

# MPT40 Dual Pressure and Temperature Transducer

## 100mV Output @ 5.0 Vdc, Flush Mount

### Introduction

Piezo-Metrics Model MPT40 is a flush mountable, miniature, low cost, general use dual measurement pressure and temperature transducer. These transducers are made of corrosive resistant titanium (6AL4V) and utilize high reliability semiconductor strain gages bonded directly to the inside surface of the machined diaphragm.

The Model MPT40 is available in either Gage (PSIG), Absolute (PSIA), or Sealed Reference (PSIR) pressure configurations. The Absolute and Sealed Reference configurations utilize a welded Titanium hermetic header. The hermetic header is located just behind the strain gage diaphragm section of the sensor and seals the sensitive gages in a vacuum which dramatically increases stability and reliability. Long term stability versions are available.



For recommended mounting and available pressure adaptors, see MP40 Pressure Adaptor Data Sheet.

### Applications

- Test & measurement equipment
- Production equipment & controls
- Energy Controls
- Laboratory instruments & equipment
- Liquid level
- Calibration Equipment

### Performance Options \*

	Pressure Output Spec's		Temperature Output Spec's	Units
	A	C		
Balance (Zero) **	0.00 ± 3.00	0.00 ± 2.00	30.00 ± 2.00 (@ 30°F)	mV
Full Scale Sensitivity	20.0 ± 2.00	20.0 ± 2.00	130.00 ± 2.00 (@ 130°F)	mV/V
Static Error Band (Best Fit Straight Line)	± 0.50	± 0.25	± 0.50	%FS (BFSL)
Thermal Balance (Zero) Shift	± 0.02	± 0.01	N/A	%FS/°F
Thermal Sensitivity Shift	± 0.02	± 0.01	N/A	%FS/°F

Standard Long Term Stability	± 2.00 %FS/Year Max. (Pressure Transducer Output)				
Long Term Stability Options	L10 = <1.0	L5 = <0.5	L2 = <0.2	L1 = <0.1	%FS/year

### Mechanical

Pressure Ranges	50, 100, 200, 300, 500, 1k, 2k, 3k, 5k, 7K * PSI
Other ranges possible	Consult Factory
Over Pressure (No change out of spec.)	2.0x Range
Burst Pressure	6.0x Range

### Electrical

Input	5.0 Volts DC or AC
Maximum Voltage	30 V for short periods
Input Resistance (Nominal)	1500 Ohms
Output Resistance (Nominal)	450 Ohms (Pressure) & 4500 Ohms (Temperature)
Insulation Resistance Minimum	50 Megohms @ 50 VDC

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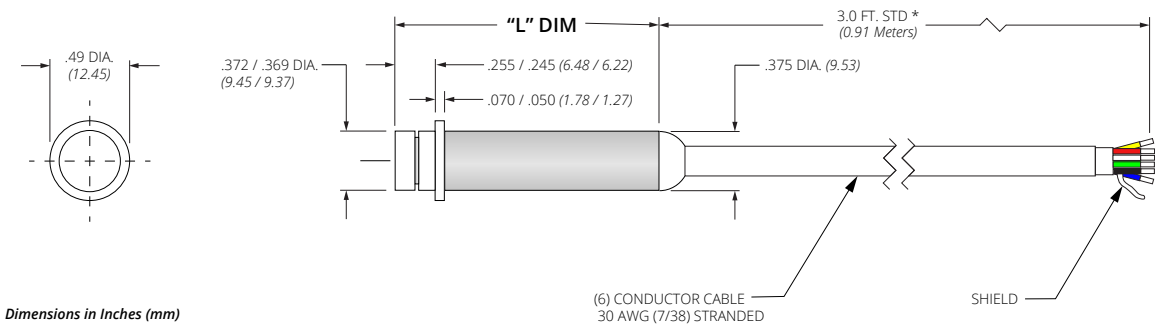


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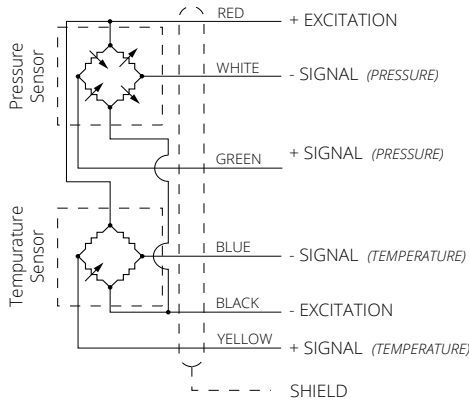
Environmental

Storage and Operating Temperature	0° to 180°F
Compensated Temperature Range <i>(Pressure &amp; Temperature)</i>	30° to 130°F *
Other Temperature Compensated Ranges	Consult Factory
Acceleration	100g's any axis
Media Compatibility (wetted surface)	Liquids & Gases compatible with Titanium 6AL4V

Outline

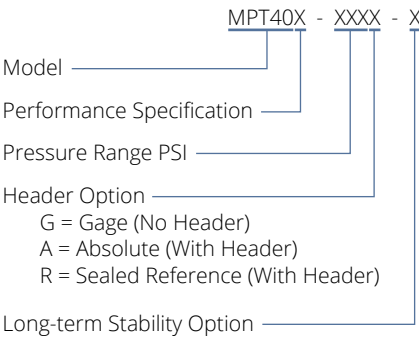


Schematic

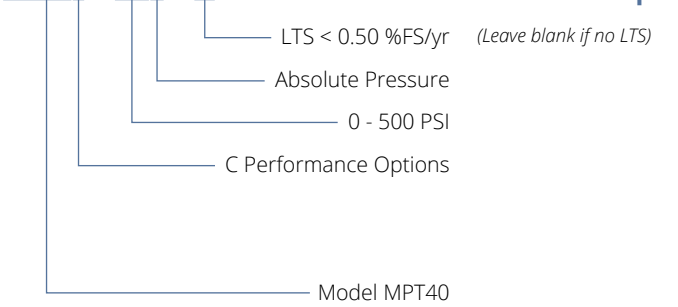


Unit Type	"L" DIM
Gage	1.75 MAX. (44.5)
Absolute or Sealed Reference	2.05 MAX. (52.1)

Ordering Format



MPT40C - 500A - L5



\* Custom Performance Options and special cable length available - Consult Factory.  
\*\* Balance (Zero) set point: Gage (PSIG) & Sealed Reference (PSIR) - (Zero) set at "0"PSIG atmospheric pressure. Absolute (PSIA) - (Zero) set at "0"PSIA pressure relative to an absolute vacuum.

