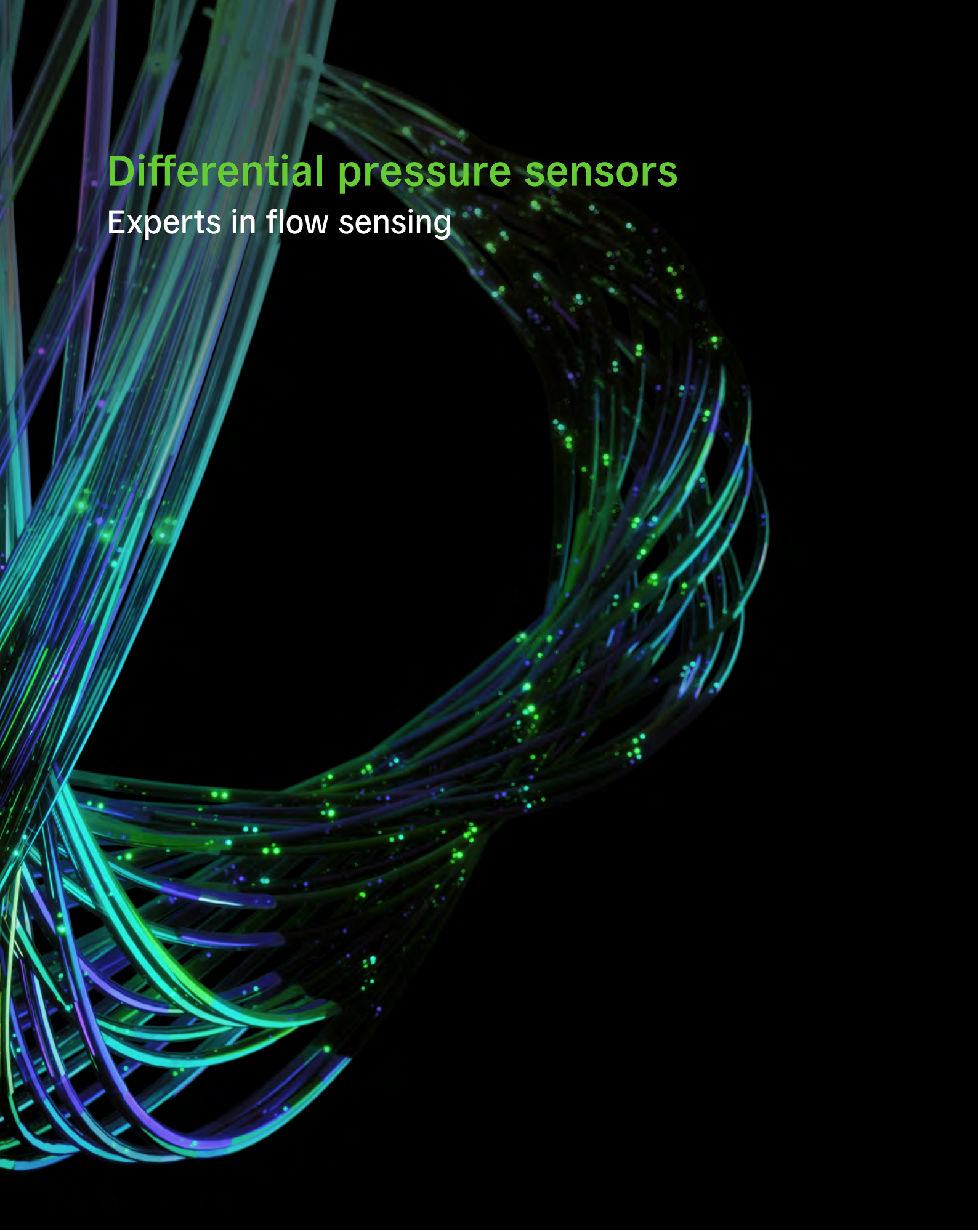


Differential pressure sensors

Experts in flow sensing

SENSIRION

Differential pressure sensors

With our long history of designing differential pressure and flow sensor solutions for medical technology, HVAC, automotive and industrial automation applications, we are your ideal partner to develop new products. Sensirion's differential pressure sensors are perfectly suited for a wide range of demanding applications for the following reasons:

