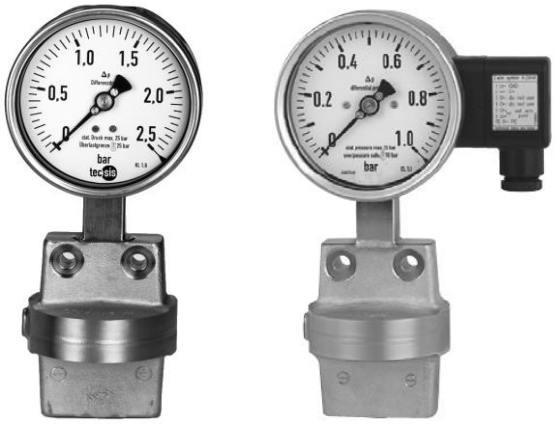
All stainless steel differential pressure gauges standard
New: as multifunctional pressure instrument

with electrical alarm contacts or current outputs
with or without liquid filling
Accuracy class 1.6

Nominal size ND 100, 160

Connection position bottom, radial



Description

The process medium chambers (+) and (-) are separated by a diaphragm (see functional diagram). The difference in pressure betwen the (+) and (-) -medium chambers deflects the diaphragm. This deflection (measured travel) is transmitted to the pointer via a push rod causing a pointer deflection in proportion to the difference in pressure.

Metal bellows seal the two pressure chambers off from the gauge case.

Metal supporting elements gurantee overload protection.
The two downward outgoing process connections (G1/4 i) are made of corrosion resistant solid materials.

For mounting purposes, it should be noted that:
(+) represents high pressure and (-) low pressure.

The pressure connection position may be varied according to the installation conditions.

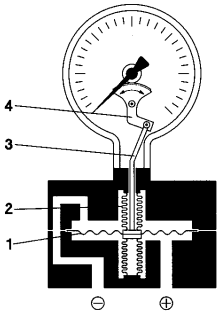
The measuring element is tamper proof.

The gauges can be used:
with gaseous, liquid and also chemically aggressive media as well as in aggressive environments. In case of highly viscous or crystallizing media. Please consult us for recommendation.

If an output signal is expected by the measuring point,
„the multi-functional instrument“ P2704 ND 100 rather P2714 ND 160 can be used.
It connects the pressure measurement without auxiliary energy with the possibility of a sensor signal for the remote transmission of the upcoming pressure values.
This instrument is particularly suitable for pressure control rather regulation.

Functional details

1. Measuring diaphragm
2. Metal bellows
3. Connecting rod
4. Movement



Special features

- o Corrosion resistant to aggressive media and environment
- o High overload protection
- o Solid front design
- o Alarm contact or current output
- o Precise display resulting from liquid dampening
- o Flushing and vent connection for the measuring chamber

Measuring ranges

0 ... 16 mbar up to 0 ... 25 bar

Applications

Level measurment,
Filter monitoring,
Flow measurement,
Chemical and process engineering,
Food industry,
Applications for measuring points with a high differential pressure overload.

