

SKY® CDG025D-X3 4-20mA current loop

Ambient Capacitance Diaphragm Gauge

The INFICON SKY CDG025D Capacitance Diaphragm Gauge line of highly accurate temperature compensated manometers is designed for stable performance in harsh manufacturing tool environments. Advanced digital electronics improve gauge performance and offer easy handling features such as one push button zero function and setpoint adjustment. The corrosion resistant ultra pure ceramic sensor provides excellent zero stability with a long life expectancy of several million pressure cycles, including atmospheric bursts. A unique sensor shielding (patent pending) protects the gauge from process contamination. A robust mechanical design and digital electronics improve EMC compatibility, long term stability and temperature compensation. The CDG025D sets new standards for fast stability after power on and fast recovery from atmospheric pressure exposure.

ADVANTAGES

- Full scale (FS) ranges from 100 mTorr ... 1000 Torr
- Fast stability after power on
- Fast recovery from atmospheric pressure
- Corrosion resistant ceramic sensor
- Excellent long term signal stability
- Temperature compensated
- Sensor double protected from contamination
- One push button zero function
- Interface with 2-wire current loop
- Long cable distance (<300 m)
- Low energy gauge
- Remote zero included
- Clean room compliant
- Status LED

APPLICATIONS

- Semiconductor manufacturing equipment for Etch, CVD, PVD, ALD
- Data storage and display manufacturing equipment
- Industrial vacuum equipment
- General high accuracy pressure measurement



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ORDERING INFORMATION

3 C B 1 - **6 5 1** - **0 1 E 0**

Full Scale (FS)			Flange	
	0.1	3	1	DN 16 ISO-KF
	0.25	4	3	DN 16 CF-R
	0.5	5	9	OD ½ in. tube
	1	6	C	4 VCR male
	2	7	D	4 VCR female
	5	8	E	8 VCR female
	10	9		
	20	A		
	50	B		
	100	C		
	200	D		
	500	E		
(Torr only)	1000	F		
(mbar only)	1100	G		
			Unit	
			5	Torr (× 1.33 mbar; × 133 Pa)
			6	mbar (× 100 Pa)

bold = standard products

Other flange types on request.

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SPECIFICATIONS

Full scale (FS)	1000 Torr, 1100 mbar	500 ... 1 Torr / mbar	0.5 ... 0.05Torr / mbar
Accuracy ¹⁾	0.2 % of reading	0.2 % of reading	0.5 % of reading
Temperature effect			
on zero	0.005 % FS / °C	0.005 % FS / °C	0.02 % FS / °C
on span	0.01 % of reading / °C	0.01 % of reading / °C	0.03 % of reading / °C
Resolution		0.003 % FS	
Pressure, max. (absolute)	300 kPa	200 kPa	130 kPa
Response time ²⁾		≤100 ms	
Lowest reading		0.01 % FS	
Lowest suggested reading		0.05 % FS	
Lowest suggested control pressure		0.5 % FS	
Temperature			
Operation (ambient)		+5 ... +60 °C	
Bakeout at flange ³⁾		≤110 °C	
Storage		-20 ... +65 °C	
Supply voltage		+21 ... +27 V (dc)	
Output signal (analog)		2-wire, current loop	
Relationship current-pressure		linear	
Signal range		3.8 ... 20.2 mA	
Measuring range (zero ... FS)		4.0 ... 20.0 mA	
Loaded impedance RL			
Ω		typical 500Ω±1% 24±3 V (dc) ⁴⁾	
absolute		309 ... 657Ω at 24 V (dc) ⁴⁾	
remote zero input		digital input, floating contact	
High level (pulse > 1s)		+21 ... +27 V (dc) / ≤8 mA	
Low level		≤2	
remote zero function			
High level (pulse > 1s)		auto zero adjust	
Low level		measurement operation	
Degree of protection		IP 30	
Standards			
CE conformity		EN 61000-6-3, EN 61010, 61326-1 & RoHS	
ETL certification		UL 61010-1, CSA 22.2 No.61010-1	
Electrical connection		D-Sub, 9-pin, male	
Sensor cable			
Without remote zero		two-wire cable plus shielding, twisted	
With remote zero		four-wire cable plus shielding, twisted	
Materials exposed to vacuum		ceramics (Al ₂ O ₃), stainless steel (AISI 316L)	
Internal volume		≤5.1 cm ³	
Weight		277 ... 334 g	

¹⁾ Non-linearity, hysteresis, repeatability at 25°C ambient operating temperature without temperature effects after two hours operation

²⁾ Increase 10 ... 90% FS

³⁾ Non-operation

⁴⁾ Supply voltage at the gauge

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DIMENSIONS

mm (in.)

