

# Diaphragm Pressure Gauges with Limit Switch Contact Assembly

With horizontal diaphragm, stainless steel case with bayonet ring

**PCh**  
**PChOe**

This data sheet contains information concerning order text and minimum pressure ranges of the diaphragm pressure gauge models PCh and PChOe with limit switch contact assembly, as well as dimensional drawings with the position of the electrical connections.

**Data sheet 3201** contains important details and ordering information for those basic models without limit switch contact assembly. These specifications also apply to the versions with limit switch contact assembly, unless otherwise stated below. The model code for liquid-filled pressure gauges with limit switch contact assembly is PChOe. Instead of glycerin, a special oil is used as case filling.

Detailed explanations on the operating principle and application of our limit switch contact assemblies can be found in our **model overview 9.1000**.



## Standard Versions

### Minimum Pressure Ranges

Each pressure gauge requires certain directive forces of the measuring element for the operation of a limit switch contact assembly. Therefore, the installation is only possible from the minimum pressure ranges indicated in the following table<sup>1)</sup>:

Limit switch contact assembly <sup>2)</sup> (GSG) type		Minimum pressure ranges <sup>1)</sup>	
		Nominal case size 100 / 160	
		measuring flange Ø	
		100 mm (4")	160 mm (6")
		bar	mbar
S	1 x low-action	0.6	60
	2 x low-action		100
	3 x low-action		160
	4 x low-action <sup>3)</sup>		
M	1 x magnetic	0.6	100
	2 x magnetic		160
	3 x magnetic	2.5	250
	4 x magnetic <sup>3)</sup>		
I	1 x inductive	0.6	60
	2 x inductive		
	3 x inductive <sup>4)</sup>		
E	1 x electronic	0.6	60
	2 x electronic		
	3 x electronic <sup>4)</sup>		
P	1 x pneumatic	0.6	60
	2 x pneumatic	–	

Pneumatic limit switch contact assemblies with nominal size 100 are available as single contact only.

For pressure gauges with 3 and 4 limit switch contacts, the limit setting pointers cannot necessarily all be set one above the other. Therefore, please always specify which of the pointers have to be adjustable one above the other or where your switch points are.

### Window

Laminated safety glass  
for model PCh 100 – 2: acrylic glass or polycarbonate, depending on version

### Electrical Connection

- For electromechanical limit switch contact assembly (**M, S**) universal plug connector on the right side of the case
- For inductive or electronic limit switch contact assembly (**I, E**) terminal box on the right side of the case

The plug connector has 6 connections and a ground terminal. The terminal box has 6 connections.

- For pneumatic limit switch contact assembly (**P**) per limit value one PP or optionally PE converter on the back of the case (nominal size 100 max. 1 contact)

If a PP or PE converter is mounted on the back of a case with nominal size 100, the pressure gauge cannot be equipped with a blow-out plug in the back of the case. This also applies to special versions with plug connector/terminal box on the back of the case.

Please refer to the dimensional drawings on page 2 for the precise position of the electrical connection.

### Options

- Model PCh with electromechanical limit switch contact assembly with cable gland in the back of the case and 1 m connection cable

### Special Versions Upon Request

- Other position of connection
- Other electrical connection

### Ordering Information

In addition to the order text of the particular instrument models (cf. data sheet 3201), please add

- the code letter for the type of limit switch contact assembly: S, M, I, E or P and
- the code number for the switch function, e.g.: 1, 11, 12, 2, 22, 21

Please compare the particular types of limit switch contact assembly in model overview 9.1000!

**Example:** PCh 100 – 3, 0 – 25 bar, G ½ B, M 12  
PChOe 160 – 3, 0 – 400 mbar, ½" NPT, I1

<sup>1)</sup> lower pressure ranges upon request

<sup>2)</sup> As standard, limit switch contact assemblies are mounted under the raised dial (HZ version).

<sup>3)</sup> 4 contacts for NCS 100 upon request

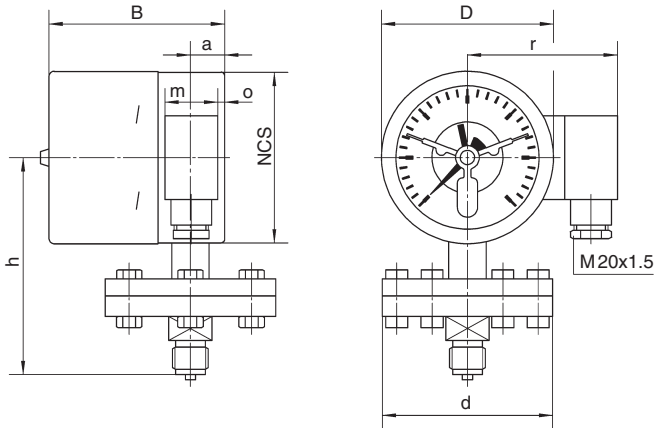
<sup>4)</sup> 4 contacts upon request

# Electrical Connection, Dimensional Data and Weight

## Electrical Connection

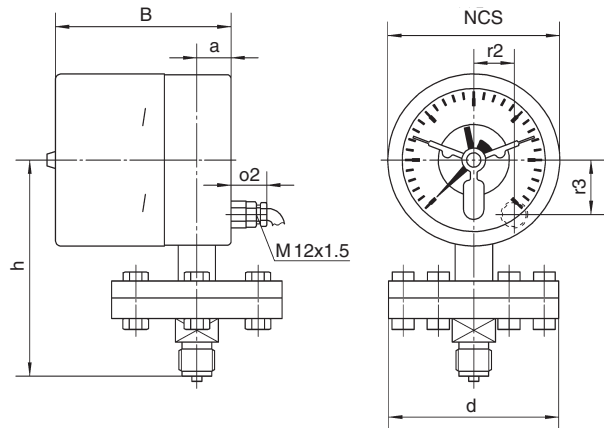
### Plug connector or cable connection

on the right side of case



### Option: cable gland

in the back of the case



Deviation from the basic model: dimension B (front-to-back size).

Please refer to data sheet 3201 for the other dimensions, also for open flanges.

Dimensional drawings for versions with PP/PE converter are available upon request.

## Dimensional Data (mm/inch) and Weights (kg/lb)

nominal case size	measuring flange Ø d	a	B	D	h <sup>±1</sup>	m	o	o2	r	r2	r3	approx. weight <sup>2)</sup>				
												PCh	PChOe			
100 4	100 4	20 0.79	103 4.06	101 3.98	127 5	31 1.22	3 0.12	21 0.83	94 3.7	23 0.91	32 1.26	2.25	2.95			
	160 6		3.60	4.40												
160 6	100 4		108 4.25 <sup>1)</sup>	161 6.34	157 6.18							121 4.76	36 1.42	50 1.97	3.25	5.05
	160 6		4.60	6.50												
	100 4		7.17	11.13												
	160 6		10.14	14.33												

<sup>1)</sup> For inductive and electronic limit switches with 2 similar switching functions (i.e. I11, I22 or E11, E22, also as part of 3x limit switch contact assemblies, e.g. I112 or E211) as well as for 4x low-action or magnetic contact, please add 12 mm (0.47") to length B!

<sup>2)</sup> The weights of the devices deviate considerably for different pressure ranges and materials, therefore only vague values can be given.