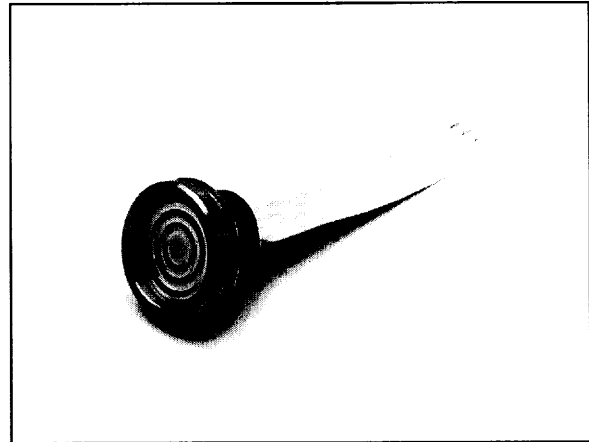


NovaSensor® NPI-19 2.5 PSIG, Stainless Steel

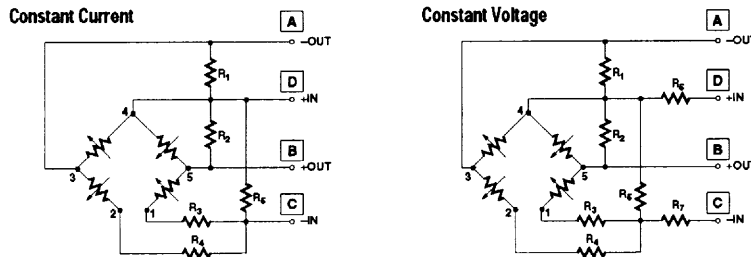


Media Isolated Pressure Sensors

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.

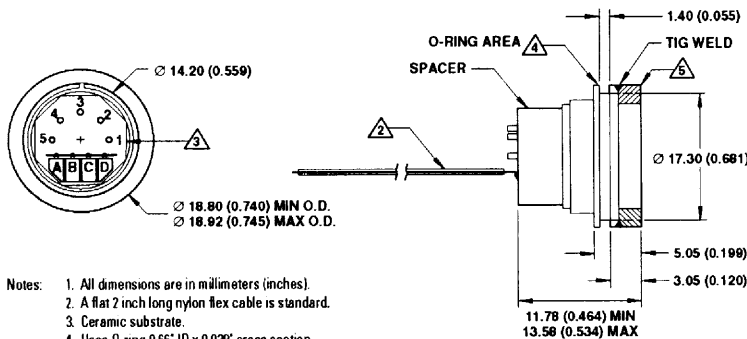
The modular design allows for a variety of pressure port modules, which are hermetically welded to the sensor header module. There are other standard port styles available. Please consult NovaSensor for more details.

Schematic Diagram



Note: Pin #4 connected to chip substrate.

Dimensions



- Notes:
1. All dimensions are in millimeters (inches).
 2. A flat 2 inch long nylon flex cable is standard.
 3. Ceramic substrate.
 4. Uses O-ring 0.66" ID x 0.039" cross section.
 5. Port type A has no internal and external chamfer on weld ring

Features

- Solid state, high reliability
- 316 stainless steel, IsoSensor design
- ±0.5% Static accuracy
- Temperature Compensated 0-70°C
- 125 mV typical FSO on current version
- 75 ±3 mV FSO on voltage version
- Custom configurations are available. Please consult the factory

Applications

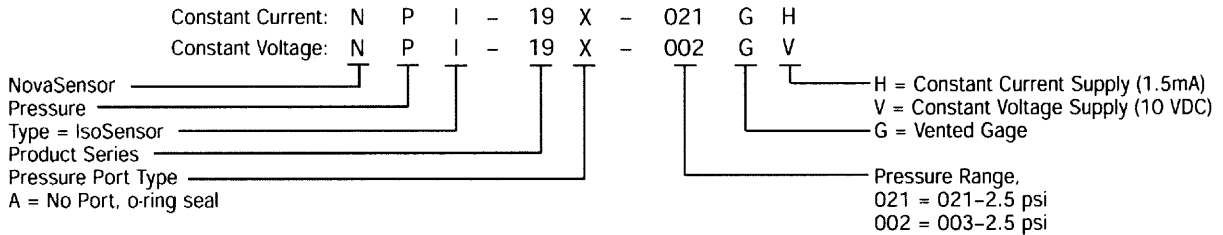
- Process control systems
- Hydraulic systems and valves
- Biomedical instruments

Operating Specifications

PARAMETER	CONSTANT CURRENT (1.5 mA)			CONSTANT VOLTAGE (10 V)					
	VALUE	UNITS	NOTES	VALUE	UNITS	NOTES			
GENERAL									
Pressure Ranges	0-2.5	psi	17.2 kPa	0-2.5	psi	17.2 kPa			
Maximum Overpressure		3x	rated pressure		3x	rated pressure			
ELECTRICAL @ 25°C (77°F) unless otherwise stated									
Input Excitation	1.5	mA	2 mA max.	10	VDC	12 VDC max.			
Insulation Resistance	50	Ω	@ 50 V _{DC}	50	Ω	@ 50 V _{DC}			
Input Impedance	4000	Ω	typical	10,000	Ω	typical			
Output Impedance	5000	Ω	± 20%	5000	Ω	± 20%			
Bridge Impedance	5000	Ω	± 20%	5000	Ω	± 20%			
ENVIRONMENTAL									
Compensated Temperature	0 to +70	°C	+32 to +158°F	0 to +70	°C	+32 to +158°F			
Operating Temperature	-10 to +80	°C	+14 to +176°F	-10 to +80	°C	+14 to +176°F			
Storage Temperature	-40 to +125	°C	-40 to +257°F	-40 to +125	°C	-40 to +257°F			
MECHANICAL									
Weight	~10	grams	NPI-19A-XXX	~10	grams	NPI-19A-XXX			
Media Compatibility	All corrosive media compatible with 316L stainless steel			All corrosive media compatible with 316L stainless steel					
Case and Diaphragm Material	316L stainless steel			316L stainless steel					
Recommended O-Ring	NPI-19A: 16.76 dia. x 0.99 (0.66 inch x 0.039 inch)			NPI-19A: 16.76 dia. x 0.99 (0.66 inch x 0.039 inch)					
COMPENSATED PERFORMANCE									
	(1.5 mA)				(10 VDC)				
Parameter	Units	Min.	Typ.	Max.	Units	Min.	Typ.	Max.	Notes
Offset	mV	-2	±1	2	mV	-2	±1	2	
Full Scale Output	mV	50	125	200	mV	72	75	78	
Static Accuracy	%FSO	-0.5	0.1	0.5	%FSO	-0.5	0.1	0.5	2
Thermal Accuracy of Offset	%FSO	-2	±0.5	+2	%FSO	-2	±0.5	+2	3
Thermal Accuracy of FSO	%FSO	-2	±0.5	+2	%FSO	-2	±0.5	+2	3
Thermal Repeatability	%FSO	-0.3	0.1	0.3	%FSO	-0.2	0.1	0.2	3

- Notes:
1. Performance with offset, thermal accuracy of offset, and thermal accuracy of FSO compensation resistors. All values measured at 25°C and at 1.5mA constant current or 10 VDC, unless otherwise noted.
 2. Includes Linearity (BFSL), pressure hysteresis and repeatability errors.
 3. 0 to +70°C with reference to 25°C.

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