GE
Sensing

Features

- 50 mV full scale output (FSO)
- ±0.1% accuracy
- Interchangeable
- Temperature compensated 32°F to 140°F (0°C to 60°C)
- PCB mountable package
- DIP package
- Solid state reliability
- Individual device traceability

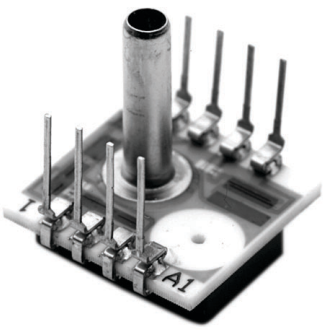
Applications

- Industrial automation
- Air flow monitors
- Process control
- Medical equipment
- Underground cable leak detection

NPC-1220 Series

NovaSensor Medium Pressure Sensors

NPC-1220 Series is a NovaSensor product. NovaSensor has joined other GE high–technology sensing businesses under a new name—GE Industrial, Sensing.



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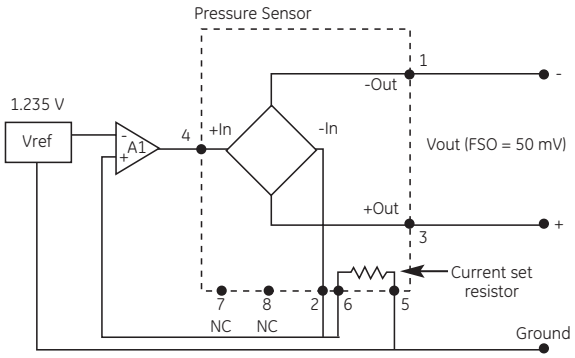
NPC-1220 Series Specifications

Description

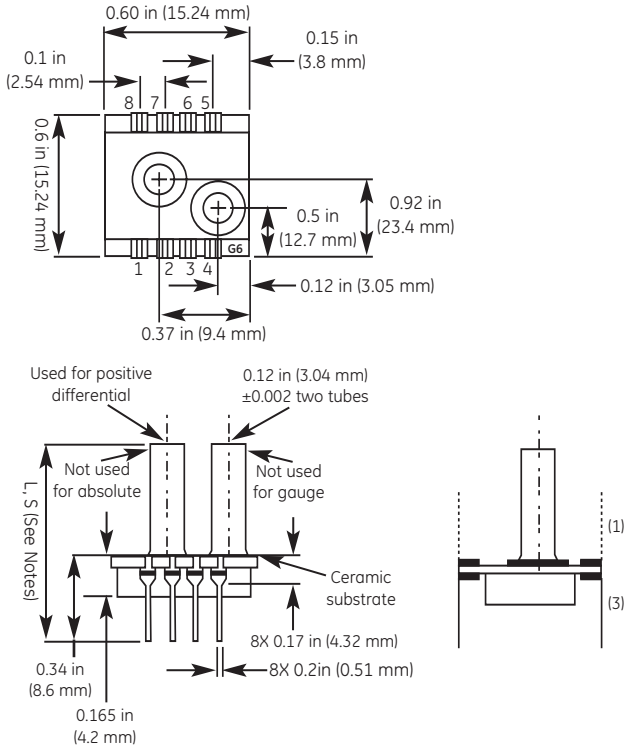
The NPC-1220 Series of solid state pressure sensors are designed to provide a cost effective solution for applications that require calibrated performance over a wide temperature range. Packaged in a dual-in-line configuration, the NPC-1220 Series is intended for printed circuit board mounting. Optional pressure port and lead configurations give superior flexibility in low profile applications where pressure connection orientation is critical.

The NPC-1220 Series is based on NovaSensor's advanced SenStable® piezoresistive sensing technology. Silicon micromachining techniques are used to ion implant piezoresistive strain gages into a Wheatstone bridge configuration. The NPC-1220 Series offers the added advantage of superior temperature performance over the temperature compensated range of 32°F to 140°F (0°C to 60°C). A current set resistor is included to normalize the FSO for field interchangeability. Additionally, the NPC-1220 Series is available in pressure ranges from 0 psi to 5 psi (0 bar to 0.34 bar) through 0 psi to 100 psi (0 bar to 6.89 bar). Please contact GE for other pressure ranges.



