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Pressure Measurement & Control

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Technology for Productivity

Types 622B, 623B, & 626B

ABSOLUTE BARATRONS®
AMBIENT TEMPERATURE CAPACITANCE MANOMETERS

The Types 622B, 623B, and 626B Ambient Temperature Baratrons are analog RoHS-compliant, capacitance-based, high-performance vacuum and pressure transducers that require ±15VDC input voltage and provide a high-level 0-10VDC analog output signal that is linear with pressure. This analog output can be interfaced with an MKS pressure controller, an MKS power supply/display instrument, or any instrument that meets these requirements. Changes in pressure/vacuum are determined by measuring the change in capacitance between the sensor's diaphragm and an adjacent electrode disk. This capacitance change is converted to a useable output by patented signal-conditioning electronic circuits. The radially-tensioned Inconel® diaphragm in the sensor provides very fast response (<20 msec in many cases), low hysteresis, excellent repeatability, very high resolution (to 0.001% of Full Scale), exceptionally high corrosion resistance, and double-walled welded construction for operator safety. The sensor itself can withstand repeated exposures to 45 psia (3.1 bar) without permanent degradation or shifting, allowing it to operate in virtually any process system.

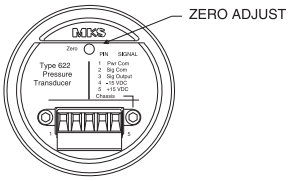
The Types 622B, 623B, and 626B Baratrons operate at ambient conditions. They are available in Full Scale pressure/vacuum ranges from 0.1 to 1000 Torr (and metric equivalents) and are suited for many industrial, electronic, and research applications. The Type 622B has a terminal block electrical connector, the Type 626B has a 15-pin D-subminiature electrical connector, and the Type 623A product adds two (2) independently-adjustable trip relays to control external equipment.

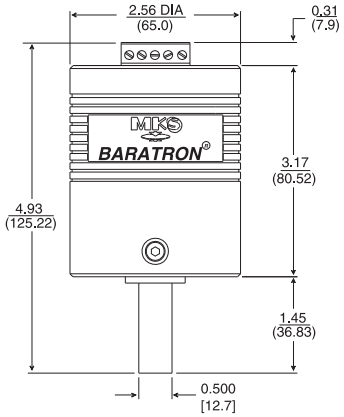
Features & Benefits

- Full scale pressure/vacuum ranges as low as 0.10 Torr (mm Hg) allow for accurate measurement of vacuum as low as 1 x 10^{-3} Torr (1.3 x 10^{-3} mbar)
- All products are specified in percent of reading for best accuracy and improved process yield
- Direct measurement of chamber total pressure independent of gas type or composition, eliminating need for lookup tables and conversion factors
- Best-available long-term output stability ensures state-of-the-art process repeatability in nearly any application
- Inconel® and Incoloy® nickel alloy construction of basic sensor operates without damage in virtually any chemical environment, including halogens, deionized water and steam, and ozone
- High overpressure limit ensures reliability from occasional system mishaps
- CE and RoHS compliant

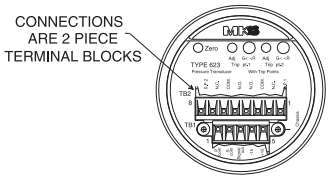
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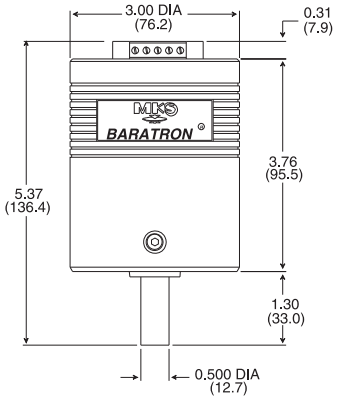
Type 622B



