

## M7100 Industrial Pressure Transducer



- Rugged for heavy equipment and outdoor use
- Designed specifically for high volume applications
- Stainless Steel wetted surfaces
- Medium to extremely high pressures
- CE Approval

### DESCRIPTION

The M7100 industrial pressure transducer from the Microfused™ line of MEAS sets a new price performance standard for demanding engine and vehicle industrial applications. This transducer is suitable for measurement of liquid or gas pressure, even for difficult media such as contaminated water, steam and corrosive fluids.

The transducer pressure cavity is machined from a solid piece of 17-4 PH 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 or organics exposed to the pressure media and the durability is excellent. This automotive grade pressure transducer with stainless steel hermetic pressure ports and integral electrical connector boasts up to 43,000psi (3000Bar). The M7100 exceeds the latest industrial CE requirements including surge protection and is overvoltage protected to 16Vdc in both positive and reverse polarity.

### FEATURES

- Hermetic Pressure Ports
- Integral Electrical Connector
- Survives High Vibration
- 0.25% Accuracy
- Water Resistant 1M immersion

### APPLICATIONS

- HVAC Refrigeration Controls
- Off Road Vehicle Engine Control
- Compressors
- Hydraulics
- Energy and Water Management

### STANDARD RANGES

Range	psiG	Range	BarG
0 to 200	•	0 to 014	•
0 to 300	•	0 to 020	•
0 to 500	•	0 to 035	•
0 to 01K	•	0 to 070	•
0 to 03K	•	0 to 200	•
0 to 05K	•	0 to 350	•
0 to 10K	•	0 to 700	•

\*For higher pressure ranges, please consult factory.

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## PERFORMANCE SPECIFICATIONS

**Supply Voltage: 5V**

**Ambient Temperature: 25°C (unless otherwise specified)**

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Supply Voltage	4.75	5.00	5.25	V	
Supply Current		4	10	mA	
Ratiometric Output	0.5		4.5	V	1
Minimum Load Resistance	10			KΩ	
Total Error Band	-1.0		1.0	%	3
Compensated Temperature	-20		+85	°C	
Operating Temperature	-40		+125	°C	
Storage Temperature	-50		+125	°C	
Insulation Resistance (500Vdc)	100			MΩ	4
Reverse Voltage			16	V	
Overvoltage Protection			16	V	
Short Circuit Protected		Yes			
Output Noise @ 1kHz		10		mV	
Response Time (10% to 90%)			1.0	ms	
Long Term Stability	-0.25		0.25	%Span/Year	
Frequency Response @ 1kHz			-3	dB	
Recommended Torque			81 lbf-ft		

### Notes

1. Ratiometric to supply voltage.
2. Best fit straight line.
3. Over the compensated temperature range.
4. Between sensor body to any pins of connector.

## ENVIRONMENTAL SPECIFICATIONS

**Supply Voltage: 5V**

**Ambient Temperature: 25°C (unless otherwise specified)**

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Humidity (@40°C)			93	%RH	
Pressure Overload			2X	Rated	
Pressure Burst			5X	Rated	5
Pressure Cycle	10M			Cycles	
Media, Pressure Port	Fluids compatible with 17-4PH Stainless Steel				
Mechanical Vibration	20g, 10 ~ 2000Hz MIL-STD-810C, Method 810C, Curve L				
Mechanical Shock	Half-Sine, Peak: 50g, 11ms MIL-STD-202, Method 213B, Condition A				
Package Protection	IP67 (IEC60529)				

### Notes

5. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.

