MSP300 Pressure Transducer

- **OEM and End User**
- **One Piece Pressure Port Construction**
- **No O-Rings**
- **No Silicon Oil**
- **No Welds**

DESCRIPTION

The MSP300 pressure transducer from the Microfused line of MEAS sets a new price performance standard for low cost, high volume, commercial and industrial applications. This series is suitable for measurement of liquid or gas pressure, even for difficult media such as contaminated water, steam, and mildly corrosive fluids.

The transducer pressure cavity is machined from a solid piece of 17-4 PH or 316L stainless steel. The standard version includes a 1/4 NPT pipe thread allowing a leak-proof, all metal sealed system. There are no O-rings, welds or organics exposed to the pressure media. The durability is excellent.

MEAS' proprietary Microfused technology, derived from demanding aerospace applications, employs micromachined silicon piezoresistive strain gages fused with high temperature glass to a stainless steel diaphragm. This approach achieves media compatibility simply and elegantly while providing an exceptionally stable sensor without the PN junctions of conventional micromachined sensors.

This product is geared towards OEM customers in small to high volumes. Standard configurations are suitable for many applications. Please contact factory for your customization needs.

FEATURES

- One Piece Stainless Steel Construction
- Ranges up to 10kpsi or 700Bar
- mV or Amplified Outputs
- Excellent Accuracy
- Wide Operating Temperature Range

APPLICATIONS

- Pumps and Compressors
- Hydraulic/Pneumatic Systems
- Automotive Test Systems
- Energy and Water Management
- Agriculture – Sprayers and Dusters
- Refrigeration – Freon and Ammonia Based
- General Pressure Measurements

STANDARD RANGES (ALL INTERMEDIATE RANGES ARE STANDARD)

Range (psi)	Range (Bar)	Gage/Compound	Range (Bar DIN)	Gage/Compound
0 to 100	0 to 007	•	0 to 010	•
0 to 200	0 to 010	•	0 to 016	•
0 to 300	0 to 020	•	0 to 025	•
0 to 500	0 to 035	•	0 to 040	•
0 to 01k	0 to 070	•	0 to 060	•
0 to 03k	0 to 200	•	0 to 100	•
0 to 05k	0 to 350	•	0 to 160	•
0 to 10k	0 to 700	•	0 to 250	•
			0 to 400	•
			0 to 600	•
			0 to 01k	•

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PERFORMANCE SPECIFICATIONS

Supply Voltage: 5.0V, Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Accuracy (RSS combined Non Linearity, Hysteresis & Repeatability)	-1		1	% F.S.	BFSL @ 25°C
Pressure Cycles	1.00E+6			0~F.S. Cycles	
Proof Pressure	2X			F.S. Rated	
Burst Pressure	5X			F.S. Rated	
Isolation, Body to Any Lead	50			MΩ	@ 250Vdc
Long Term Stability (1 year)	-0.25		0.25	%F.S.	
Zero Thermal Error	-2.0		2.0	%F.S.	Over comp temp
Span Thermal Error	-2.0		2.0	%F.S.	Over comp temp
Zero Offset (mV Output)	-3.0		3.0	%F.S.	@ 25°C
Zero Offset (V Output)	-2.0		2.0	%F.S.	@ 25°C
Span Tolerance	-2.0		2.0	%F.S.	@ 25°C
Compensated Temperature	0		55	°C	
Operating Temperature	-20		+85	°C	
Storage Temperature	-40		+85	°C	
Load Resistance (R_L, mV Output)	1			MΩ	
Load Resistance (R_L, V Output)	5			KΩ	
Response Time		1		ms	
Bandwidth	DC to 1KHz (typical)				
Shock	50g, 11 msec Half Sine Shock per MIL-STD-202G, Method 213B, Condition A				
Vibration	±20g, MIL-STD-810C, Procedure 514.2-2, Curve L				
Wetted Material (except elastomer seal)	17-4PH or 316L Stainless Steel				

For custom configurations, consult factory.

