

Differential Pressure Gauges with integrated micro switch

Class 2.5 NCS 100 Model **DiPsPH**

with vertical diaphragm/measuring membrane

Application

Differential pressure gauges model DiPsPH with integrated pressure switch are combined display- and switching devices for overpressure-, underpressure- and differential pressure measurement in the field of industrial measurement technique.

Typical special applications are differential pressure measurements between flow- and return flow in heating systems, monitoring of filters, aerators and compressors.

Measuring units and measuring chambers are available as different materials. An adaption of the instruments to different requirements is possible with this.

Construction and Measuring Principle

A robust, non-sensitive membrane, resp. for 10 bar and above a diaphragm measuring system is provided as measuring cell.

In rest position the strengths, that effect the measuring membrane/diaphragm (5) are equalised both-sided. An one-sided strength, which switches the measuring membrane/diaphragm in one direction up to the compensation of the elastic force, arises by the measured pressure or differential pressure.

If overload occurs, the measuring membrane/diaphragm reinforces against metallic installation surfaces. A centrally ordered ram transfers the motion of the measuring membrane/diaphragm on to the movement and the operating controls of the micro switches.

Standard Version

In **data sheet 5401** you will find all information on pressure gauge model DiPsPH without integrated micro switch. This information is also valid for the version with micro switch, as far as following not described differently.

Minimum Pressure Range

400 mbar (6 psi)

Contact Output

1 or 2 micro switches,
1-pin change-over contacts

Set Point Adjustment

Adjustable externally at reference value scale
smallest adjustable value approximately 5% of upper range value.

Switching Hysteresis

Approximately 2.5%

Electrical Data

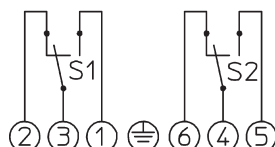
Alternating current: operating voltage $U \sim \text{max.} = 250 \text{ V AC}$
switching current $I \text{ max.} = 5 \text{ A}$
breaking capacity $P \text{ max.} = 250 \text{ VA}$

Co-current flow : operating voltage $U = \text{max.} = 30 \text{ V DC}$
switching current $I \text{ max.} = 0.4 \text{ A}$
breaking capacity $P \text{ max.} = 10 \text{ W}$

Electrical Connection

1 m hard-wired number cable,
M 16 x 1.5 screwed cable gland made of plastic lateral at the left side of the case

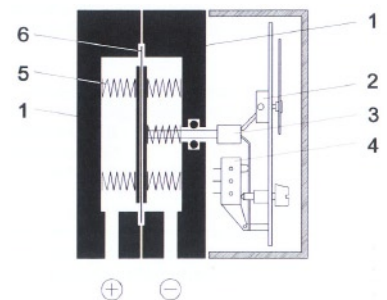
Wiring diagram:



Functional Diagram

(measuring unit with measuring membrane)

1. Pressurised chamber
2. Movement
3. Ram
4. Micro switch operating controls
5. Resilient elements
6. Measuring membrane



+ = higher pressure
- = lower pressure

Special Versions

2.5 m connection cable or 5 m connection cable

Terminal box lateral at the left side of the case

Plug connection 7-pin upon request

Ordering Information (model construction):

The order code of the particular models DiPsPH 100 (compare data sheet 5401) is extended by the information on the micro switch.

1 micro switch or
2 micro switches

Specifics: see above,
e.g. terminal box

Examples:

- DiPsPH 100-W, 0-6 bar, 2 micro switches
- DiPsPH 100-Er, 0-2,5 bar, cutting ring fitting made of steel for $\varnothing 8 \text{ mm}$, 1 micro switch



