

Spot™ CDS530D

OEM Capacitance Diaphragm Sensor

The SPOT CDS530D suspended ceramic capacitance diaphragm sensor is designed for integration into the limited space in your specific vacuum instruments and systems. The dual miniature sensor offer a high accuracy in a wide measurement range, is highly corrosion resistant as the alumina ceramic cells, the suspension and a weldable stainless steel feedthrough are all alumina coated. The sensor electronics provide a digital SPI interface for easy integration. The sensor features a fast data cycle time for instant response to pressure changes, outstanding repeatability and long-term stability. The sensor is provided in two basic versions, either calibrated with customer flange or preadjusted with custom flange.



Advantages

- **Miniature Alumina (Al₂O₃) ceramic coated capacitance diaphragm sensor is highly corrosion resistant with UHP compliant wetted surface**
- **Wide range, high precision**
- **Excellent repeatability and long-term stability**
- **Sensor electronics with SPI interface for easy integration**
- **Welded custom flange for integration of calibrated sensor**
- **Fast response time**
- **High overpressure capability**

Applications

- For integration into custom vacuum instrumentation and systems

Ordering Information

On request

Specifications CDS530D

	Unit							Comments
Full Scale	Torr (FS)	1000	300	100	30	10		base values
	Pa (FS)	133322	40000	13332	4000	1333		on request ranges 5 2500 Torr
	mbar (FS)	1333	400	133	40	13.3		
Accuracy ¹⁾	sensor 1	% of reading			0.3 / 0.5			first decade calibrated by INFICON
	sensor 2				0.3 / 0.5			first decade calibrated by INFICON
Temperature effect on zero		% F.S./°C			0.01			
Temperature effect on span		% of read./°C			0.01			
Resolution		% F.S.			0.01			
Long term stability		% F.S. / year			0.5			
Long term sensitivity stability		% / year			0.013			typical value 0.01 over 285 days
Measuring range		% F.S.			0.1 ... 100			
Ambient operating temperature		°C			0 ... 60			
Temperature compensated range		°C			10 ... 50			
Storage temperature		°C			-20 ... 80			
Ambient humidity limits		% RH			< 80%			non-condensing
Maximum admissible pressure		kPa abs			400			
Burst pressure		kPa abs			800			
Supply voltage		VDC			5 ±0.25			
Supply voltage ripple		mV _{pp}			≤50			
Power consumption		W			< 0.05			operation
Digital interface					SPI bus			refer to SPI communication manual
Data rate		ms			1 ... 250			programmable
Response time (10 ... 90%)		ms			2			(10 ... 90%)
Standards					2011/65/EU (RoHS)			
Electrical connection					JST 1mm pitch, 10 pin			customized options like ZIF connector
Materials exposed to vacuum					Aluminum oxide ceramic (Al ₂ O ₃), stainless steel 1.4301/AISI304			
Tightness, leak rate		mbar l/s			< 1 E-9			
Mounting position					any			recommended vertical up or horizontal

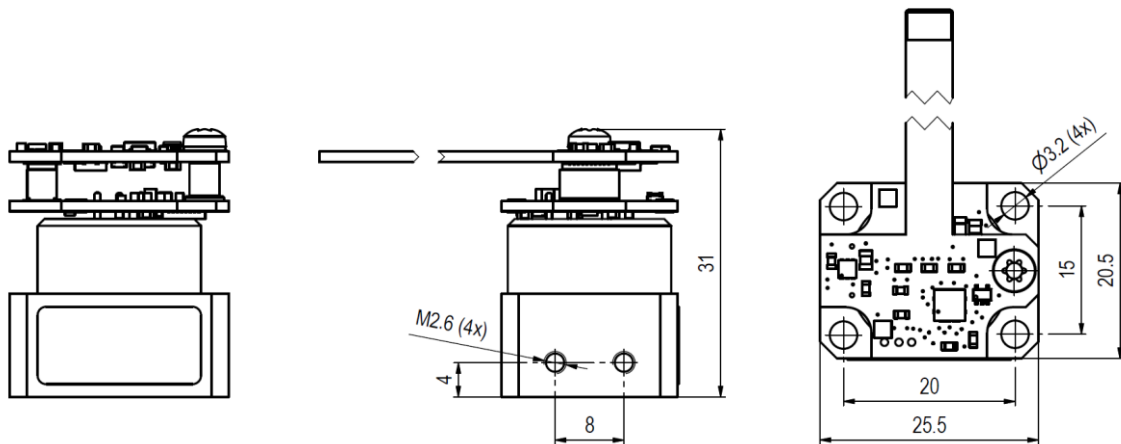
1) Calibrated at INFICON, non-linearity, hysteresis, repeatability at 25 °C ambient operating temperature without temperature effects after 2 hours operation.

Weight and internal volume are design specific.

Dimensions [mm]

Electronics dimension mm 20.5 x 25.5

Total height mm ≤ 31



For information only, final dimensions depend upon integration.

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