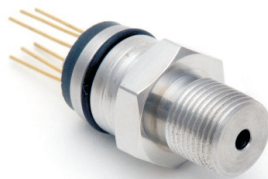









OEM Pressure Sensor

Product Selection Guide



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Model NPS19



Product Overview

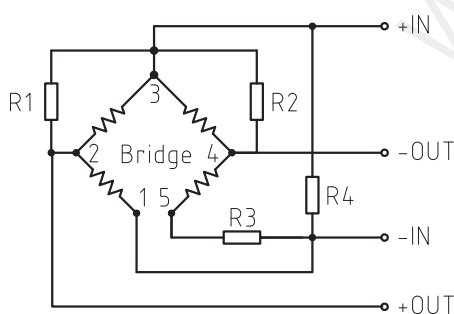
NPS19 is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS19 is temperature compensated and zero correction by using resistance technology.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

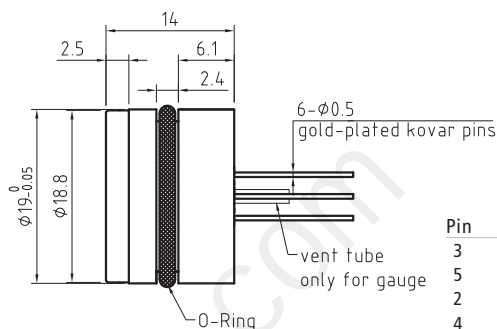
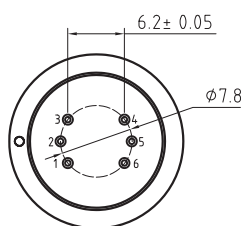
Parameter	Value	Units	Notes		
General					
Pressure Range	-1-0,...,0-0.1,...,1000	bar	1bar=14.5psi		
Overpressure	1.5xFS	bar			
Environmental					
Operating Temperature Range	-40 to +125	°C	-40°F to 257°F		
Compensated Temperature Range	0 to +70	°C	32°F to 158°F		
Storage Temperature Range	-40 to +125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

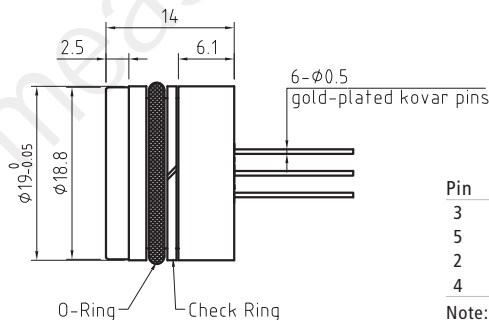
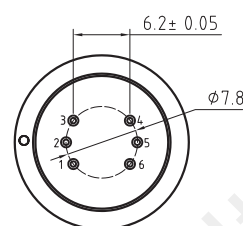
Pressure Range ≤ 100bar



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

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

Pressure Range > 100bar



Pin	Connection	Wire color
3	+IN	Red
5	- 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						
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℃					
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

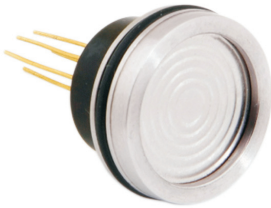
Tel: +86-029-8247 5200

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info@volltel-meas.com

www.volltel-meas.com

Model NPS19L



Product Overview

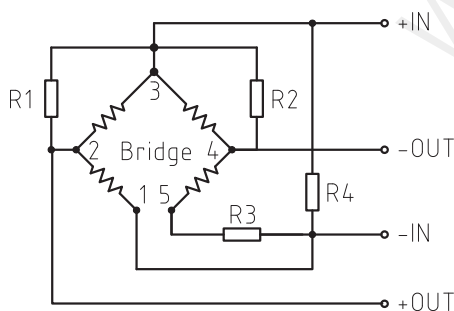
NPS19L is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS19L is temperature compensated and zero correction by using resistance technology. The temperature drift of sensor is within 1.5%FS.

NPS19L 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 100bar (1.45psi to 1450psi)
- 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 11.5 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		●	

other pressure ranges available. Please consult the factory.

Performance Specifications

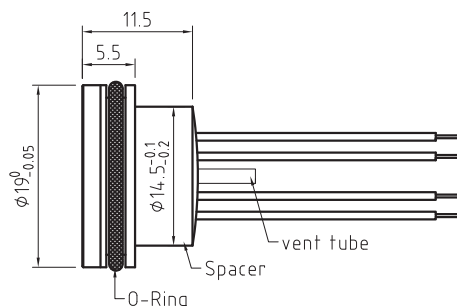
Parameter	Value	Units	Notes		
General					
Pressure Range	-1-0,...,0-0.1,...,100	bar	1bar=14.5psi		
Overpressure	2xFS	bar			
Environmental					
Operating Temperature Range	-40 to +125	°C	-40°F to 257°F		
Compensated Temperature Range	0 to +70	°C	32°F to 158°F		
Storage Temperature Range	-40 to +125	°C	-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.16g				
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

Dimensions (in mm)

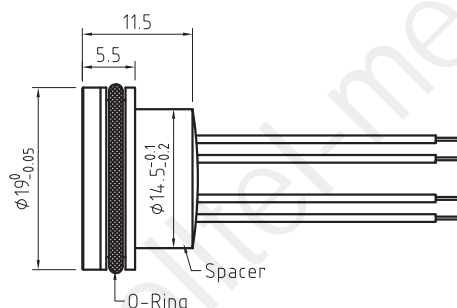
For Gauge Pressure



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

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

For Sealed Gauge Pressure or Absolute Pressure



Pin	Connection	Wire color
3	+IN	Red
5	- 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						
NPS19L	Piezoresistive OEM Pressure 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: 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				
NPS19L	0010	G	I	F	T	Examples of Ordering Code: NPS19L-0010-G-I-F-T

VOLLTEL

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Model NPS19C



Product Overview

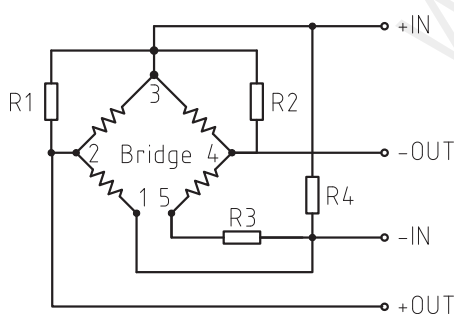
NPS19C is made from silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS19C is temperature compensated and zero correction by using resistance technology. The sensor has a smaller thickness. The smaller volume is suitable for limited space.

