US10000

- **High Accuracy**
- **Digitally Compensated**
- **Pressure Calibration Standard**
- **EMC Compliant**

DESCRIPTION

The US10000 Series from MEAS is the first choice for applications requiring high accuracy in a rugged environment. The 0.05% accuracy and typical total error band of 0.25% provides a stable platform for test stands and high accuracy industrial pressure applications. The high stability rating is provided through our solid-state UltraStable™ technology. The UltraStable™ technology employs a silicon-based strain gage isolated by an oil-filled capsule and a stainless steel diaphragm. This MEMS based technology provides stability over a wide temperature range with excellent repeatability and minimal hysteresis.

The US10000 incorporates a 316L stainless steel pressure fitting, isolation diaphragm and rugged IP 65 rated housing. Digital compensation provides complete signal conditioning with direct path analog output. Output options include a 3-wire analog voltage output and a 2-wire 4-20 mA transmitter output.

The US10000 is used in hundreds of test stands for the aerospace and automotive industries. Many OEM customers that need precise measurements prefer the transducer due to its high accuracy and economical price.

Standard outputs include 0 to 5V, 0 to 10V and 4 to 20mA current loop. Fittings include 1/4-18 NPT, 1/4 BSP (G1/4) and 7/16-20 SAE-4, all with male pressure ports.

FEATURES

- 0.05% Accuracy
- 0.25% Total Error Band from -25°C to +85°C
- -25°C to +85°C Operating Temperature
- IP65, NEMA 4, 100% Stainless Steel Isolation
- MEMS Piezoresistive Silicon Sensor
- For Minimal Hysteresis
- Advanced Digital Compensation of both
- Temperature and Non Linearity
- CE Compliant
- Great Performance/ Price Ratio
- Special Fittings, Connections and Outputs
- are available

APPLICATIONS

- Military/Aerospace Test Stands
- Automotive Test Stands
- Calibration Equipment
- High Accuracy
- Stationary Motor Fuel Control
- High End Industrial Machinery

measurement SPECIALTIES™

US10000

STANDARD RANGES

Range	psig	psia	Range	Barg	Bara
0 to 5	•	•	0 to 0.35	•	•
0 to 15	•	•	0 to 1	•	•
0 to 30	•	•	0 to 2	•	•
0 to 50	•	•	0 to 3.5	•	•
0 to 75	•	•	0 to 5	•	•
0 to 100	•	•	0 to 7	•	•
0 to 150	•	•	0 to 10	•	•
0 to 300	•	•	0 to 20	•	•
0 to 500	•	•	0 to 35	•	•
0 to 1k	•	•	0 to 70	•	•
0 to 1.5k	•	•	0 to 100	•	•
0 to 3k	•	•	0 to 200	•	•
0 to 5k	•	•	0 to 350	•	•
0 to 10k	•	•	0 to 700	•	•

PERFORMANCE SPECIFICATIONS

Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Offset	-0.25	0.1	0.25	%Span	1
Span	-0.25	0.1	0.25	%Span	1
Accuracy (combined non linearity, hysteresis, and repeatability)	-0.1	0.05	0.1	%Span	2
Long Term Stability (1 year)		0.1		%Span	
Frequency Response (-3dB)	1			kHz	
Total Error Band (over compensated range)	0.5	.25	0.5	%Span	3
Output Resistance (0 – 5V, 0 – 10V)			20	Ω	
Isolation Resistance(100Vdc)	10			MΩ	
Compensated Temperature	-25		+85	°C	
Operating Temperature	-25		+85	°C	
Storage Temperature	-40		+125	°C	
Proof Pressure	3X			Rated	
Burst Pressure	4X			Rated	4
Vibration	±20			g	5
Shock (11ms)	100			g	6
Pressure Cycles (Zero to Full Scale)	1			Million	
Weight				grams	
Media Compatibility	All Materials Compatible with 316 Stainless Steel				
Environmental Protection	IP 65 (Cable Version)				

For custom configurations, consult factory.

