



# Pressure &

# Vacuum Measurement Solutions

WWW.MKSINST.COM

## 628F

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

The 628F Baratron® capacitance manometer is the industry standard for stability and accuracy. The 628F Baratron capacitance manometer is heated to 100°C, accurate to 0.25% of Reading and includes updated temperature control electronics to provide superior long-term stability and repeatability. Optional heater and temperature status LED/switches indicate that the heater (which maintains the sensor temperature to 100°C) is in control. This capacitance manometer is available in Full Scale ranges down to 50 mTorr (0.07 mbar) to accommodate today's lower process pressures.

Based on established Baratron capacitance manometer technology, the sensor's wetted surfaces are Inconel® for excellent resistance to corrosive gases. The contemporary stainless steel package provides a cleanroom-compatible product. The product is interchangeable with earlier 128 and 628 Baratron capacitance manometers and can be used with MKS power supplies, display units and pressure controllers, or the user's compatible power supply/readout devices.

### Features & Benefits

#### Accurate

- Excellent long-term stability
- Percent of Reading accuracy for more precise output signal in lower pressure ranges
- Full Scale ranges low as 50 mTorr (0.07 mbar) for precise measurement of low pressure processes
- 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
- Faster warm-up time

- Visual and electrical status of temperature and heater control circuit
- 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

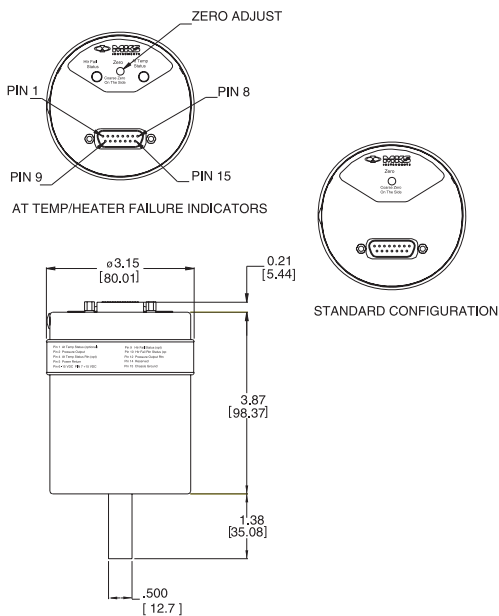


# Specifications and Ordering Information

<b>Full Scale Ranges</b>	0.05, 0.1, 0.25, 1, 2, 10, 20, 100, 1000, 2000, 5000, 10000, 15000, 20000, 25000 Torr
<b>Resolution</b>	0.001% of Full Scale (0.002% of Full Scale for 0.05 Torr)
<b>Accuracy</b>	0.25% of Reading (including non-linearity, hysteresis, and non-repeatability) for 1 - 25,000 Torr; 0.50% of Reading for 0.25, 0.1, and 0.05 Torr
<b>Temperature Coefficients</b>	
Zero	0.002% of Full Scale/°C for 1 - 25,000 Torr; 0.01% of Full Scale/°C for 0.25 and 0.1 Torr; and 0.02% of Full Scale/°C for 0.05 Torr
Span	0.02% of Reading/°C
<b>Ambient Operating Temperature</b>	15°C to 50°C
<b>Volume</b>	6.3 cc
<b>Warm-Up Time</b>	2 hours for 1 - 25,000 Torr ranges, 4 hours for ranges < 1 Torr
<b>Overpressure Limit</b>	45 psia (310 kPa) or 120% Full Scale, whichever is greater
<b>Materials Exposed to Gases</b>	Inconel®
<b>Input Power Required</b>	±15 VDC ±5% @ 0.6 Amps (max.)
<b>Output Signal</b>	Pressure: 0 to +10 VDC into >10K Ω load
<b>Optional Features LED's and Switches</b>	Temperature status: one semiconductor switch will turn "ON" and corresponding green LED will be "ON" when the instrument is at temperature. Heater status: second semiconductor switch will turn "OFF" when heater failure occurs and corresponding bi-color LED will be blinking red, otherwise light will remain green. Standard: 1/2" (12.7 mm) OD tube. Optional: 8 VCR® and 8 VCO® female, NW16 KF and NW25 KF, 1.33" OD CF and 2.75" OD CF
<b>Fittings</b>	CE
<b>Compliance</b>	

## Specifications for Semiconductor Switch

<b>Current Charge Capacity</b>	120mA max.
<b>Switch on Resistance</b>	20 Ω max. @ 120mA, 50°C
<b>Open Circuit Voltage</b>	28V max.



### Dimensional Drawing —

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

### Ordering Code Example: 628F01TBE1B

Code	Configuration
628F	628F
<b>Pressure Range Full Scale</b>	
0.05	01T
0.1	
0.25	
1	
2	
10	
20	
100	
1000	
2000	
5000	
10000	
15000	
20000	
25000	
<b>Fittings</b>	
1/2" (12.7 mm) OD tube	B
8 VCR female	
1.33" OD CF	
NW16 KF (range < 5000 Torr)	
8 VCO female	
2.75" OD CF	
NW25 KF (range < 5000 Torr)	
<b>Accuracy</b>	
0.25% of Reading (ranges ≥ 1 Torr)	E
0.5% of Reading (ranges < 1 Torr)	
<b>Options</b>	
Standard Configuration, vertical calibration	1
Optional Temperature/Heater Status, vertical calibration	
Standard Configuration, horizontal calibration (ranges < 1 Torr only)	
Optional Temperature/Heater Status, horizontal calibration (ranges < 1 Torr only)	
<b>Connector</b>	
15 pin Type "D" with Thread Lock	B
15 pin Type "D" with Slide Lock	



### 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