NPS19C 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 100bar (1.45psi to 1450psi)
- 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 7 mm long
- Solid state, high reliability
- Low cost

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		●	

other pressure ranges available. Please consult the factory.

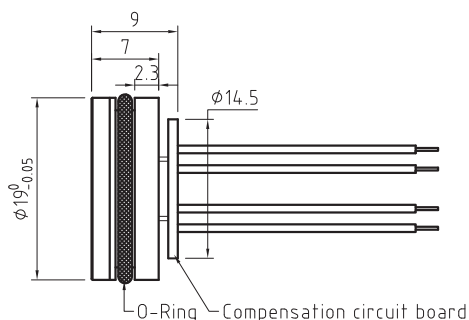
Performance Specifications

Parameter	Value	Units	Notes		
General					
Pressure Range	-1-0,...,0-0.1,...,100	bar	1bar=14.5psi		
Overpressure	2xFS	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.13g				
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)



Pin	Connection	Wire color
3	+IN	Red
5	- 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						
NPS19C	Piezoresistive OEM Pressure 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: 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					
NPS19C	0010	G	I	F	T	Examples of Ordering Code: NPS19C-0010-G-I-F-T

Model NPS16



Product Overview

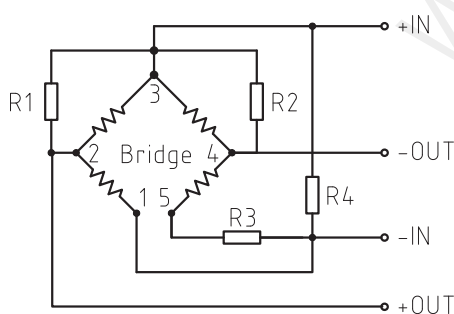
NPS16 is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS16 is temperature compensated and zero correction by using resistance technology. The temperature drift of sensor is within 1.5%FS.

NPS16 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

- 2.5bar to 250bar
- 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:
15.8 mm diameter x 10 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
0...2.5bar	●		●
0...4bar	●		●
0...6bar	●		●
0...10bar	●	●	●
0...16bar	●	●	●
0...25bar	●	●	
0...60bar		●	
0...100bar		●	
0...100bar		●	

other pressure ranges available. Please consult the factory.

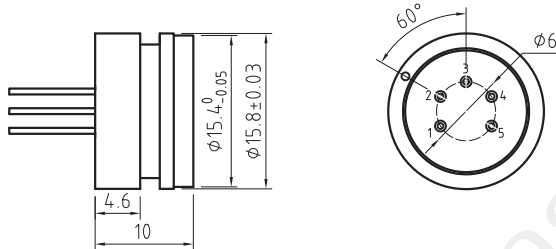
Performance Specifications

Parameter	Value	Units	Notes		
General					
Pressure Range	0-2.5,...,250	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.17g				
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

Dimensions (in mm)



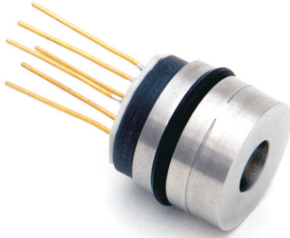
Pin	Connection	Wire color
3	+IN	Red
1or5	- IN	Blue
2	+OUT	Yellow
4	- OUT	White

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

Ordering Information

Option1: Model						
NPS16	Piezoresistive OEM Pressure Sensor					
Option2: Pressure Range						
0025	0...2.5bar					
0040	0...4bar					
0060	0...6bar					
0100	0...10bar					
0160	0...16bar					
0250	0...25bar					
0600	0...60bar					
1000	0...100bar					
1600	0...160bar					
2500	0...250bar					
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					
NPS16	0025	G	I	F	T	Examples of Ordering Code: NPS16-0010-G-I-F-T

Model NPS15



Product Overview

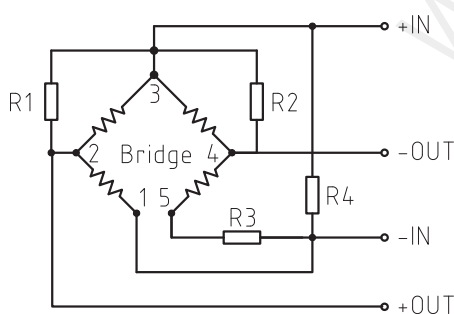
NPS15 is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS15 is temperature compensated and zero correction by using resistance technology. The temperature drift of sensor is within 1%FS.

NPS15 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

- 3.5bar to 600bar (50psi 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:
15 mm diameter x 15 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...3.5bar	●		●
0...7bar	●		●
0...10bar	●		●
0...20bar	●		●
0...35bar	●	●	●
0...70bar		●	
0...100bar		●	
0...200bar		●	
0...350bar		●	
0...600bar		●	

other pressure ranges available. Please consult the factory.

