

# 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 10bar to 600bar
- ❑ Gauge pressure, absolute pressure
- ❑ Accuracy:  $\pm 0.25\%FSO$ (Typ.)
- ❑  $\varnothing 13\text{mm} \times 9\text{mm}$



## 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 (only for NPS13-H)	
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	$10 \times 10^6$	
Overpressure	150 %FS	
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	90 mV(typ.), 150 mV(max.) / $V_S = 1.5\text{ mA}$
Excitation	1 mA~2 mA
Bridge resistance	2~8 k $\Omega$
Insulation resistance	100 M $\Omega$ @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

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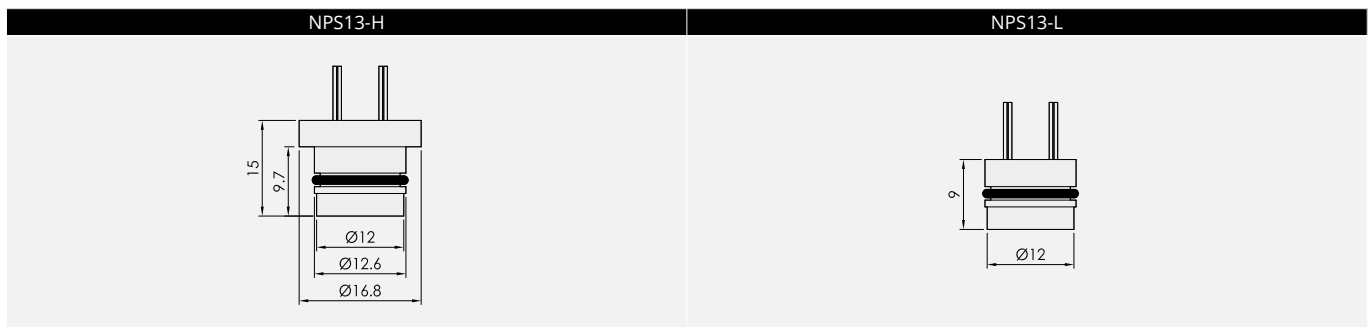
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## Standard pressure range

Code	Nominal pressure [bar]	Gauge	Sealed gauge	Absolute
01	0...10	✓		
02	0...16	✓	✓	✓
03	0...25	✓	✓	✓
04	0...40	✓	✓	✓
05	0...60		✓	✓
06	0...100		✓	✓
07	0...160		✓	✓
08	0...250		✓	✓
09	0...400		✓	✓
10	0...600		✓	✓

## Dimensions (All dimensions in mm)



## Ordering code

Model	Range	Type	Output / Excitation	Electrical Connection	Compensation
<b>NPS13-H</b>	<b>code</b>	<b>G</b> gauge	<b>A</b> mV / 1.5 mA	<b>F</b> silicon rubber wires(L=100mm)	<b>T</b> with temperature compensated
<b>NPS13-L</b>		<b>S</b> sealed gauge	<b>B</b> mV / DC 10V	<b>P</b> pins	<b>NA</b> without temperature compensated