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### Agency Approvals

- IEC61000-4-2 Electrostatic Discharge Immunity: 8kV Contact; 15kV Air; 3 Discharges; Class B. Unit survived
- IEC61000-4-3 EM Field Immunity: 100V/m, 80MHz~1GHz, 255 MHz steps, 3s Dwell. Max recorded output error  $<\pm 1.5\%$
- IEC61000-4-4 Electrical Fast Transient Immunity: 1kV (Level 2), 120s, 5kHz Repetition Rate. Class B. Max recorded output error  $<\pm 1.5\%$
- IEC61000-4-5 Surge: 1kV (Level 2), L-L 500V, L-E 1kV. Class B. Max recorded output error  $<\pm 1.5\%$
- IEC61000-4-6 Conducted Immunity: 10V/140dB, 150kHz~80MHz (Level 3). Class B. Max recorded output error  $<\pm 1.5\%$
- IEC61000-4-9 Pulsed Magnetic Field Immunity: 100A/m (Level 3). Class B. Max recorded output error  $<$
- IEC55022 Emission: Class A, 40dB 30-220MHz, 47dB 230MHz-1GHz

### Pressure Port Options

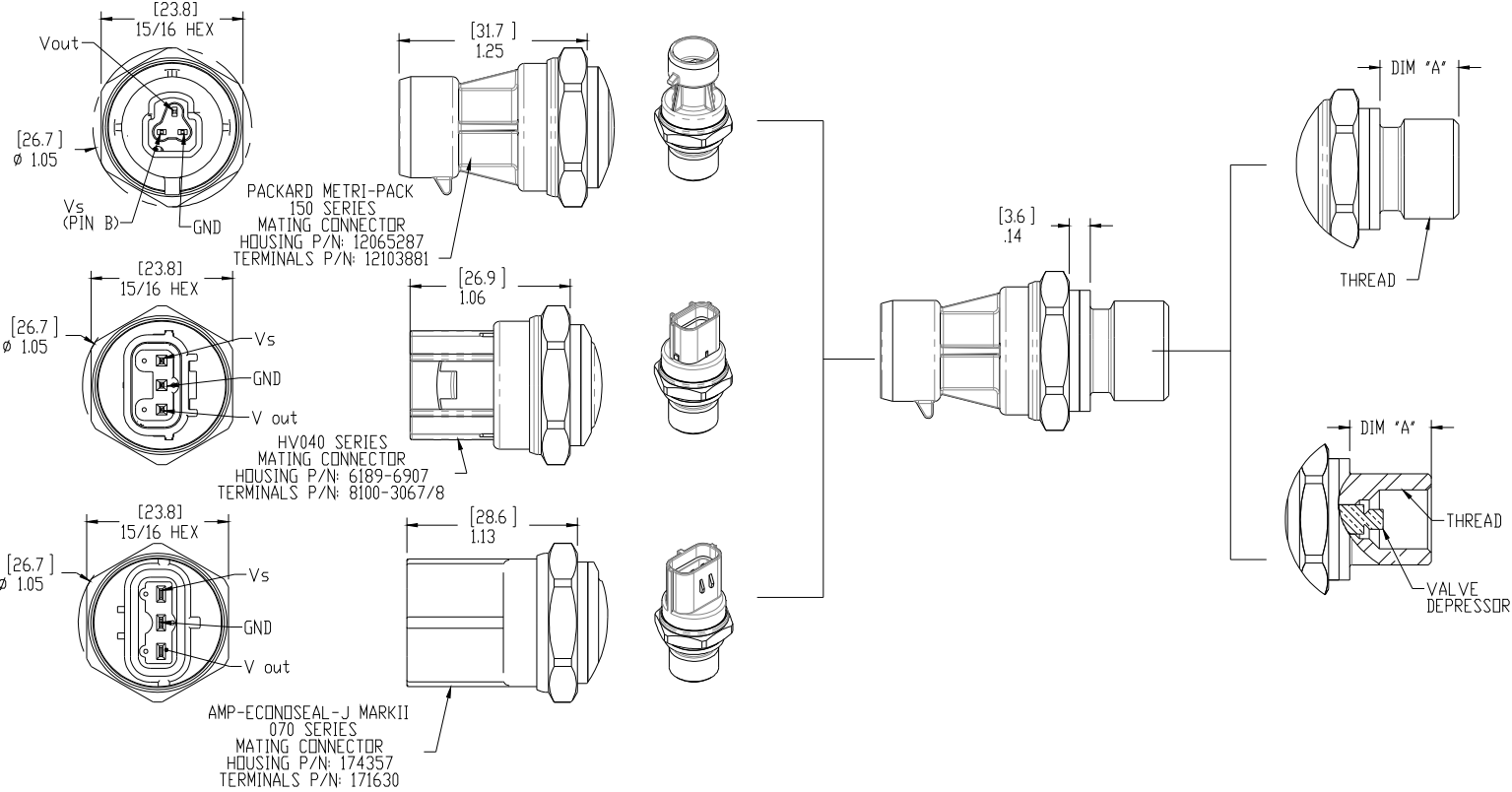
	Dim A (inches) [mm]
2 = 1/4-19 BSP Male	.43[11.0]
4 = 7-16-20 UNF Male SAE J514, O-Ring Buna-N 70SH-904, ID8.92mm x W1.83mm	.36[9.1]
5 = 1/4-18 NPT	.56[14.2]
6 = 1/8-27 NPT	.38[9.7]
P = 7/16-20UNF Female w/ Integral Valve Depressor	.54[13.7]
Q = M10 x 1.0mm Male	.38[9.6]