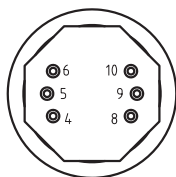
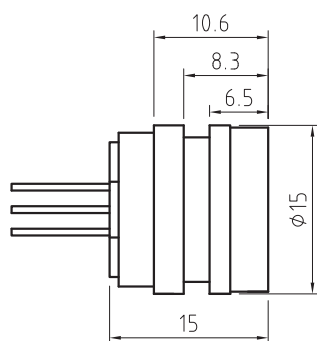
Performance Specifications

Parameter	Value	Units	Notes		
General					
Pressure Range	0-3.5,...,600	bar	1bar=14.5psi		
Overpressure	1.5xFS	bar			
Environmental					
Operating Temperature Range	-20 to +80	°C	-4°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.15g				
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	±0.75	1	%FSO	3
Temp Coeff - Span	-1	±0.75	1	%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

Dimensions (in mm)



Pin	Connection	Wire color
5	+IN	Red
6	- IN	Yellow
4	+OUT	Blue
10	- OUT	Green

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

Ordering Information

Option1: Model						
NPS15		Piezoresistive OEM Pressure Sensor				
		Option2: Pressure Range				
		0035	0...3.5bar			
		0070	0...7bar			
		0100	0...10bar			
		0200	0...20bar			
		0350	0...35bar			
		0700	0...70bar			
		1000	0...100bar			
		2000	0...200bar			
		3500	0...350bar			
		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			
NPS15	0035	G	I	F	T	Examples of Ordering Code: NPS15-0035-G-I-F-T

Model NPS13



Product Overview

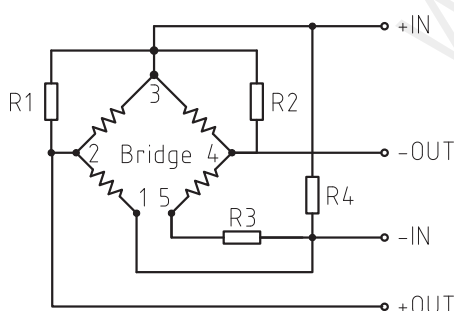
NPS13 is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS13 is temperature compensated and zero correction by using resistance technology.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

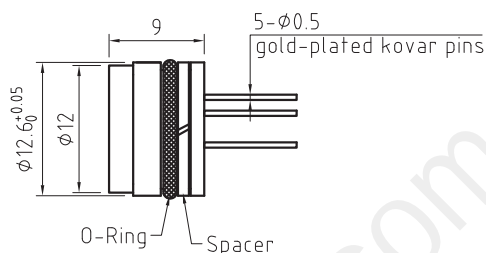
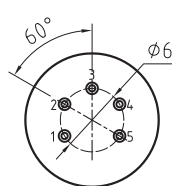
Parameter	Value	Units	Notes		
General					
Pressure Range	0-10,...,600	bar	1bar=14.5psi		
Overpressure	1.5xFS	bar			
Environmental					
Operating Temperature Range	-40 to +125	°C	-40°F to 257°F		
Compensated Temperature Range	0 to +70	°C	32°F to 158°F		
Storage Temperature Range	-40 to +125	°C	-40°F 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

Dimensions (in mm)

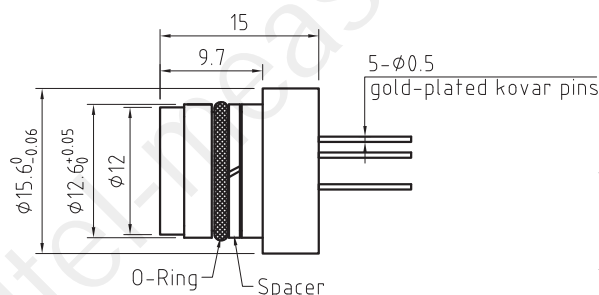
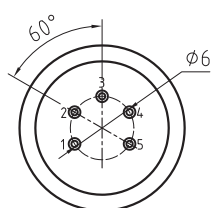
NPS13L



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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Model NPS20



Product Overview

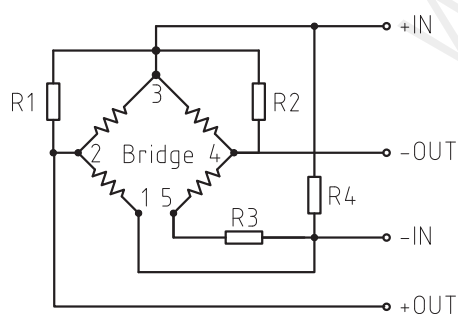
NPS20 is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip and PT100 temperature sensor are packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. It can measure pressure and temperature at the 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
- $\pm 0.25\%$ static accuracy
- Calibrated and temperature compensated
- Rugged 316L stainless steel isolated package
- Piezoresistive sensor design
- Standard configurations include:
19 mm diameter x 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.

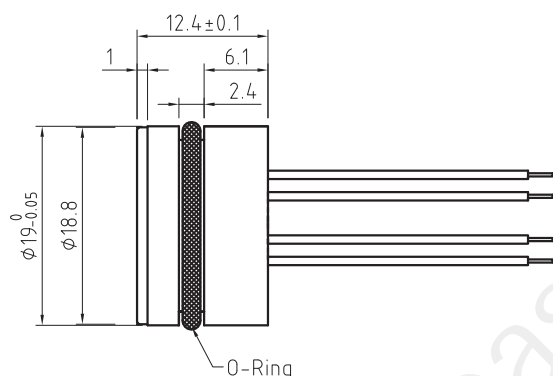
Performance Specifications

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

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

Model NPS19F



Product Overview

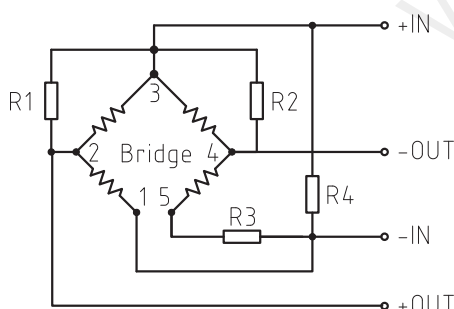
NPS19F is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS19F is temperature compensated and zero correction by using resistance technology. It is flush membrane configuration and easy to clean. It can be used for food industry.

