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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

WWW.MKSINST.COM

# 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

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 Restriction of Hazardous Substances Fittings

Fully 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

## Specifications for Semiconductor Switch

### Current Charge Capacity

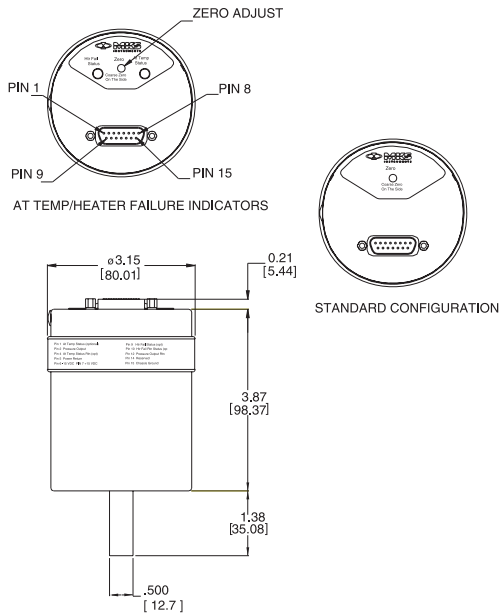
120mA max.

### 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

### Type 628D

### Code

### Configuration

### Pressure Range Full Scale

Pressure Range Full Scale	Code	Configuration
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

Fittings	Code	Configuration
1/2" (12.7 mm) OD tube	A	B
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)

Accuracy (see specifications for applicability)	Code	Configuration
0.25% of Reading	E	E
0.5% of Reading	F	

### Options

Options	Code	Configuration
Standard Configuration	1	1
Optional Temperature/Heater Status	2	

### Connector

Connector	Code	Configuration
15 pin Type "D" with Thread Lock	B	B
15 pin Type "D" with Slide Lock	P	



628D\_RoHS - 8/12  
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## 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

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