

Differential pressure sensor **type DPS** Absolute pressure sensor **type APS**



The pressure transducers of the DPS type series are suitable for detection of excess pressure, low pressure or differential pressure of non-aggressive gasses. These robust versions can be applied in laboratories and under industrial conditions. Important criteria such as long-term stability, linearity and good reproducibility are guaranteed through their sturdy mechanical construction. Temperature drift is minimised through targeted compensation of every sensor. The wear-free inductive measurement system allows for almost maintenance-free operation.

The integrated electronic system provides a pressure-proportional voltage signal of 0 to 10 V in the output (option: current signal 0 (4) to 20 mA). This allows for interference-free transmission of signals even over comparatively large distances. For strongly varying pressures a dampening function is included.

Fields of application

Heating, ventilation, air condition, clean room technology, medical technology, filter technology; finishing pass measurement; filling level measurement (air bubbler method); flow velocity measurement (pitot tube, orifice disk)

Technical Data

Measurement ranges	0,1/0,2/0,3/0,4/0,5/0,6/1/1,6/2,5/4/5/6/10/16/20/25/50/100/160/200/250/400/500/600/1000 hPa excess pressure, low pressure, differential pressure, other measurement ranges on request, measurement ranges < 2.5 hPa surcharges see price list
Option	Absolute pressure (TYPE APS) 900 to 1100 hPa, 800 to 1200 hPa, 0 to 1000 hPa, 0 to 500 hPa other measurement ranges on request
Measurement principle	inductive
Overloading capability	Measurement ranges up to 400 hPa 5-fold; measurement over 400 hPa 2-fold For delta p measurements maximum system pressure 1 bar. Higher overload capacities on request
Medium	Non-aggressive gasses
Parts in contact with medium	Ni, Al, CuBe, PU
Linearity	± 1 % of f.v..
Option	± 0.5 % of f.v. only for DPS sensors for measurement ranges ≥ 1 hPa; for APS sensors for measurement range delta P ≤ 200 hPa ± 0.2 % of f.v. only for DPS sensors for measurement range ≥ 2,5 hPa for APS sensors for measurement ranges delta P ≤ 100 hPa Optional linearity values are not applicable for the square-root extraction versions.
Hysteresis	± 0,1 % max. of f.v.
Supply	19 to 31 VDC
Fuse connection	250 mA
Supply influence	< 0,05 %
Option	230 VAC, 115 VAC, 24 VAC, (±10 %, 50-60 Hz)
Option	For "contaminated networks" filter elements and interference protection devices are provided.
Output signal	0 to 10 V (load ≥ 2 kOhm)
Power consumption	Approx. 10 mA (without load)
Option output signal	± 5 V, ± 10 V (load ≥ 2 kOhm) 0 – 20 mA, 4 – 20 mA (load ≤ 500 Ohm) 4 – 20 mA twin-core UB = 12 to 32 V; load (OHM)= UB (V) · 12 / I _{max} (A)
Time constant	T90 approx. 0,02 sec.

Temperature drift	Zero point $\pm 0,3$ % of f. v. / 10 K max. Span $\pm 0,3$ % of f. v. / 10 K max.
Temperature range	Specified range + 10°C to + 50°C
Humidity	Up to 80% relative humidity
Option	Extended temperature range -10°C to + 60°C
Storage temperature	-10°C to + 70°C
Long-term stability	$\pm 0,5$ % per year (typical)
Housing	Material ABS, dimensions: see below
Pressure connections	$\varnothing 6,6 \times 11$ mm (for flexible hoses $\varnothing 6$ mm)
Electrical connections	Screwed cable connection M12 x 1.3; screw-type terminals max. 1,5 mm ²
Protection class	II
Protection type	IP 54
Standards	EN 50081-1; EN 50081-2; EN 50082-1; EN 50082-2; EN 61010
Weight	Approx. 0,3 kg (approx. 0,4 kg incl. power pack)
Impact strength	10 g
Sensor volume	Approx. 3 ml
Volume increase	Approx. 0,2 ml for nominal pressure
Option	LC- Display 3 1/2 digits
Option	Automatic zeroing (current input approx. 50 mA)
Option	1 or 2 limit contacts (current input approx. 35/45 mA); relay output transformer: 6 A / 230 VAC
Option	Sensor with evolved output signal 0 to 10 V or 0 (4) to 20 mA Evolved: UR = $\sqrt{(10 \times UL)}$ (UL = linear output 0-10 V) IR = $\sqrt{(20 \times IL)}$ (IL = linear output 0-20 mA)
Option	Overload protection up to 2 bar

Housing versions

Housing versions	Housing (L x W x H) in mm				
	120 x 80 x 55	120 x 80 x 70	120 x 80 x 85	122 x 120 x 75	122 x 120 x 105
Pressure sensor $\geq 0,5$ hPa standard	X				
Pressure sensor $\geq 0,5$ hPa with limit contacts			X		
Pressure sensor $\geq 0,5$ hPa with LC display		X			
Pressure sensor $\geq 0,5$ hPa with limit contacts and LC display			X		
Pressure sensor $\geq 0,5$ hPa with automatic zero setting				X	
Pressure sensor $\geq 0,5$ hPa with automatic zero setting and LC display				X	
Pressure sensor $\geq 0,5$ hPa with automatic zero setting, limit contacts and LC display					X
Pressure sensor $< 0,5$ hPa standard with automatic zero setting				X	
Pressure sensor $< 0,5$ hPa with LC display					X
Pressure sensor $< 0,5$ hPa with limit contacts				X	
Pressure sensor $< 0,5$ hPa with limit contacts and LC display					X

