ALL STAINLESS STEEL CONTACT PRESSURE GAUGE FOR SPECIAL SAFETY TO DIN EN 837-1/S3

DRUCK & TEMPERATUR

Nominal size NS 100 and NS 160 with or without oil filling

Description

The all stainless steel pressure gauges are ideal for the hard conditions and the resulting high demands on pressure measurement in production facilities, in chemical industry and other comparable branches. Resistance to aggressive media and environments is achieved by using high-grade materials such as stainless steel both for the measuring system and the case.

In the version with a filled housing, the measuring system is dampened and protected against wear when pulsating pressures and mechanical vibrations occur.

The safety version of the pressure gauges device includes a burst proof solid front between bourdon tube and window, a laminated safety glass as well as a blow-out back (according to EN 837-1/S3)

Pressure gauges with filling are equipped with a pressure compensation device.

This prevents a pressure increase in the housing caused by the temperature-dependent expansion of the filling-volume. A falsification of the display is thus avoided.

In the case of liquid-filled pressure gauges with limit signal transducers, a special oil is used for filling.

Features

- resistant to chemicals
- rugged construction
- special safety to EN 837-1/S3
- solid front between measuring system and window
- vibration-free display and long service-life through liquid filling (Type 6551 and 6591)

Measuring ranges

0 ... 0,6 bar up to 0 ... 1600 bar
-0,6/0 bar up to -1/+24 bar

Applications

Chemical and petrochemical industry
Plant engineering
Systems for technical gases
high pressure test stands
research and development

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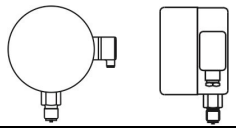
Type	6541	6551	6581	6591	Options
Nominal size	100	100	160	160	
		with oil-filling		with oil-filling	
Symbol					
Connection position	bottom				NS100 eccentric back (without filling)
Accuracy	Class 1,0				
Measuring ranges	0...1,0 bar up to 0...1600 bar , -0,6/0 bar up to -1/+24 bar				0...2500 bar
Applications	Constant load: end of scale value Alternating load: 0,9 x end of scale value Overload capacity: 1,3 x end of scale value, short-time!				
Case	CrNi-steel with blow-out back, solid front, Safety partition between the measuring element and the dial or window				
Ring	CrNi-steel, bayonet				
Measuring element	CrNi-steel				
Connection material	CrNi-steel SW22				
Thread	G 1/2 B				
Window	Polycarbonate				Safety laminated glass
Movement	CrNi-steel				
Dial	Aluminium white, scale and lettering black				
Pointer	Aluminium black				
Temperatures	Medium: -20°C up to 80°C, ambient: -25°C up to 60°C				
Protection	IP 65 according to EN 60529/IEC 529				
Mounting	Optional: front flange				
Weight approx.	0,9 kg	2,2 kg	1,2 kg	3,8 kg	

