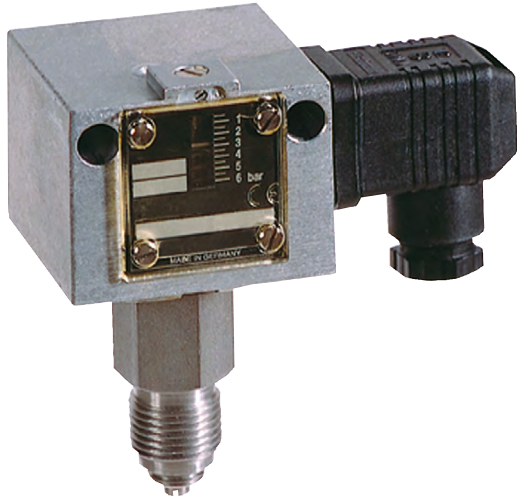




PDC-4

Pressure Switch with Stainless Steel Sensor System



Features

- / Fully stainless steel 1.4571
- / Resistant to hostile media
- / Plug connection
- / Adjustable hysteresis

Description:

The PDC series mechanical pressure switches is characterized by their excellent mechanical strength. The PDC-4 has a robust housing made of sew-water resistant aluminium pressure casting. It has a stainless steel 1.4571 connection fitting provided with a G1/2"-male and a G1/4" female thread. Excesrent pressure changes at the connection act on an internal measuring diaphragm the movements of which are transferred to a high-performance micro-switch through a connecting bridge. The set-point is set externally by rotating a spindle for nominal value that directly modifies the pre-tension of a spring. In addition, the construction has a counter-pressure spring that ensures a very stable connection even at low set-points. The PDC series of pressure switches can be provided with a terminal housing in IP65 and a blue cable gland, to allow the operation in hazardous areas (in connection with a suitable isolated switch amplifier) or even as an EEx-d version.

Application:

The PDC-4 series of pressure switches is used in applications where high requirements are placed on the switch's life span and mechanical strength and where the PDC-1 is ruled out due to its limited resistance to the particular medium. Due to the fact that the pressure-sensing measuring diaphragms are only less loaded – considering their permissible values – the PDC-4 guarantees an excellent long-term stability at minimal setpoint drift. Consequent to its design, the upstroke of the pressure diaphragms is limited by means of a stopper so that high overpressure safety is ensured even in small operating ranges. A number of operating ranges are available of which also a version with adjustable hysteresis can be supplied. This enables the user to accurately control a span of pressures with only a single device. Thanks to its material quality, flexibility of connections and high switching load of the micro-switch, the PDC-4 is predestined for use across all sections of the industry.



Technical Specifications:

Operating range /	see table
Mounting position /	vertical to the top
max. Pressure /	see table
max. Media temperature /	-25...+70°C short spell up to +85°C, use cooling elements for higher temperatures
Setpoint /	can be set externally by means of screwdriver on the spindle
Repeatability /	< 1 % of working range (for pressure ranges > 1 bar)
Adjustment /	The scales are calibrated for decreasing pressures. The reading corresponds therefore to lower setpoint, the upper setpoint is higher by the hysteresis
Lead sealing /	On request, ex-factory; sealing can also be undertaken later
Vacuum /	All PDC-4 besides can be impacted by vacuum; the device will not be damaged
Vibration /	Up to 4g no significant deviations
mechanical Life span /	10 x 10 ⁶ for room temperature and sinusoidal pressure impact. Life span depends highly on the sort of pressure impact. This value is therefore just a guide value. For applications with pulsating pressure or pressure surges we recommend the use of a pressure surge reducer.
electrical Life span /	100.000 switching cycles at nominal current 8 A, 250 VAC
Isolation /	overvoltage category III, pollution degree 3, rated impulse voltage 4000V, fullfills DIN VDE 01 10
Hysteresis /	In PDC-4.1x..A to PDC-4.1.x.I the hysteresis cannot be set. In PDC-4.2.x.B to PDC-4.2.x.D and in PDC-4.2.x.F to PDC-4.2.x.I the hysteresis can be set as specified in the following tables

Process connection / G1/2"-male (pressure gauge connection acc. DIN 16288),
G1/4"-female acc. ISO 228 part 1.
Using the G1/2"-male the PDC-4 can be directly screwed on to the pressure pipe, alternatively fastening by means of 2 screws (4mm Ø) on a plane surface is also possible.