- Measurement of differential pressures down to 0.1 Pa
- No zero-point offset, no drift
- Calibrated and temperature compensated
- Low sensor-to-sensor variation for efficient mass production
- Small size, fast response time and high reliability

For more information, please visit: www.sensirion.com/differentialpressure

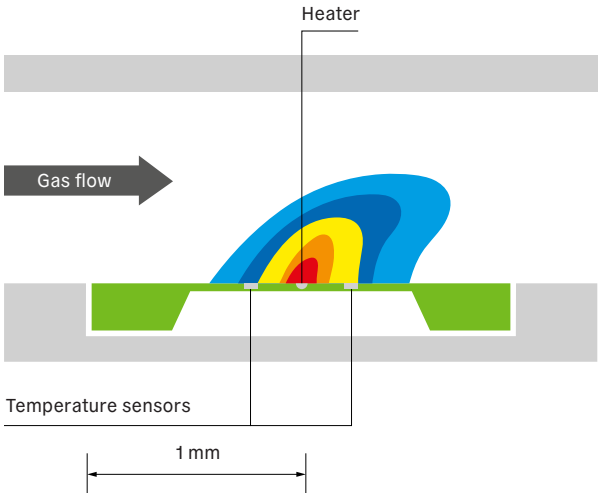
High performance through CMOSens® Technology

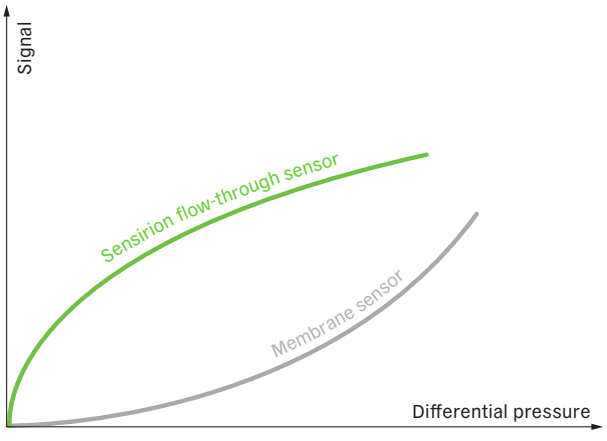
All Sensirion differential pressure sensors are based on the innovative CMOSens® Technology, which combines the sensor component with analog and digital signal processing circuitry on one small CMOSens® silicon chip. This technology offers numerous benefits:

- High reliability and long-term stability
- Best signal-to-noise ratio
- Industry-proven technology over more than 20 years
- Low sensor-to-sensor variation for efficient mass production
- Small size, fast response time and high reliability

Thanks to the thermal flow-through operating principle, Sensirion's CMOSens® differential pressure sensors outperform traditional piezo-resistive membrane sensors in terms of sensitivity at low differential pressures, offset drift and hysteresis, as well as position sensitivity, shock resistance and variations in temperature.

Sensirion's differential pressure sensors are particularly suitable for measuring standard volume flow or mass flow (e.g. flow measurement with an orifice or Pitot tube). Traditional membrane sensors have to compensate for air density in order to determine mass flow. Sensirion's differential pressure sensors output a differential pressure that is compensated for mass flow and thus independent of changes in air pressure and temperature.





Products

Sensirion's differential pressure sensors are fully calibrated and temperature compensated. Their excellent accuracy, long-term stability and no zero-point drift make them the perfect choice for any application. The sensors of the SDP3x and SDP800 series come either with a digital I²C interface or analog voltage output. The digital versions offer measurement speeds up to 2 kHz, smart averaging functions and multiple measurement modes.

SDP3x – creating space for your ideas

The SDP3x measures only 5 × 8 × 5 mm. Due to its size, it is particularly suitable for applications where space is limited, such as mobile and portable devices. The digital version offers an interrupt output and selectable I²C addresses. The SDP3x sensor is highly configurable, enabling it to choose between bidirectional or unidirectional measurement, fast or slow response time, and different temperature compensation modes. All versions of the SDP3x are reflow solderable, and are shipped in tape and reel format to be compatible with the most modern assembly techniques, such as Pick & Place.