Models: P2700, P2701, P2703, P2704, P2710, P2711, P2713, P2714

Technical data

Models	P2700	P2710	P2701	P2711	P2703	P2713	P2704	P2714	Options
Nominal size	100	160	100	160	100	160	100	160	
symbol									
Liquid filling	without Option: Glycerine / Water		without						Silicon oil By model P2700 / P2701: Glycerin
Contact type	none		magnetic snap action		inductive		current output		
Contact function			1.1 [3]		3.2 [3]		4 ... 20 mA 0 … 1 V 0 ... 20 mA		Alarm contacts: for further contact functions "Mounting options" table "
Accuracy class	1.6 acc. to EN 837-3								Class 1.0
Ranges	0 ... 16 mbar up to 0 ... 25 bar negative or positive / negative and positive gauge pressure								
Overload capacity	(+)- and (-)- side: 10 x full scale value, but only up to max. total pressure (static pressure) see also table								
Max. total gauge pressure (static pressure)	Range 0 ... 16 mbar to 0 ... 250 mbar: max. 2.5 / 6 bar Range 0 ... 400 mbar to 0 ... 25 bar: max. 25 bar								max. 10 bar max. 40 bar
Application	Constant load: up to full scale value Alternating load: up to 0.9 x full scale value								
Case	Stainless steel 1.4301 with pressure relief opening								Solid front version
Bezel	Bayonet ring, stainless steel 1.4301, bright								
Mounting	Rigid measuring tube								Measuring gauge holder for wall or pipe mounting dia. 2“ or mounting bore in flange
Window	Laminated safety glass								
Dial	Aluminium, white, scale and imprint black								
Pointer	Adjustable pointer, Aluminium black								
Movement	Stainless steel								Zero-point adjustment
Measuring element	≤ 250 mbar: Stainless steel 1.4571, > 250 mbar NiCrCo alloy (Duratherm)								
Measuring chamber connection - Position - thread	Stainless steel 1.4571 bottom 2 x G 1/4 f								Ventilation: ≥0,4 bar Connection position: left, right, rear Pressure connection, male thread
Temperatures - Media - Ambient	 Tmin. -20°C, Tmax. 100°C Tmin. -20°C, Tmax. 60°C								Medium 130°C
Temperature drift	0.3%/10K if deviation from normal temperature 20°C								
Protection	IP 54 to EN 60 529 / EC 529								By **filled** instruments: IP 65 acc. to EN 60 529 / EC 529
Accessories	without								Manifold valves. Attachment of diaphragm seal on request.
Electrical connection	none		Cable connector right hand side 6 screw terminals + PE, cross section of the conducting wire 2.5 mm^2; Screw type conduit fitting M20x1.5, Screw type conduit fitting M20x1.5, outgoing downwards						

[1] electrical alarm contact, se separate data sheet

[2] electrical current outputs: see separate data sheet

[3] switching function for inductive and magnetic snap action contact

Note for instalation: (-) low pressure; (+) high pressure

Maximum total gauge pressure/ overload protection

range	Maximum total gauge pressure (static pressure)	Option	Overload protection max.	Options
0 ... 16 mbar to 0 ... 40 mbar	2,5 bar	10 bar	2,5 bar	6 bar
0 ... 60 mbar to 0 ... 250 mbar	6 bar	10 bar	2,5 bar	6 bar
0 ... 400 mbar	25 bar	40 bar	4 bar	40 bar
0 ... 0,6 bar	25 bar	40 bar	6 bar	40 bar
0 ... 1 bar	25 bar	40 bar	10 bar	40 bar
0 ... 1,6 bar	25 bar	40 bar	16 bar	40 bar
0 ... 2,5 bar to 0 ... 25 bar	25 bar	40 bar	25 bar	40 bar

Clockwise pointer motion: open or close:

- Code number **before** the dot of the contact designation

  1.---: magnetic snap-action contact
  3.---: inductive contact

- Code number **after** the dot indicates the switching operation

  ---.1: close
  ---.2: open
  ---.3: simultaneous opening and closing (changeover)

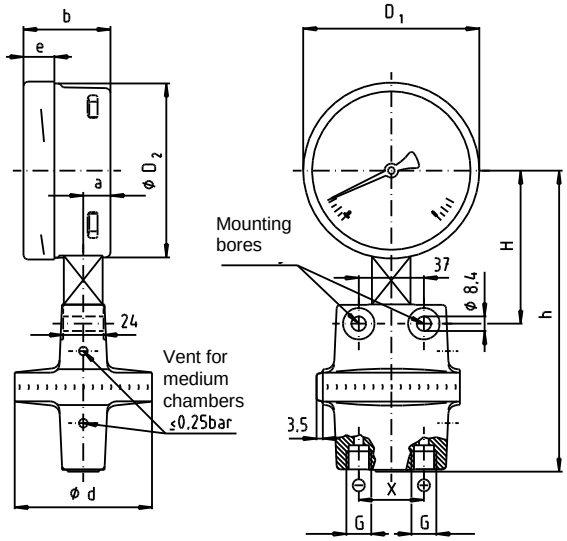
- **Number of code numbers after the dot indicates the number of contacts**

Dimensions

Standard version:

