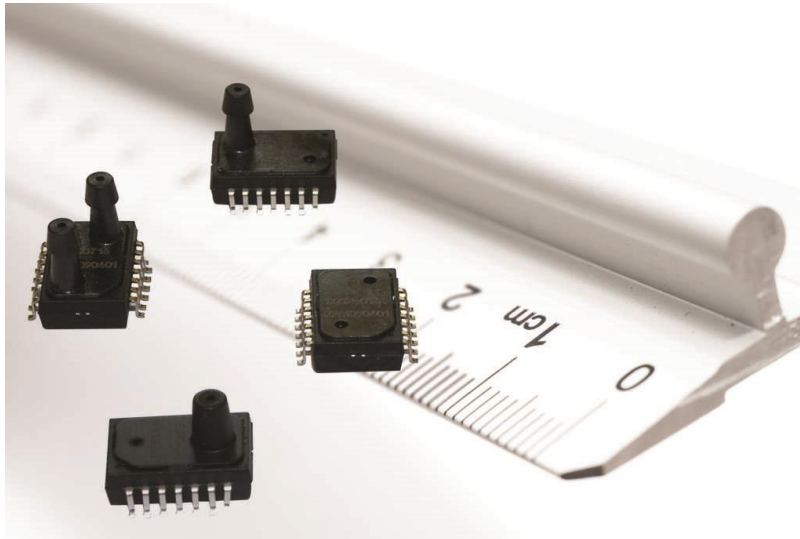


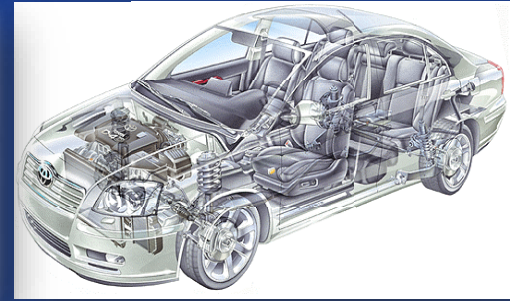
Amphenol Advanced Sensors

NovaSensor NPA Pressure Sensor



NOVA[®]
S E N S O R

NPA Pressure Sensor



The NPA sensor offers a new standard for pressure measurement



- ✓ Fully Calibrated & Compensated
- ✓ True Interchangeability – no field calibration required
- ✓ Available in Digital output - **I²C Format**, Amplified Analog or Analog mV
- ✓ High Accuracy (<1.5%FS) **Total Error Band**
- ✓ Temperature measurement available with digital output
- ✓ Customized calibration available
- ✓ Best in Class Overpressure capability: 60PSI
- ✓ Best in Class Stability: SenStable[®] technology
- ✓ Best in Class Response time: I²C 0.5ms sample rate



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Advanced Sensors

NPA Performance

- Standard FSO ranges: 10" H₂O, 1 psi, 5 psi, 15 psi, & 30 psi
- Custom calibration ranges available
- Absolute, Gage or Differential
- Very high overpressure capability: 60 psi (even on the 10"H₂O version!)
- Best in Class Stability <0.1%FS
- Best in Class Response Time <0.5ms for I²C & <2ms for the serial version
- Temperature compensated from 0°C to 60°C
- Operating temperature -40°C to +125°C
- Overall Accuracy: Better than 1.5% full scale



Output Options

- Digital or Analog Output



- 2 Digital Output Options: **I²C** or Serial (14 bit)
 - Eliminates system A/D converter, amplification & calibration
 - Easily interfaces with standard microcontrollers
 - Includes temperature option
 - **I²C** = $\pm 2^{\circ}\text{C}$ accuracy
 - Serial = $\pm 4^{\circ}\text{C}$ accuracy
- Analog Output:
 - 0.5-3.0Vdc output (3.3Vdc supply)
 - 0.5-4.5Vdc output (5.0Vdc supply)
 - 100mV output (5.0Vdc or 1.5mA supply)



