



**Pressure &**

**Solutions Vacuum Measurement**

WWW.MKSINST.COM

## D24F

### HEATED (45°C) DUAL-RANGE ABSOLUTE BARATRON® CAPACITANCE MANOMETER WITH TRIP POINTS

The D24F 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 D24F provides accurate, reliable, and repeatable pressure measurements for multi-step processes. The D24F is heated to 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 (±5%) input at 400 mA (max.), and provides two outputs of 0 to 10 VDC linear with pressure.

The sensor of the D24F 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

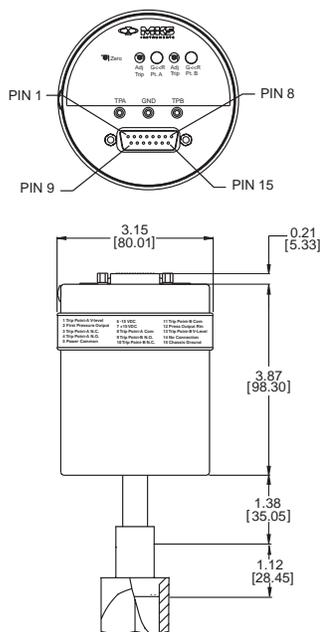


# Specifications and Ordering Information

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

## Ordering Code Example: D24F11TBACB2

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



## 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

D24F - 3/19  
© 2014-2019 MKS Instruments, Inc.  
All rights reserved.

Some Baratron® capacitance manometer products may not be exported to many end user countries without both US and local government export licenses under ECCN 2B230.

Specifications are subject to change without notice. mksinst™ is a trademark and Baratron® is a registered trademark of MKS Instruments, Inc., Andover, MA. VCR® is a registered trademark of Swagelok® Co., Solon OH. Inconel® is a registered trademark of Inco Alloys International, Inc., Huntington, WV.