NPS19F 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
- Food and the beverage industry

Constant current schematic diagram



Features

- 100mbar to 100bar (1.45psi to 1450psi)
- Absolute, gauge and sealed gauge
- Flush membrane configuration
- $\pm 0.25\%$ static accuracy
- Calibrated and temperature compensated
- Rugged 316L stainless steel isolated package
- Piezoresistive sensor design
- Standard configurations include:
19 mm diameter x 12.4 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...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		●	

other pressure ranges available. Please consult the factory.

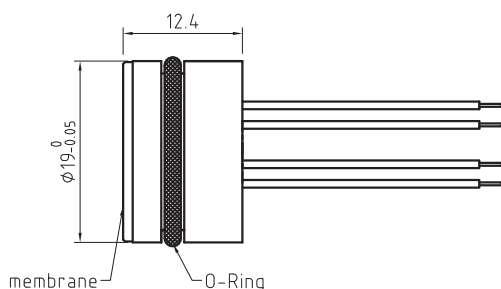
Performance Specifications

Parameter	Value	Units	Notes		
General					
Pressure Range	0-0.1,...,100	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)
4. Consult factory for vacuum applications

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						
NPS19F	Piezoresistive OEM Pressure Sensor					
Option2: Pressure Range						
0001	0...0.1bar	0100	0...10bar			
0002	0...0.2bar	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					
0040	0...4bar					
0060	0...6bar					
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					
NPS19F	0010	G	I	F	T	Examples of Ordering Code: NPS19F-0010-G-I-F-T

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Model NPS30F



Product Overview

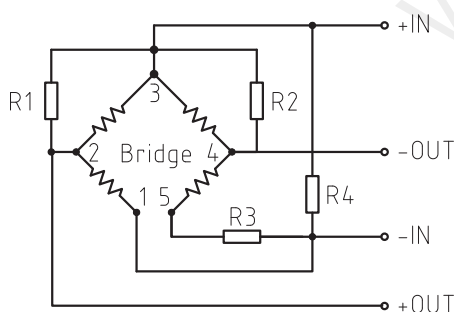
NPS30F is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS30F is temperature compensated and zero correction by using resistance technology. It is flush membrane configuration and easy to clean. It can be used for food industry.

NPS30F pressure sensor are designed for thread connection mounting. Various pressure interface available.

Applications

- Process control systems
- Refrigeration and HVAC controls
- Hydraulic systems and valve
- Pharmaceutical engineering
- Level measurement
- Food and the beverage industry

Constant current schematic diagram



Features

- 100mbar to 100bar (1.45psi to 1450psi)
- Absolute, gauge and sealed gauge
- Flush membrane configuration
- $\pm 0.25\%$ static accuracy
- Calibrated and temperature compensated
- Rugged 316L stainless steel isolated package
- Piezoresistive sensor design
- Various pressure interface available
- 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...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		●	

other pressure ranges available. Please consult the factory.

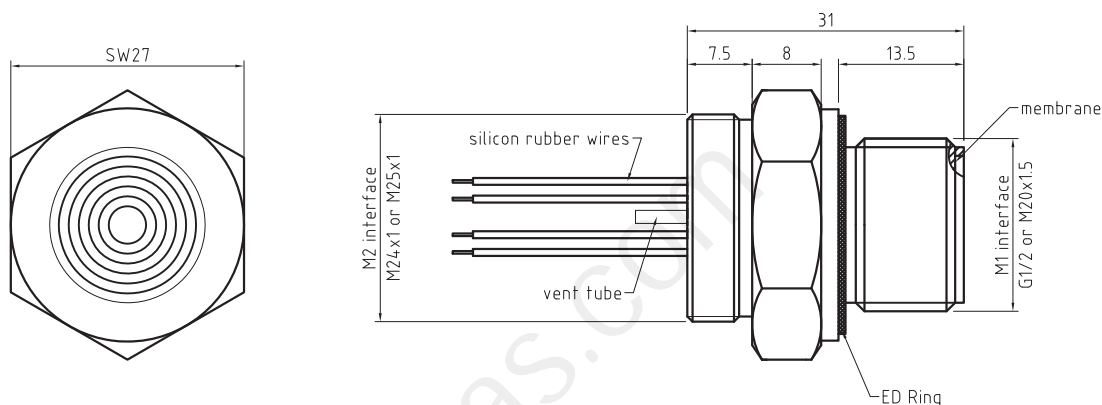
Performance Specifications

Parameter	Value	Units	Notes		
General					
Pressure Range	0-0.1,...,100	bar	1bar=14.5psi		
Overpressure	1.5xFS	bar			
Environmental					
Operating Temperature Range	-40 to +85	°C	-40°F to 185°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	welding				
Oil Filling	Silicone oil				
Electrical Connection	Silicon rubber flexible wire or kovar pin				
Net Weight	Approx.60g				
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

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								
NPS30F	Piezoresistive OEM Pressure Sensor							
Option2: Pressure Range								
0001	0...0.1bar	0100	0...10bar					
0002	0...0.2bar	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							
0040	0...4bar							
0060	0...6bar							
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: M1 Interface								
C1	G1/2							
C2	M20x1.5							
Option7: M2 Interface								
B1	M24x1							
B2	M25x1							
Option8: Compensation								
T	0 to 70°C							
NA	No temperature compensation							
NPS30F	0010	G	I	F	C1	B1	T	Examples of Ordering Code: NPS30F-0010-G-I-F-C1-B1-T

VOLLTEL

For Process Automation

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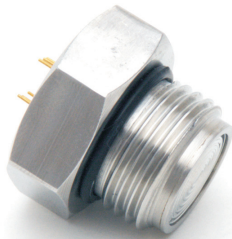
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Model NPS31F



Product Overview

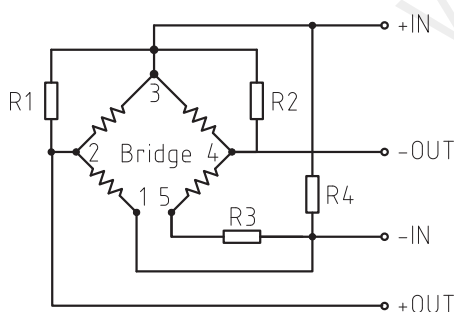
NPS31F is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS31F is temperature compensated and zero correction by using resistance technology. It is flush membrane configuration and easy to clean. It can be used for food industry.

