



DNS3-201

DNS/VNS

Pressure switches and vacuum switches with stainless steel sensors (1.4571)

Pressure switches of the DNS series are suitable for monitoring and controlling pressures in chemical plants, process engineering and any situation where the pressure of aggressive liquids and gases must be monitored.

All components of the sensor system are made of high quality stainless steel (1.4571) and welded using the latest methods without filler metals. The pressure sensor is gasket free plasma welded.

SIL 2 according IEC 61508-2



Technical data

Pressure connection

External thread G 1/2 (pressure gauge connection) according to DIN 16 288 and internal thread G 1/4 according to ISO 228 Part 1.

Switching device

Robust housing (200) made of seawater resistant die cast aluminium GD Al Si 12.

Protection class

IP 54, in vertical position.

Pressure sensor materials

Pressure bellows and all parts in contact with medium. X 6 Cr Ni Mo Ti 17122 Material no. 1.4571

Mounting position

Vertically upright and horizontal.

Max. ambient temperature at switching device

-25...+70 °C.

Max. medium temperature

The maximum medium temperature at the pressure sensor must not exceed the permitted ambient temperature at the switching device. Temperatures may reach 85°C for short periods.

Higher medium temperatures are possible provided the above limit values for the switching device are ensured by suitable measures (e.g. siphon).

Mounting

Directly on the pressure line (pressure gauge connection) or on a flat surface with two 4 mm Ø screws.

Switching pressure

Adjustable from outside with screw driver.

Switching differential

For values see Product Summary.

Contact arrangement

Single pole change over switch.

Switching capacity	250 VAC		250 VDC	
	(ohm)	(ind)	(ohm)	(ohm)
Normal	8 A	5 A	0.3 A	8 A

Plastic coating

The diecast aluminium housing in GD Al Si is chromated and stove enamelled with resistant plastic. Corrosion tests with 3% saline solution and 30 temperature changes from +10 to +80°C showed no surface changes after 20 days.

Product Summary

Type	Setting range	Switching differential (Tolerance)	Max. permissible pressure	Dimensioned drawing
Switching differential not adjustable				page 21 + 22
VNS301-201	-250...+100 mbar	30 ... 60 mbar	3 bar	
VNS111-201	-1*...+0,1 bar	30 ... 70 mbar	6 bar	
DNS025-201	0,04...0,25 bar	20 ... 40 mbar	6 bar	1 + 15
DNS06-201	0,1...0,6 bar	10 ... 50 mbar	6 bar	
DNS1-201	0,2...1,6 bar	40 ... 80 mbar	6 bar	
DNS3-201	0,2...2,5 bar	60 ... 140 mbar	16 bar	
DNS6-201	0,5...6 bar	0,07 ... 0,23 bar	16 bar	1 + 18
DNS10-201	1...10 bar	0,2 ... 0,4 bar	16 bar	
DNS16-201	3...16 bar	0,3 ... 0,7 bar	25 bar	1 + 17

Switching differential adjustable

VNS111-203	-1*...+0,1 bar	90 – 550 mbar	6 bar	1 + 15
DNS06-203	0,1...0,6 bar	80 – 600 mbar	6 bar	
DNS3-203	0,2...2,5 bar	0,15 – 1,5 bar	16 bar	
DNS6-203	0,5...6 bar	0,25 – 2,0 bar	16 bar	1 + 18
DNS10-203	1...10 bar	0,5 – 2,5 bar	16 bar	
DNS16-203	3...16 bar	0,8 – 3,5 bar	25 bar	1 + 17

* At very high vacuums, close to the theoretical maximum of -1 bar, the switch may not be usable in view of the special conditions of vacuum engineering. However, the pressure switch itself will not be damaged at maximum vacuum.

Calibration

The DNS and VNS series are calibrated for falling pressure. This means that the adjustable switching pressure on the scale corresponds to the switching point at falling pressure. The reset point is higher by the amount of the switching differential. (See also page 23, 1. Calibration at lower switching point).

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