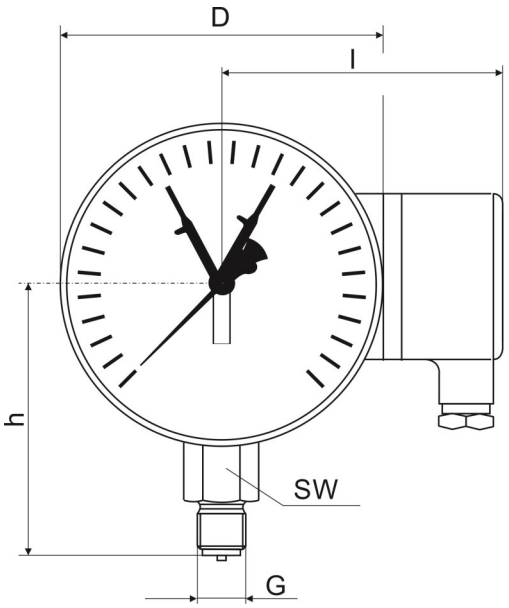
Minimum pressure ranges

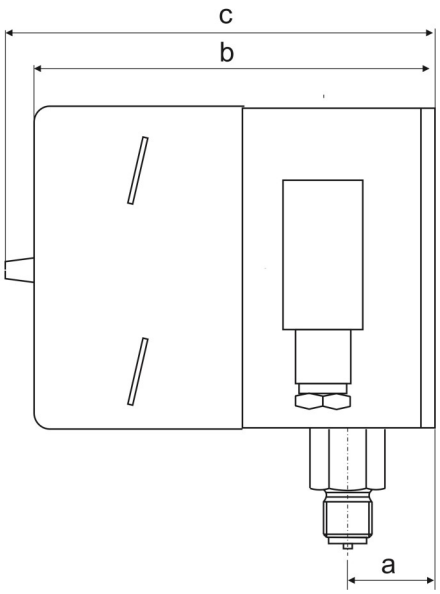
Every pressure gauge needs a sufficient amount of torque to operate a limit-switch contact assambly with minimized error. For this reason, installation is only possible from the display ranges specified in the adjacent table

Limit switch	Minimum pressure ranges (ba)	
	NS100	NS160
1 x Standard	1,0	1,0
2 x Standard	1,6	1,6
3 x Standard	2,5	2,5
4 x Standard	-	2,5
1 x Magnetic	1,6	1,6
2 x Magnetic	2,5	2,5
3 x Magnetic	4,0	4,0
4 x Magnetic	-	4,0
1 x Induktive	1,0	1,0
2 x Induktive	1,6	1,6
2 x Induktive	2,5	2,5
1 x Elektronc	1,0	1,0
1 x Elektronic	1,6	1,6
1 x Elektronic	2,5	2,5

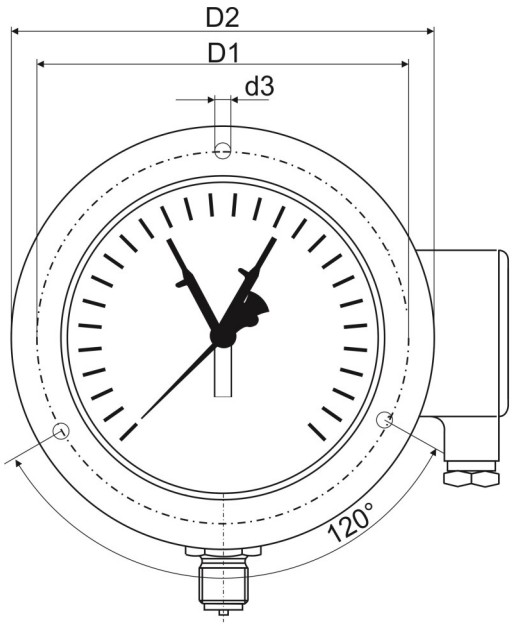
Dimensional drawing

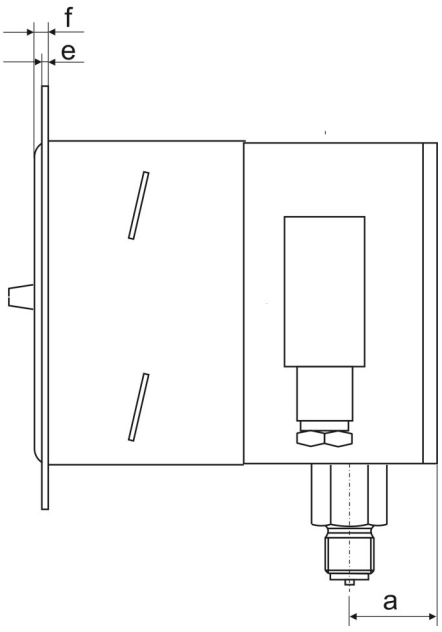
Dimensions in mm





Front flange





Type	NS	D	G	SW	b	c	h	l	a	D1	D2	d3	e	f
6541	100	101	G1/2	22	124	134	86	88	27	116	132	5	2	6
6551	100	101	G1/2	22	124	134	86	88	27	116	132	5	2	6
6581	160	161	G1/2	22	130	140	118	118	34	178	196	5,6	3	8
6591	160	161	G1/2	22	130	140	118	118	34	178	196	5,6	3	8

