

Model NPS20



Product Overview

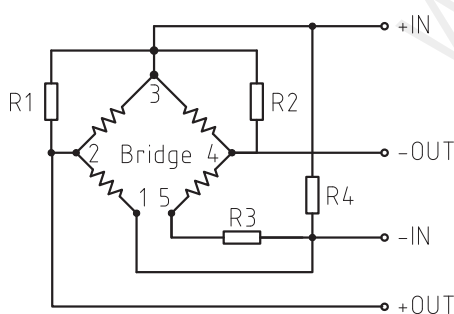
NPS20 is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip and PT100 temperature sensor are packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. It can measure pressure and temperature at the same time.

NPS20 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 and temperature measurement
- Ship and marine systems

Constant current schematic diagram



Features

- Pressure measuring range: 100mbar to 1000bar
- Temperature measuring range: -50°C to +125°C
- Absolute, gauge and sealed gauge
- ±0.25% static accuracy
- Calibrated and temperature compensated
- Rugged 316L stainless steel isolated package
- Piezoresistive sensor design
- Standard configurations include:
 - 19 mm diameter x 12.4 mm long
- Temperature sensor: PT100
- Custom configurations and other pressure ranges available. Please consult the factory.

Standard Pressure Range

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,...,100	bar	1bar=14.5psi
Overpressure	1.5xFS	bar	
Temperature Range	-50 to +125	°C	Temperature sensor=PT100
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		
Net Weight	Approx.18g		

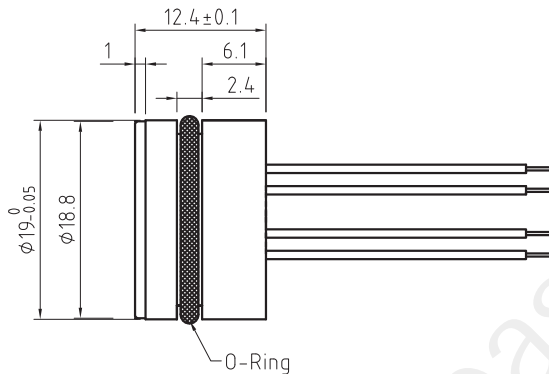
Parameter	Minimum	Typical	Maximum	Units	Notes
Performance					
Zero Output	-2	±1	2	mV	1
Full Scale Output	50	100		mV	1
Non-linearity	±0.1	±0.2	±0.3	%FSO	1, 2
Hysteresis	-0.05	±0.03	0.05	%FSO	1
Repeatability	-0.05	±0.03	0.05	%FSO	1
Temp Coeff - Zero	-1.5	±0.75	1.5	%FSO	3
Temp Coeff - Span	-1.5	±0.75	1.5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

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

Ordering Information

Option1: Model	
NPS20	Piezoresistive OEM Pressure and Temperature Sensor
Option2: Pressure Range	
N001	-1...0bar 0040 0...4bar
N002	-0.35...0bar 0060 0...6bar
N003	-0.2...0bar 0100 0...10bar
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 Cxxx Customized range
0025	0...2.5bar
Option3: Pressure Type	
G	gauge
A	absolute
S	sealed gauge
Option4: Temperature range/Temperature sensor type	
P	-50°C to 125°C / PT100
T	Customized
Option5: Excitation	
I	1.5mA Constant Current Excitation
V	5Vdc Constant Voltage Excitation
Option6: Electrical Interface	
F	silicon rubber wires,length=100mm
Option7: Compensation	
T	0 to 70°C
NA	No temperature compensation
NPS20	0010 G P I F T Examples of Ordering Code: NPS20-0010-G-P-I-F-T

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