



Pressure &

Vacuum Measurement Solutions

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D24F

BARATRON® DUAL-RANGE MANOMETER TEMPERATURE CONTROLLED TO 45°C WITH TRIP POINTS

The Baratron® D24F 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 D24F provides accurate, reliable, and repeatable pressure measurements for multi-step processes. The D24F is temperature controlled at 45°C, and is available in Full Scale ranges of 10, 100 and 1000 Torr, with a customer specified second output at 2, 5, or 10 times lower Full Scale. The lower pressure limitation of system A/D resolution is now minimized with higher output signal levels. The instrument operates with ± 15 VDC ($\pm 5\%$) input at 400 mA (max.), and provides two outputs of 0 to 10 VDC linear with pressure.

The D24F's sensor exposes only Inconel® to the process permitting the use with corrosive or dirty gases. Measurements are independent of gas composition. The D24F also features two trip point relays, each separately adjustable from 0.1 to 100% of Full Scale. Dual color LEDs indicate relay status. Typical relay uses include pump cross-over and valve activation. 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—ideal for multi-step processes
- 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

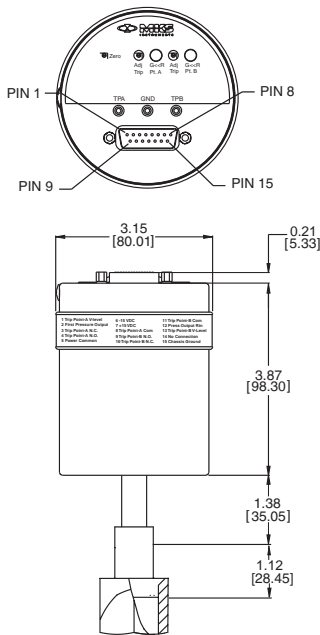
Compatible

- 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	10, 100, 1000 Torr
Resolution	0.001% of F.S.
Accuracy	0.12% 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% @ 0.40 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
Output Relays	SPDT contacts rated at 1 Amp @ 30 VDC or 0.5 Amp @ 30 VAC resistive
Trip Point Level Signal	0.01 to 10 VDC for each trip point (first output only)
Compliance	CE
Fittings	Standard: 1/2" (12.7 mm) tubulation; Optional: 8 VCR® female, Mini-CF, NW 16 KF



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

Ordering Code Example: D24F11TBACB2

D24F	Code	Configuration
D24F	D24F	D24F
Ranges mmHg (Torr)		
10	11T	11T
100	12T	
1000	13T	
Fittings		
1/2" Tube	BA	BA
8 VCR	CE	
Mini-CF	HA	
NW 16 KF	GA	
Accuracy		
0.12%	C	C
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	



MKS Instruments, Inc. Global Headquarters

2 Tech Drive, Suite 201
 Andover, MA 01810
 Tel: 978.645.5500
 Tel: 800.227.8766 (in U.S.A.)
 Web: www.mksinst.com

MKS Instruments, Inc. Pressure & Vacuum Measurement Solutions

Six Shattuck Road
 Andover, MA 01810
 Tel: 978.975.2350

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