Housing material / Aluminium pressure casting
GD Al Si 12 (sea-water resistant)

Material of pressure sensor / refer to switching ranges in table

rel. Humidity / 15%...95%, non-condensing

Ordering Codes:

Order number	PDC-4.	1.	1.	F.	0
PDC-4 Pressure Switch with Sensor System					
Hysteresis /					
1 = hysteresis cannot be set					
2 = hysteresis can be set					
Housing /					
1 = normal housing					
2 = housing with plastic coating (chemical version) (PDC 4.1. only)					
Operating ranges /					
A = -250...+100 mbar					
B = -1...+0.1 bar					
C = 0.04...0.25 bar					
D = 0.1...0.6 bar					
E = 0.2...1.6 bar (only available with option 6)					
F = 0.2...2.5 bar					
G = 0.5...6 bar					
H = 1...10 bar					
I = 3...16 bar					
Options /					
0 = without					
Exi = gold-plated contacts, SPDT, fixed hysteresis, IP65, switching capacity: max. 24 VDC, 100 mA, min. 5 VDC, 2 mA; media temperature max. 60°C, ignition protection class II 1/2G Ex ia IIC T6 Ga/Gb, II 1/2D Ex ia IIIC T80 °C ⁽¹⁾					
Exd = standard contacts, SPDT, fixed hysteresis, IP65, switching capacity: max. 250 VAC, 3 (2) A or 24 VDC, 3 A or 250 VDC, 0.1 A, min. 24 VDC, 2 mA, media temperature max. 60°C, ignition protection class II 2G Ex d e IIC T6 Gb, II 1/2D Ex ta/tb IIIC T80 °C Da/Db ⁽¹⁾					
2 = gold-plated contacts, SPDT, switching capacity: max. 24 VDC, 100 mA, min. 5 VDC, 2 mA. And others not available with adjustable hysteresis					
3 = two microswitches, switching in parallel or in succession, fixed switching interval ⁽¹⁾ (not for all operating ranges)					
4 = two microswitches, 1 plug, switching in succession, adjustable switching interval (not for all operating ranges)					
5 = terminal connection housing, IP65					
6 = protection class IP65 and switching housing with surface protection (chemical version)					

⁽¹⁾ inkl. Klemmenanschluss-Gehäuse (IP65)



Electrical Specifications:

Connection / plug connection

Prot. class / IP54 in vertical mounting

Switching load / 250 VAC, 8A (Ohmic), 5A (inductive)
250 VDC, 0,3A (Ohmic)
24 VDC, 8A (Ohmic)
min. 10 mA, 12 VDC

Contacts / SPDT

Units with fixed hysteresis (PDC-4.1):

Type	Setpoint range	Hysteresis (average)	max. Pressure	Wetted parts	Sketch Nr.	Manufacturer number
PDC-4.11.A	-250...+100 mbar	45 mbar	3 bar	1.4571	1 + 15	VNS301-201
PDC-4.11.B	-1*...+0.1 bar	50 mbar	6 bar	1.4571	1 + 15	VNS111-201
PDC-4.11.C	0.04...0.25 bar	30 mbar	6 bar	1.4571	1 + 15	DNS025-201
PDC-4.11.D	0.1...0.6 bar	40 mbar	6 bar	1.4571	1 + 15	DNS06-201
PDC-4.11.E	0.2...1.6 bar	60 mbar	6 bar	1.4571	2 + 15	DNS1-201
PDC-4.11.F	0.2...2.5 bar	0.1 bar	16 bar	1.4571	1 + 18	DNS3-201
PDC-4.11.G	0.5...6 bar	0.15 bar	16 bar	1.4571	1 + 18	DNS6-201
PDC-4.11.H	1...10 bar	0.3 bar	16 bar	1.4571	1 + 16	DNS10-201
PDC-4.11.I	3...16 bar	0.5 bar	25 bar	1.4571	1 + 16	DNS16-201

