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Contact pressure gauges

NG 100, 160
Class 1.0 (1.6); Protection IP51
Ranges -1 bar to +600bar

General application

JUMO-manic pressure gauges are used for monitoring pressure in liquid and gaseous media which are not highly viscous, do not crystallize out and do not attack copper alloys. Applications include machinery and plant engineering, hydraulic or pneumatic plant, pumps, compressors, etc.



Description of function

The pressure of the medium to be measured acts directly on the Bourdon tube, the free end of which rotates the pointer via a mechanical linkage.

Contact opening or closing occurs with the movement of the actual-value pointer. In the case of a normally-open function, the rising actual-value pointer takes the contact arm with it, thus closing the circuit when the setpoint is exceeded.

In the case of a normally-closed function, the rising actual-value pointer takes the contact arm with it, thus interrupting the circuit when the setpoint is exceeded.

Technical data

Case

sheet steel, painted black with front flange

Window

plastic (polycarbonate) with integral set-point adjustment

Dial

white, black lettering to DIN 16 109

Mechanism

copper alloy

Measuring element

up to 40 bar:

C-spring in CuSN8, soft-soldered

above 60 bar:

coil spring in stainless steel,

Mat. Ref. 1.4571, brazed

Pressure connection

1/2" pipe thread to DIN 16 288, copper alloy.

Setpoint adjustment

by means of removable key

Loading

to DIN 16 005

with steady pressure: $\frac{3}{4}$ of full scale

with fluctuating pressure: $\frac{2}{3}$ of full scale

Indication range and accuracy

Indication accuracy to DIN 16 005

	Class 1.0	Class 1.6
-1 to 0 bar		X
-1 to 0.6 bar		X
-1 to 1.5 bar	X	
-1 to 3 bar	X	
-1 to 5 bar	X	
-1 to 9 bar	X	
-1 to 15 bar	X	
0 to 1 bar		X
0 to 1.6 bar		X
0 to 2.5 bar	X	
0 to 4 bar	X	
0 to 6 bar	X	
0 to 10 bar	X	
0 to 16 bar	X	
0 to 25 bar	X	
0 to 40 bar	X	
0 to 60 bar	X	
0 to 100 bar	X	
0 to 160 bar	X	
0 to 250 bar	X	
0 to 400 bar	X	
0 to 600 bar	X	

Switching differential

1 % of scale span with contact type 3 and 7 approx. 3-6 % of scale span with contact type 6

Switching point accuracy

$\pm 0.5\%$ of scale span with contact type 6

Max. contact rating

contact type 3 (Y) slow-break contact

voltage: 250V max.

rating: 18W (DC),

30VA (AC)

50mA max., p.f. = 1

contact type 6 (Z) magnetic snap action

voltage: 250V max.

rating: 30W (DC),

50VA (AC)