Magnatic snap-action contact

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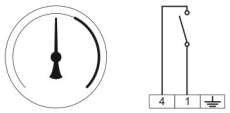
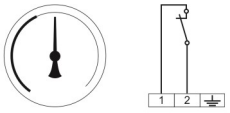
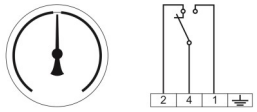
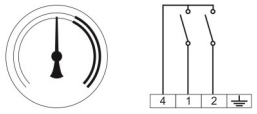
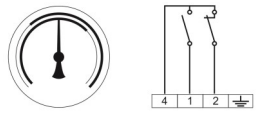
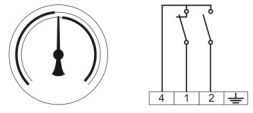
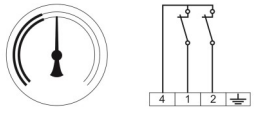
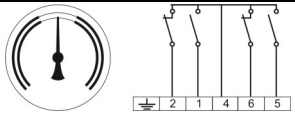
Application

Magnetic snap contacts can be used in different operating conditions.
Contact protection relays are recommended for high or low switching capacities.
Electronic contacts are used in liquid-filled measuring devices to avoid incorrect switching.
Attention: Only inductive contacts with ATEX approval may be used in potentially explosive areas.
With nominal operating voltages> 50 VAC or> 120 VDC, the contacts must be reliably earthed according to DIN VDE 0110.

Technical data

Switching voltage:	max. 250 V
Min. switching voltage:	24 V (with ohmic load and operation in air)
Switching current:	max. 1,0 A
Continuous current:	max. 0,6 A
Minimum current:	20 mA
Switching power:	max. 30 W; 50 VA
Minimum switching power:	0,4 W; 0,4 VA
Contact material:	Ag80 Ni20
Switching accuracy:	ca. 2-5% full of scale value

Switching function

Type	clockwise under increasing pressure	Cable socket connection diagram
M-1	Contact closes	
M-2	Contact opens	
M-3	1-fold changeover contact (1 set point)	
M-11	Contact 1 closes Contact 2 closes	
M-12	Contact 1 closes Contact 2 opens	
M-21	Contact 1 opens Contact 2 closes	
M-22	Contact 1 opens Contact 2 opens	
M-33	2-fold changeover contact (2 set points)	

Modifications reserved!

Inductive contact

Application

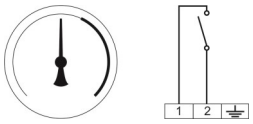
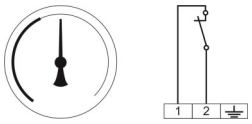
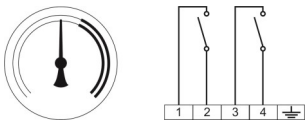
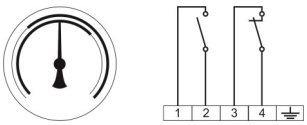
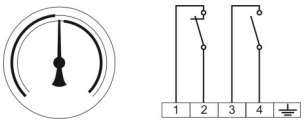
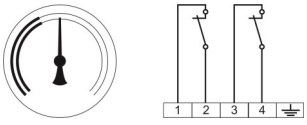
Inductive contact in pointer-type measuring instruments are equipped with electrical distance sensors (proximity sensors) in accordance with DIN 19234 resp.

When using the Ex isolating switch amplifier, the equipment corresponds to type of ignition property "i".
It is approved under the classification EEx ib II C T6 for use in potentially explosive areas (zone 1 and 2).

Multi-function relays are recommended for installation in normal industrial plants for which explosion protection is not required.

Technical data

Nominal voltage:	8V = (Ri = 1 k OHM)
Operating voltage:	5...25 V
Current consumption:	approx. 1...3 mA
Switching accuracy:	approx 0,5% of full scale value
Ambient temperature:	-20°C…+70°

Type	clockwise under increasing pressure	Cable socket connection diagram
I-1	Contact closes	
I-2	Contact opens	
I-11	Contact 1 closes Contact 2 closes	
I-12	Contact 1 closes Contact 2 opens	
I-21	Contact 1 opens Contact 2 closes	
I-22	Contact 1 opens Contact 2 opens	

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