SDP800 series – proven and improved

The SDP800 consequently utilizes the successful features of the SDP600 series. It is the result of more than 20 years of experience in measuring the air flow to tens of millions of patients, and to millions of car engines and HVAC systems. They can easily be integrated due to its proven form factor. The next generation sensor chip offers extended functionality, a measurement speed of 2 kHz, and configurable analog voltage output or a digital I²C interface. The SDP800 is the reliable and advanced solution for the most demanding and cost-sensitive HVAC applications such as VAV controllers and burners.

Evaluation kits SEK-SDP31 and SEK-SDP8xx

The evaluation kits enable easy and cost-effective evaluation of Sensirion's digital differential pressure sensors. The kits consist of an adapter cable and a differential pressure sensor. The SEK-SensorBridge required for a plug-and-play connection between the sensor and a PC is not included and must be purchased separately.

- SEK-SDP31 for evaluation of the SDP31 sensor
- SEK-SDP8xx for evaluation of the SDP810-500 Pa sensor

The software can be downloaded from our website, is easy to install on a PC and provides easy data-logging. Data can be exported to an Excel format.

What we offer

Expert first contact

- Specialized and experienced sales force
- Worldwide presence with a global distribution network

Fast and easy product evaluation

- Comprehensive product portfolio
- Easy-to-use evaluation kits for effortless testing
- Technical documents – data sheets, sample codes, application notes

Design-in support

- Assistance in the integration of SDP sensors into your application
- Proven best practices to ensure that your production concept accommodates the requirements of Sensirion's sensors

Lifetime support

- Reliable and flexible production
- Sustainable product innovation roadmap to meet your future needs

	SDP3x				SDP800 Series							
	SDP31	SDP32	SDP36	SDP37	SDP800	SDP810	SDP 800	SDP810	SDP806	SDP816	SDP806	SDP816
Version					500 Pa		125 Pa		500 Pa		125 Pa	
Output	I²C		Analog		I²C				Analog			
Pneumatic connection	Manifold				Manifold	Tube	Mani fold	Tube	Manifold	Tube	Manifold	Tube
Pressure range (bidirectional)	500 Pa; 2" H_2O	125 Pa; 0,5" H_2O	500 Pa; 2" H_2O	125 Pa; 0,5" H_2O	500 Pa; 2" H_2O		125 Pa; 0,5" H_2O		500 Pa; 2" H_2O		125 Pa; 0,5" H_2O	
Key features	Smallest size, reflow solderable, comes in Tape and Reel				Proven form factor with best performance				Robust and accurate with analog output			
Power supply	3 to 5.5 V				3 to 5.5 V							
Accuracy of measured value	3%				3%							
Lowest detectable pressure	< 0.02 Pa	< 0.01 Pa	< 0.02 Pa	< 0.01 Pa	< 0.02 Pa		< 0.01 Pa		< 0.02 Pa		< 0.01 Pa	
Measurement speed	0.5 ms		5 ms		0.5 ms				5 ms			
Calibrated for	Air, N_2				Air, N_2							
Gas compatibility	Air, inert gases				Air, inert gases							

Various applications

Medical

- Intensive care ventilation, respiratory devices
- High-speed measurements
- Robust and shock-resistant
- Calibrated and temperature compensated

Burner control

- Heating systems, condensing boilers, pellet stoves, fuel cells
- Precise mass air flow control
- Accurate readings irrespective of altitude and air temperature
- Fault/error control versions available

Filter monitoring

- Air intake filters, clean air filters
- Sensitive, accurate and reliable filter monitoring
- Ask Sensirion for smart filter monitoring solutions

