



M7100 Pressure Transducer

SPECIFICATIONS

- Performance standard on and off highway engine and vehicle OEMs
- Rugged for heavy equipment and outdoor use
- Designed specifically for high volume applications
- * Stainless steel wetted surfaces
- Medium to high pressures
- CE Approved
- UL Certified
- Gage

The M7100 pressure transducer from the Microfused line of MEAS sets a new price performance standard for demanding engine and vehicle, and 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 can boast up to 10,000psi (700bar). The M7100 is UL certified and exceeds the latest industrial CE requirements including surge protection and is overvoltage protected in both positive and reverse polarity.

FEATURES

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

APPLICATIONS

- On and Off Highway Engines and Vehicles
- HVAC Refrigeration Controls
- Compressors
- Hydraulics
- Energy and Water Management

STANDARD RANGES

Range (psi)	Range (bar)	Gage
0 to 150	0 to 010	+
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 1K5	0 to 100	•
0 to 03K	0 to 200	+
0 to 05K	0 to 350	•
0 to 7K5	0 to 500	+
0 to 10K	0 to 700	•

PERFORMANCE SPECIFICATIONS

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

PARAMETERS	ARAMETERS MIN TYP MAX NOTES		NOTES				
PARAMETERS	Steel	Copper		Steel	Copper	UNITS	
Load Resistance		10				ΚΩ	
Accuracy (combined linearity, hysteresis & repeatability)	-C).25		0	.25	%Span	1
Total Error Band	-1.0	-2.5		1.0	2.5	%Span	2
Compensated Temperature	-20	-30		+85	120	°C	
Operating Temperature	-	40		+	125	°C	3
Storage Temperature	-	50		+	125	°C	
Insulation Resistance (500Vdc)	1	00				MΩ	4
Short Circuit Protected			Yes				
Output Noise @ 1kHZ			10			mV	
Long Term Stability	-C).25		0	.25	%Span/Year	
Frequency Response @ -3dB			1			kHz	

Notes

- 1. Best fit straight line.
- 2. TEB includes all accuracy errors, thermal errors, span and zero tolerances over the compensated temperature range.
- 3. Temperature range for product with standard cable is -20°C to +105°C.
- 4. Between sensor body to any pins of connector.
- 5. The maximum pressure that can be applied without changing the transducer's performance or accuracy.
- 6. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer
- 7. Refer to pressure port Listing notes for installation recommendations.
- 8. This product can be configured for custom OEM requirements. Contact Factory for different transfer function. See "Pressure Transfer Function' diagram.
- 9. Maximum temperature range for product with standard cable is -20°C to 105°C.
- 10. Do not apply torque to connector housing of transducer
- 11. To ensure proper environmental sealing and electrical connections when using a mating connector, follow the connector manufacturer's installation guidelines.

ENVIRONMENTAL SPECIFICATIONS

Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS		•	MIN	ТҮР	м	AX	UNITS	NOTES
		Steel	Copper		Steel	Copper		
Humidity (@40°C)					ç	93	%RH	
Pressure Overload					2	2X	Rated	5
Pressure Burst					5X	ЗX	Rated	6
Pressure Cycle		1	0M				Cycles	
Media, Pressure Port	Steel		Fluids	compatible with	າ 17-4PH ອ	Stainless Ste	el	
Media, Pressure Port	Copper	Fluids compatible with Brass						
	Steel			20g, 10	~ 2000Hz	:		
Mechanical Vibration	Sleer	MIL-STD-810C, Method 514.2, Curve L						
	Copper	10g p	eak, 55~2000	Hz MIL-STD-2	02G, Meth	od 204D, Te	st Condition C	
	Steel			Half-Sine, P	eak: 50g, ⁻	11ms		
Mechanical Shock	Ulcci .		MIL-	STD-202, Meth	nod 213B,	Condition A		
	Copper	Half-S	Sine, Peak: 50	g, 11ms MIL-S	TD-202G,	Method 213	B, Condition A	
Package Protection IP67 (IEC60529)								

AGENCY APPROVALS

.

