MKS Baratron® Type D28B Dual-Range Manometer is an applications-specific absolute capacitance manometer based on the latest MKS family of general purpose manometers. It features the added capability of providing two distinct measurement outputs to provide accurate, reliable, and repeatable pressure measurements for multi-step processes. The D28B 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 D28B requires ±15 VDC (±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

**Compatible**
- All Inconel® sensor—corrosion resistant wetted surfaces
- Cleanroom-compatible stainless steel package
- Compatible with earlier Baratron® capacitance manometers, MKS power supply/readout modules and pressure controllers
- CE Compliant—meets requirements for European Union

**High overpressure rating for improved reliability**
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

Electromagnetic Compatibility
Fully CE Compliant to EMC Directive 89/336/EEC

Fittings
Standard: 1/2” (12.7 mm) tubulation; Optional: 8 VCR®, Mini-CF, NW 16 KF, NW25 KF

Ordering Code Example: D28B01TBAE1B2

Type D28B
Code
Configuration

Ranges mmHg (Torr)

1
01T

10
11T

100
12T

1000
13T

Fittings

1/2” Tube
8 VCR
Mini-CF
NW 16 KF
NW 25 KF

BA
CE
HA
GA
GC

Accuracy (% of Reading)

0.25% (standard 1 thru 1000 Torr only)

Orientation/Calibration

Specific Orientation for Calibration not required
(1 Torr and above, first output)

Vertical Calibration (required below 1 Torr, first output)
Horizontal Calibration (required below 1 Torr, first output)

Connector

15 pin Type “D” with Thread Locks
15 pin Type “D” with Slide Locks

B
P

Second Range Gain Ratio

2 to 1
2

5 to 1
5

10 to 1
0