

# PRESSURE GAUGE

[www.asv-stuebbe.com/produkte/mess-und-regeltechnik](http://www.asv-stuebbe.com/produkte/mess-und-regeltechnik)



**Pressure gauge, standard version  
(undamped)**

## Features Pressure gauge, standard version

undamped:

- Connection and measuring system made of copper alloy
- Plastic housing
- Transparent plastic inspection window
- Design according to EN837-1



**Pressure gauge, chemical version  
(undamped, damped)**

## Features Pressure gauge, chemical version

undamped / damped:

- For use in aggressive environments
  - Safety pressure measuring unit with shatterproof divider according to requirements and testing conditions in accordance with EN 837-1
  - Highest resistance to load alternation and shocks
  - Completely made of CrNi steel
  - Inspection window made of safety glass
- damped:
- With liquid-filled case for applications involving high dynamic pressure loads and vibrations



**Contact pressure gauge, type 821.21  
(undamped, damped)**

## Features Contact pressure gauge, type 821.21

undamped / damped:

- Control and regulation of industrial processes
- High degree of reliability and long service life
- For high dynamic pressure loads and vibrations
- Connection and measuring system made of copper alloy
- Housing made of CrNi steel
- Polycarbonate inspection window
- Design according to EN837-1

## Pressure gauge standard version / chemical version / contact pressure gauge type 821.21

### Measuring range

- 0–2.5 bar (only for standard and chemical version of pressure gauge)
- 0–4 bar
- 0–6 bar
- 0–10 bar

### Measuring accuracy

- Accuracy class  $\lt \varnothing$  100; 1.6
- Accuracy class  $\lt \varnothing$  100 = 1.0
- Accuracy class, standard version 2.5

### ASV-Stübbe resistance guide

- [www.asv-stuebbe.de/pdf\\_resistance/300051.pdf](http://www.asv-stuebbe.de/pdf_resistance/300051.pdf)

### Pressure gauge version

Standard version:

- Housing: ABS
- Measuring system: Copper alloy

Chemical version:

- Housing: CrNi steel (1.4571)
- Measuring system: CrNi steel (1.4571)
- liquid-damped/undamped

Contact pressure gauge:

- Housing: CrNi steel (1.4571)
- Measuring system: Copper alloy
- liquid-damped/undamped

### Pressure gauge connection

Standard version:

- G1/4" or G 1/2"
- Rear connection G1/4"

Chemical version:

- G1/4" or G 1/2"
- Rear connection G1/4"

Contact pressure gauge:

- G 1/2"

## Contact pressure gauge type 821.21

### Application

- plant monitoring and switching of electric circuits
- display of limit conditions
- inductive alarm sensors for particularly safe contacting, even in potentially explosive areas
- can be used in almost any operating situation

### Magnetic snap-action contact, type 821

- No control unit or auxiliary energy required
- Direct switching up to 250 V, 1 A
- Maximum of 4 switching contacts per measuring instrument

### Functions

- A screw-connected permanent magnet is fitted to the set-point value indicator to give the contact system a snap-action feature and increase the contact pressure.
- The switching function of the switch is indicated by the code number 1, 2 or 3.
  - Type 8xx.1: Normally open contact (for clockwise indicator movement)
  - Type 8xx.2: Normally closed contact (for clockwise indicator movement)
  - Type 8xx.3: Two-way contact; when the value is exceeded, one circuit is opened and one circuit is closed simultaneously

### Switching function

- Normal switching function: for clockwise indicator movement
- Reversed switching function: for counter-clockwise indicator movement

### Material

Contacts:

- Silver-nickel (80 % silver / 20 % nickel / 10  $\mu$ m gold-plated)

### Ambient temperature

- -20–70 °C

### Contact types

- Single or double contact
- NC, NO or two-way contact

# Pressure gauge

## Contact pressure gauge – Technical data

Contact load limit values for resistive load

	Unfilled units	Filled units
Nominal operating voltage $U_{eff}$ max. (V)	250	250
Activation / deactivation current (A)	1.0	1.0
Continuous current (A)	0.6	0.6
Switching power, max.	30 W 50VA	20 W 20 VA
Number of contacts	4	4

Recommended contact load for resistive and inductive load

Voltage (V)		Unfilled units				Filled units			
		220 / 230	110 / 110	48 / 48	24 / 24	220 / 230	110 / 110	48 / 48	24 / 24
Resistive load	Direct current (mA)	100	200	300	400	65	130	190	250
	Alternating current (mA)	120	240	450	600	90	180	330	450
Inductive load	$\cos \beta < 0.7$ (mA)	65	130	200	250	40	40	130	150

### Attention

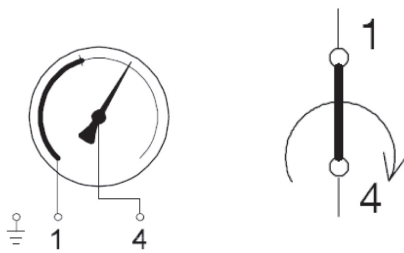
To guarantee a high switching reliability of the contacts, even when permanent environmental factors are taken into account, the switching voltage should be no less than 24 V.

