

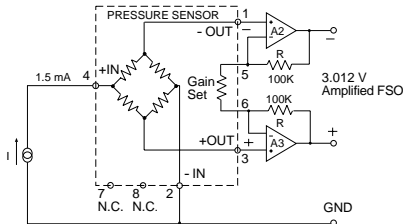
## NPC-1210 Low Pressure Series

### DESCRIPTION

The NPC-1210 low pressure series of solid state pressure sensors are designed to provide the same cost effective solution as NovaSensor®'s other NPC-1210 pressure ranges. Packaged in a dual-in-line configuration, this NPC-1210 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.

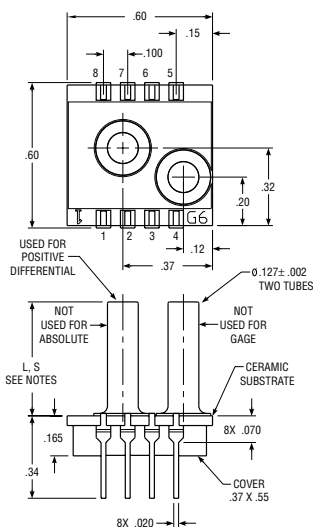
The NPC-1210 series is based on Lucas NovaSensor®'s advanced SenStable® piezoresistive sensing technology. Silicon micromachining techniques are used to ion implant piezoresistive strain gages into a Wheatstone bridge configuration. The NPC-1210 offers the added advantage of superior temperature performance over the temperature compensated range of 0°C to +60°C. A gain set resistor is included to provide field interchangeability. The low pressure NPC-1210 series is available in pressure ranges from 0 to 10 inches of water to 0 to 1 psi. Please contact the factory for other pressure ranges.

### SCHEMATIC DIAGRAM

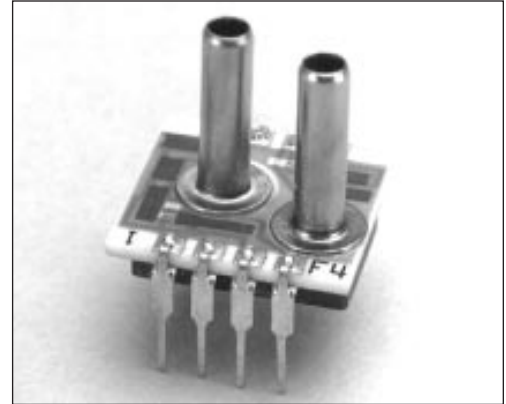
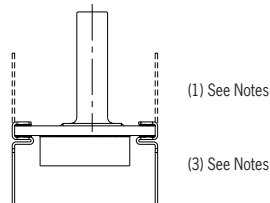


Lead	Connection
1	- OUT
2	- IN
3	+ OUT
4	+ IN
5, 6	Gain Set Resistor
7, 8	No Connection

### PACKAGE DIAGRAM



- Notes:**
1. All dimensions are in inches.
  2. Tube length; L = 0.490, S=0.325, N = No tube (Contact factory).
  3. Lead pins can be either be in 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.
  4. Short tubes have a typical diameter of 0.125 inches.



### APPLICATIONS

- Ventilation
- Air flow monitors
- Process control
- Respirators
- Medical equipment

### FEATURES

- ±0.5% static accuracy
- Interchangeable
- Temperature compensated 0°C to 60°C
- PCB mountable package
- Media compatible
- DIP package
- Solid state reliability
- Individual device traceability

### PRESSURE RANGES

- Gauge and differential  
10 inch H<sub>2</sub>O, 1 psi

# NPC-1210 Sensor Specifications

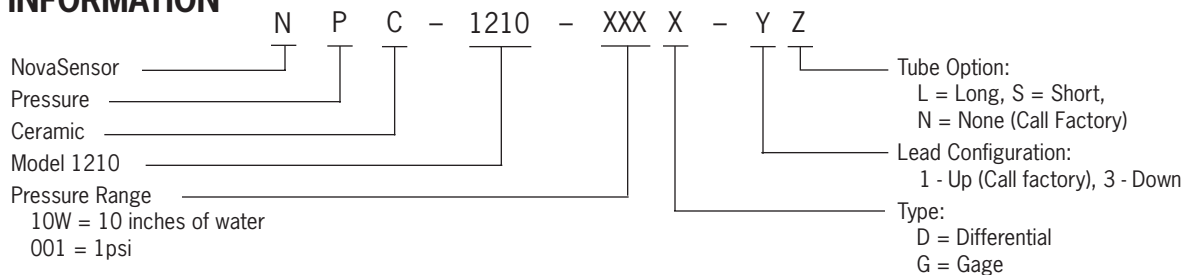
PARAMETER	VALUE	UNITS	NOTES
<b>ENVIRONMENTAL</b>			
Temperature			
Operating	-40 to +125	°C	-40 to +257°F
Compensated	0 to +60	°C	+32 to +140°F
Storage	-55 to +150	°C	-67 to +302°F
<b>MECHANICAL</b>			
Weight	2.5	grams	
Media Compatibility:	Positive differential and gage ports Negative differential ports	Dry gases only Dry gases only	6

## PERFORMANCE (Note 1)

Parameter	Units	Min.	Typ.	Max.	Notes
Full Scale Output (FSO) 10 inch	mV	25	50	70	2, 3
Full Scale Output (FSO) 1 psi	mV	50	75	110	2, 3
Zero Pressure Output	mV	-2	-	2	3
Linearity	%FSO	-0.5	-	0.5	4
Pressure Hysteresis	%FSO	-0.1	-	0.1	
Input Impedance	Ω	2500	4000	6000	
Output Impedance	Ω	4000	5000	6000	
Thermal Accuracy-Span	%FSO	-1.0	-	1.0	3, 5
Thermal Accuracy-Zero	%FSO	-1.25	-	1.25	3, 5
Temperature Coefficient-Resistance	%/°C	-	0.22	-	5
Thermal Hysteresis-Zero	%FSO	-	0.1	-	5
Pressure Overload	psi	5	-	-	
Stability	μV/V	-	5	-	7

- Notes:**
- Supply current = 1.5mA and ambient temperature = 25°C, unless otherwise noted.
  - Output span of unamplified sensor.
  - 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-1210 is interchangeable only when used with the gain-set resistor shown in the Schematic Diagram. Maximum gain-set resistor mismatch is 2%.
  - Best fit straight line.
  - Temperature range 0-60°C, reference to 25°C.
  - Wetted materials are ceramic, silicon, epoxy, RTV and nickel.
  - 100 hours at 40°C.

## ORDERING INFORMATION



**Sales Terms:** Lucas NovaSensor standard sales terms apply. Prices and specifications are subject to change without notice.

**Warranty:** Lucas 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. Lucas 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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