* In case of high vacuum conditions, close to the theoretically possible low-pressure of -1 bar, use of the switch is subject to restrictions due to extraordinary conditions of vacuum technology. However, the vacuum switch itself will not be damaged at maximum low-pressure.

Units with adjustable hysteresis (PDC-4.2):

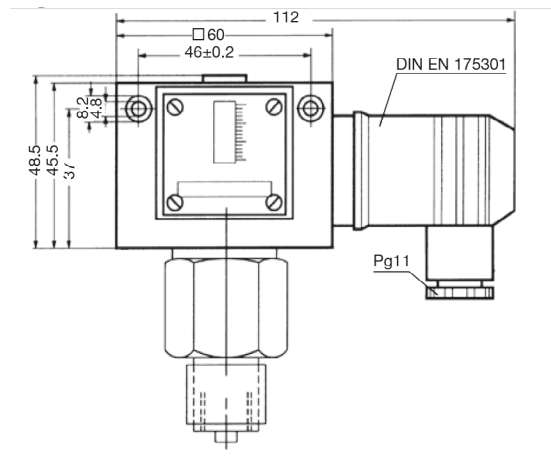
Type	Setpoint range	Hysteresis (average)	max. Pressure	Wetted parts	Sketch Nr.	Manufacturer number
PDC-4.22.G	0.5...6 bar	0.25...2 bar	16 bar	1.4571	1 + 18	DNS6-203
PDC-4.22.H	1...10 bar	0.45...2.5 bar	16 bar	1.4571	1 + 16	DNS10-203
PDC-4.22.I	3...16 bar	0.8...3.5 bar	25 bar	1.4571	1 + 16	DNS16-203

* In case of high vacuum conditions, close to the theoretically possible low-pressure of -1 bar, use of the switch is subject to restrictions due to extraordinary conditions of vacuum technology. However, the vacuum switch itself will not be damaged at maximum low-pressure.

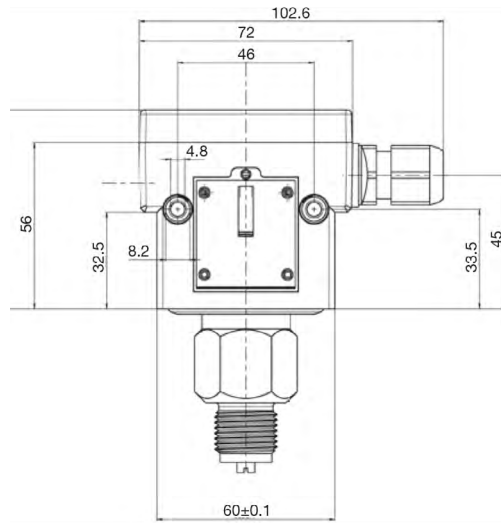


Housing Dimensions:

