

Press Release

Superior Sensor Technology Significantly Improves the Lung Testing Accuracy of Spirometer Devices with A New Family of User Programmable Pressure Sensors

Proprietary Z-Track™ Technology Eliminates Zero Drift; Offers 10-Times Better Accuracy than Competing Sensors

Santa Clara, CA, April 29, 2019 - [Superior Sensor Technology](#) today announced a family of advanced differential pressure sensors for spirometers and other lung or pulmonary testing devices. The Company's new [SP Series Sensors](#) offer device manufacturers for the first time a sensor module solution that virtually eliminates zero drift, a common metric for sensor performance. The SP Series Sensors are based on the company's broad dynamic range sensor programmable architecture, [NimbleSense™](#), and incorporate a new proprietary technology, [Z-Track](#), to greatly improve zero reading stability. These advanced sensor technologies offer up to 10 times better accuracy than competing sensor solutions and are highly optimized to improve the overall sensor performance while reducing the cost and minimizing the time required for patient therapy tests.

"Spirometry devices are highly dependent on very stable zero measurement to accurately test air volume, maximum exhalation pressure and other factors used to diagnose lung functionality," said Jim Finch, CEO and Co-Founder, Superior Sensor Technology. "By virtually eliminating zero drift, lung testing for patients will be more accurate and require fewer test

cycles during a therapy session, which will be more time and cost efficient for patients and medical practitioners.”

The user programmable SP Series Sensors use the NimbleSense architecture to achieve a very high dynamic range while additionally offering precise near zero measurement to support the demanding functional requirements of spirometer devices. The NimbleSense architecture is an integrated platform combining advanced piezoresistive sensing elements, acquisition path, processing intelligence and proprietary integration techniques to create the industry’s highest performing sensor solutions. These user programmable sensors support a broad range of pressure options from 250 Pa to 40 kPa full scale and outperform other industry solutions by up to 10 times with a Total Error Band (TEB) of less than 0.15% Full Scale Span (FSS) while maintaining 0.10% accuracy at every range. The SP Series Sensors also capitalize on Superior Sensor Technology’s Multi-Range programmable technology that enables each sensor to support any one of four distinct pressure full scale range options and still maintain the industry’s highest performance at every calibrated pressure range, offering significant manufacturing, installation and inventory cost savings.

Superior Sensor Technology’s Z-Track capability uses a proprietary algorithm to virtually eliminate zero drift in the SP Series Sensors. “We’ve eliminated zero drift by incorporating Self-Aware™ Technology into all of our SP Series Sensors to detect when the pressure returns to zero. Once this occurs, the Z-Track technology recaptures this new zero level for future measurements, virtually eliminating zero drift,” said Finch.

Superior Sensor Technology’s SP Series Family:

The Company is introducing three pin compatible SP Series Sensors to support varying pressure requirements for spirometers and other lung or pulmonary testing devices. Standard product family features include:

- Pressure range support from 250 Pa to 40 kPa FSS
- Four unique calibrated user selectable pressure ranges for each device
- 16 bits output resolution for each user selected range
- Ultra-low noise solution with 19 bits of effective resolution
- Proprietary Z-Track Technology to greatly improve zero stability
- Industry leading positional insensitivity for handheld devices
- User programmable bandwidth options of 10 Hz to 250 Hz
- I₂C and SPI digital interface support for ease of integration

The SP Series Sensors are available in production volumes today.

About Superior Sensor Technology:

Superior Sensor Technology was established with the objective to revolutionize the high performance, cost driven pressure sensor market by developing integrative, high-performance cost-efficient solutions for industrial HVAC, medical and automotive applications. The company's technology is based on a proprietary platform, called NimbleSense, that significantly improves overall sensor performance while adding proprietary application specific system features. Superior Sensor Technology was founded in 2016 and is based in Santa Clara, CA.

NimbleSense, Z-Track and Self-Aware are registered trademarks of Superior Sensor Technology

Website: SuperiorSensors.com

Public Relations Contact:
Catherine Batchelor
catherinebatchelor@me.com
208-634-9472