250mA max., p.f. = 1

contact type 7 (I) Inductive contact

to NAMUR or DIN 19 234

Permissible medium and ambient

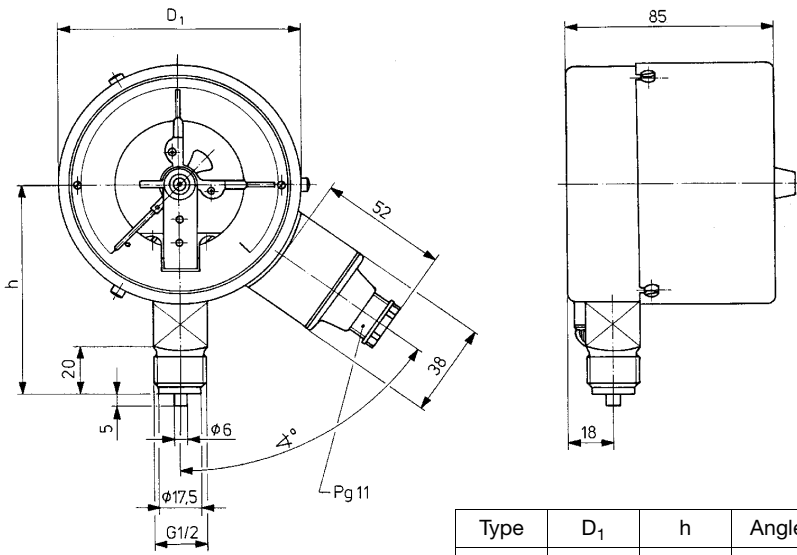
temperatures

-20 to +50 °C soft-soldered

-20 to +70 °C extra code /76

Dimensions

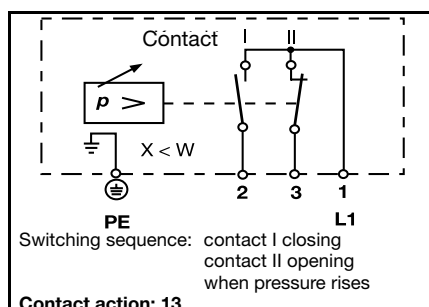
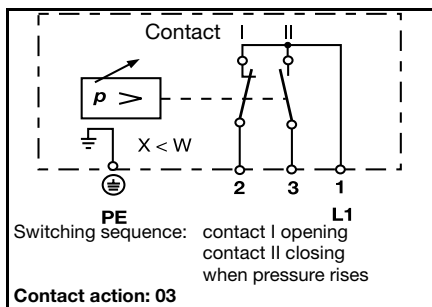
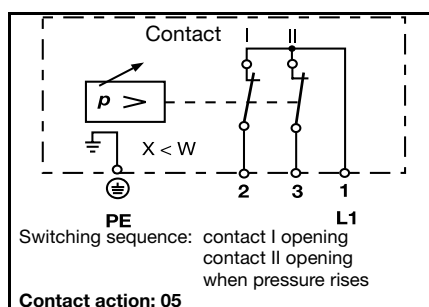
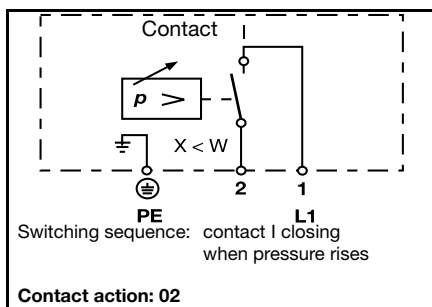
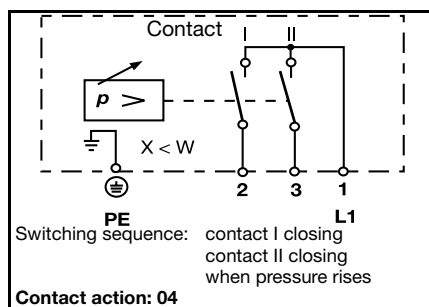
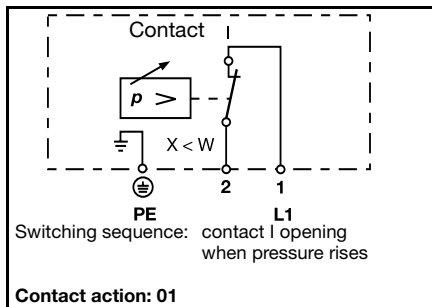
Type 407, 408



G1/2 = 1/2" pipe thread
 Ø = diameter


Type	D ₁	h	Angle
407	100	87	55°
408	160	118	30°

Contact action



Order details

	(1) Basic type
404020	Jumo-manic contact pressure gauge
	(2) Case / pressure connection
407	Ø 100mm, concentric, bottom entry, 1/2" pipe thread
408	Ø 160mm, concentric, bottom entry, 1/2" pipe thread
	(3) Contact action
01	1 contact opening with rising pressure
02	1 contact closing with rising pressure
03	1 contact opening with rising pressure 1 contact closing with rising pressure
04	2 contacts closing with rising pressure
05	2 contacts opening with rising pressure
13	1 contact closing with rising pressure 1 contact opening with rising pressure
	(4) Contact type
3	electromechanical slow-break contact with single-pole closing contact
6	electromechanical slow-break contact with single-pole closing contact, magnetic snap-action
7	contactless inductive pointer sensing
	(5) Extra codes¹
00	no extra code (standard)
01	restrictor in pressure connection
07	flange for front fixing (only with Ø 100)
60	red mark on dial (specify position when ordering)
61	rear fixing flange painted black
76	parts in contact with medium in stainless steel Mat. Ref. 1.4571; only for Type 407
	(6) Range²
	-1 to 0 bar
	-1 to 0.6 bar
	-1 to 1.5 bar
	-1 to 3 bar
	-1 to 5 bar
	-1 to 9 bar
	-1 to 15 bar
	0 to 1 bar
	0 to 1.6 bar
	0 to 2.5 bar
	0 to 4 bar
	0 to 6 bar
	0 to 10 bar
	0 to 16 bar
	0 to 25 bar
	0 to 40 bar
	0 to 60 bar
	0 to 100 bar
	0 to 160 bar
	0 to 250 bar
	0 to 400 bar
	0 to 600 bar
	-1 to 0 bar

Note:
 In order to ensure maximum switching reliability, we recommend a minimum voltage of 24V and a minimum current of 20mA for the standard version or contact type -6 (electromagnetic slow-break contact).

Contact-operated relays

With regard to electromechanical limit contacts, we recommend the use of *multi-functional relays* in the MSR series from *Wiebrock Mess- und Regeltechnik GmbH, Herford*. These switching amplifiers increase the switching reliability and capability of slow-break and magnetic snap-action contacts, and reduce their contact load.

Undesirable switching actions of the limit contacts due to vibration are greatly reduced by a drop-out delay.

Multi-function relays are strictly recommended when using limit contacts in oil.

In the case of inductive limit contacts, transistor relays type WE77/Ex.. from Pepperl & Fuchs can be used. The intrinsic safety EEx ia II C T6 is only ensured in conjunction with the transistor relays mentioned above.

	(1)	(2)	(3)	(4)	(5)¹	(6)²
Order code	<input type="text"/>	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	/ <input type="text"/>	, <input type="text"/>
Order example	404020	- 407	- 02	- 3	/ 60	, 0 to 1.6 bar

¹ If more than one code is required, please write them one after another, separated by a comma (,).

² Please specify range in plain text.