NPS31F pressure sensor are designed for thread connection mounting. Various pressure interface available.

Applications

- Process control systems
- Refrigeration and HVAC controls
- Hydraulic systems and valve
- Pharmaceutical engineering
- Level measurement
- Food and the beverage industry

Constant current schematic diagram



Features

- 350mbar to 200bar (5psi to 2900psi)
- Absolute, gauge and sealed gauge
- Flush membrane configuration
- $\pm 0.25\%$ static accuracy
- Calibrated and temperature compensated
- Rugged 316L stainless steel isolated package
- Piezoresistive sensor design
- Various pressure interface available
- 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...0.35bar	●		
0...0.7bar	●		●
0...1bar	●		●
0...2bar	●		●
0...3.5bar	●		●
0...7bar	●		●
0...10bar	●		●
0...20bar	●		●
0...35bar	●	●	●
0...70bar		●	
0...100bar		●	
0...200bar		●	

other pressure ranges available. Please consult the factory.

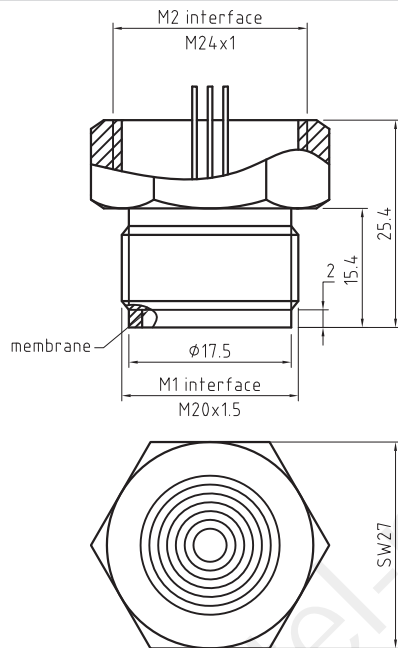
Performance Specifications

Parameter	Value	Units	Notes		
General					
Pressure Range	0-0.35,...,200	bar	1bar=14.5psi		
Overpressure	1.5xFS	bar			
Environmental					
Operating Temperature Range	-20 to +80	°C	-4°F to 176°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	10	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	welding				
Oil Filling	Silicone oil				
Electrical Connection	Silicon rubber flexible wire or kovar pin				
Net Weight	Approx.50g				
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

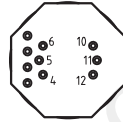
Notes

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

Dimensions (in mm)



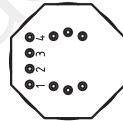
excitation=1.5mA Electrical connection



Pin	Connection	Wire color
5	+IN	Red
6	-IN	Yellow
4	+OUT	Blue
10	-OUT	Green

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

excitation=10Vdc Electrical connection



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

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

Ordering Information

Option1: Model								
NPS31F	Piezoresistive OEM Pressure Sensor							
Option2: Pressure Range								
0003	0...0.35bar	0700	0...70bar					
0007	0...0.7bar	1000	0...100bar					
0010	0...1bar	2000	0...200bar					
0020	0...2bar	Cxxx	Customized range					
0035	0...3.5bar							
0070	0...7bar							
0100	0...10bar							
0200	0...20bar							
0350	0...35bar							
Option3: Pressure Type								
G		gauge						
A		absolute						
S		sealed gauge						
Option4: Excitation								
I		1.5mA Constant Current Excitation						
V		10Vdc 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: M1 Interface								
C1		G1/2						
C2		M20x1.5						
Option7: M2 Interface								
B1		M24x1						
Option8: Compensation								
T		0 to 70°C						
NA		No temperature compensation						
NPS31F	0010	G	I	F	C1	B1	T	Examples of Ordering Code: NPS30F-0010-G-I-F-C1-B1-T

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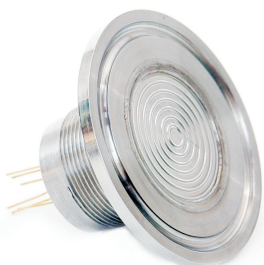
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Model NPS32F



Product Overview

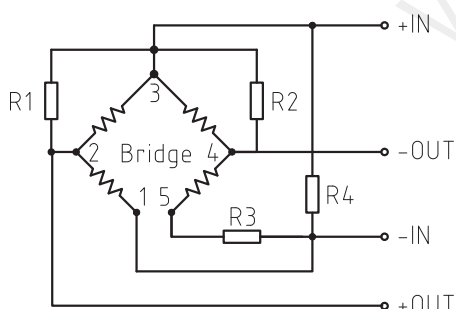
NPS32F is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS32F is temperature compensated and zero correction by using resistance technology. It is flush membrane configuration and easy to clean. It can be used for food industry.

NPS32F pressure sensor are designed for clamp connection mounting. Various pressure interface available.

Applications

- Process control systems
- Refrigeration and HVAC controls
- Hydraulic systems and valve
- Pharmaceutical engineering
- Level measurement
- Food and the beverage industry

Constant current schematic diagram



Features

- 100mbar to 100bar (14.5psi to 1450psi)
- Absolute, gauge and sealed gauge
- Flush membrane configuration
- $\pm 0.25\%$ static accuracy
- Calibrated and temperature compensated
- Rugged 316L stainless steel isolated package
- Piezoresistive sensor design
- Various pressure interface available
- 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...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		●	

other pressure ranges available. Please consult the factory.

