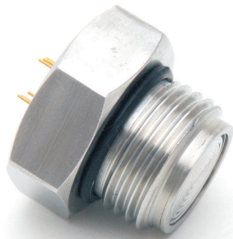


# Model NPS31F



## Product Overview

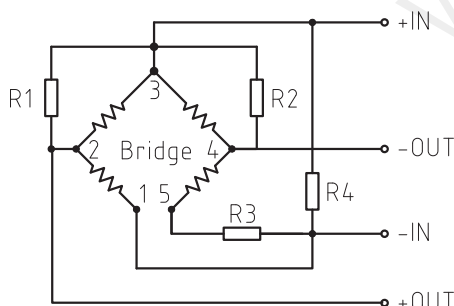
NPS31F is made from high-quality silicon piezoresistive sensor chip. The piezoresistive sensor chip is packaged in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and housing. NPS31F is temperature compensated and zero correction by using resistance technology. 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
<b>General</b>			
Pressure Range	0-0.35, ..., 200	bar	1bar=14.5psi
Overpressure	1.5xFS	bar	
<b>Environmental</b>			
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 <sup>6</sup>	cycles	
<b>Electrical @25°C(77°F)</b>			
Excitation Current	1.5	mA	
Excitation Voltage	10	Vdc	
Bridge Resistance	2600 to 6000	Ω	
Insulation Resistance	100	MΩ	@100Vdc

<b>Physical Specifications</b>	
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

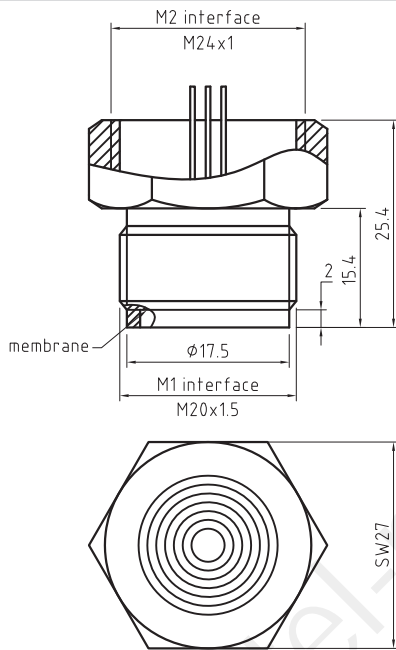
Parameter	Minimum	Typical	Maximum	Units	Notes
<b>Performance</b>					
Zero Output	-2	±1	2	mV	1
Full Scale Output	50	100		mV	1
Non-linearity	±0.1	±0.2	±0.3	%FSO	1, 2
Hysteresis	-0.05	±0.03	0.05	%FSO	1
Repeatability	-0.05	±0.03	0.05	%FSO	1
Temp Coeff - Zero	-1.5	±0.75	1.5	%FSO	3
Temp Coeff - Span	-1.5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

**Notes**

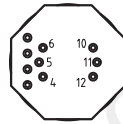
1. All values measured at 25°C(77°F) and at 1.5mA
2. Best fit straight line(BFSL)
3. 0°C to 70°C(32°F to 158°F) with reference to 25°C(77°F)
4. Consult factory for vacuum applications

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

**Dimensions (in mm)**



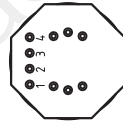
excitation=1.5mA Electrical connection



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	
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