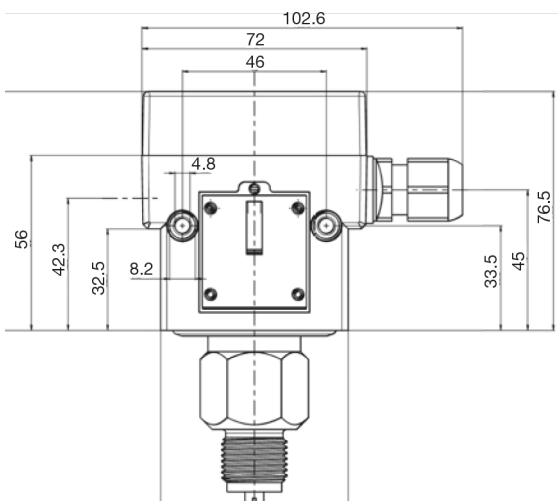
① Standard housing with plug connection



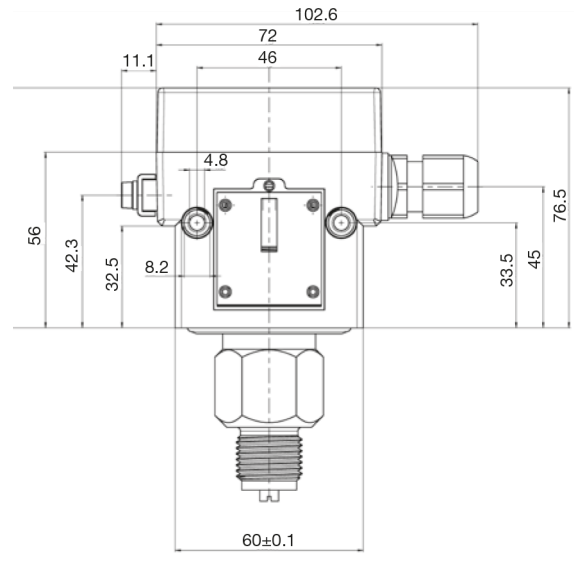
② Standard housing with terminal conn. (Option 5)



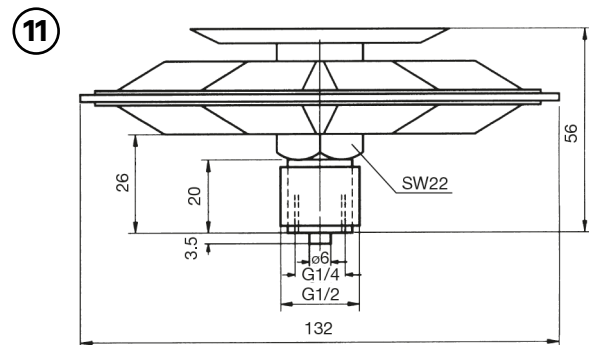
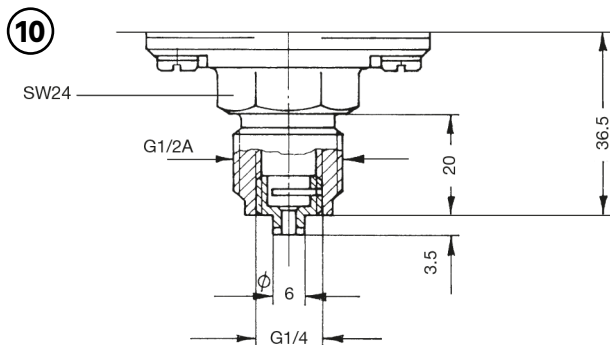
③ Ex-i housing with blue cable gland