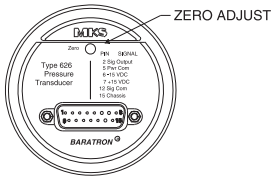


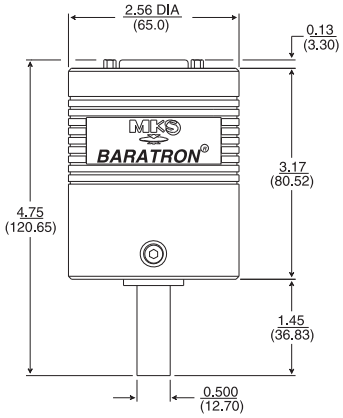
Type 623B





Type 626B





Dimensional Drawing —

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

Specifications

Full Scale Pressure Ranges	0.1 (626B only), 0.25 (626B only), 1 (622B, 626B), 2 (622B, 626B), 10, 20, 100, 500, 1000 Torr and metric equivalents
Accuracy - % of Reading*	0.25% for 1 to 1000 Torr, 0.50% for < 1 Torr (626B only)
Temperature Coefficients	
Zero	0.005% FS/°C for 10 to 1000 Torr ranges, 0.010% FS/°C for 2 Torr range, 0.015% FS/°C for 1 Torr range, and 0.020% FS/°C for ranges < 1 Torr (626B only)
Span	0.04% of Reading/°C
Resolution	0.001% of Full Scale
Ambient Operating Temperature	0 to 50°C
Overpressure Limit	45 psia (310 kPa)
Materials Exposed to Process	Inconel® and Incoloy® nickel alloys
Volume (Measurement Side)	6.3 cm^3
Input Power Required	±15VDC (±5%) @ 35 mA (622B and 626B), ±15VDC (±5%) @ 75 mA (623B)
Output Signal	0 – 10 VDC into > 10 kΩ load (all models), (2) trip replays individually adjustable from 0.1 to 100% of full-scale (623B only)
Electrical Connector	Terminal block(s) for 622B and 623B, 15-pin D-subminiature for 626B
Regulatory Approvals	CE compliant to ECD Directive 2004/108/EEC**
Restriction of Hazardous Substances	Fully compliant to RoHS Directive 2002-95-EC
Fittings	
Standard	½" (12.7 mm) OD tube standard
Optional	8 female VCR®, 8 female VCO®, NW16-KF, NW25-KF, 1.33" (33.8mm) OD Conflat®, 2.75" (70 mm) OD Conflat
Trip Relays (623B only)	(2) UL®-approved relays individually adjustable from 0.1 to 100% of Full Scale range, SPDT contacts rated at 1A @ 30VDC or 0.5A @ 30VAC resistive, 12.5 kΩ max source impedance

*Includes hysteresis, non-linearity, and non-repeatability.
**For CE compliance, the mating connector must be properly grounded.

Ordering Information

Ordering Code Example: GGGGXXXYZ	Code	Configuration
Model (GGGG)		
Ambient manometer, terminal block electrical connector	622B	622B
Ambient manometer, (2) trip relays, terminal block electrical connector	623B	
Ambient manometer, 15-pin D-subminiature electrical connector	626B	
Full Scale Range (XXX)		
0.1 Torr (626B only)	.1T	11T
0.25 Torr (626B only)	RET	
1 Torr (622B, 626B only)	01T	
2 Torr (622B, 626B only)	02T	
10 Torr	11T	
20 Torr	21T	
100 Torr	12T	
500 Torr	52T	
1000 Torr	13T	
Fittings (Y)		
1/2” (12.7 mm) OD tube	A	B
8 female VCR	B	
1.33” OD (33.8 mm) Conflat, rotatable	C	
NW16-KF	D	
8 female VCO	E	
NW25-KF	Q	
Accuracy (Z)		
0.25% Reading (1 to 1000 Torr) - standard	E	E
0.15% Reading (10 to 1000 Torr) - optional	D	
0.50% of Reading (< 1 Torr) - standard	F	

mks
Technology for Productivity

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622B/623B/626B_RoHS - 7/09
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