

Differential Pressure Sensors

- For ultra low differential pressures down to 1 Pa
- Small, fast and reliable
- Zero offset, no drift
- Interchangeable
- Mounting position independent

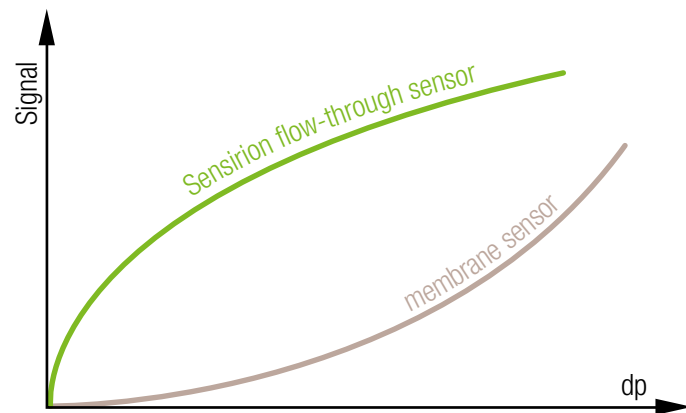


Differential Pressure Sensors for Gases

Customized Solutions

Unique measurement properties ...

Sensirion's differential pressure sensors for air or non-corrosive gases allow ultra-low differential pressure measurements. Providing fast results, the sensors are drift-free and do not exhibit any position sensitivity. In addition, these digital and analog differential pressure sensors are unrivalled in size and reliability.



Sensirion flow-through sensors provide higher sensitivity at low differential pressures than membrane sensors.

Thanks to their thermal flow-through operating principle, Sensirion's CMOSens® differential pressure sensors outperform traditional piezoresistive membrane sensors in terms of sensitivity at low differential pressure, offset drift and hysteresis.

... for mass flow measurement

The SDP1000 and SDP600 Series sensors actually measure the mass flow by utilizing the thermal flow-through principle. These differential pressure sensors are therefore an outstanding choice for applications requiring measurement of standard volume flow or mass flow (e.g. flow measurement with an orifice or pitot tube). Traditional membrane sensors require compensation for air density in order to determine mass flow. With Sensirion's SDP Series, conversion of the sensor output into true mass flow is independent of air density and temperature.

SDP600 Series

The SDP600 Series is characterized by zero drift and excellent long term stability. The sensors feature digital I²C output with fully calibrated and temperature compensated signals. They enable measurements with very high sensitivity and outstanding accuracy, with deviation less than 0.04 % of full scale near zero and 3 % of reading at higher pressures.



SDP600 Series

Due to the exceptional integration level and clever packaging, the sensors are small, fast and reliable. The SDP600 is designed for direct threaded connection to a pressure manifold with O-ring sealing, while the SDP610 is designed for tube connection. Their excellent repeatability and interchangeability at extremely low differential pressures make the SDP600 Series the best choice for filter monitoring, VAV or medical respiratory applications. The SDP500/510 is a lower cost version with 4.5 % of reading accuracy.

SDP1000 and SDP2000 Series



SDP1000 Series

The SDP1000 and SDP2000 Series enable precise measurement of differential pressures with an analog 0–4V output. The fully calibrated and temperature compensated sensors are intended for demanding applications such as medical and HVAC systems and feature an accuracy of 0.1 % full scale near zero. The SDP1108-R with its square root extracted output is especially designed for medical applications and provides an outstanding dynamic range and ultra fast response time.

ASP1400

The ASP1400 is optimized for ultra-low differential pressures and enables extremely accurate measurements down to 0.05 % of full scale. Based on the CMOSens® Technology, the digital sensors provide superior performance with excellent long term stability. Featuring bidirectional measurement capability, they cover a unique dynamic range of ±100 Pa to 0.002 Pa.



ASP1400

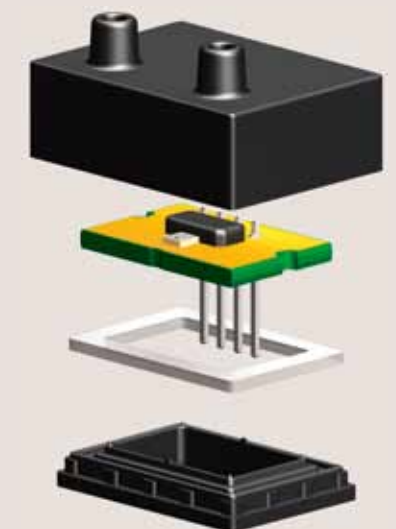
Sensirion's differential pressure sensors provide an ideal basis for customer-specific versions. Besides the option of modifying existing standard designs, we are well positioned to develop totally new solutions for demanding OEM applications.