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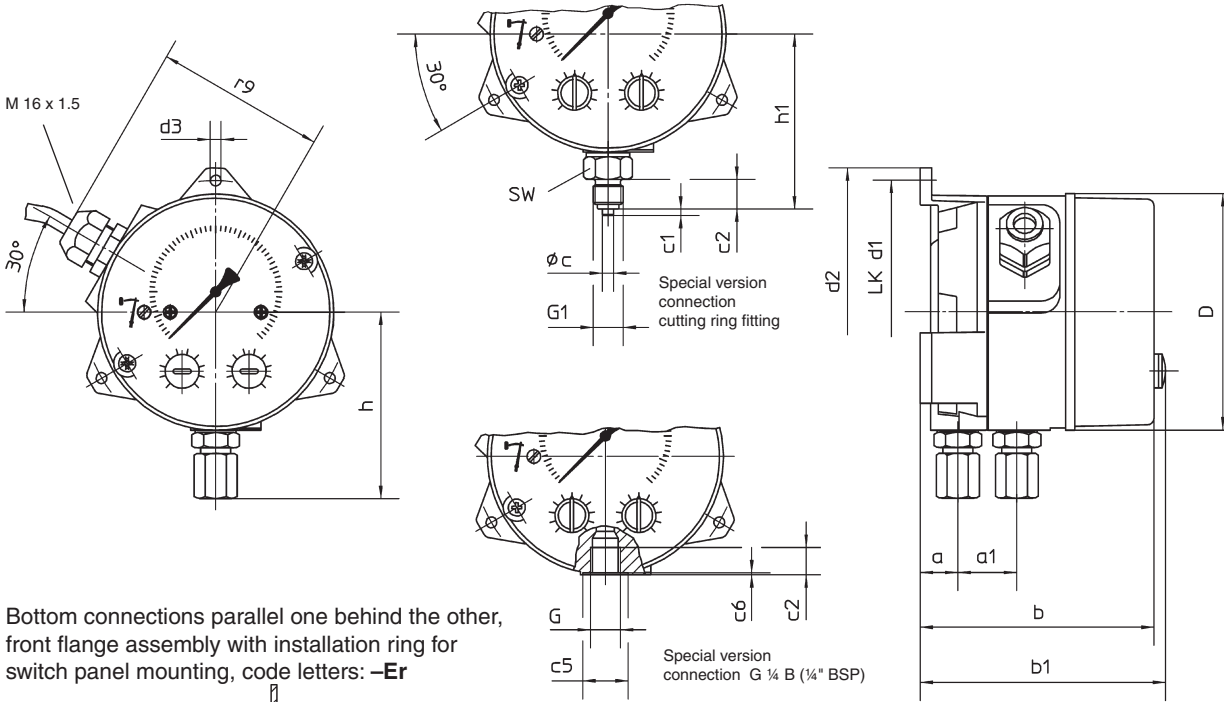
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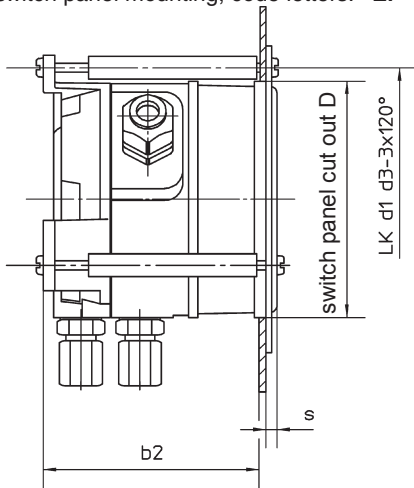
Case Configurations, Electrical Connections, Dimensional Data and Weights

M 16x 1.5 screwed cable gland

Bottom connections parallel one behind the other,
3 mounting brackets for panel mounting,
standard version, code letter **-W**

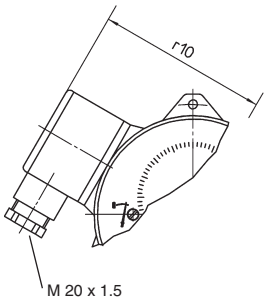


Bottom connections parallel one behind the other,
front flange assembly with installation ring for
switch panel mounting, code letters: **-Er**



Terminal box

lateral at the left side of the case



Dimensional data (mm / inches) and weights (kg / lb)

NCS	a	a1	b	b1	b2	c	c1	c2	c5	c6	D	d1	d2	d3	G	G1	h	h1
100	16.5	26	103	108	98	5	3	13	21	0.8	104	116	127	4.8	G $\frac{1}{4}$	G $\frac{1}{4}$ B	82	77
4"	.65	1.02	4.06	4.25	3.86	.2	.12	.51	.83	.03	4.09	4.57	5.0	.18	$\frac{1}{4}$ "	$\frac{1}{4}$ " BSP	3.23	3.03

r9	r10	s	SW	Weight (approx.)
75	92	5	19	1.20 kg
2.95	3.62	.2	.75	2.6

Technical changes, replacement of materials and errors excepted.