

# ND Series Product Brief: Low Pressures

## Differential Pressure Sensor for Industrial Applications

### Key Features

- High performance low-pressure sensor
- Up to 7 Selectable Pressure Ranges per Device
- Pressure ranges 0.25 inH<sub>2</sub>O (62.5 Pa) to 30 in H<sub>2</sub>O (7500 Pa)
- 16-bit resolution (each selected range)
- Exceptional Zero Stability
- Integrated 50/60Hz Notch Filter
- Selectable Bandwidth Filter from 1.0Hz to 200Hz
- Output Data Rate up to 444Hz
- Total Error Band less than 0.15% FSS
- Very High Accuracy  $\pm 0.05\%$  of Selected Range
- Long Term Stability  $\pm 0.05\%$  FSS
- Temperature Compensated -20°C to 85°C
- Supply Voltage Compensation
- Fully Integrated Compensation Math
- Standard I<sup>2</sup>C and SPI Interface



### Product Summary

Based on Superior's NimbleSense™ architecture, the ND Series family extends the operating temperature down to -20°C and up to 85°C. Additionally, the ND utilizes the company's proprietary Multi-Range™ technology to create the industry's widest dynamic range. This wider dynamic range offers multiple pressure ranges in a single package thus minimizing the number of sensor variants required to support the demanding functional requirements of the various industrial market segments. For example, one Multi-Range enabled ND Sensor replaces up to 7 competing products greatly simplifying installation requirements and significantly lowering inventory costs.

Supporting pressure ranges as low as  $\pm 0.25$  inH<sub>2</sub>O to as high as  $\pm 30$  in H<sub>2</sub>O, the ND Low Pressure Series is ideal for a wide variety of industrial applications from air curtains to aeronautics, from environmental chambers to eye surgery equipment, and from UAVs to 3D Printing.

**Industry leading performance** – The ND Series measures dry air and non-aggressive gas pressure with very high accuracy and a stable zero point. Non-linearity is also industry leading which is typically 0.05% FSS. The ND Series has a selectable bandwidth

filter from 1Hz to 200Hz, and 16-bit resolution. For added performance, the ND Series has a 50/60Hz notch filter to minimize impact of power noise spikes. Finally, the ND Series is an excellent choice for applications requiring the utmost reliability.

The ND Series provides a new level of integration combining an advanced piezoresistive sensing element with integrated amplification, ADC, DSP and interface which greatly simplifies customer integration efforts. Advanced digital processing enables new functionality thus simplifying system development, added manufacturing ease and increased reliability.

With optional integrated closed loop control customization, advanced digital filtering customization and a 3-mode pressure switch, the ND Series is more than a pressure sensor – it is a complete pressure sensing sub-system.

Constructed with a high reliability plastic enclosure, the ND Series provides the ideal combination of very high performance and reliability at extended temperature ranges while ensuring customers have a high volume, cost effective solution optimized for a wide array of industrial requirements.

For more information, please contact:  
[info@SuperiorSensors.com](mailto:info@SuperiorSensors.com)