## Pressure gauge

### Switching function options, contact pressure gauge

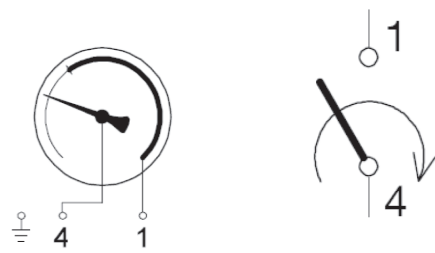
Switching functions when exceeding the set-point value

Single contact



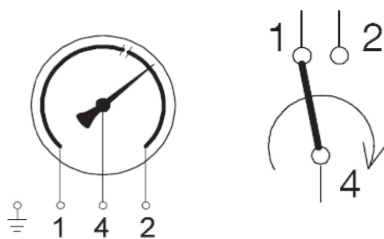
821.2 (.4)

Description	
1	Contact opens
4	Actual value indicator



821.1 (.5)

Description	
1	Contact closes
4	Actual value indicator



821.3 (.6)

Description	
1 / 2	Contact switches (two-way contact), i.e. one contact opens and one contact closes
4	Actual value indicator

#### Attention

For the reverse switching functions, use the numbers in the brackets according to Din 16 085.

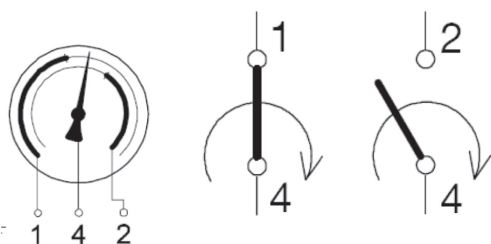
Combinations are possible.

The switching function of the switch is indicated by the code number 1, 2 or 3.

- Type 8xx.1: Normally open contact (for clockwise indicator movement)
- Type 8xx.2: Normally closed contact (for clockwise indicator movement)
- Type 8xx.3: Two-way contact; when the value is exceeded, one circuit is opened and one circuit is closed simultaneously

# Pressure gauge

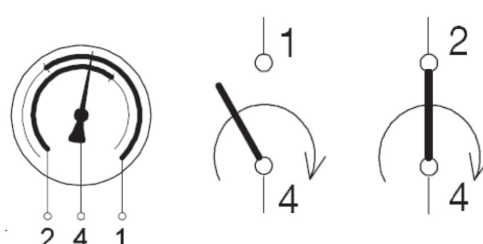
## Double contact



Standard version

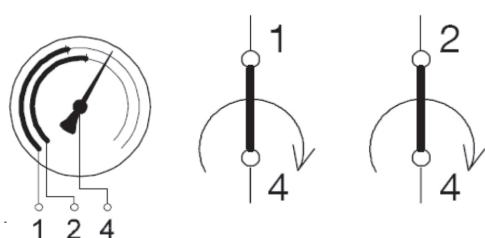
821.21 (.45)

Description	
1	Contact opens
2	Contact closes
4	Actual value indicator



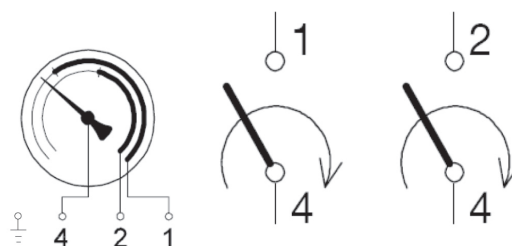
821.12 (.54)

Description	
1	Contact closes
2	Contact opens
4	Actual value indicator



821.22 (.44)

Description	
1 and 2	Contacts open
4	Actual value indicator



821.11 (.55)

Description	
1 and 2	Contacts close
4	Actual value indicator

### Attention

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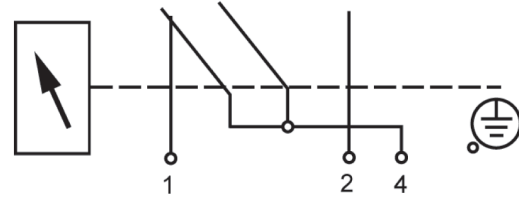
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## Contact pressure gauge – Electrical connection

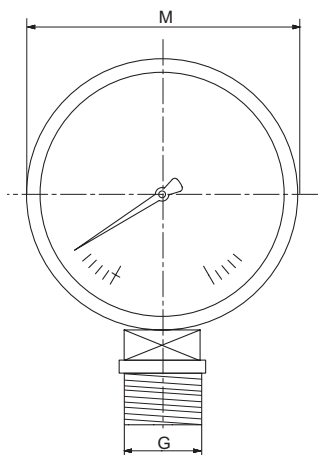
	Contact pressure gauge
Material, junction box	PA 6, black
Temperature resistance according to VDE 0110	-40–80 °C
Insulation group	C / 250 V
Cable screw-connection	M 20 x 1.5 (leading downward)
Tension relief	6 screw terminals + PE for wire cross section 2.5 mm <sup>2</sup> , fitted to the right side of the housing
Protection class	IP65

## Contact pressure gauge – Circuit diagram



# Pressure gauge

## Pressure gauge standard version / chemical version



M (mm)		63	80	100	101	160
G (inch)		1/4	1/2	1/2	1/2	1/2
G*	Standard version	1/4	1/2	1/2	–	1/2
	Chemical version, undamped	1/4	–	1/2	–	1/2
	Chemical version, damped	1/4	–	1/2	–	–
	Rear connection					
	Standard version	1/4	–	–	–	–
	Chemical version, damped	1/4	–	–	–	–
	Contact pressure gauge	–	–	–	1/2	–
X	for single or double contact	–	–	–	88	–
	for double contact (two-way contact)	–	–	–	113	–

all dimensions in mm / \* dimensions in inch

## Contact pressure gauge