- **Specific mass flow temperature calibration**
Special temperature compensation is available for standard volume flow measurements using an orifice, pitot tube or crossbar in bypass configurations. This enables system designs that are independent of air density and temperature.
- **Special versions**
New sensor versions of the SDP series provide ultra low differential pressure ranges down to 125 Pa/0.5"WC or even as low as 20 Pa/0.08"WC. Low power versions for battery operated applications are also available.
- **Fail-safe certified version** of the SDP600 series provide outputs at class C safety level.

Typical applications for Sensirion differential pressure sensors:

- Ventilation and respiratory equipment
- Variable air volume (VAV)
- Fan control
- Burner control
- Filter monitoring
- Clean room and cabinet pressure control

	Output			Range		Performance						Connection	
	Output	linear	root-square	Pascal	inch water	bidirectional	Accuracy	Lowest detectable pressure	Speed	Mass flow T-compensation	Low power	manifold	tubes
Digital Sensors													
SDP500/510	I ² C	x		500 Pa	2"		+	0.5 Pa	+++			x	x
SDP600/610-25Pa	I ² C	x		25 Pa	0.1"	x	++	0.1 Pa	+++			x	x
SDP600/610-125Pa	I ² C	x		125 Pa	0.5"	x	++	0.1 Pa	+++			x	x
SDP600/610-500Pa	I ² C	x		500 Pa	2"	x	++	0.1 Pa	+++			x	x
SDP601/611-500Pa	I ² C	x		500 Pa	2"	x	++	0.1 Pa	+++	x		x	x
SDP606/616-500Pa	I ² C	x		500 Pa	2"	x	++	0.1 Pa	+++		x	x	x
ASP1400	RS-232	x		100 Pa	0.4"	x	+++	0.002 Pa	+				x
Analog Sensors													
SDP1000-L008	0..4V	x		20 Pa	0.08"		+++	0.01 Pa	++				x
SDP1000-L025	0..4V	x		62 Pa	0.25"	x	+++	0.05 Pa	++				x
SDP1000-L05	0..4V	x		125 Pa	0.5"		+++	0.05 Pa	++				x
SDP1000-L/-R	0..4V	x	x	500 Pa	2"		+++	0.1/0.005 Pa	++				x
SDP1108-R	0..4V		x	500 Pa	2"		+++	0.01 Pa	+++				x
SDP1108-MFA1	0..4V		x	500 Pa	2"		+++	0.1 Pa	+++	x			x
SDP2108-R	0..4V		x	3500 Pa	14"		+++	1 Pa	+++				x
SDP2000-L	0..4V	x		3500 Pa	14"		+++	2 Pa	++				x



Customized solution

About Sensirion

Sensirion AG, with headquarters in Staefa, Switzerland, is a leading manufacturer of CMOS sensor components and systems for a wide variety of OEM applications (e.g. in the medical, automotive, HVAC and consumer industries). Our current four business units focus on the following categories of high-quality products:

- **Humidity and temperature sensors**
- **Liquid flow sensors**
- **Gas flow sensor solutions (mass flow meters and controllers)**
- **Differential pressure sensors**

With a growing, highly qualified staff of more than 160 employees, Sensirion stands for continuous product innovation and excellent technical support. To provide international service with guaranteed high quality, we rely on a global sales and support network consisting of subsidiaries in the USA, China, Japan and Korea as well as about 10 independent distributors.

Our products are distinguished by their use of patented CMOSens® Technology, which integrates the sensor element and signal processing on a single chip. In the highly competitive global market, this system integration offers unbeatable customer benefits – in particular high reliability and precision at low cost.

Sensirion's competence as a reliable OEM partner is underlined by a distinct quality approach and a professional quality management system, which is certified in accordance with the ISO 9001 and ISO/TS 16949 standards.

CMOSens®
TECHNOLOGY

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