

Diaphragm Pressure Gauges

Bezel Ring Case Black

with Limit-Switch Contact Assemblies

NCS: 100 (4")
160 (6")
250 (10")

Accuracy
Class 1.6

Model **PÜ**

This data sheet contains ordering information, minimum pressure ranges, information about the electrical connections and dimensional drawings of diaphragm pressure gauges model PÜ with limit-switch contact assemblies.

Standard Configuration

Data sheet **3100** contains all important features of model PÜ without electrical accessories. These technical details are valid also for gauges assembled with limit-switch contacts, as far as you do not find a deviating description below.

For detailed information about use and operation of our limit-switch contact assemblies please note our **general information leaflet 9000**, and for further information, especially about the available make/break operations, see the data sheets for the individual limit-switch models:

Mechanical

(Standard- and magnetic contacts)

Data sheet **9100**

Inductive

Data sheet **9200**

Electronic

Data sheet **9201**

Pneumatic

Data sheet **9300**

Minimum Pressure Ranges

Every pressure gauge needs a sufficient amount of torque to operate a limit-switch contact assembly with minimized error. For this reason the following minimum pressure ranges are to consider¹⁾:

| Limit-Switch-Type ²⁾ : | Minimum Pressure Range ¹⁾ | |
|--|--------------------------------------|---------------------------------------|
| | Flange Ø 100 mm (4") bar (psi) | Flange Ø 160 mm (6") mbar ("WC) |
| S 1 x Standard 2 x Standard 3 x Standard 4 x Standard | 0.6 (10) | 60 (25) |
| | | 100 (40) |
| | | 160 (60) |
| M 1 x Magnetic 2 x Magnetic 3 x Magnetic 4 x Magnetic | 0.6 (10) | 100 (40) |
| | | 160 (60) |
| I 1 x Inductive 2 x Inductive 3 x Inductive ³⁾ | 0.6 (10) | 60 (25) |
| | | 2.5 (60) |
| E 1 x Electronic 2 x Electronic 3 x Electronic ³⁾ | 0.6 (10) | 60 (25) |
| | | 0.6 (10) |
| P 1 x Pneumatic 2 x Pneumatic (not NCS 100) | 0.6 (10) | 60 (25) |

Pneumatic limit-switches for NCS 100 mm (4") are available only as single contacts.

For pressure gauges with 3 or 4 contacts it is not always possible to set all set pointers one above the other. Therefore you should state when ordering for which contacts resp. set pointers the opportunity to set one above the other is required. Or simply point out where your set points are.

Window

Acrylic glass lens resp. polycarbonate⁴⁾

¹⁾ Lower pressure ranges upon request

²⁾ Standard installation of limit-switch contact assemblies: behind the dial ("HZ"-version); exception NCS 250 (10"): installation in front of the dial ("TZ"-version)

³⁾ 4 contacts upon request

⁴⁾ Details upon request



Splash water protection

Sponge rubber ring between bezel and window, IP 44

Electrical Connection

- Mechanical contacts (standard [S] or magnetic [M]):

1 m (3 ft) connection cable passing through the back of the case

- Inductive / electronic limit-switch assemblies (I, E):

Terminal box on the right side, for NCS 250 (10") on the back

The universal plug connector has 6 terminals and a ground terminal. The terminal box has 6 terminals only.

- Pneumatic limit-switch assemblies (P)

For each limit one PP converter (IP 30), optionally PE converter, mounted on the back of the case (NCS 100 / 4" max. 1 limit)

When PP/PE-converter is mounted on the back of a case nominal size 100 (4"), the gauge cannot be provided with a blow-out in the back. This is valid also for special versions with universal plug connector or terminal box on the back of the case.

Optional Special Configurations

- European universal plug connector for mechanical contacts
- Other electrical connections
- Other position of the electrical connection upon request

How to Order

The ordering code of the individual gauge model (compare data sheet 3100) is extended by the

- Code letter for the contact type :
S, M, I, E or P
- Code number for the make/break operation:
e.g. **1, 11, 12, 2, 22, 21**

(Please compare the data sheet for the limit-switch contact!)

Examples for Ordering Information:

PÜ 100-2, -1/+5 bar, **M 2**

PÜ 160-3, 0-100 mbar, ½" NPT, **I 1**



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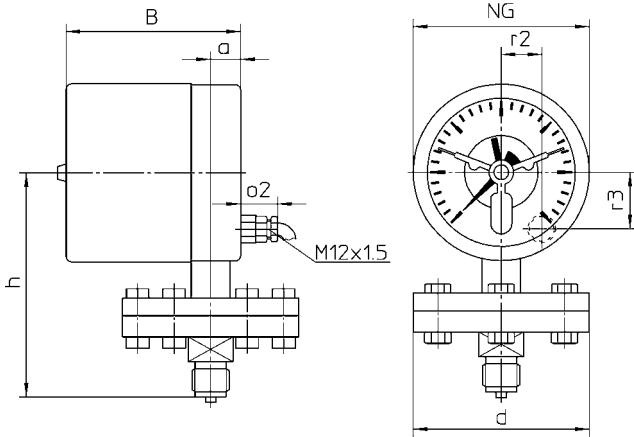
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Electrical Connections, Dimensional Data and Weights

The dimensions are the same as from the basic model, except the front-to-back size, dimension **B**, see table below.
For the other dimensions, please see data sheet 3100.

