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Pressure & Measurement Control

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mks
Technology for Productivity

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

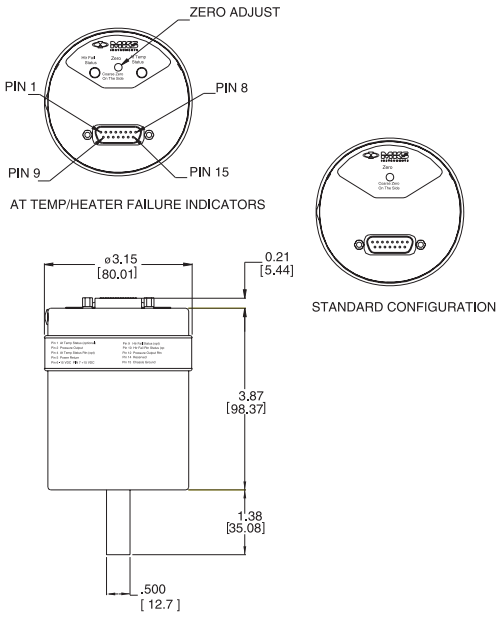
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Specifications and Ordering Information

Full Scale Ranges	0.05, 0.1, 0.25, 1, 2, 10, 20, 100, 1000, 2000, 5000, 10000, 15 000, 20000, 25000 Torr
Resolution	0.001% of F.S. (0.002% of F.S. for 0.05 Torr)
Accuracy	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	0.02% of Rdg./°C
Ambient Operating Temperature	15°C to 50°C
Volume	6.3 cc
Warm-Up Time	2 hours for 1 - 25,000 Torr ranges, 4 hours for ranges < 1 Torr
Overpressure Limit	45 psia (310 kPa) or 120% F.S., whichever is greater
Materials Exposed to Gases	Inconel®
Input Power Required	±15 VDC ±5% @ 0.6 Amps (max.)
Output Signal	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.
Electromagnetic Compatibility	Fully compliant to EMC Directive 2004/108/EC
Restriction of Hazardous Substances	Fully compliant to RoHS Directive 2002-95-EC
Fittings	Standard: 1/2" (12.7 mm) OD tube. Optional: 8 VCR® female, NW16-KF, mini-CF

Specifications for Semiconductor Switch

Current Charge Capacity	120mA max.
Switch on Resistance	20 Ω max. @ 120mA, 50°C
Open Circuit Voltage	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	628D
Pressure Range Full Scale		
0.05	U5T	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	RCT	
20000	24T	
25000	RCT	
Fittings		
1/2" (12.7 mm) OD tube	A	B
8 VCR female	B	
Mini-CF, rotable (pressure limited to bolt strength)	C	
NW 16KF (only for 5000T or lower)	D	
Accuracy (see specifications for applicability)		
0.25% of Reading	E	E
0.5% of Reading	F	
Options		
Standard Configuration	1	1
Optional Temperature/Heater Status	2	
Connector		
15 pin Type "D" with Thread Lock	B	B
15 pin Type "D" with Slide Lock	P	

mks
Technology for Productivity

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