



Pressure

Type 628D

BARATRON® TEMPERATURE REGULATED CAPACITANCE MANOMETER

The Type 628D Baratron® is the RoHS-compliant version of the industry standard for stability and accuracy. The Type 628D 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 Type 128, 628A, and 628B 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



Measurement & Control

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Specifications and Ordering Information

Full Scale Ranges
Resolution
Accuracy

0.05, 0.1, 0.25, 1, 2, 10, 20, 100, 1000, 2000, 5000, 10000, 15 000, 20000, 25000 Torr
 0.001% of F.S. (0.002% of F.S. for 0.05 Torr)
 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

Temperature Coefficients
 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
Ambient Operating Temperature
Volume

0.02% of Rdg./°C
 15°C to 50°C
 6.3 cc

Warm-Up Time
Overpressure Limit
Materials Exposed to Gases
Input Power Required
Output Signal

2 hours for 1 - 25,000 Torr ranges, 4 hours for ranges < 1 Torr
 45 psia (310 kPa) or 120% F.S., whichever is greater
 Inconel®
 ±15 VDC ±5% @ 0.6 Amps (max.)
 Pressure: 0 to +10 VDC into >10K Ω load

Optional Features LED's and Switches

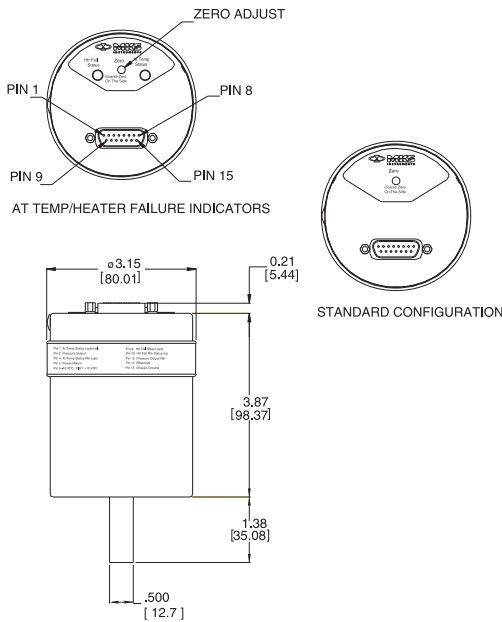
Temperature status: one semiconductor switch will turn "ON" and corresponding green LED will be "ON" when the instrument is at temperature.
 Heater status: second semiconductor switch will turn "OFF" when heater failure occurs and corresponding bi-color LED will be blinking red, otherwise light will remain green.
 CE compliant to EMC Directive 2004/108/EC
 Fully compliant to RoHS Directive 2002-95-EC
 Standard: 1/2" (12.7 mm) OD tube. Optional: 8 VCR® female, NW16-KF, mini-CF

Electromagnetic Compatibility
Restriction of Hazardous Substances
Fittings

Specifications for Semiconductor Switch

Current Charge Capacity
Switch on Resistance
Open Circuit Voltage

120mA max.
 20 Ω max. @ 120mA, 50°C
 28V max.



Dimensional Drawing —

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

Ordering Code Example: 628D01TBE1B

Code	Configuration
Type 628D	628D
Pressure Range Full Scale	
0.05	U5T
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	RCT
20000	24T
25000	RCT
Fittings	
1/2" (12.7 mm) OD tube	A
8 VCR female	B
Mini-CF, rotatable (pressure limited to bolt strength)	C
NW 16KF (only for 5000T or lower)	D
Accuracy (see specifications for applicability)	
0.25% of Reading	E
0.5% of Reading	F
Options	
Standard Configuration	1
Optional Temperature/Heater Status	2
Connector	
15 pin Type "D" with Thread Lock	B
15 pin Type "D" with Slide Lock	P

