



Pressure &

Vacuum Measurement Solutions

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D28F

BARATRON® DUAL-RANGE MANOMETER TEMPERATURE CONTROLLED TO 100°C

The Baratron® D28F Dual-range Manometer, an application-specific absolute 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 temperature controlled at 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 ± 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

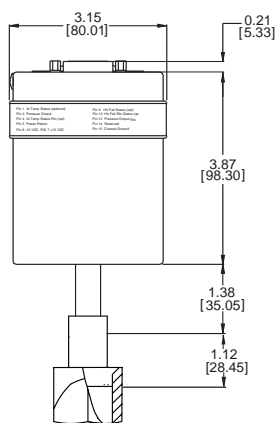
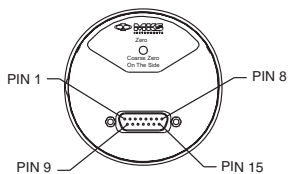


Specifications and Ordering Information

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

Ordering Code Example: D28F01TBAE1B2

D28F	Code	Configuration
D28F	D28F	D28F
Ranges mmHg (Torr)		
1	01T	01T
10	11T	
100	12T	
1000	13T	
Fittings		
1/2" Tube	BA	BA
8 VCR	CE	
Mini-CF	HA	
NW 16 KF	GA	
NW 25 KF	GC	
Accuracy (% of Reading)		
0.25% (standard 1 thru 1000 Torr only)	E	E
Orientation/Calibration		
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	
Connector		
15 pin Type "D" with Thread Locks	B	B
15 pin Type "D" with Slide Locks	P	
Second Range Gain Ratio		
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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