RoHS: RoHS 2 (Directive Industrial Control Equipme UL508 Certified	,
EMC Performance Criteria	a: Output Change < ±1.5% FSO
ESD IEC 61000-4-2	8kV Contact/15kV Air; Discharge Rate >10s
EM Field IEC 61000-4-3	100V/m, 1kHz 80% Modulation, 80 ~ 1000MHz
Electrical Fast Transient IEC 61000-4-4	Level 2, 1kV each line, capacitance coupling
Surge IEC 61000-4-5	Level 2, 42Ω Impedance, Figure 11 (L-L 500V, L-E 1kV)
Conducted RF IEC 61000-4-6	Level 2, 3V/130dB, 150kHz ~ 80MHz, 2s Dwell, Clamp Injection
Pulse Magnetic Field IEC 61000-4-9	Level 3, 100A/m, 10 second pulse interval
Emission IEC 55022	Class B, 30dB @ 30-230MHz, 37dB @ 230 – 1000MHz

PRESSURE PORT INFORMATION

Dim A	Tightening Torque (Nm)
.43 [11.0]	30~35
.36 [9.1]	18~20
.56 [14.2]	2~3 T.F.F.T.
.38 [9.7]	2~3 T.F.F.T.
.56 [14.2]	2~3 T.F.F.T.
.64 [16.3]	30~35
.64 [16.3]	15~16
.37 [9.5]	15~16
.43 [11.0]	28~30
.43 [11.0]	30~35
.47 [12.0]	30~35
	.43 [11.0] .36 [9.1] .56 [14.2] .38 [9.7] .56 [14.2] .64 [16.3] .64 [16.3] .37 [9.5] .43 [11.0] .43 [11.0]

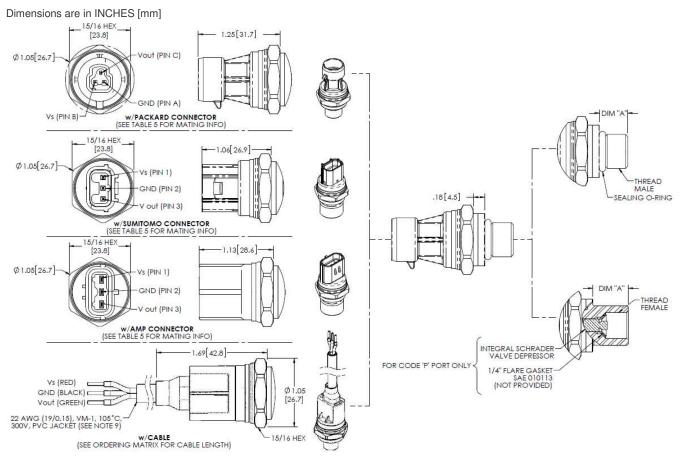
Notes: Installation

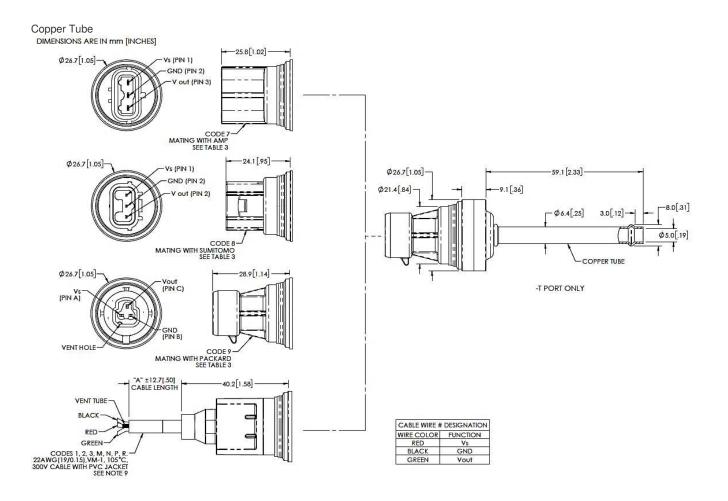
*T.F.F.T.: Turns From Finger Tight Transducers can be installed by either spanner or deep socket. Torque values provided are for reference: actual torque depends upon mating port material, surface finish, lubrication and sealing mechanism. Transducers calibration and/or zero may shift if part is over-torqued during installation. Check for a zero shift after installing.

