

Model NPS19



Product Overview

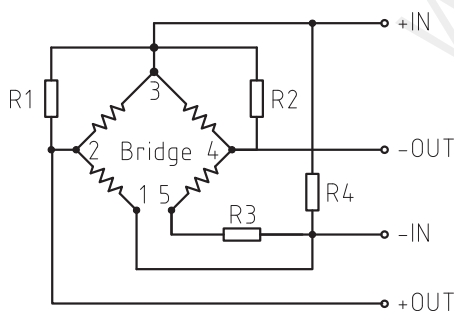
NPS19 is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS19 is temperature compensated and zero correction by using resistance technology. The temperature drift of sensor is within 1.5%FS.

NPS19 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

- 100mbar to 1000bar (1.45psi to 14500psi)
- 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:
19 mm diameter x 14 mm long
- Solid state, high reliability
- Custom configurations and other pressure ranges available. Please consult the factory.

Standard Pressure Ranges

Nominal pressure	gauge	sealed gauge	absolute
-1...0bar	●		
-0.35...0bar	●		
-0.2...0bar	●		
0...0.1bar	●		
0...0.2bar	●		
0...0.35bar	●		●
0...0.7bar	●		
0...1bar	●		●
0...1.6bar	●		
0...2.5bar	●		●
0...4bar	●		●
0...6bar	●		●
0...10bar	●	●	●
0...16bar	●	●	●
0...25bar	●	●	
0...60bar		●	
0...100bar		●	
0...250bar		●	
0...400bar		●	
0...600bar		●	
0...1000bar		●	

Other pressure ranges available. Please consult the factory.

Performance Specifications

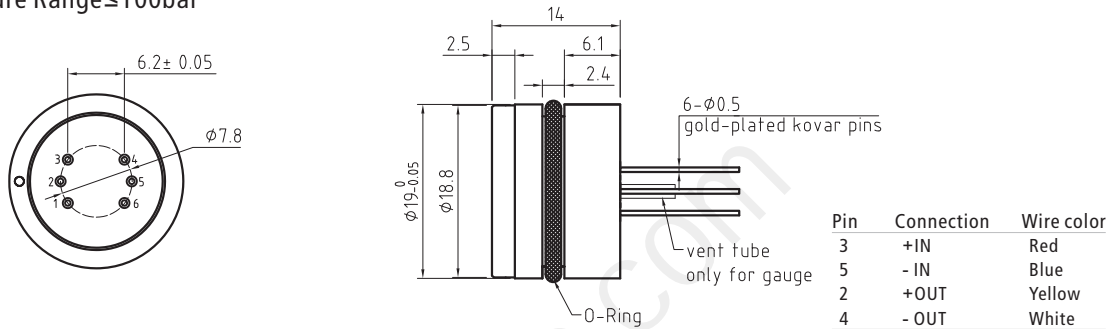
Parameter	Value	Units	Notes		
General					
Pressure Range	-1-0, ..., 0-0.1, ..., 1000	bar	1bar=14.5psi		
Overpressure	1.5xFS	bar			
Environmental					
Operating Temperature Range	-40 to +125	°C	-40°F to 257°F		
Compensated Temperature Range	0 to +70	°C	32°F to 158°F		
Storage Temperature Range	-40 to +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. 18g				
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).

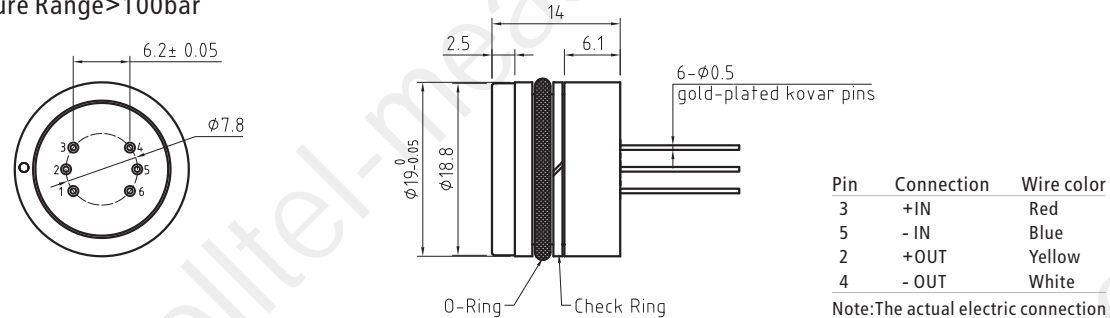
Dimensions (in mm)

Pressure Range ≤ 100bar



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

Pressure Range > 100bar



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

Ordering Information

Option1: Model	
NPS19	Piezoresistive OEM Pressure Sensor
Option2: Pressure Range	
N001	-1...0bar 0040 0...4bar 6000 0...600bar
N002	-0.35...0bar 0060 0...6bar 1001 0...1000bar
N003	-0.2...0bar 0100 0...10bar Cxxx Customized range
0001	0...0.1bar 0160 0...16bar
0003	0...0.35bar 0250 0...25bar
0007	0...0.7bar 0600 0...60bar
0010	0...1bar 1000 0...100bar
0016	0...1.6bar 2500 0...250bar
0025	0...2.5bar 4000 0...400bar
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
NPS19	0010 G I F T Examples of Ordering Code: NPS19-0010-G-I-F-T

VOLLTEL
For Process Automation

Volltel Measurement Technology co., Ltd
No.8, Wuxing Road, Lianhu District, Xi'an
710002, China
Tel: +86-029-8247 5200
Fax: +86-029-8247 5200
info@volltel-meas.com
www.volltel-meas.com