

Model NPS13

Piezoresistive OEM pressure sensor
Small size

Materontek
Sensing and Internet of Things

Features

- ❑ Piezoresistive pressure chip encapsulated in an oil-filled metal housing
- ❑ Measuring ranges from 2bar to 1000bar
- ❑ Gauge pressure, absolute pressure
- ❑ Accuracy: $\pm 0.25\%FSO(Typ.)$
- ❑ $\varnothing 12.6mm \times 10.5mm$

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	$\pm 0.05\%FS(typ.)$, $\pm 0.075\%FS(max.)$	
Repeatability	$\pm 0.05\%FS(typ.)$, $\pm 0.075\%FS(max.)$	
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 or 1100bar (min. value is valid)	
Long term stability	$\pm 0.2\%FS(typ.)$	

Electrical @25°C	
Zero output	$\pm 2\text{ mV} / V_S = 1.5\text{ mA}$
Full scale output	$80\text{ mV}(typ.) / V_S = 1.5\text{ mA}$
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	~13g

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

Model NPS13

Piezoresistive OEM pressure sensor
Small size

Materontek
Sensing and Internet of Things

Standard pressure range

Code	Nominal pressure [bar]	Gauge	Sealed gauge	Absolute
01	0...2	✓		✓
02	0...3.5	✓		✓
03	0...7	✓		✓
04	0...10	✓		✓
05	0...20	✓		✓
06	0...35	✓	✓	✓
07	0...70		✓	✓
08	0...100		✓	✓
09	0...200		✓	✓
10	0...350		✓	✓
11	0...700		✓	✓
12	0...1000		✓	✓

Dimensions (All dimensions in mm)

NPS13-H	NPS13-L

Ordering code

Model	Range	Type	Output / Excitation	Electrical Connection	Compensation
NPS13-H	code	G gauge	A mV / 1.5 mA	F silicon rubber wires(L=100mm)	T with temperature compensated
NPS13-L		S sealed gauge		P pins	NA without temperature compensated
		A absolute			