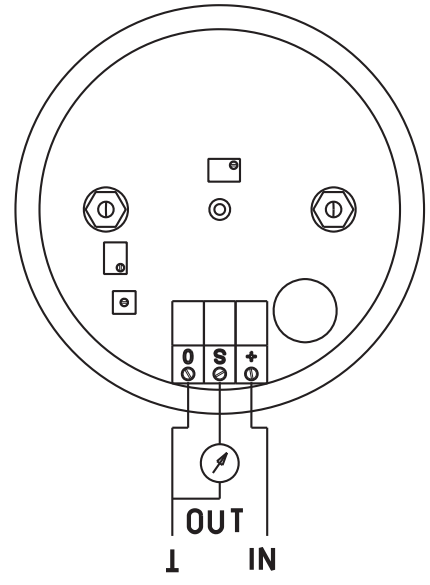
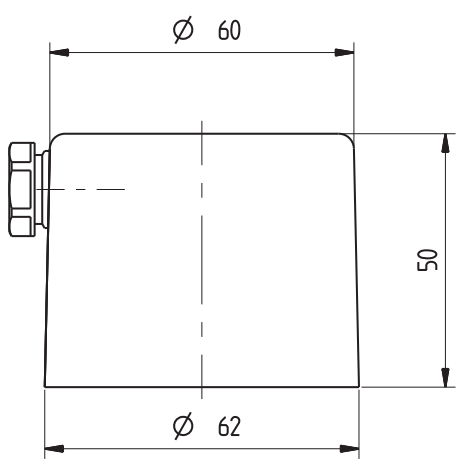
Mounting bracket



Type A

Type B

¹⁾ TC = Temperature coefficient
²⁾ Other pressure ranges on request
³⁾ Other output signals on request



Electromagnetic compatibility

CE conformity (EMC) by application of harmonized standards: Interference stability EN 61000-6-2 and EN 61326-1, interference emit EN 61000-6-3 and EN 61326-1

Interference stability	Test standard	Effect
Electrostatic discharge (ESD)	EN 61000-4-2	8 kV air, 4 kV contact no effect
High-frequency electromagnetic radiation (HF)	EN 61000-4-3	10 V/m, 80 ... 1000 MHz 3 V/m, 1 ... 2 GHz 1 V/m, 2 ... 3 GHz no effect ¹⁾ no effect ¹⁾ no effect ¹⁾
Conducted HF interference	EN 61000-4-6	10 V, 0.15 ... 80 MHz no effect ¹⁾
Fast transients (burst)	EN 61000-4-4	2 kV no effect
Surge	EN 61000-4-5	Line-Line, Line Case 500 V, 12 Ohm, 9 µF 1 kV, 42 Ohm, 0.5 µF 500 V, 2 Ohm, 18 µF no effect
Magnetic fields	EN 61000-4-8	Line-Line 30 A/m, 50 Hz no effect
Interference emit	Test standard	Effect
Conducted interference	EN 55022 (CISPR 22)	0.15 ... 30 MHz no emission
Radiation from housing		30 ... 1000 MHz, 10 m no emission

¹⁾ Deviation < 3% FS

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