

Spot™ CDS500D

Capacitance Diaphragm Sensor

The Spot CDS500D ceramic capacitance diaphragm sensor is designed for integration into the limited space in your specific vacuum instruments and systems. The miniature sensor offers a high accuracy, is corrosion resistant as the alumina ceramic cell 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.

ADVANTAGES

- Miniature alumina (Al₂O₃) ceramic coated capacitance diaphragm sensor is corrosion resistant
- Excellent repeatability and long-term stability
- Sensor electronics with SPI interface for easy integration
- Fast response time

APPLICATIONS

- For integration into custom vacuum instrumentation and systems



Spot™ CDS500D

ORDERING INFORMATION

Type

CDS500D

on request

SPECIFICATIONS

Full scale (FS)	1000 Torr	300 Torr	100 Torr	30 Torr	10 Torr
Accuracy ¹⁾			0.5 % of reading		
Temperature effect					
on zero			0.01 % FS / °C		
on span			0.01 % of reading / °C		
Resolution			0.01 % FS / °C		
Long time stability			0.5 % FS / year		
Lowest reading			0.05 % FS		
Measuring range			0.1 ... 100 % FS		
Temperature					
Ambient operating			0 ... 60 °C		
Compensated range			10 ... 50 °C		
Storage			-20 ... 80 °C		
Ambient humidity limits			< 80 % RH non-condensing		
Maximum admissible pressure			400 kPa absolute		
Burst pressure			800 kPa absolute		
Supply voltage			5 ± 0.25 VDC		
Supply voltage ripple			≤ 50 mV _{pp}		
Power consumption			< 0.05 W operation		
Digital interface			SPI bus		
Data rate			1, 2.5, 5, 10, 25, 100, 200, 250 ms (selectable during ordering process)		
Responds time			2 ms (10 ... 90%)		
Electrical connection			JST or Flex. cable		
Materials exposed to vacuum			ceramics (Al ₂ O ₃), stainless steel (AISI 316l)		
Tightness, leak rate			< 1 E-9 mbar l/s		
Mounting position			any, recommended vertical up		

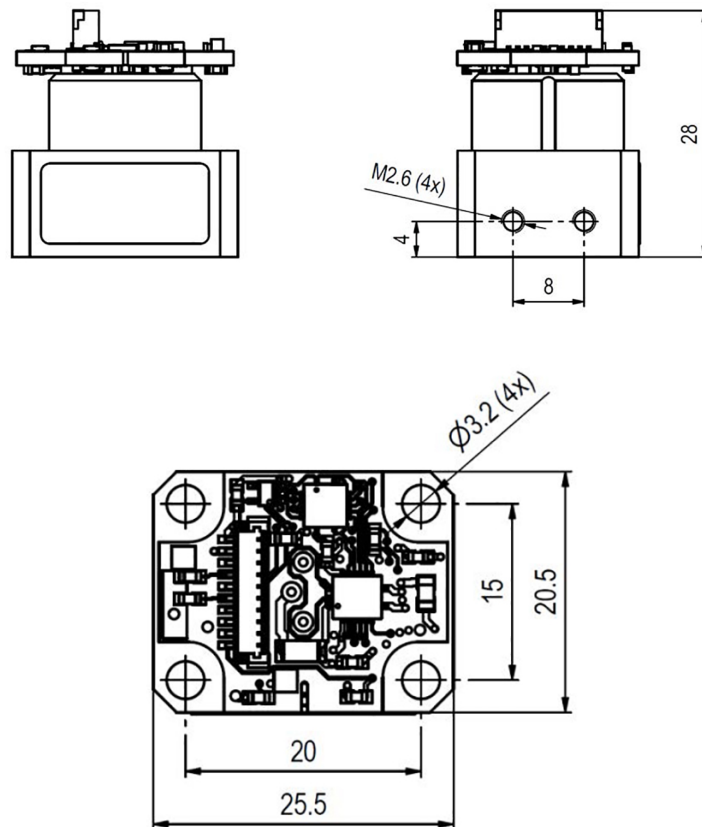
¹⁾ Calibrated at INFICON, non-linearity, hysteresis, repeatability at 25 °C ambient operating temperature without temperature effects after 2 hours operation.

Weight and internal volume are design specific

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DIMENSIONS

[mm]



For information only, final dimensions depend upon integration