

Model NPS19D



Product Overview

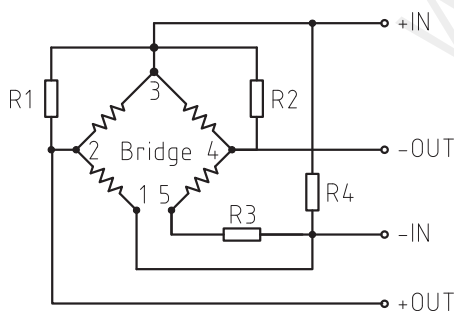
NPS19D is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS19D is temperature compensated and zero correction by using resistance technology. The temperature drift of sensor is within 1.5%FS.

NPS19D differential 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

- 200mbar to 25bar (3psi to 350psi)
- Piezoresistive differential pressure sensor
- $\pm 0.25\%$ static accuracy
- Calibrated and temperature compensated
- Rugged 316L stainless steel isolated package
- Standard configurations include:
19 mm diameter x 27.6 mm long
- Solid state, high reliability
- Custom configurations and other pressure ranges available. Please consult the factory.

Standard Pressure Range

Nominal pressure	Overpressure
0...0.2bar	300%FS
0...0.35bar	300%FS
0...0.7bar	200%FS
0...1bar	200%FS
0...2.5bar	200%FS
0...4bar	200%FS
0...6bar	200%FS
0...10bar	200%FS
0...16bar	200%FS
0...25bar	200%FS
0...4bar	200%FS
0...6bar	200%FS
0...10bar	200%FS
0...16bar	200%FS
0...25bar	150%FS

other pressure ranges available. Please consult the factory.

Performance Specifications

Parameter	Value	Units	Notes
General			
Pressure Range	0-0.2,...,25	bar	1bar=14.5psi
Overpressure	3xFS(P≤0.35bar) 2xFS(P>0.35bar)	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	
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
Net Weight	Approx.36g

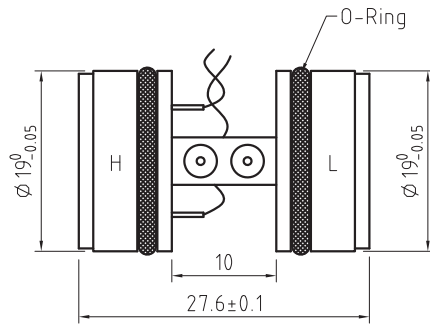
Parameter	Minimum	Typical	Maximum	Units	Notes
Performance					
Zero Output	-2	±1	2	mV	1
Full Scale Output	50	100		mV	1
Non-linearity	±0.1	±0.2	±0.3	%FSO	1, 2
Hysteresis	-0.05	±0.03	0.05	%FSO	1
Repeatability	-0.05	±0.03	0.05	%FSO	1
Temp Coeff - Zero	-1.5	±0.75	1.5	%FSO	3
Temp Coeff - Span	-1.5	±0.75	1.5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



Connection	Wire color
+IN	Red
- IN	Blue
+OUT	Yellow
- OUT	White

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

Ordering Information

Option1: Model						
NPS19D	Piezoresistive Differential Pressure Sensor					
Option2: Pressure Range						
0002	0...0.2bar	0250	0...25bar			
0003	0...0.35bar	Cxxx	Customized range			
0007	0...0.7bar					
0010	0...1bar					
0025	0...2.5bar					
0040	0...4bar					
0060	0...6bar					
0100	0...10bar					
0160	0...16bar					
Option3: Pressure Type						
	D	differential				
Option4: Excitation						
	I	1.5mA Constant Current Excitation				
Option5: Electrical Interface						
	F	color silicon rubber wires, length=100mm				
Option6: Compensation						
	T	0 to 70°C				
	NA	No temperature compensation				
NPS19D	0010	D	I	F	T	Examples of Ordering Code: NPS19D-0010-D-I-F-T