Notes

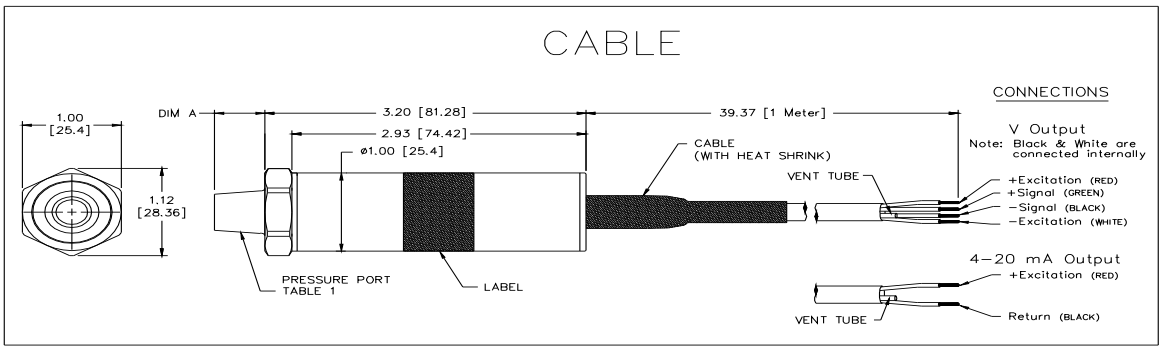
1. Ratiometric to supply.
2. Best fit straight line.
3. TEB includes all accuracy errors, thermal errors, span and zero tolerances.
4. Or 15,000psi, whichever is less, 10x burst available on some pressure ranges. Consult factory.
5. Per MIL-STD-810C, Procedure 514.2, Figure 514.2-2, Curve L.
6. 1/2 Sine per MIL-STD 202F Method 213B condition A.

US10000

CE Compliance

IEC 61326
IEC 55022 Emissions Class A & B
IEC61000-4-2 Electrostatic Discharge Immunity
IEC61000-4-3 EM Field Immunity
IEC61000-4-4 Electrical Fast Transient Immunity
IEC61000-4-8

DIMENSIONS



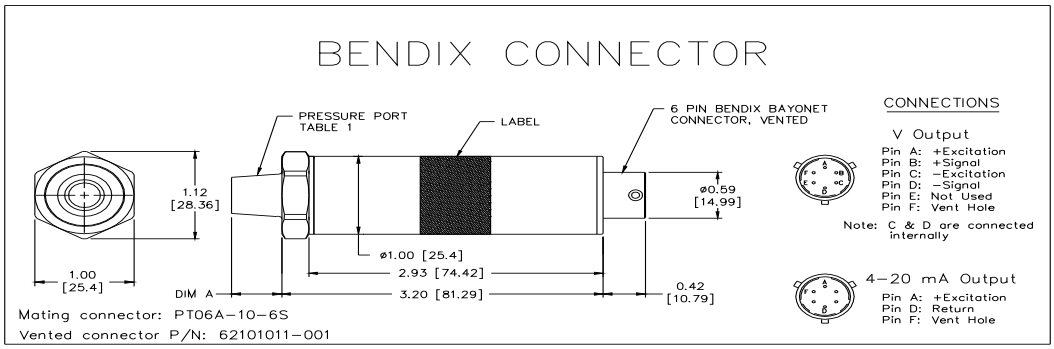


TABLE 1

PRESSURE PORT		
CODE	PORT	DIM A
2	1/4 BSP	0.45 [11.43]
4	7/16−20 MALE O−RING	0.33 [8.38]
5	1/4 NPT	0.50 [12.7]

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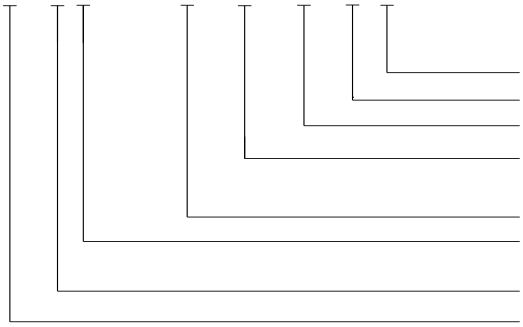
OUTPUT OPTIONS

Code	Output	Supply (V) MIN	TYP	MAX
6	0 – 5 V	8		30
7	0 – 10 V	15		30
8	4 – 20 mA	9		30

ORDERING INFORMATION

US165-C00005-100PG



Type (A = Absolute, G = Gage)
Units (P = psi, B = Bar)
Pressure Range (100 = 100, 05K = 5000, 035 = 35)
Pressure Port (2 = 1/4BSP, 4 = 7/16-20SAE-4, 5 = 1/4-18NPT)
Specials (nnnnn = Custom Drawing)
Connection (1 = 1m Cable, 2 = Special Cable Length, 5 = PT1H-10-06 [Bendix Style])
Output (6 = 0 - 5V, 7 = 0 - 10V, 8 = 4 - 20mA)
Model

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