CONNECTOR INFORMATION

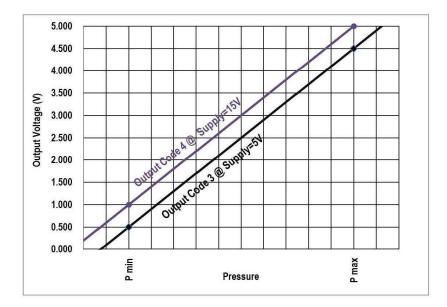
Connector	Connector, Pin Plating		Connector, Mating
Packard Metri-Pack 150 Series	powerandsignal.com	0.003 – 0.005 mm Sn	Housing P/N: 12065287
Fackard Meth-Fack 150 Selles			Terminals P/N: 12103881
Sumitomo HV040 Series	sumitomokenki.com	0.003 mm Sn over	Housing P/N: 6189-6907
Sumitorno HV040 Series		0.0005 – 0.001 mm Cu	Terminals P/N: 8100-3067/8
AMP Econoseal-J Mark II 070 Series	te.com	0.0004 mm Au over	Housing P/N: 174357
AMP Econoseal-J Mark II 070 Series		0.0013 mm Ni	Terminals P/N: 171630

DIMENSIONS





CHARTS



Pressure Transfer Function

Output Type vs. Supply

Output Type (Code)	3	4
Supply Voltage	4.75 ~ 5.25V*	8 ~ 32V
Supply Current	4.0 ~ 1	10.0mA
Output Voltage	0.5 ~ 4.5V*	1.0 ~ 5.0V
Reverse Voltage	1	6V
Overvoltage Protection	16V	32V
* Output ration	notrio to oupply ye	ltogo

* Output ratiometric to supply voltage

Pressure Range				
psi	bar			
150P	010B			
200P	014B			
300P	020B			
500P	035B			
01KP	070B			
1K5P	100B			
03KP	200B			
05KP	350B			
7K5P	500B			
10KP	700B			

Pressure Range (Cu Tube)				
psi	bar			
150P	010B			
300P	020B			
450P	030B			
500P	035B			
750P	050B			

Connection Type				
1 = Cable 2 feet				
2 = Cable 4 feet				
3 = Cable 10 feet				
7 = AMP070 Connector				
8 = Sumitomo HV040 Connector				
9 = Packard Connector				
M = Cable 1 m				
N = Cable 2 m				
P = Cable 5 m				
R = Cable 10 m				

ORDERING INFORMATION

			M71 <u>3 M</u> – <u>300P</u> G – <u>T B</u> 0000	
Outpu Code 3 4	Out 0.5	tput Voltage - 4.5 V - 5.0 V		17-4PH Stainless Steel Copper, C12200 ressure Port (T) is available only w 0 Vent Option (B) and non-black o
Cable/	Conne	ectors	Pressi	Ire Port
1		le, 2 feet	Code	Port
2	Cab	le, 4 feet	2	G1/4,BS5380, Male
3	Cab	le, 10 teet		7/16-20 UNF, SAE
7		Connector	4	J1926-2, Male, w/ O-ring
8		40 Sumitomo	5	1/4-18 NPT Female
9 M		kard Connector le 1 meter	6	1/8-27 NPT Male
N		le, 2 meter	E	R1/4-19 Male
P	_	le, 5 meter		G1/4-19, BS5380,
R		le, 10 meter	F	Female
		e Range [psi] bar	P Options in green are for both Fittings	7/16-20 UNF Female w/ Integral Valve Depressor; 1/4 Flare Gasket SAE J513C, Copper
1	50P	010B	Options in blue are for Copper fitting only. Options in black are for non-Copper fittings only	M10x1.0 ISO 6149-2,
2	00P	014B		Male
3	00P	020B	S	M12x1.5, ISO 6149-2,
4	50P	030B		Male M14x1.5, ISO 6149-2,
5	00P	035B	G	Mi14x1.5, 150 6149-2, Male
7	50P	050B	U	G1/4, DIN 3852-E, Male
0	1KP	070B	Т	1/4" OD Copper Tube
		100P		

NORTH AMERICA

1K5P

03KP

05KP

7K5P

10KP

100B

200B

350B

500B

700B

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