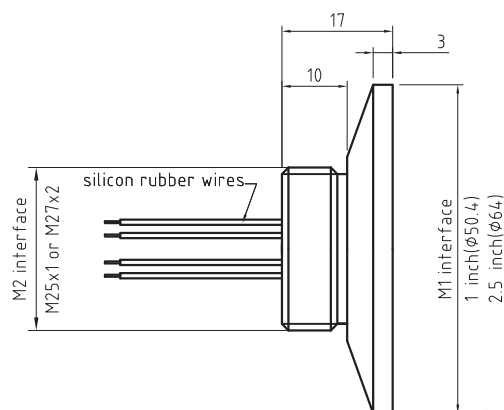
Performance Specifications

Parameter	Value	Units	Notes		
General					
Pressure Range	0-0.1,...,100	bar	1bar=14.5psi		
Overpressure	1.5xFS	bar			
Environmental					
Operating Temperature Range	-40 to +85 option -40 to +125	°C	-40°F to 185°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	10	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				
Oil Filling	Silicone oil				
Pressure Connection	Clamp				
Electrical Connection	Silicon rubber flexible wire or kovar pin				
Net Weight	Approx.110g				
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

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								
NPS32F	Piezoresistive OEM Pressure Sensor							
Option2: Pressure Range								
0001	0...0.1bar	0160	0...16bar					
0002	0...0.2bar	0250	0...25bar					
0003	0...0.35bar	0600	0...60bar					
0010	0...1bar	1000	0...100bar					
0016	0...1.6bar	Cxxx	Customized range					
0025	0...2.5bar							
0040	0...4bar							
0060	0...6bar							
0100	0...10bar							
Option3: Pressure Type								
G	gauge							
A	absolute							
S	sealed gauge							
Option4: Excitation								
I	1.5mA Constant Current Excitation							
V	10Vdc 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: M1 Interface								
C1	2 inch clamp							
C2	2.5 inch clamp							
Option7: M2 Interface								
B1	M25x1 (standard)							
B2	M27x2							
Option8: Compensation								
T	0 to 70°C							
NA	No temperature compensation							
NPS32F	0010	G	I	F	C1	B1	T	Examples of Ordering Code: NPS32F-0010-G-I-F-C1-B1-T

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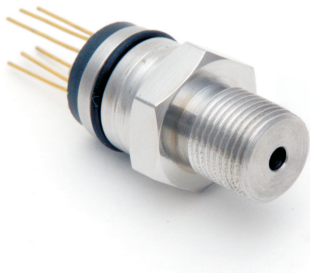
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Model NPS40



Product Overview

NPS40 is made from high-quality silicon piezoresistive pressure sensor. Put general NPS19 pressure sensor into the housing with standard or special thread, and weld sensor with housing together, no O-ring for sealing. NPS40 is temperature compensated and zero correction by using resistance technology.

NPS40 pressure sensor are designed for thread connection mounting. Various pressure interface available.

Applications

- Process control systems
- Refrigeration and HVAC controls
- Hydraulic systems and valve
- Pharmaceutical engineering
- Level measurement
- Food and the beverage industry

Features

- 100mbar to 350bar (1.45psi to 5000psi)
- Absolute, gauge and sealed gauge
- Welding configuration
- $\pm 0.25\%$ static accuracy
- Calibrated and temperature compensated
- Rugged 316L stainless steel isolated package
- Piezoresistive sensor design
- Various pressure interface available
- Solid state, high reliability
- 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...2bar	●		●
0...3.5bar	●		●
0...7bar	●		●
0...10bar	●	●	●
0...20bar	●	●	●
0...35bar	●	●	●
0...70bar	●	●	
0...100bar		●	
0...200bar		●	
0...350bar		●	

other pressure ranges available. Please consult the factory.

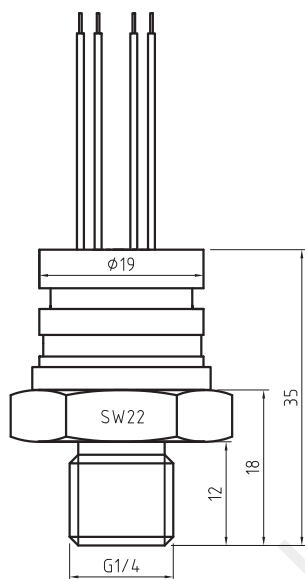
Performance Specifications

Parameter	Value	Units	Notes		
General					
Pressure Range	0-0.1,...,350	bar	1bar=14.5psi		
Overpressure	1.5xFS	bar			
Environmental					
Operating Temperature Range	-20 to +80	°C	-4°F to 176°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	10	Vdc			
Bridge Resistance	2600 to 6000	Ω			
Insulation Resistance	100	MΩ	@100Vdc		
Physical Specifications					
Media Compatibility	All media compatible with 316L stainless steel				
Housing	316 stainless steel				
Diaphragm	316L stainless steel				
Seal	welding				
Oil Filling	Silicone oil				
Electrical Connection	Silicon rubber flexible wire or kovar pin				
Net Weight	Approx.80g				
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

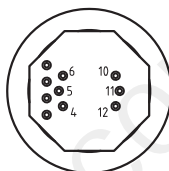
Notes

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

Dimensions (in mm)



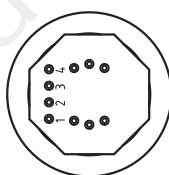
excitation=1.5mA,Electrical connection



Pin	Connection	Wire color
5	+IN	Red
6	-IN	Yellow
4	+OUT	Blue
10	-OUT	Green

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

excitation=10Vdc,Electrical connection



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

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

Ordering Information

Option1: Model							
NPS40	Piezoresistive OEM Pressure Sensor						
Option2: Pressure Range							
N001	-1...0bar	0035	0...3.5bar	Cxxx	Customized range		
N003	-0.35...0bar	0070	0...7bar				
N002	-0.2...0bar	0100	0...10bar				
0001	0...0.1bar	0200	0...20bar				
0002	0...0.2bar	0350	0...35bar				
0003	0...0.35bar	0700	0...70bar				
0007	0...0.7bar	1000	0...100bar				
0010	0...1bar	2000	0...200bar				
0020	0...2bar	3500	0...350bar				
Option3: Pressure Type							
G	gauge						
A	absolute						
S	sealed gauge						
Option4: Excitation							
I	1.5mA Constant Current Excitation						
V	10Vdc 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: Pressure Interface							
G1	G1/4(male)	N1	1/4-18NPT(male)				
G2	G1/2(male)	F1	7/16-20UNF(male)				
M1	M12x1(male)	Cx	Customized				
M2	M20x1.5(male)						
Option7: Compensation							
T1	0 to 70°C						
NA	No temperature compensation						
NPS40	0010	G	I	F	G1	T	Examples of Ordering Code: NPS40-0010-G-I-F-G1-T

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Model NPC18



Product Overview

The NPC18 is piezoresistive pressure sensor based on ceramic. Be manufactured by thick film technology. The bridge circuit is directly printed at the back of ceramic diaphragm. The other side of the diaphragm can measure pressure media.

