

Nova PI Series

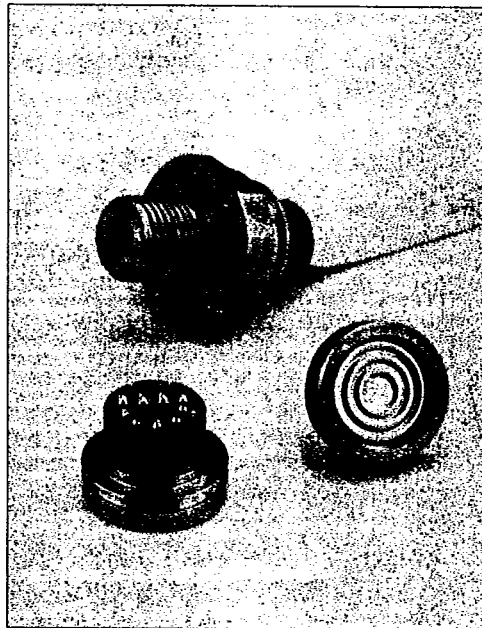
ALL MEDIA
SOLID STATE SENSOR
PRESSURE TRANSDUCER

Low Pressure

T-65-13

FEATURES

- ❑ Solid state, high reliability
- ❑ All media compatible IsoSensor® design
- ❑ High sensitivity, 100mv FSO with 1.0ma excitation
- ❑ 300 series stainless steel, all wetted surfaces
- ❑ Nonlinearity 0.25%FSO max
- ❑ Thermal errors 1.0%FSO max 0 to 70°C
- ❑ Four standard ranges: 0-15 psi to 0-250 psi, gage or absolute. 0-150 and 0-300 psi available
- ❑ Smallest sizes available, standard configurations include:
 - 1/2"-20UNF threaded male port with 1.0" flange
 - 0.74" diameter x 0.28" wide cylinder with O-Ring seal
- ❑ Modular design: other ports or new OEM package configurations can be accommodated



Actual Size

APPLICATIONS

- Process Control Systems
- Hydraulic Systems and Valves
- Automobiles and Trucks
- Biomedical Instruments
- Refrigeration and HVAC Controls
- Appliances and Consumer Electronics
- Ship and Marine Systems
- Aircraft and Avionic Systems

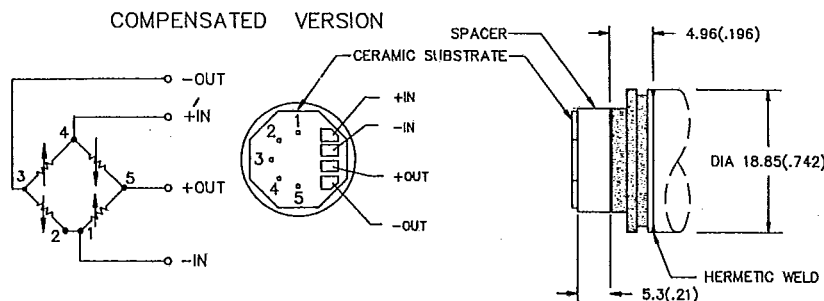
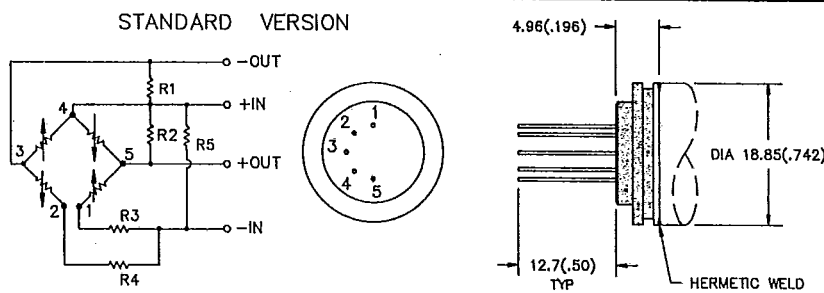
DESCRIPTION

The Nova PI series incorporates new IsoSensor technology, which gives the OEM user the best in price and performance. They can work in hostile environments yet give the outstanding performance in sensitivity, linearity and stability 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 modular design allows for a variety of pressure port modules which are hermetically welded to the sensor header module. Standard types A and B are shown below.

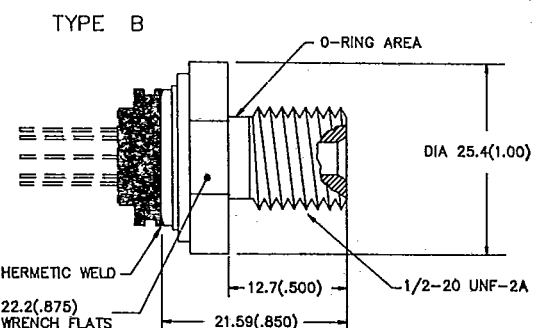
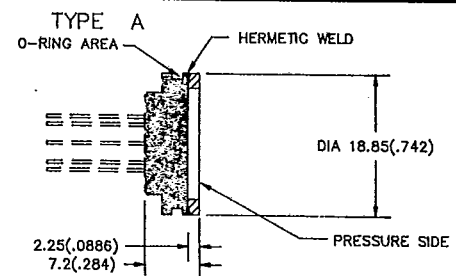
For compensation of temperature effects, the sensors are available in two versions: standard, with compensation resistor values supplied, or compensated, in which the complete resistor network is supplied on a hybrid ceramic substrate. The IsoSensor design has minimized temperature effects to provide 1.0% maximum error over the 0° to 70°C compensated range.

