

# ND Series Product Brief: Middle Pressures Differential Pressure Sensor for Industrial Applications

## Key Features

- Highly integrated sensor with ADC and DSP
- Up to 7 Selectable Pressure Ranges per Device
- Pressure ranges 0.5 psi (34.5 mbar) to 150 psi (10.3 bar)
- 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 at 444Hz
- Total Error Band less than 0.1% FSS
- Very High Accuracy +/- 0.05% of Selected Range
- Long Term Stability +/- 0.05% FSS
- Silicone gel protection on all models
- 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 Middle Pressure Series family supports operating temperature down to -20°C and up to 85°C, while increasing pressures up to 150 psi (10.3 Bar). 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 5 psi to as high as 150 psi, the ND Middle 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 Middle Pressure 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 Middle Pressure Series has a selectable bandwidth filter from 1Hz to 200Hz, and 16-bit resolution. For added performance, the ND Series has incorporated a 50/60Hz notch filter to minimize the 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 a digital interface which greatly simplifies customer integration efforts. Advanced digital processing enables new functionality thus simplifying system development, adding manufacturing ease and increasing reliability.

Constructed with a high reliability plastic enclosure, the ND Series family 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.

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