

Ultra Low Cost Stainless Steel Pressure Sensors

features

100% 316L stainless steel isolation for harsh chemical measurement

Cable/connector versions standard, contact factory for PCB mountable versions

Low cost, high volume

Custom seal designs available

Drinking water or beverage safe

Calibrated 100mV output

Features Microfused™ technology

The MSP-100-MicroButton™ from Measurement Specialties provides stainless steel media compatibility for the price of competing plastic sensors. This sensor has no silicone gel or polymeric media isolation methods to fail in contact with water or other harsh chemicals. The all-metal diaphragm design is immune to pressure fluctuations and subsequent damage. The all-metal pressure enclosure has a small round plastic housing and is available with a cable and connector. Pressure connections are provided via an o-ring seal. Both compensated/calibrated and uncompensated versions are available. High volume port options are customer specific. The small size vs performance and media compatibility is provided through solid-state MicroFused™ technology.



applications

Beverage dispensing systems

Severe pressure cycle applications

Ink jet & paint spraying systems

Liquid dispensing

High volume custom pressure / flow systems

static performance specifications

	Units	mV output Compensated			Notes
		Min.	Typ.	Max.	
Offset	mV / %FS	-2%	0mV	2%	1,2, 3
Span	mV / %FS	-2%	100mV	2%	1,2,3
Accuracy	% Span	-.5	0.2	+.5	2,4
Long Term Stability	% Span / yr	-	0.25	-	
Response Time	mS	.1	-	-	5
Supply Voltage	V	-	5	14	
Supply Current	mA	2.5	3	3.5	
Output Load	K Ohms	100	-	-	2
Input Impedance	K Ohms	-	4	-	
Output Impedance	K Ohms	-	4	-	
Isolation voltage	M ohm @ 250V	50	-	-	

- 1) Output loading mV output products will change zero, span and thermal errors (keep min. to 100K Ohms)
- 2) Room temperature calibration (25C)
- 3) Custom offset & span calibration available

- range - consult factory
- 4) Combined BFSL linearity, hysteresis & repeatability
 - 5) mV versions 10% to 90% pressure change, consult factory for amplified versions

environmental performance

Specification	Units	Uncompensated			Compensated			Notes
		Min.	Typ.	Max.	Min.	Typ.	Max.	
Thermal effect on Offset 0°C to 45°C	% Span	-		-	-2	-	2	1,2,3,4
Thermal effect on span 0°C to 45°C	% Span	-		-	-2	-	2	1,2,3,4
Operating temperature	Deg. C	0	25	55	0	25	55	

- 1) With reference to 25°C
- 2) Other temperature ranges available
- 3) Tighter temperature calibration available

- 4) Uncompensated thermal performance somewhat dependent on pressure range, consult factory for more information.



mechanical specifications

Specification	Value
Proof pressure	1.5x rated pressure
Burst pressure	3x rated pressure
Vibration	±20G MIL-STD-810 C, Procedure 514.2, Figure 514.2-2, Curve L
Shock	50G 11sec 1/2 sine per Mil std 202F method 213B cond. A
Pressure cycles	10 million cycles 0 to full scale
Media compatibility	All materials compatible with 316 stainless steel

ordering information

Model	Output	Connection	Specials	port type	Pressure range	Pressure unit
MS1	X	X	- 000000	X -	XXXX	X

Output	Connection	Specials	Port Type	Pressure range	Pressure units
2=.0 to 100mV	1= cable 2 feet	Specials are designated by a 5 digit number.	U = -10 o-ring seal (.36" hole required) j=flat version o-ring button X= special port	100P=0 to 100psi 250P=0 to 250psi 500P=0 to 500psi 01KP=0 to 1Kpsi 2K5P=0 to 2.5Kpsi 05KP=0 to 5Kpsi	G = gauge
X=Special output	X=Special connection				

For ratiometric output, span changes with input voltage (see supply voltage specifications)
Specifications subject to change without notice

mechanical dimensions