SENSOR HEADER MODULE



ALL DIMENSIONS ARE IN MM(INCHES)
A FLAT FLEX CABLE IS OPTIONAL WITH COMPENSATED UNIT

PRESSURE PORT TYPES



Low Pressure

NOVA PI SERIES

SPECIFICATIONS

T-65-13

GENERAL

Parameter	Abbr.	Value	Units	FSO	Notes
Pressure Range*	P	0- 100	kPa	100 mV	0- 15 psi
	P	0- 200	kPa	100 mV	0- 30 psi
	P	0- 700 ⁽¹⁾	kPa	100 mV	0-100 psi
	P	0-1700 ⁽²⁾	kPa	100 mV	0-250 psi

Note: 1. 150mV FSO when used 0-1000 kPa range

Note: 2. 120mV FSO when used 0-2000 kPa range

Maximum Pressure P_{max} 2 times rated pressure

Media Compatibility: all corrosive media compatible with 316 stainless steel

ELECTRICAL (@ 25°C (77° F) unless otherwise stated)

Input Excitation	I	1.0	mA	1.5mA max.
Insulation Resistance	R _{iso}	100	MΩ	@ 50 Vdc
Bridge Resistance	R _b	5,000	Ω	± 10% typical

ENVIRONMENTAL

Parameter	Abbr.	Value	Units	Notes
Temperature Range				
Operating	T _o	-40 to +125	°C	-40° to +257° F
Compensated	T _c	0 to +70	°C	+32° to +158° F

Vibration		10	G _{rms}	20 to 2000 Hz
Shock		100	G	11 milliseconds
Life		100 x 10 ⁶	min cycles	

MECHANICAL

Weight	W	<10 max	gr	<0.4 oz.
Case and Diaphragm Material		300 series stainless steel		
Recommended O-Ring:		.66 dia. x .039	for Type A	
		2-013	for Type B per I.S.O. 3601/1	

* Other pressure ranges available upon request; please consult factory.

PERFORMANCE **

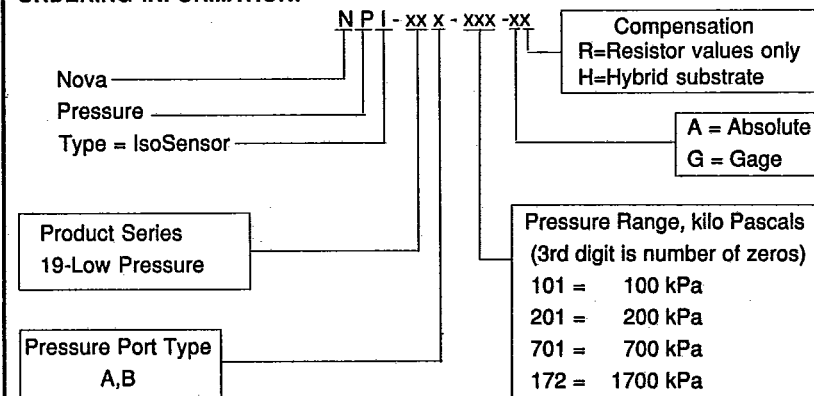
Parameter	Value	Units	Notes
Offset	± 2	mV	
Thermal Accuracy Offset	± 1.0	%FSO	0 to +70°C (with reference to 25°C)
Thermal Accuracy - Fullscale Output	± 1.0	%FSO	0 to +70°C (with reference to 25°C)
Full Scale Output	100 ± 30	mV	@ 1.0 mA excitation
Nonlinearity	± 0.25	%FSO	best fit straight line
Hysteresis	± 0.05	%FSO	
Repeatability	± 0.05	%FSO	
Thermal Hysteresis	± 0.2	%FSO	0 to +70°C (typical)
Long Term Stability - Sensitivity	± 0.2	%FSO	1 year (typical)
Long Term Stability - Offset	± 0.2	%FSO	1 year (typical)

Notes: Performance specifications stated with temperature compensation resistors. All values are maximum unless otherwise stated. All values measured in reference to 25°C (77° F) and at 1.0 mA constant current unless otherwise stated.

**Higher performance available upon request.

ORDERING INFORMATION:

REPRESENTED BY:



Ordering Example: Assume a requirement for absolute pressure transducer with pressure port type A, a 0-700 kiloPascal range, resistor values only. Model number would be: NPI-19A-701AR

Sales Terms: Net 30 days FOB Fremont, CA 94539. Prices and specifications are subject to change without notice.

Warranty: NovaSensor warrants its products against defects in material and workmanship for 12 months from date of shipment. Products not subjected to misuse will be repaired or replaced. THE FOREGOING IS IN LIEU OF ANY OTHER EXPRESSED OR IMPLIED WARRANTIES. NovaSensor reserves the right to make changes to any product herein and assumes no liability arising out of the application or use of any product or circuit described or referenced herein.

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