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Find the *MKS Instruments DMA02TCEEKNN633* at our website: ***Click HERE***

Pressure Measurement & Control

WWW.MKSINST.COM



mks
Technology for Productivity

Type DMA (80°C)

i-BARATRON® DIGITAL CAPACTIANCE MANOMETER

MKS introduces the i-Baratron capacitance manometer. A truly intelligent device designed for new generation digital control networks. An advanced signal processing engine coupled with highly efficient low power electronics are the basis for this digital manometer (DMA) family. The digital backbone combined with our industry standard Inconel all-welded sensor provides a packaged solution compatible with the most corrosive process environments. Interface is provided through the ODVA compliant DeviceNet™ communication protocol. The DMA family produces a high resolution digital output, plus the analog equivalent signal, offering accurate, reliable, and repeatable pressure measurement for Full Scale output ranges from 0.10 to 1000 Torr.

Features & Benefits

Accurate

- Excellent long-term stability
- Percent of Reading accuracy for more precise output signal in lower pressure ranges
- Full Scale ranges as low as 0.10 Torr for precise measurement of low pressure processes
- Measures total pressure directly, independent of gas composition
- CE compliant—meets requirements for European Union

Robust

- All Inconel® corrosion resistant wetted surfaces
- Integrated sump (US Patent #5,822,685) provides particle protection
- Fast warm-up time for quicker starts
- High overpressure rating, 45 psia, for improved reliability

Digital

- Digital from the ground up
- Highly efficient signal processing
- ODVA conformance testing assures seamless integration
- Digital data transmission provides immunity to system noise
- One-touch (push button) zero control

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Specifications

Performance

Sensor Type	Capacitance Manometer
Pressure Ranges (Torr Full Scale)	0.1, 1, 2, 10, 100, 1000
Measurement Resolution	0.001% F.S. on digital output
Accuracy (non-linearity, hysteresis and non-repeatability	1 to 1000 Torr range; 0.25% of Reading 0.1 Torr range; 0.50% of Reading
Temperature Coefficients	
Zero	1 to 1000 Torr; 0.002% of F.S./°C 0.1 Torr; 0.010% of F.S./°C
Span	0.02% of Reading/°C
Sensor Temperature	80°C
Ambient Operating Temperature	15° to 50°C
Warm-up Time	2 Hours for 1 - 1000 Torr F.S. 4 Hours for 0.10 Torr F.S.

Mechanical

Materials Exposed to Gases	Inconel® or Inconel® and S.S. fittings
Volume (P_x side)	6.3cc
Overpressure Limit w/o Damage	45 psia (310 kPa)
Fittings	
Standard	1/2" (12.7mm) tubulation
Optional	Swagelok® 8 VCR® (female), mini-CF rotatable, NW 16 KF

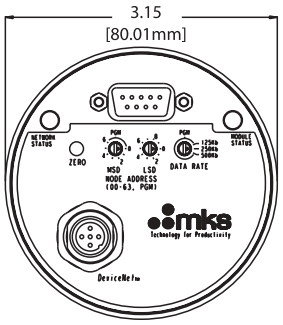
Electrical

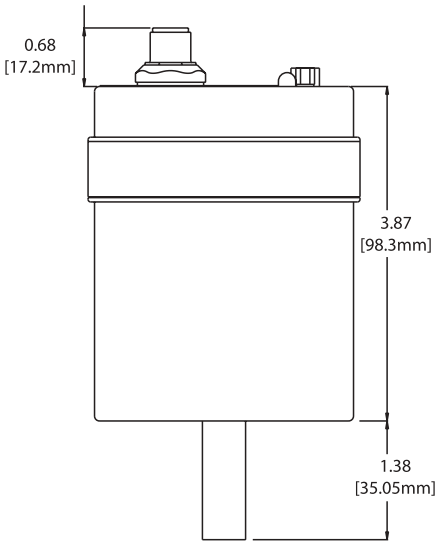
Digital	
Protocol	DeviceNet™, Group 2
Electrical connector	5-pin, sealed micro-style male connector with anti-rotation device
Data rate/Network length	Data rate (user-selectable) 125 Kbps, 500m (1,640 ft.) 250 Kbps, 250m (820 ft.) 500 Kbps, 100m (328 ft.)
Level of filtering	User software adjustable
Digital functions	Read pressure Set trip points and hysteresis Select units: Torr, Pa, mbar, inH_2O, psi Set zero Reset factory defaults Monitor transducer trip point status Change user tags and device address
Data rate switch	4 positions: 125, 250, 500K, PGM (programmable over the network)
MAC ID switches	2 switches, 10 positions; 0,0 to 6,3 are hardware ID numbers; 7,0 to 9,9 are software ID numbers (6,4 to 6,9 are unused and, if selected, will default to hardware ID number 6,3)
Network message control	Master/slave information flow
Input power	11 to 25 VDC @ $\leq$20 watts
Network size	Up to 64 nodes
Network topology	Linear (trunkline/dropline) power and signal on same network cable
Analog I/O	
Analog output signal	0-10 VDC into >10K Ω load
Output connector	9-pin Type "D"
Visual Communication Indicators	LED network status (green/red) LED module status (green/red)
Electromagnetic Compatibility	Fully CE compliant to EMC Directive 89/336/EEC

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Ordering Information

Ordering Code Example: DMA11TBAEKNH633	Code	Configuration
Type DMA i-Baratron® Digital Capacitance Manometer (80°C)	**DMA**	DMA
Ranges		
0.1 Torr	.1T	11T
1 Torr	01T	
2 Torr	02T	
10 Torr	11T	
20 Torr	21T	
100 Torr	12T	
500 Torr	52T	
1000 Torr	13T	
Fittings		
Straight Tube	BA	BA
8 VCR Female	CE	
Mini-CF, rotatable	HA	
NW 16 KF	GA	
8 VCO Female	DA	
Accuracy		
0.25% of Reading (1 - 1000 Torr)	E	E
0.50% of Reading (0.05 - 0.10 Torr)	F	
Temperature		
80°C	K	K
Options		
None	N	N
Calibration Type		
No Special Requirement, 1 Torr and above	N	H
Horizontal Cal, <1 Torr	H	
Vertical Cal <1 Torr	V	
Interface/Connector		
Devicenet/Micro Style, Male (CE)	6	6
Analog, 9-pin D-subminiature, 0-10VDC output	F	
Firmware Revision		
Version 3.3	33	33
Version 5.4 analog	54	





Dimensional Drawing —

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



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