

Model NPS13



Product Overview

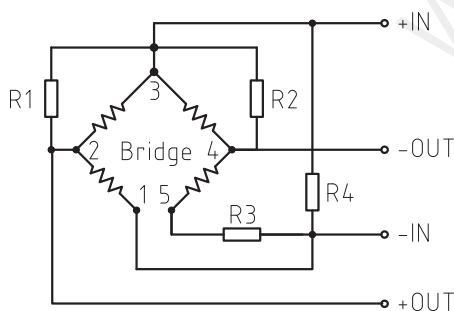
NPS13 is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS13 is temperature compensated and zero correction by using resistance technology. The temperature drift of sensor is within 1.5%FS.

NPS13 pressure sensor are designed for floating O-ring seal mounting. This not only can avoid housing induced stress, but also is easy for installation.

Applications

- Process control systems
- Refrigeration and HVAC controls
- Hydraulic systems and valve
- Pharmaceutical engineering
- Level measurement
- Ship and marine systems

Constant current schematic diagram



Features

- 10bar to 600bar (145psi to 8700psi)
- Absolute, gauge and sealed gauge
- $\pm 0.25\%$ static accuracy
- Calibrated and temperature compensated
- Rugged 316L stainless steel isolated package
- Piezoresistive sensor design
- Standard configurations include:
12.6 mm diameter x 9 mm long
- Solid state, high reliability
- Custom configurations and other pressure ranges available. Please consult the factory.

Standard Pressure Range

Nominal pressure	gauge	sealed gauge	absolute
0...10bar	●	●	●
0...16bar	●	●	●
0...25bar	●	●	
0...60bar		●	
0...100bar		●	
0...160bar		●	
0...250bar		●	
0...400bar		●	
0...600bar		●	

other pressure ranges available. Please consult the factory.

Performance Specifications

Parameter	Value	Units	Notes
General			
Pressure Range	0-10,...,600	bar	1bar=14.5psi
Overpressure	1.5xFS	bar	
Environmental			
Operating Temperature Range	-40 to +125	°C	-40°F to 257°F
Compensated Temperature Range	0 to +70	°C	32°F to 158°F
Storage Temperature Range	-40 to +125	°C	-40°F to 257°F
Vibration	10	g	20 to 2000Hz
Shock	100	g	10ms
Cycles	10x10 ⁶	cycles	
Electrical @25°C(77°F)			
Excitation Current	1.5	mA	
Excitation Voltage	5	Vdc	
Bridge Resistance	2600 to 6000	Ω	
Insulation Resistance	100	MΩ	@100Vdc

Physical Specifications	
Media Compatibility	All media compatible with 316L stainless steel
Housing	316L stainless steel
Diaphragm	316L stainless steel
Seal Ring	Viton or NBR
Oil Filling	Silicone oil
Electrical Connection	Silicon rubber flexible wire or kovar pin
Net Weight	Approx.9g

Parameter	Minimum	Typical	Maximum	Units	Notes
Performance					
Zero Output	-2	±1	2	mV	1
Full Scale Output	50	100		mV	1
Non-linearity	±0.1	±0.2	±0.3	%FSO	1, 2
Hysteresis	-0.05	±0.03	0.05	%FSO	1
Repeatability	-0.05	±0.03	0.05	%FSO	1
Temp Coeff - Zero	-1.5	±0.75	1.5	%FSO	3
Temp Coeff - Span	-1.5	±0.75	1.5	%FSO	3
Long-Term Stability		±0.2	±0.3	%FSO/year	1

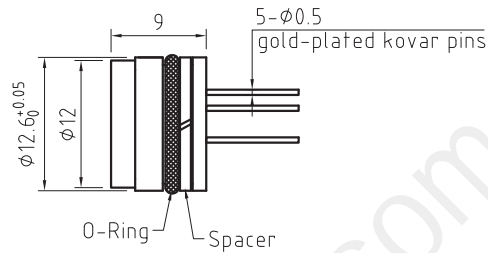
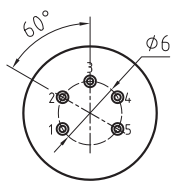
Notes

1. All values measured at 25°C(77°F) and at 1.5mA
2. Best fit straight line(BFSL)
3. 0°C to 70°C(32°F to 158°F) with reference to 25°C(77°F)
4. Consult factory for vacuum applications

This data sheet contains product specification, properties are not guaranteed. Subject to change without notice.

Dimensions (in mm)

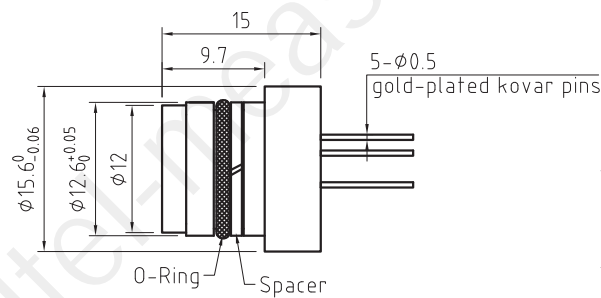
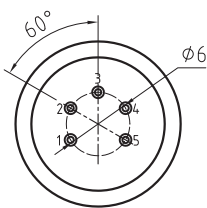
NPS13L



Pin	Connection	Wire color
3	+IN	Red
1or5	- IN	Blue
2	+OUT	Yellow
4	- OUT	White

Note: The actual electric connection method, please check the parameter label enclosed with products

NPS13H



Pin	Connection	Wire color
3	+IN	Red
1or5	- IN	Blue
2	+OUT	Yellow
4	- OUT	White

Note: The actual electric connection method, please check the parameter label enclosed with products

Ordering Information

Option1: Model	
NPS13L	Dimension see NPS13L
NPS13H	Dimension see NPS13H
Option2: Pressure Range	
0100	0...10bar
0160	0...16bar
0250	0...25bar
0600	0...60bar
1000	0...100bar
1600	0...160bar
2500	0...250bar
4000	0...400bar
6000	0...600bar
Cxxx	Customized range
Option3: Pressure Type	
G	gauge
A	absolute
S	sealed gauge
Option4: Excitation	
I	1.5mA Constant Current Excitation
V	5Vdc Constant Voltage Excitation
Option5: Electrical Interface	
F	4 color silicon rubber wires, length=100mm
P	gold-plated kovar pins (only for 1.5mA Constant Current Excitation)
Option6: Compensation	
T	0 to 70°C
NA	No temperature compensation
NPS13L	0100 G I F T Examples of Ordering Code: NPS13L-0100-G-I-F-T

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