



Pressure &

Vacuum Measurement Solutions

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# Type 628F

## BARATRON® TEMPERATURE REGULATED CAPACITANCE MANOMETER

The Type 628F Baratron® is the RoHS-compliant version of the industry standard for stability and accuracy. The Type 628F Baratron is temperature controlled 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 Types 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
- CE and RoHS (Restriction of Hazardous Substances) compliant

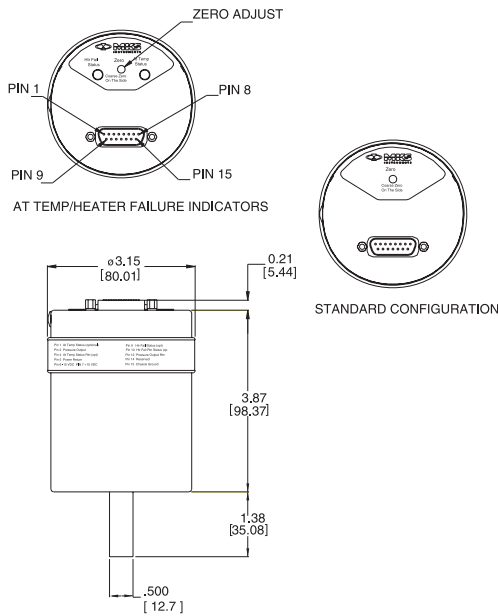


# Specifications and Ordering Information

<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 F.S. (0.002% of F.S. 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 F.S./°C for 1 - 25,000 Torr; 0.01%/°C of F.S. for 0.25 and 0.1 Torr; and 0.02%/°C of F.S. for 0.05 Torr
Span	0.02% of Rdg./°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% F.S., 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.
<b>Electromagnetic Compatibility</b>	CE compliant to EMC Directive 2004/108/EC
<b>Restriction of Hazardous Substances</b>	Fully compliant to RoHS Directive 2002-95-EC
<b>Fittings</b>	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

## 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

Type 628F	Code	Configuration
<b>Pressure Range Full Scale</b>	628F	628F
0.05	UST	01T
0.1	.1T	
0.25	RET	
1	01T	
2	02T	
10	11T	
20	21T	
100	12T	
1000	13T	
2000	23T	
5000	53T	
10000	14T	
15000	RBT	
20000	24T	
25000	RCT	
<b>Fittings</b>	1/2" (12.7 mm) OD tube 8 VCR female 1.33" OD CF NW16 KF (range < 5000 Torr) 8 VCO female 2.75" OD CF NW25 KF (range < 5000 Torr)	A B C D E L Q
<b>Accuracy</b>	0.25% of Reading (ranges ≥ 1 Torr) 0.5% of Reading (ranges < 1 Torr)	E F
<b>Options</b>	Standard Configuration, vertical calibration (ranges ≥ 1 Torr) Optional Temperature/Heater Status, vertical calibration (ranges ≥ 1 Torr) Standard Configuration, horizontal calibration (ranges < 1 Torr only) Optional Temperature/Heater Status, horizontal calibration (ranges < 1 Torr only)	1 2 5 6
<b>Connector</b>	15 pin Type "D" with Thread Lock 15 pin Type "D" with Slide Lock	B P



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