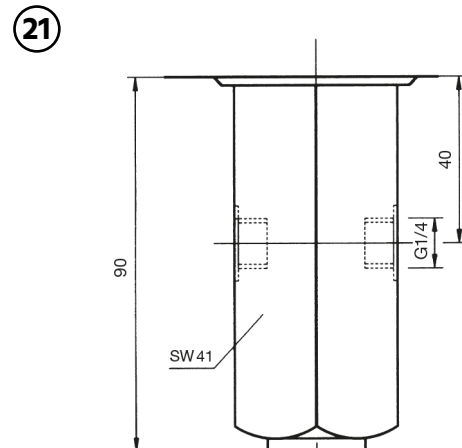
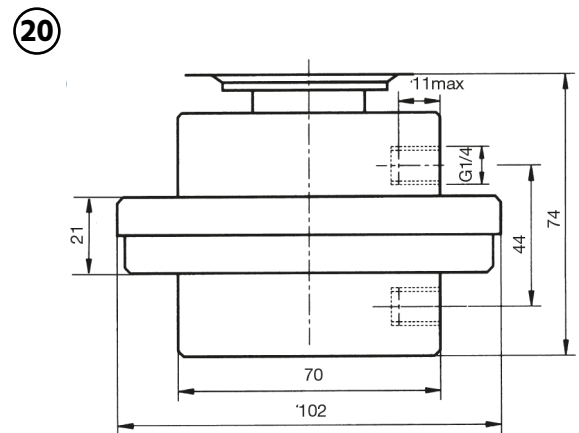
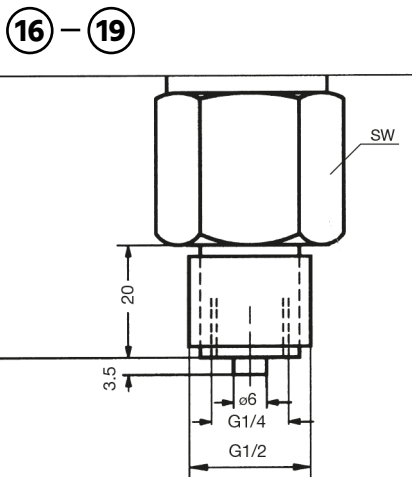
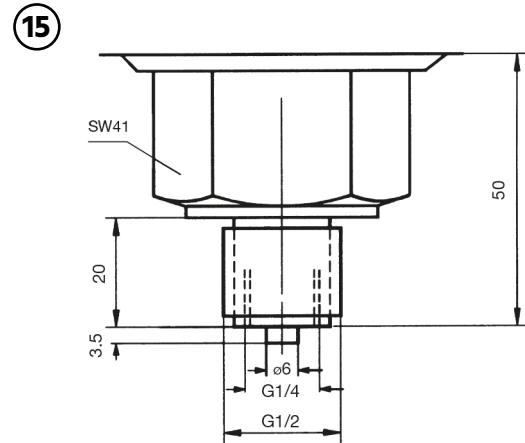
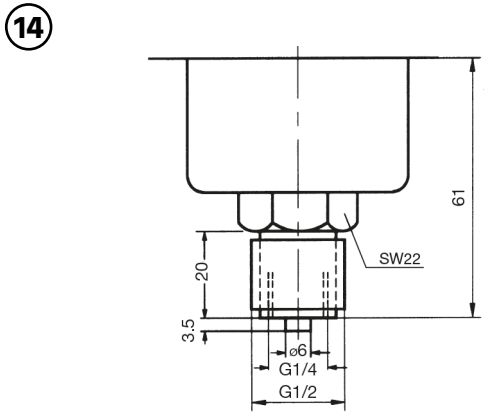
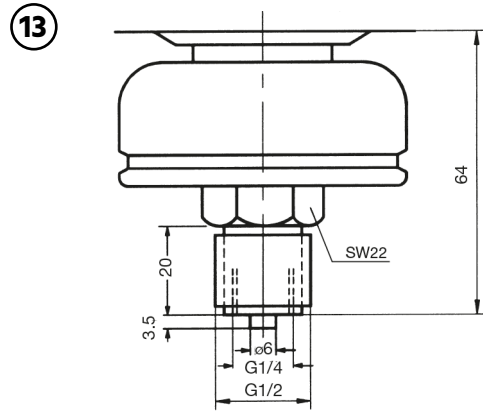
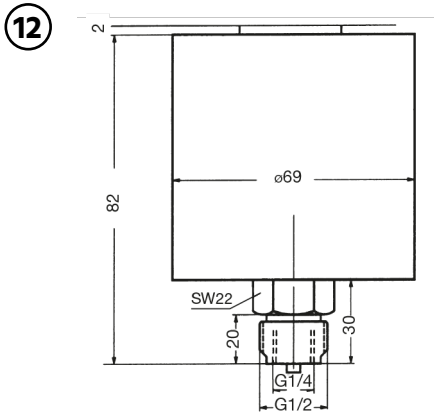


④ Ex-d housing with blue cable gland



Pressure Port Dimensions:





Housing Nr.	SW
16	22
17	24
18	30
19	32