NPC18 is temperature compensated and zero correction by using laser trimming resistance technology.

NPS18 pressure sensor is designed for O-ring seal mounting. This is easy for installation.

Applications

- Process control systems
- Refrigeration and HVAC controls
- Hydraulic systems and valve
- Air compressor
- Pressure transmitter

Features

- 2bar to 400bar (1.45psi to 5000psi)
- Gauge type
- Thick film technology
- Mono-block structure
- Calibrated and temperature compensated
- Gas or dilute liquid compatible with ceramic
- Standard configurations include:
18 mm diameter x 6.35 mm long
- Custom configurations and other pressure ranges available. Please consult the factory.

Standard Pressure Range

Nominal pressure	gauge	sealed gauge	absolute
0...2bar	●		
0...5bar	●		
0...10bar	●		
0...16bar	●		
0...20bar	●		
0...25bar	●		
0...30bar	●		
0...40bar	●		
0...50bar	●		
0...100bar	●		
0...250bar	●		
0...400bar	●		

other pressure ranges available. Please consult the factory.

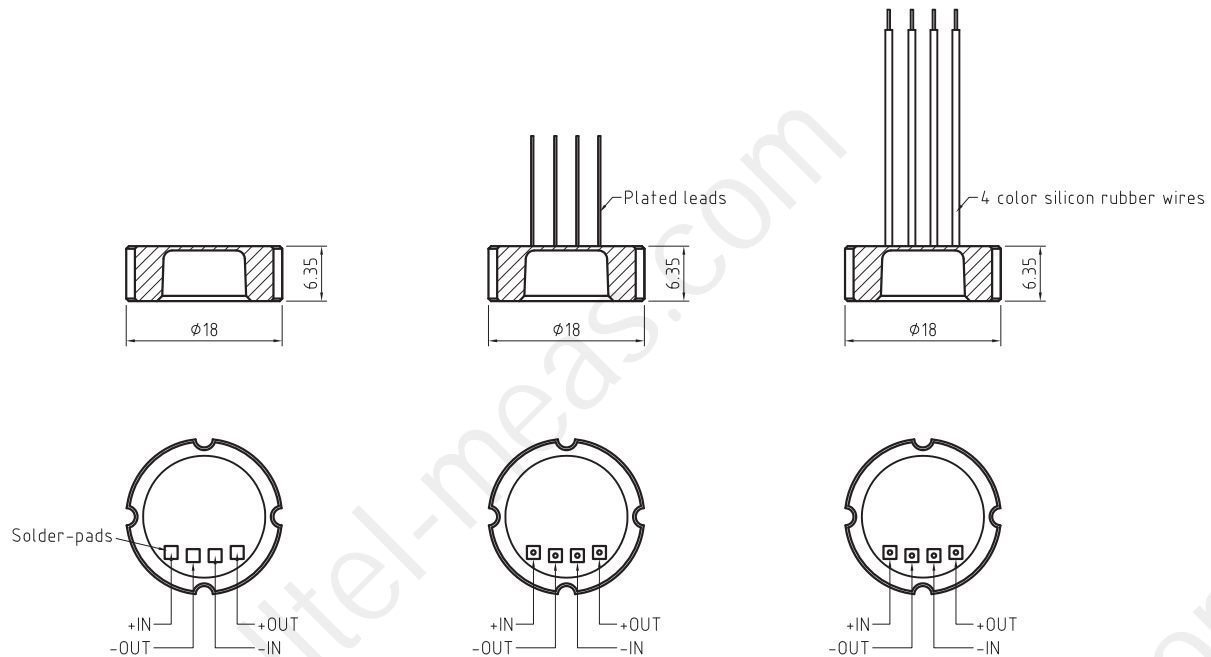
Performance Specifications

Parameter	Value	Units	Notes		
General					
Pressure Range	0-2,...,400	bar	1bar=14.5psi		
Overpressure	2xFS(P≤250bar) 1.5xFS(P>250bar)	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 Voltage	5 to 25	Vdc			
Bridge Resistance	8 to 12	kΩ			
Insulation Resistance	100	MΩ	@100Vdc		
Physical Specifications					
Media Compatibility	All media compatible with ceramic				
Housing	Ceramic(96%Al ₂ O ₃)				
Diaphragm	Ceramic(96%Al ₂ O ₃)				
Seal	O-Ring				
Electrical Connection	(F)4-color silicon rubber flexible wire ,(P) Plated leads,(S)Solder-pads				
Net Weight	Approx.4g				
Parameter	Minimum	Typical	Maximum	Units	Notes
Performance					
Zero Output	-2	±1	2	mV	1
Output Sensitivity	2	3		mV/V	1
Non-linearity	±0.1	±0.2	±0.3	%FSO	1, 2
Hysteresis	-0.1	±0.05	0.1	%FSO	1
Repeatability	-0.1	±0.05	0.1	%FSO	1
Temp Coeff - Zero	-0.05	±0.02	0.05	%FSO/°C	3
Temp Coeff - Span	-0.05	±0.02	0.05	%FSO/°C	3
Long-Term Stability		±0.2	±0.3	%FSO/year	1

Notes

1. All values measured at 25°C(77°F) and at 10Vdc
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

Dimensions (in mm)