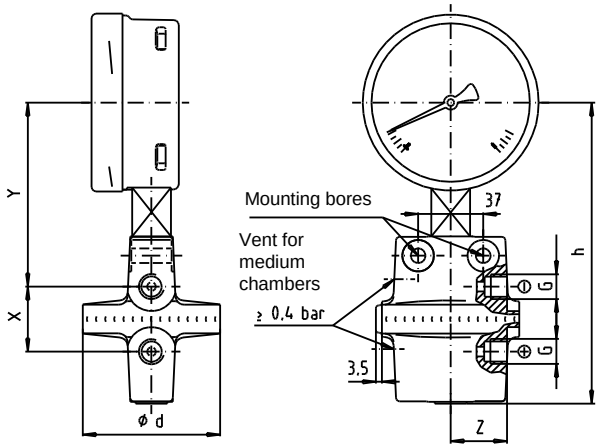
Model P2700, P2710

Connection 2 x G 1/4 female threads, below



Option:

Connection 2 x G 1/4 female threads, right



ND	ranges [bar]	Dimensions mm												Weight [kg]
		a	b	D_1	D2	d	e	G	h ± 1	H	X	Y	Z	
100	≤ 0.25	15.5	49.5	101	99	140	17.5	G1/4	171	90	37	104	69	2.70
	> 0.25					78				87			32	1.90
160	≤ 0.25	15.5	49.5	161	159	140	17.5	G1/4	201	120	37	134	69	3.40
	> 0.25					78				117			32	2.40

Installation options for alarm contacts

Pressure gauge		Alarm contact							
Model	Nominal size	magnetic snap action contact (slow action contact) [4]				inductive contact			
		Number of contacts							
		1	2	3	4 [5]	1	2	3 [6]	--
		full scale from ... bar							
P2701 P2711 P2703 P2713	100 160	0,025	0,025	0,040	0,040				
	100 160					0,025	0,025	0,025	
	100 160	0,025	0,025	0,040	0,040				
	100 160					0,025	0,025	0,025	

[4] only on request [5] possible only as a special version [6] possible only as a special version

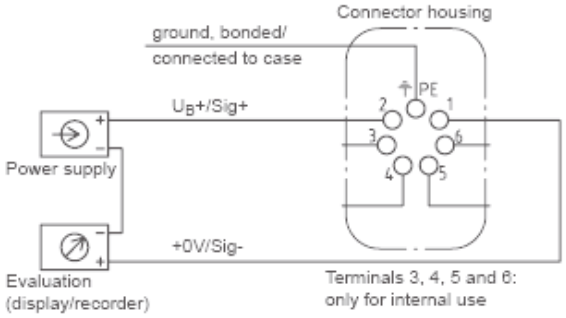
Installation options for current outputs

Pressure gauge		Current output		Current output and alarm contact			
				current output			
				Standard		EX- certified	
Model	Nominal size	Standard	EX- certified	Magnetic snap action			
				magnetic snap action	inductive	magnetic snap action	inductive
P2704 P2714	100 160	X	X	X	X	--	X
	100 160	X	X	X	X	--	X

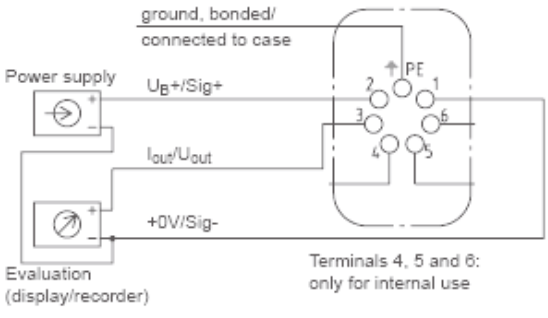
Terminal assignment

Terminals 1 and 2 are the terminals for the signal output and for the power supply. The terminal marked with PE (protective earth) is connected internally to the housing. The connections 3 to 6 or 4 to 6 (for the 3-wire version), must remain free and must not be used as connection points (also see Chapter 10 "Technical data").

2-wire-design
i.e. 4 ... 20 mA



3-wire-design
i.e. 0 ... 20 mA / 0 ... 10 V



An unstabilised DC voltage, with a residual ripple of max. 10 % peak-to-peak in the range of the indicated supply voltage limits, is sufficient as a power supply. Make sure that the supply voltage applied exceeds the maximum required voltage by at least the value of the voltage drop across the external display or evaluation devices; i.e. the transmitter can operate using a non-stabilised supply voltage within the given limits, so long as the voltage available to the transmitter does not fall below 12 V, or below 14 V for the Ex-version.

Subject to technical changes