- Fast Response Time

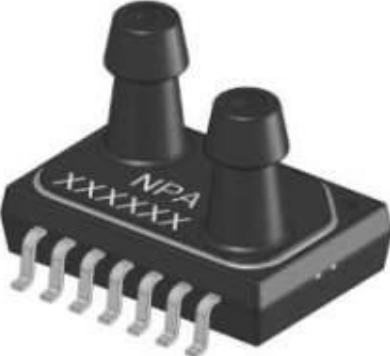
- $< 0.5\text{ms}$ sample time for **I²C NPA**
- $< 2\text{ ms}$ sample time for Analog NPA

- Flexible power supply voltages, ideal for low power systems

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NPA Package Options



Barbed Fitting
Gauge / Absolute
/Differential

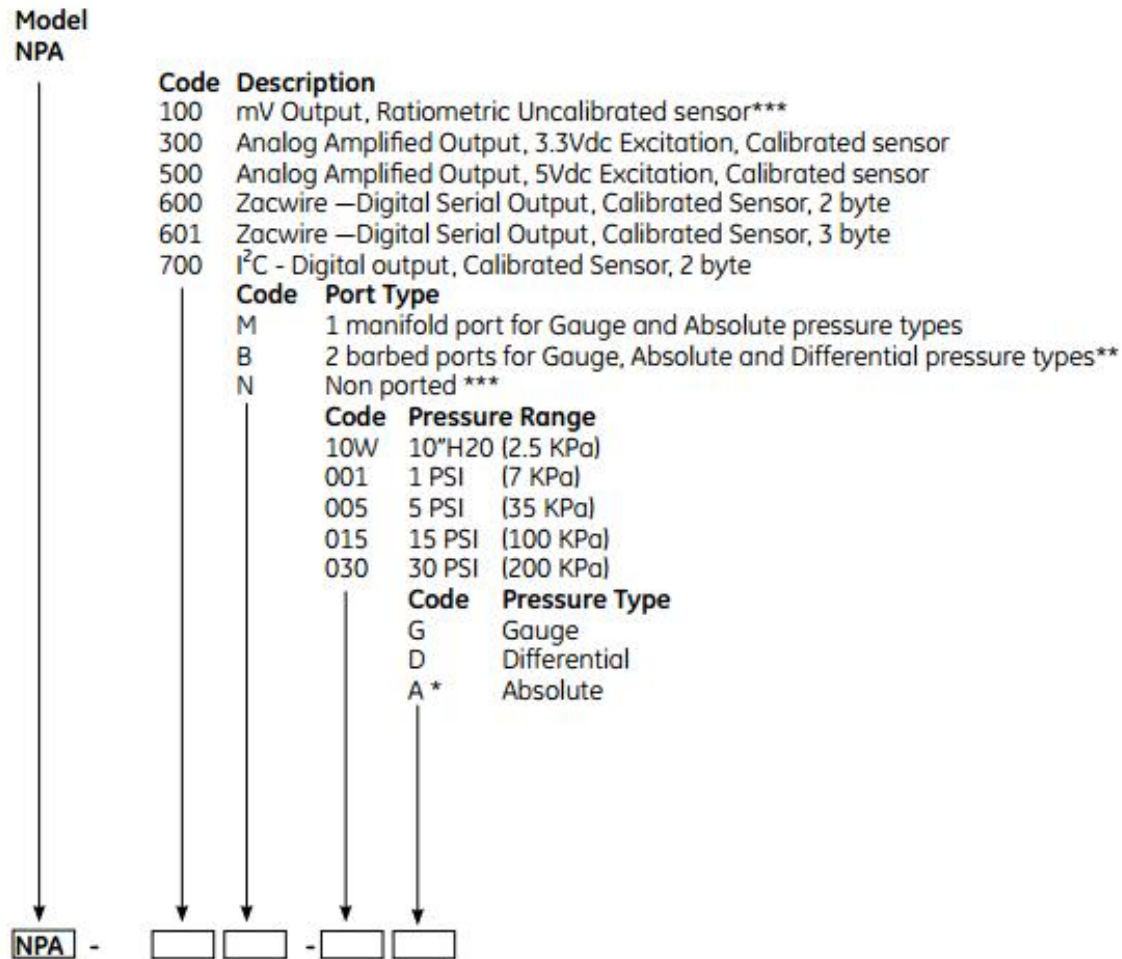


Manifold
Gauge / Absolute



No Fitting Option
Differential / Gauge / Absolute

NPA – A Wide Range of Standard Options



Note: * Absolute pressure ranges are available in 15 PSIA and 30 PSIA only.