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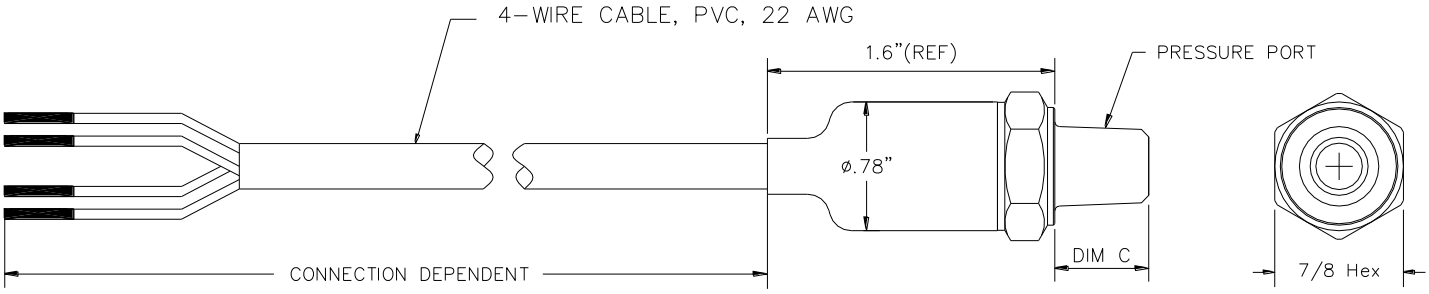
DIMENSIONS



CODE	PORT	DIM C
2	1/4-19 BSPP	0.453 [11.50]
4	7/16-20UNF MALE SAE J1926-2 STRAIGHT THREAD O-RING BUNA-N 90SH-904	0.435 [11.05]
5	1/4-18 NPT	0.596 [15.14]
6	1/8-27 NPT	0.475 [12.06]
E	1/4-19 BSPT	0.50 [12.70]
F	1/4-19 BSPP FEMALE	0.70 [17.78]
K	1/8-27 NPT FEMALE	0.70 [17.78]
P	7/16-20UNF FEMALE SAE J513 STRAIGHT THREAD WITH INTEGRAL VALVE DEPRESSOR	0.689 [17.50]
Q	M10 x 1.0 mm	0.42 [10.67]
S	M12 x 1.5 mm	0.53 [13.46]
U	G/14 DIN 3852 FORM E GASKET DIN3869-14 NBR	0.547 [13.90]
W	M20 x 1.5 mm	0.702 [17.83]

CODE	CONNECTION TYPE
1	CABLE 2 FT
2	CABLE 4 FT
3	CABLE 10 FT
M	CABLE 1 M
N	CABLE 2 M
P	CABLE 5 M
R	CABLE 10 M

OUTPUT OPTIONS

Code	Output	Supply	Ratiometricity	Red	Black	Green	White
1	0 – 10mV/V	5V	Yes	+Supply	-Supply	+Output	-Output
2	0 – 20mV/V	5V	Yes	+Supply	-Supply	+Output	-Output
3	0.5 – 4.5V	5 ± 0.25V	Yes	+Supply	Common	Cut Off	+Output
4	1 – 5V	8 – 30V	No	+Supply	Common	Cut Off	+Output
5	4 – 20mA	9 – 30V	No	+Supply	-Supply	Cut Off	Cut Off

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ORDERING INFORMATION

M30	2	1	-	0	0000	5	-	100P			G
Model	**Output**	**Connection Type**	**-**	**Port Material**	**0000**	**Pressure Port**	**-**	**Pressure Range**			**Pressure Type**
M30	**1** = 0 – 10mV/V **2** = 0 – 20mV/V **3** = 0.5 – 4.5V **4** = 1 – 5V **5** = 4 – 20mA	**1** = Cable 2 ft **2** = Cable 4 ft **3** = Cable 10 ft **M** = Cable 1 m **N** = Cable 2 m **P** = Cable 5 m **R** = Cable 10 m	-	**0** = 17-4PH **W** = 316L	**0000**	**2** = 1/4-19 BSPP **4** = 7/16-20UNF Male SAE J1926-2 Straight Thread O-Ring BUNA-N 90SH-904 **5** = 1/4-18 NPT **6** = 1/8-27 NPT **E** = 1/4-19 BSPT **F** = 1/4-19 BSPP Female **K** = 1/8-27 NPT Female **P** = 7/16-20UNF Female SAE J513 Straight Thread with Integral Valve Depressor **Q** = M10 x 1.0 mm **S** = M12 x 1.5 mm **U** = G1/4 DIN 3852 Form E Gasket DIN3869-14 NBR **W** = M20 x 1.5 mm	-	**100P** **200P** **300P** **500P** **01KP** **03KP** **05KP** **10KP**	**007B** **010B** **020B** **035B** **070B** **200B** **350B** **700B**	DIN **010B** **016B** **025B** **040B** **060B** **100B** **160B** **250B** **400B** **600B** **01KB**	**G** = Gage **C** = Compound