Ordering Information

Option1: Model				
NPC18	Ceramic Pressure Sensor			
	Option2: Pressure Range			
	0020	0...2bar	1000	0...100bar
	0050	0...5bar	2500	0...250bar
	0100	0...10bar	4000	0...400bar
	0160	0...16bar	Cxxx	Customized range
	0200	0...20bar		
	0250	0...25bar		
	0300	0...30bar		
	0400	0...40bar		
	0500	0...50bar		
	Option2: Pressure Type			
	G	gauge		
	Option3: Electrical Interface			
		F	4 color silicon rubber wires,length=100mm	
		P	Plated leads	
		S	Solder-pads	
		FC	Flat cable	
NPC18	0100	G	F	Examples of Ordering Code: NPC18-0100-G-F

Model NPS19D



Product Overview

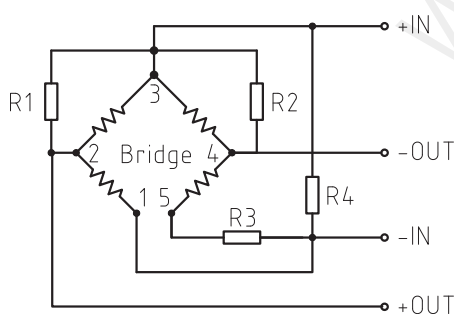
NPS19D is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS19D is temperature compensated and zero correction by using resistance technology.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

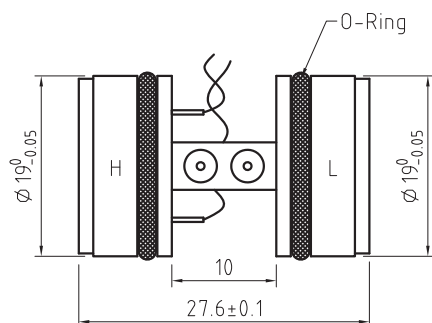
Performance Specifications

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

Dimensions (in mm)

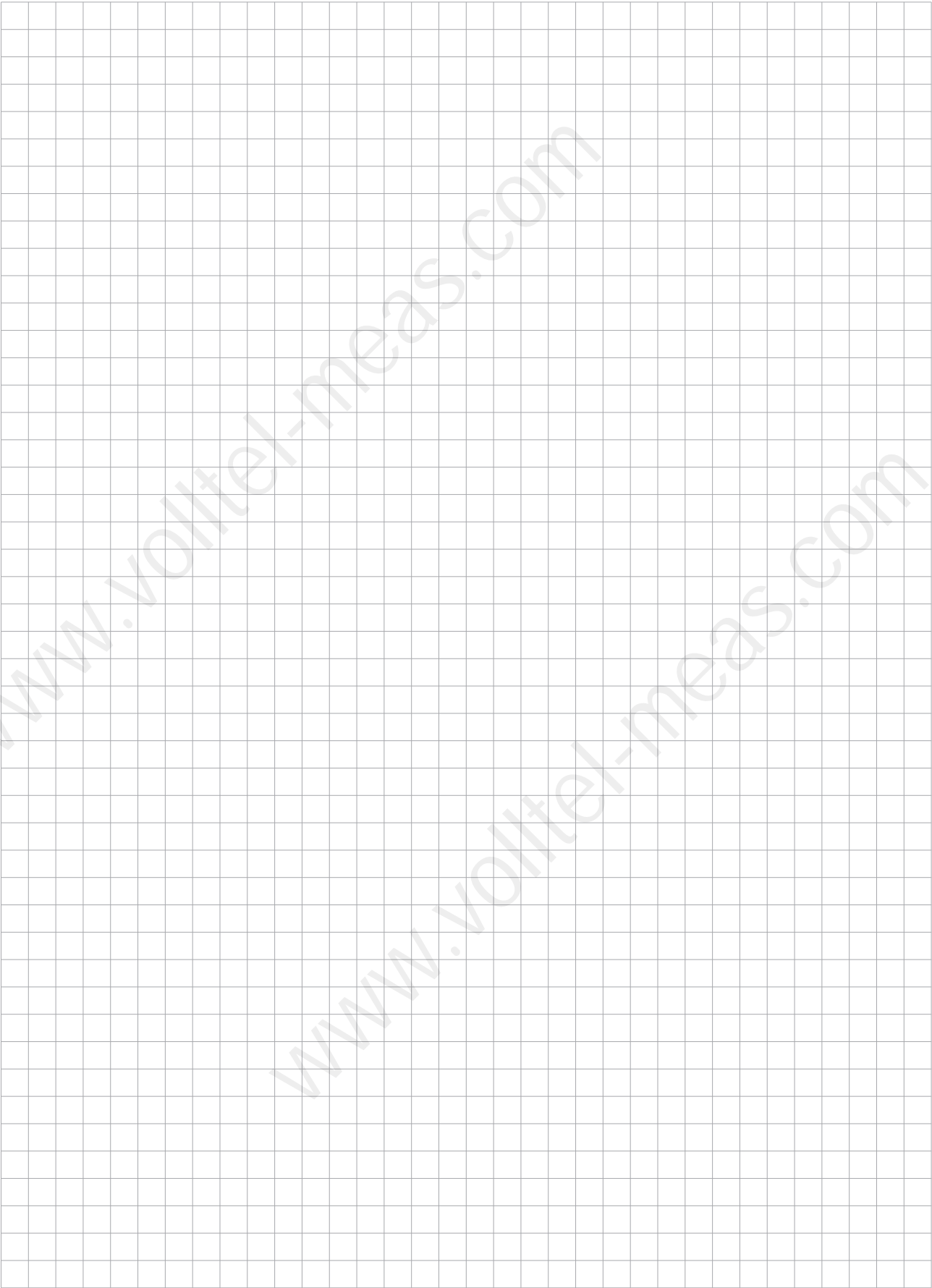


Connection	Wire color
+IN	Red
- IN	Blue
+OUT	Yellow
- OUT	White

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





VOLLTEL

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