

Model NPS19-D

Piezoresistive OEM differential pressure sensor
Stainless steel structure

Features

- Piezoresistive pressure chip encapsulated in an oil-filled metal housing
- Measuring ranges from 0.1 bar to 25bar
- Differential pressure
- Accuracy: $\pm 0.25\%FSO$ (Typ.)
- $\varnothing 19\text{mm} \times 27.6\text{mm}$



Application

- Hydraulic and pneumatic
- OEM
- Water treatment
- IoT pressure measurement

Technical data

Performance		
Accuracy*	$\pm 0.25\%FS$ (typ.), $\pm 0.5\%FS$ (max.)	*Linearity (best straight line) + Hysteresis + Repeatability
Linearity	$\pm 0.2\%FS$ (typ.), $\pm 0.3\%FS$ (max.)	
Hysteresis	$\pm 0.03\%FS$ (typ.), $\pm 0.05\%FS$ (max.)	
Repeatability	$\pm 0.03\%FS$ (typ.), $\pm 0.05\%FS$ (max.)	
Operating temperature	-40 to 120 °C	
Compensated temperature range	-10 to 70 °C	
Temperature coefficient zero	$\pm 0.75\%FS$ (typ.), $\pm 1.5\%FS$ (max.)	
Temperature coefficient sensitivity	$\pm 0.75\%FS$ (typ.), $\pm 1.5\%FS$ (max.)	
Vibration	10 g RMS(20 to 2000Hz)	
Shock	100 g(10ms)	
Cycles	10×10^6	
Overpressure	150 %FS	
Static pressure	≤ 10 MPa	
Long term stability	$\pm 0.2\%FS$ (typ.)	

Electrical @25°C	
Zero output	± 2 mV / $V_S = 1.5$ mA
Full scale output	80 mV(typ.), 150 mV(max.) / $V_S = 1.5$ mA
Excitation	1 mA~2 mA
Bridge resistance	2~8 k Ω
Insulation resistance	100 M Ω @100VDC

Physical Specifications	
Housing	316L stainless steel
Diaphragm	316L stainless steel
Oil Filling	Silicone oil
Weight	~50g

The listed specifications and dimensions are subject to change without prior notice

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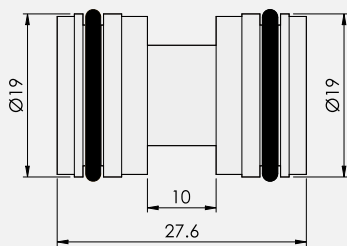
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Materontek
Sensing and Internet of Things

Standard pressure range

Code	Nominal pressure [bar]	Differential
01	0...0.1	✓
02	0...0.2	✓
03	0...0.35	✓
04	0...0.7	✓
05	0...1	✓
06	0...2.5	✓
07	0...4	✓
08	0...6	✓
09	0...10	✓
10	0...16	✓
11	0...25	✓

Dimensions (All dimensions in mm)



Ordering code

Model	Range	Type	Output / Excitation	Electrical Connection	Compensation
NPS19-D	code	D differential	A mV / 1.5 mA	F silicon rubber wires(L=100mm)	T with temperature compensated
					NA without temperature compensated

1. Please notice that High Pressure Side by mark "+", and Low Pressure Side by mark "-"
2. Please pay attention that the pressure of high pressure side should be higher than that of low pressure side;
3. Please pay attention to protect the diaphragm, prevent it from damaging;
4. Temperature range of standard Viton O-ring of sensor is -20°C ~ 250°C . When working temperature is lower than -20°C