** 1 barbed port available upon request.

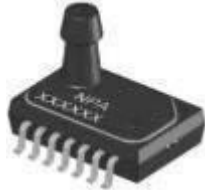
*** Order NPA-100N-XXXG in place of NPA-100N-XXXD.



Lowest profile SOIC Package



All Ranges
10"H2O to 30PSI



New
I²C Output



Best in Class
Accuracy

Best in Class
Stability

Best in Class I2C
Sample rate 0.5ms

NOVA
SENSOR

NPA Surface-Mount Pressure Sensor Series



The NPA product series is provided in a miniature size as a cost effective solution for applications that require calibrated performance. Packaged in a SOIC14 pin surface mount, the NPA Series is available in Gauge, Absolute or Differential pressure ranges with either mV, amplified analog or digital outputs. The sensor is intended for printed circuit board mounting and delivered in tape and reel form to simplify manufacturing handling.

Features

- Surface Mountable
- Differential, Gauge, Absolute & Low Pressure
- 10" H2O to 30 PSI Full Scale
- Output Options: Amplified Analog, Digital Serial (14bit), Digital I²C, Uncalibrated mV
- On chip temperature sensor in digital mode
- Operating temperature range of -40 to 125°C
- Total Error Band < ±1.5% FSD
- Up to 60 psi proof pressure

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Healthcare Application Spaces

- Sleep apnea - CPAP
- Critical care ventilators
- Anesthesia machines
- Compression therapy
- Air mattresses
- Wound management
- First responder equipment
- Blood pressure



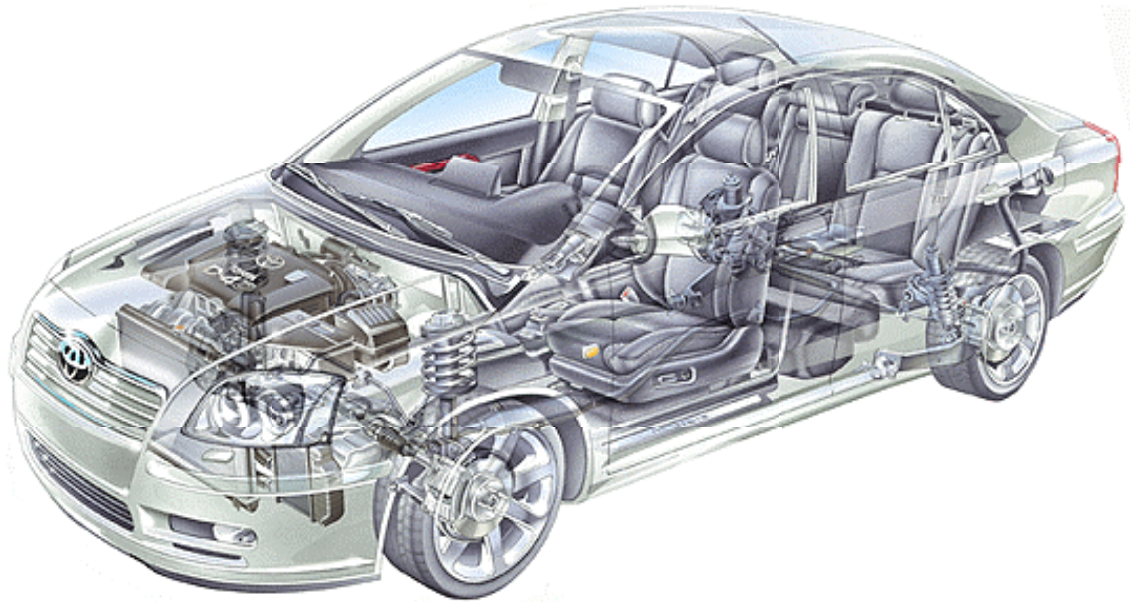
Industrial Application Spaces

- HVAC control
- HVAC blower ΔP measurement
- Variable air volume control
- Water heater gas flow
- Process control
- Pneumatic control
- Air quality monitoring
- Barometric pressure



