



Pressure &

Vacuum Measurement Solutions

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## D28F

### HEATED (100°C) DUAL-RANGE ABSOLUTE BARATRON® CAPACITANCE MANOMETER

The D28F dual-range manometer, an application-specific absolute Baratron® capacitance manometer, is the latest addition to the MKS family of general purpose manometers. With two distinct measurement outputs, the D28F provides accurate, reliable, and repeatable pressure measurements for multi-step processes. The D28F is heated to 100°C and is available in Full Scale ranges of 1, 10, 100 and 1000 Torr, with a customer specified second output having either a 2, 5, or 10 times lower Full Scale pressure output to provide a proportionally higher sensitivity. The lower pressure limitation of system A/D resolution is now minimized with higher output signal levels. The D28F requires  $\pm 15$  VDC ( $\pm 5\%$ ) input at 500 mA (max.), and provides two outputs of 0 to 10 VDC linear with pressure.

Based on the well-established Baratron capacitance manometer technology, the sensor's wetted surfaces are made of Inconel® for corrosion resistance and process compatibility. Measurements are independent of gas composition. The modern stainless steel enclosure provides a cleanroom-compatible product.

### Features & Benefits

#### Accurate

- Second output provides greater resolution over the lower range of the instrument
- Percent of Reading accuracy for more repeatable output signal
- Provides improved sensitivity for system I/O architecture with limited A/D resolution
- Measures total pressure directly, independent of gas composition

#### Robust

- All Inconel corrosion resistant wetted surfaces

- Integrated sump (US Patent #5,822,685) provides particle protection
- High overpressure rating for improved reliability

#### Compatible

- Cleanroom-compatible stainless steel package
- Compatible with earlier Baratron capacitance manometers, MKS power supply/readout modules, and pressure controllers

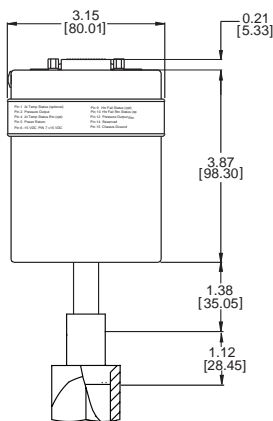
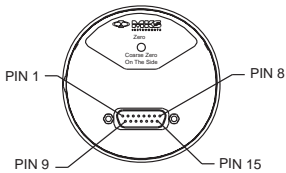


# Specifications and Ordering Information

<b>Full Scale Ranges</b>	1, 10, 100, 1000 Torr
<b>Resolution</b>	0.001% of Full Scale
<b>Accuracy</b>	0.25% of Reading (including non-linearity, hysteresis, and non-repeatability)
<b>Temperature Coefficients</b>	
Zero	0.002% of Full Scale/°C
Span	0.02% of Reading/°C
<b>Ambient Operating Temperature</b>	15°C to 40°C
<b>Volume</b>	6.3 cc
<b>Warm-Up Time</b>	2 hours
<b>Overpressure Limit</b>	45 psia (310 kPa)
<b>Materials Exposed to Gases</b>	Inconel® (Optional fittings: 316 SS)
<b>Input Power Required</b>	±15 VDC ±5% @ 0.5 Amps (max.)
<b>Output Signal</b>	Pressure: 0 to +10 VDC into > 10K Ω load; second output 0 to 10 VDC into > 10K Ω load over lower range
<b>Fittings</b>	Standard: 1/2" (12.7 mm) tubulation; Optional: 8 VCR® female, Mini-CF, NW 16 KF, NW25 KF
<b>Compliance</b>	CE

## Ordering Code Example: D28F01TBAE1B2

Model	Code	Configuration
D28F	D28F	D28F
<b>Ranges mmHg (Torr)</b>		
1	01T	01T
10	11T	
100	12T	
1000	13T	
<b>Fittings</b>		
1/2" Tube	BA	BA
8 VCR	CE	
Mini-CF	HA	
NW 16 KF	GA	
NW 25 KF	GC	
<b>Accuracy (% of Reading)</b>		
0.25% (standard 1 thru 1000 Torr only)	E	E
<b>Orientation/Calibration</b>		
Specific Orientation for Calibration not required (1 Torr and above, first output)	0	1
Vertical Calibration (required below 1 Torr, first output)	1	
Horizontal Calibration (required below 1 Torr, first output)	5	
<b>Connector</b>		
15 pin Type "D" with Thread Locks	B	B
15 pin Type "D" with Slide Locks	P	
<b>Second Range Gain Ratio</b>		
2 to 1	2	2
5 to 1	5	
10 to 1	0	



### Dimensional Drawing —

Note: Unless otherwise specified, dimensions are nominal values in inches (mm referenced).



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