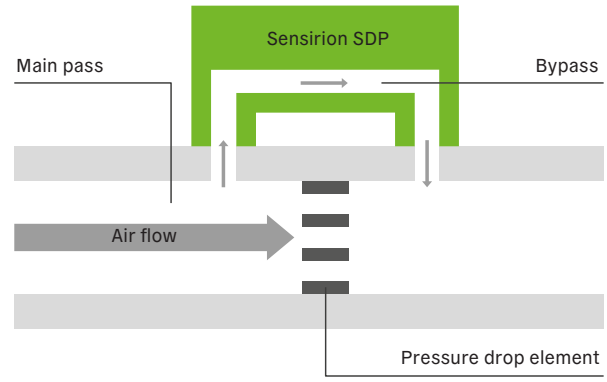
VAV and heat recovery

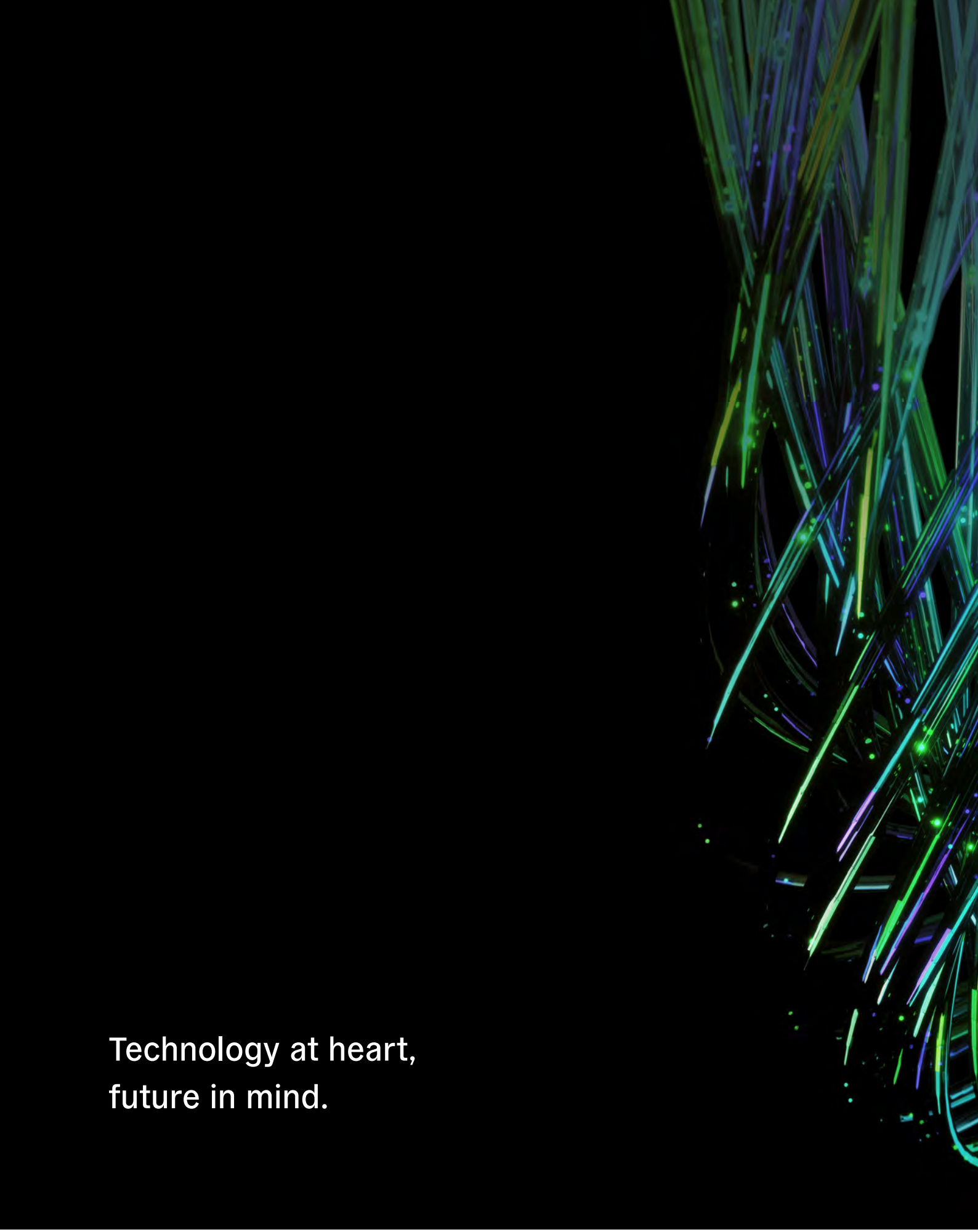
- Measuring air flow and total energy content for heating and energy optimization
- No drift (no zero-point recalibration needed)
- Durable and robust

Flow measurement in a bypass

Sensirion's differential pressure sensors in a bypass configuration are the ideal, cost-effective choice for measuring air flow with high accuracy, robustness and stability. In a bypass configuration, the differential pressure sensor is placed over a pressure drop element/orifice. An air flow in the main pass will create a differential pressure over the pressure drop element, which is proportional to the air flow.

For more information, please read our white paper: www.sensirion.com/bypass




Technology at heart,
future in mind.