Lead	Connection
1	-Out
2	-In
3	+Out
4	+In
5,8	Current Set Resistor
7,8	No Connection

NPC-1220 Series schematic Diagram



1. *Tube length; L = 0.490, S=0.325, N = No tube.*
2. *Lead pins can be in either the same or the opposite direction of the pressure tube. Option (1) has the leads in the "Up" position, the same direction as the tube. Option (3) has the leads in the "Down" position, the opposite direction of the tube.*

NPC-1220 Series package diagram

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NPC-1220 Series Specifications

Pressure Ranges

- Gauge and differential: 5, 15, 30, 50 and 100 psi (0.34, 1.03, 2.06, 3.44 and 6.89 bar)
- Absolute: 15, 30, 50 and 100 psi (1, 2, 3.4 and 7 bar); 5 psi (0.34 bar)—call GE

Parameter	Value	Units	Notes
Environmental			
Temperature Range			
Operating	–40° to 257°	°F	(-40°C to 125°C)
Compensated	32° to 140°	°F	(0°C to 60°C)
Storage	–67°F to 302°	°F	(–55°C to 150 °C)
Mechanical			
Weight	0.005	lb	(2.5 g)
Media Compatibility	Compatible with exposed materials		7
Positive differential and gauge ports	Compatible with exposed materials		
Absolute. negative differential ports	Dry gases only		

Parameter	Units	Minimum	Typical	Maximum	Notes
Performance Parameters *					
FS Output (FSO)	mV	49.5	50	50.5	2, 3
Zero Pressure Output	±mV	-2	—	2	3
Linearity	±%FSO	-0.1	—	0.1	4, 8
Pressure Hysteresis	±%FSO	-0.1	—	0.1	
Input Impedance	Ω	2500	4000	6000	
Output Impedance	Ω	4000	5000	6000	
Thermal Accuracy–Span	%FSO	-0.5	—	0.5	3, 5, 8
Thermal Accuracy–Zero	%FSO	-0.5	—	0.5	3, 5, 8
Temperature Coefficient–Resistance	%/°C	—	0.2	—	5
Thermal Hysteresis–Zero	%FSO	—	0.1	—	5
Maximum Pressure	Rated	—	—	3X	6

** 1. Ambient temperature = 77°F (25°C), unless otherwise noted.*
2. Output span of unamplified sensor using the current set resistor and the circuit shown in the schematic drawing.
3. Compensation resistors are an integral part of the sensor package; no additional external resistors are required. Pins 7 and 8 must be kept open. The NPC-1220 is interchangeable only when used with the current set resistor shown in the schematic diagram.
4. Best fit straight line.
5. Temperature range 32°F to 140°F (0°C to 60°C), reference to 77°F (25°C).
6. 3X or 200 psi (13.78 bar) maximum, whichever is less.
7. Exposed materials are pyrex, ceramic, silicon, epoxy, RTV, and stainless steel..
8. 5 psi (0.34 bar) spec.:
Linearity: 0.25 ±%FSO
TC-span: 0.75 ±%FSO
TC-zero: 0.75 ±%FSO

Warranty

GE warrants its products against defects in material and workmanship for 12 months from the date of shipment. Products not subjected to misuse will be repaired or replaced. GE reserves the right to make changes without further notice to any products herein. GE makes no warranty, representation or guarantee regarding the suitability of its products for any particular application. GE does not assume any liability arising out of the application or use of any product or circuit and specifically disclaims, and all liability without limitation, consequential or incidental damages. The foregoing warranties are exclusive and in lieu of all other warranties, whether written, oral, implied or statutory. No implied statutory warranty of merchantability or fitness for particular purpose shall apply.

Ordering Information

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

NPC-1220

Code	Pressure Range
005	005 psi (0.3 bar)
015	015 psi (1 bar)
030	030 psi (2 bar)
050	050 psi (3.4 bar)
100	100 psi (7 bar)

Code	Type
D	Differential
A	Absolute
G	Gauge

Code	Lead Configurations
1	Up
3	Down

Code	Tube Options
L	Long
S	Short
N	None

NPC-1220 - ___ - ___ - ___ - ___ Typical model number

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