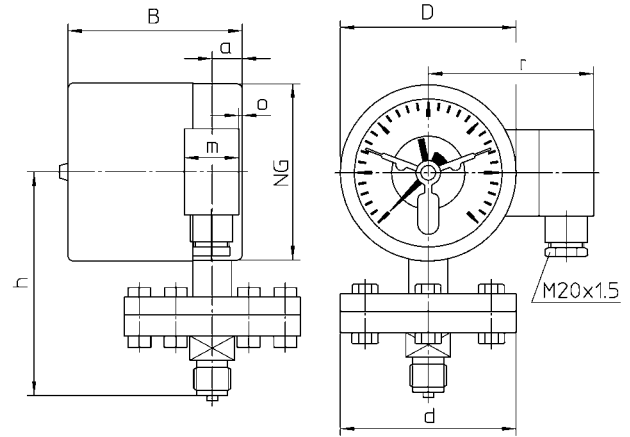
Connection cable

passing through the back of the case



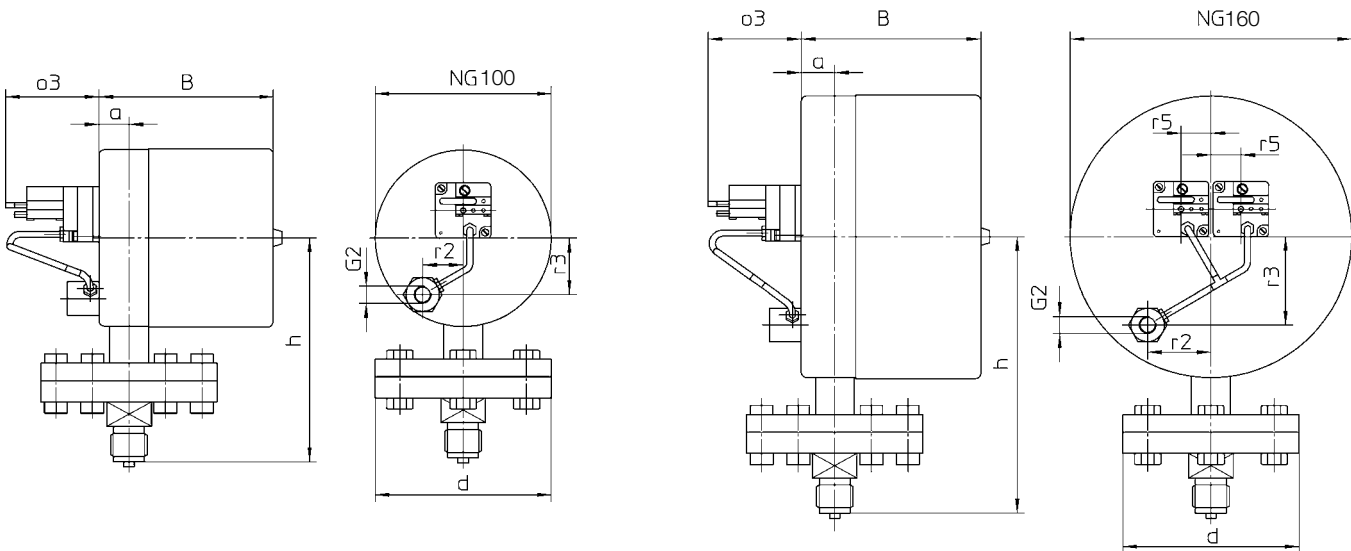
Universal plug connector or terminal box

on the right side of the case



PP / PE converter

on the back of the case



Dimensional Data (mm / inches) and Weight (kg / lb)

| NCS | Measuring flange Ø d | a | B | D | G2 | h ±1 | m | o | o2 | o3 | r | r2 | r3 | r5 | Weight** (approx.) | | | | | | | | | | | | | | | | |
|------------|-------------------------|-----|------|------|---------------|------|----|---|----|----|----|----|----|----|-----------------------|------|------|----|----|-----|---|---|------|------|-----|---|---|---|---|---|------|
| 100 4" | 100 4" | 17 | 99 | 100 | G 1/8" BSP | 127 | 31 | 2 | 21 | 53 | 94 | 23 | 32 | 17 | 1.85 | | | | | | | | | | | | | | | | |
| | 160 6" | .67 | 3.90 | 3.94 | | 5 | | | | | | | | | .83 | 2.09 | 4.76 | 36 | 50 | 4.1 | | | | | | | | | | | |
| 160 6" | 100 4" | 19 | 102* | 160 | | 157 | | | | | | | | | — | — | — | — | — | — | — | — | 2.35 | | | | | | | | |
| | 160 6" | .75 | 4.02 | 6.30 | | 6.2 | | | | | | | | | | | | | | | | | 1.42 | 1.97 | 7.6 | | | | | | |
| 250 10" | 100 4" | 17 | 102 | 250 | | 199 | | | | | | | | | | | | | | | | | — | — | — | — | — | — | — | — | 3.60 |
| | 160 6" | .67 | 4.02 | 9.84 | | 7.83 | | | | | | | | | | | | | | | | | | | | | | | | | 4.70 |
| | | | | | | | | | | | | | | | | | | | | | | | 10.4 | | | | | | | | |

* For inductive limit switches with 2 similar make/break operations (i.e. I 11 or I 22, also as part of 3x inductive contact assemblies) and for 4x standard or magnetic contacts please add 17 mm (0,67") to length B.
Further dimensions for special configurations upon request.

** Weight for case with 2 contacts and standard connection G 1/2 B (1/2" BSP).
For different pressure ranges and materials the weights differ considerably.