#### GE Sensing

#### **Features**

- Solid state, high reliability
- 316L stainless steel, ISO sensor design
- ±0.5% static accuracy
- Temperature compensated 32°F to 158°F (0°C to 70°C)
- 125 mV typical FSO on current version
- 75 ±1 mV FSO on voltage version
- Thermal errors less than 2% FSO
- Two standard ranges: 0 to 2.5 psig (0 to 1 bar), 0 to 5 psig (0 to 17.24 bar)
- Standard configurations include:
  - 0.74 in (19 mm) diameter  $\times$  0.28 in (7.1 mm) long cylinder with o-ring seals
- Custom configurations and other pressure ranges available. Please consult the factory.

#### **Applications**

- Process control systems
- Hydraulic systems and valves
- Biomedical instruments
- Refrigeration and HVAC controls
- Appliances and consumer electronics
- Ship and marine systems
- Aircraft and avionic systems

NPI media isolated sensors are designed to operate in hostile environments and yet give the outstanding sensitivity, linearity, and hysteresis of a silicon sensor. The piezoresistive sensor chip is housed in a fluid-filled cylindrical cavity and isolated from measured media by a stainless steel diaphragm and body. The NPI Series employs SenStable® processing technology, providing excellent output stability. Available in either constant current or constant voltage version.

The modular design allows for a variety of pressure port modules, which are hermetically welded to the sensor header module. There are other standard port styles available. Please consult NovaSensor for more details.

### NPI-19 Series

### NovaSensor Low Pressure Sensors

NPI-19 Series is a NovaSensor product. NovaSensor has joined other GE high-technology sensing businesses under a new name—GE Industrial, Sensing.





## Sensing

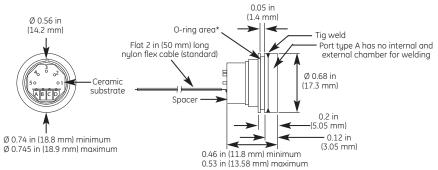
# NPI-19 Series Specifications

Operatina

Operating	Constant Current (1.5 mA)		Constant Voltage (10 V)			
	Value	Notes	Value	Notes		
General						
Pressure Ranges						
2 PSI	0 to 2.5 psi (0 to 172 mbar)	17.2 kPa	0 to 2.5 psi (0 to 172 mbar)	17.2 kPa		
5 PSI	0 to 5 psi (0 to 345 mbar)	34.5 KPa	0 to 5 psi (0 to 345 mbar)	34.5 KPa		
Maximum Overpressure	3x pressure	rated	3x pressure	rated		
Electrical @ 77°F (25°C) unless	otherwise stated					
Input Excitation	1.5 mA maximum	2 mA maximum	10 VDC	12 VDC		
Insulation Resistance	$10^8 \Omega$	@ 50 VDC	$10^8\Omega$	@ 50 VDC		
Input Impedance	$4000\Omega$	typical	$10,000~\Omega$	typical		
Output Impedance	5000 Ω	±20%	5000 Ω	±20%		
Bridge Impedance	5000 Ω	±20%	5000 Ω	±20%		
Environmental						
Compensated Temperature	32°F to 158°F	(0°C to 70°C)	32°F to 158°F	(0°C to 70°C)		
Operating Temperature	14°F to 176°F	(-10°C to 80°C)	14°F to 176°F	(-10°C to 80°C)		
Storage Temperature	-40°F to 257°F	(-40°C to 125°C)	-40°F to 257°F	(-40°C to 125°C)		
Mechanical						
Weight	0.02 lb (10 g)	NPT-19A-XXX	0.02 lb (10 g)	NPT-19A-XXX		
Media Compatibility	All corrosive media compatible with 316 L stainless steel		All corrosive media compatible with 316 L stainless steel			
Case and Diaphragm Material	316L stainless steel		316L stainless steel			
Recommended O-Ring	NPI-19A; 0.66 in x 0.039 in (16.76 mm x 1 mm)		NPI-19A; 0.66 in x 0.039 in (16.76 mm x 1 mm)			

Compensated Performance	(1.5 mA)				(10 VDC)	(10 VDC)				
Parameter	Units	Minimum	Type	Maximum	Units	Minimum	Type	Maxin	num	
Notes										
Offset	mV	-2	±1	2	mV	-2	±1	2		
Full Scale Output										
2 PSI	mV	50	125	200	mV	72	75	78		
5 PSI	mV	50	125	200	mV	74	75	76		
Static Accuracy	%FSO	-0.5	0.1	0.5	%FSO	-0.5	0.1	0.5	2	
Thermal Accuracy of Offset										
2 PSI	%FSO	-2	±0.5	2	%FSO	-2	±0.5	2	3	
5 PSI	%FSO	-1.5	±0.5	1.5	%FSO	-1.5	±0.5	1.5	3	
Thermal Accuracy of FSO										
2 PSI	%FSO	-2	±0.5	2	%FSO	-2	±0.5	2	3	
5 PSI	%FSO	-1.0	±0.5	1.0	%FSO	-1.0	±0.5	1.0	3	
Thermal Repeatability										
2 PSI	%FSO	-0.3	0.1	0.3	%FSO	-0.2	0.1	0.2	3	
5 PSI	%FSO	-0.2	0.1	0.2	%FSO	-0.2	0.1	0.2	3	

<sup>1.</sup> Performance with offset, thermal accuracy of offset, and thermal accuracy of FSO compensation resistors. All values measured at 77°F (25°C) and at 1.5 mA constant current or 10 VDC, unless otherwise noted.

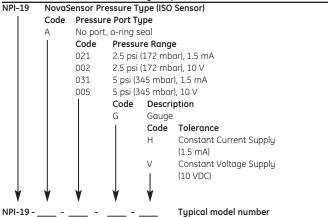


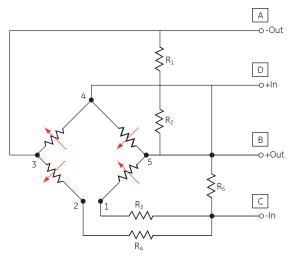
Includes Linearity (BFSL), pressure hysteresis and repeatability errors. 32°F to 158°F (0°C to 70°C) with reference to 77°F (25°C). Consult factory for vacuum applications.

## NPI-19 Series Specifications

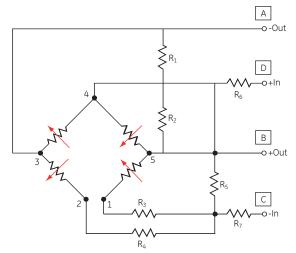
### Ordering Information

The code number to be ordered may be specified as follows:





Pin number 4 connected to chip substrate. Constant current schematic diagram



Constant voltage schematic diagram

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