

# Spot™ CDS500D

## OEM Capacitance Diaphragm Sensor

The SPOT CDS500D suspended ceramic capacitance diaphragm sensor is designed for integration into the limited space in your specific vacuum instruments and systems. The miniature sensor offer a high accuracy, 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 (Al<sub>2</sub>O<sub>3</sub>) ceramic coated capacitance diaphragm sensor is highly corrosion resistant with UHP compliant wetted surface**
- **Excellent repeatability and long-term stability**
- **Welded custom flange for integration of calibrated sensor**
- **Sensor electronics with SPI interface for easy integration**
- **Fast response time**
- **High overpressure capability**

## Applications

- For integration into custom vacuum instrumentation and systems

## Ordering Information

On request

## Specifications CDS500D

	Unit							Comments
<b>Full Scale</b>	Torr (FS)	<b>1000</b>	300	<b>100</b>	30	<b>10</b>		base values
	Pa (FS)	133322	40000	13332	4000	1333		on request ranges 5 .... 2500 Torr
	mbar (FS)	1333	400	133	40	13.3		
Accuracy <sup>1)</sup>	% of reading	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 <sub>pp</sub>	≤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
Materials exposed to vacuum		Aluminum oxide ceramic (Al <sub>2</sub> O <sub>3</sub> ), stainless steel 1.4301/AISI304						
Tightness, leak rate	mbar l/s	< 1 E-9						
Mounting position		any						recommended vertical up or horizontal

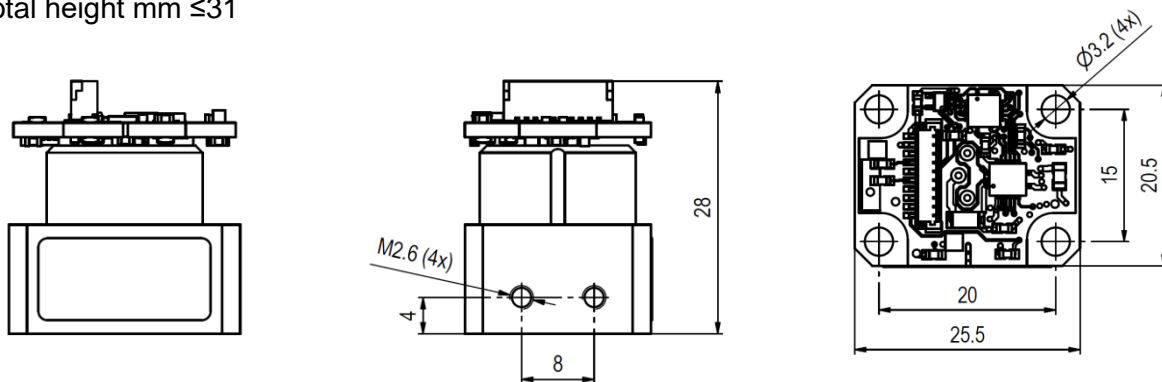
1) Calibrated at INFICON, non-linearity, hysteresis, repeatability at 25 °C ambient operating temperature without temperature effects after 2 hours operation.

Weight and internal volume are design specific.

## Dimensions [mm]

Electronics dimension mm 20.5 x 25.5

Total height mm  $\leq 31$



For information only, final dimensions depend upon integration.