Others available upon request

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## DIMENSIONS

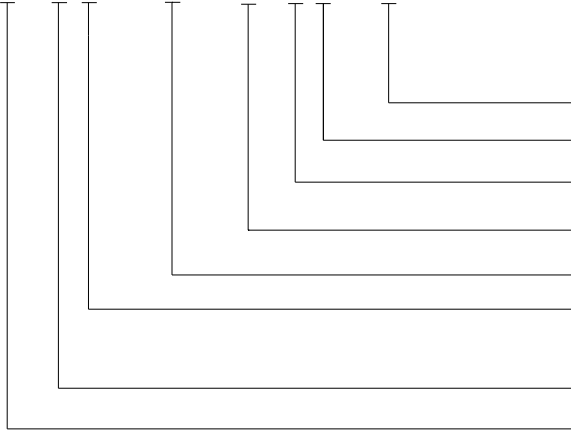
DIMENSION ARE IN INCHES [mm]



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## ORDERING INFORMATION

### M7138-300PG-200000



- Specials (nnnn = Custom Drawing)
- Port Material (0 = 17-4PH SST)
- Pressure Port (See Pressure Port Options Table)
- Type (G = Gage)
- Pressure Range (See Pressure Range Table)
- Connection (7 = AMP Connector, 8 = Sumitomo Connector, 9 = Packard Connector [Supply; PIN B])
- Output (3 = 0.5 - 4.5V)
- Model

#### NORTH AMERICA

Measurement Specialties  
45738 Northport Loop West  
Fremont, CA 94538  
Tel: 1-800-767-1888  
Fax: 1-510-498-1578  
Sales: [pfg.cs.amer@meas-spec.com](mailto:pfg.cs.amer@meas-spec.com)

#### EUROPE

Measurement Specialties  
(Europe), Ltd.  
26 Rue des Dames  
78340 Les Clayes-sous-Bois, France  
Tel: +33 (0) 130 79 33 00  
Fax: +33 (0) 134 81 03 59  
Sales: [pfg.cs.emea@meas-spec.com](mailto:pfg.cs.emea@meas-spec.com)

#### ASIA

Measurement Specialties  
(China), Ltd.  
No. 26 Langshan Road  
Shenzhen High-Tech Park (North)  
Nanshan District, Shenzhen 518057  
China  
Tel: +86 755 3330 5088  
Fax: +86 755 3330 5099  
Sales: [pfg.cs.asia@meas-spec.com](mailto:pfg.cs.asia@meas-spec.com)

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