Transportation or Aerospace Applications

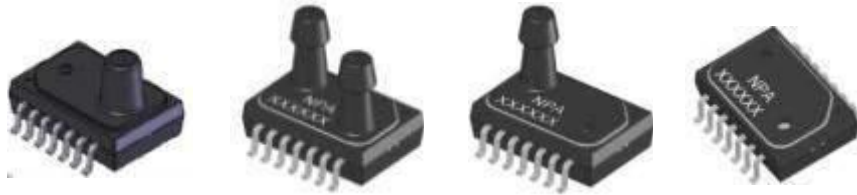
- Air filter monitoring
- Active aerofoils (F1 motorsport)
- Active seat support
- Fuel injection systems
- Aircraft ejector seats



NPA Pressure Sensors Summary

Product / Description

NovaSensors NPA series pressure sensors combine our SenStable® silicon fusion bonded sensor die with packaged electronics to provide a highly stable, amplified and calibrated measurement in a cost effective surface mount package.



**Manifold
Gauge/Absolute**

**Barbed Fitting
Gauge/Absolute/Diff**

**No Fitting
Gauge/Absolute/Diff**

Specifications

Pressure ranges:	0 to 10" H ₂ O up to 30 psi	
Temp compensation:	0°C to 60°C	
Operating temp:	-40°C to 125°C	
Accuracy:	±1.5% full scale output	
Proof pressure:	60 psi	
Digital output:	I ² C or Serial options (14 bit)	
Analog dc output:	0.5-3.0V	(3.3Vdc supply)
*I²C Options 5V & 3.3V	0.5-4.5V	(5.0Vdc supply)
	100mV	(5.0Vdc or 1.5mA supply)

Benefits

- ✓ Digital, Analog, or Amplified analog options
- ✓ Temperature measurement available with digital output
- ✓ Temperature compensated from 0°C to 60°C
- ✓ Customized pressure ranges
- ✓ High overpressure capability
- ✓ Excellent long term stability (SenStable® technology)
- ✓ Accuracy: Better than ± 1.5% full scale output
- ✓ Surface mount SOIC-14 package

Applications

- Positive airway pressure devices - sleep apnea
- Critical care ventilators
- Anesthesia machines
- Compression therapy/Air mattresses
- First responder safety equipment
- HVAC blower ΔP measurement
- Barometric Pressure
- Vehicle Air filter monitoring
- Small Engine Fuel Injection

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Smart, versatile pressure sensing to meet stringent design standards^{11/}

Resources

NPA Webpage:

- <http://www.amphenol-sensors.com/en/products/pressure-mems/mems-sensors/3161-npa-pressure-sensor>

NPA Application Guide:

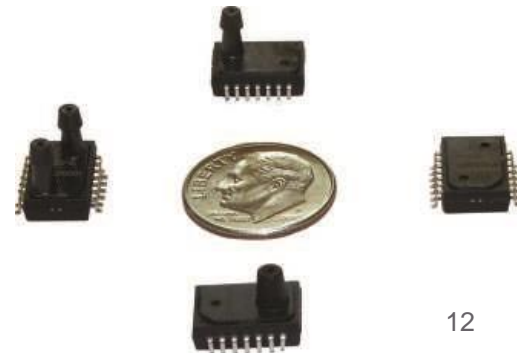
- <http://www.amphenol-sensors.com/en/component/edocman/312-novasensor-npa-application-guide/download?Itemid=8007%20%27>

NPA Product Brochure:

- <http://www.amphenol-sensors.com/en/component/edocman/212-npa-surface-mount-pressure-sensor-brochure/download?Itemid=8007%20%27>

Sensors for Healthcare:

- <http://www.amphenol-sensors.com/en/component/edocman/99-sensors-for-healthcare/download?Itemid=8007%20%27>



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