

COMBINATION PRESSURE & TEMPERATURE TRANSDUCER - HIGH PRESSURE ML5100



PRODUCT OVERVIEW

The ML5100 is a precision transmitter based on the well proven ATM.1st series from STS, but incorporating a PT1000 measuring element to provide a dual current loop or voltage outputs in either 3 or 4 wire configuration.

The ML5100 offers pressure ranges up to 20,000 psi with static accuracy of $<\pm 0.1\%$ FS (or $<\pm 0.25\%$ FS), including linearity, hysteresis, repeatability and zero/span settings. Media temperature range is from -60 to 300°F. Proof pressure is 300% FS to enhance reliability. The temperature output accuracy is $\pm 0.8^\circ\text{F}$.

The ML5100 is specifically designed for machine installations, industrial process monitoring and control, hydraulics, and test and calibration systems. A subsea version is available for deep water exposure. Modular construction is backed by the proven Piezoresistive silicon sensor technology, providing manufacturing flexibility and fast delivery for all ranges.

Process Measure Control

Features

- Up to 20,000 psi
- Dual 4-20 mA or Voltage Outputs
- -60 to 300°F
- High Overload 3 x FS
- $\pm 0.8^\circ\text{F}$ typical

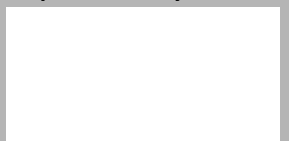
Applications

- Machine Installations
- Industrial Process
- Hydraulics
- Test & Calibration
- Subsea Oil & Gas

Contact

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Represented by:



Precision Pressure, Temperature and Level Measurement for Industry

COMBINATION PRESSURE/TEMPERATURE TRANSDUCER—HIGH PRESSURE

Specification

Pressure Measurement

Pressure ranges

Any range from 350 to 20,000 psi available
Any engineering units such as psi, MPa, feet H₂O, bar
Absolute or Sealed Gauge construction

Proof Pressure

FS from >350 to 8000psi: 3X FS
FS >8000psi: 25,000psi

Consult factory for higher proof pressures

Operating Temperature Range

-40 to 300°F (ambient)
-60 to 300°F (media)

Compensated Temperature Range

32 to 160°F (standard)
0 to 212°F (optional)
-40 to 250°F (optional)

Accuracy for pressure

<±0.1% FS
<±0.25% FS

Combined linearity, hysteresis, repeatability, zero & span settings

Consult factory for higher accuracy

Total Error Band (TEB)

typ. ±0.3% total for 32 to 160°F
typ. ±0.75% total for 0 to 212°F
typ. ±1.25% total for -40 to 255°F

TEB includes linearity, hysteresis, repeatability, zero and span settings, and temperature effects.

Response time (pressure)

<1ms (10 to 90%FS)

Long term stability

0.1% FS/yr under standard conditions

Specification Continued

Temperature Measurement

Temperature measurement range

Any range between -60 to 300°F with a minimum temperature span of 50°F

Accuracy for Temperature

<±0.8°F

Response Time

T 0.50 - 2s, T 0.63 - 3s, T 0.90 - 5s

Electrical

Supply Voltage

9 - 30 Vdc

Influence of supply voltage <0.05% FS

Output signals for pressure & temperature

4-20 mA, 3 or 4 wire configurations
0.5-4.5V, 4 wire

Insulation resistance

> 50 megohms @ 100 Vdc (@68°F)

Environmental

Vibration

MIL-STD-810C, Curve L, 20G

Mechanical shock

100g, 6 ms half sine

Construction

Pressure media compatibility

Stainless Steel 316L, Inconel 718, Zeron 100®

Pressure connection

Standard:

1/4 NPT male with PT100 probe Ø0.16 x 1.1" long

Consult factory for other options

Electrical connection

DIN 43650

6-pin bayonet per MIL-C-26482 (10-6)

Polyurethane cable

Other configurations on request

Weight

5.5 oz approximate not including cable

Ordering Information

Please specify the following:

1. Model Number - ML 5155
2. Electrical Connection:
01- DIN 43650 (mating connector extra)
06 - 6 pin bayonet (mating connector extra)
15 - Polyurethane cable
3. Pressure Range, including eng. units
4. Temperature measuring range
5. Accuracy (Pressure)
6. 3 or 4 wire configuration (4-20mA only)
7. Cable length
8. Pressure connection and probe length
9. Pressure output i.e. 4-20mA or 0.5-4.5 Vdc
10. Temp. output i.e. 4-20mA or 0.5-4.5 Vdc

Example ordering format: ML5155-06-10000 psia-0.1%- (3 wire)-1/4NPTM, ØT 0.16"x 1.0", 0.5-4.5 Vdc

Options

PMC offers a wide range of options and other similar transmitters. Please consult the factory for any special requirements.

Examples include:

Alternate electrical configurations
i.e. RS485, HART etc.

Lightning protection

Intrinsic safety certification

Pressure snubber

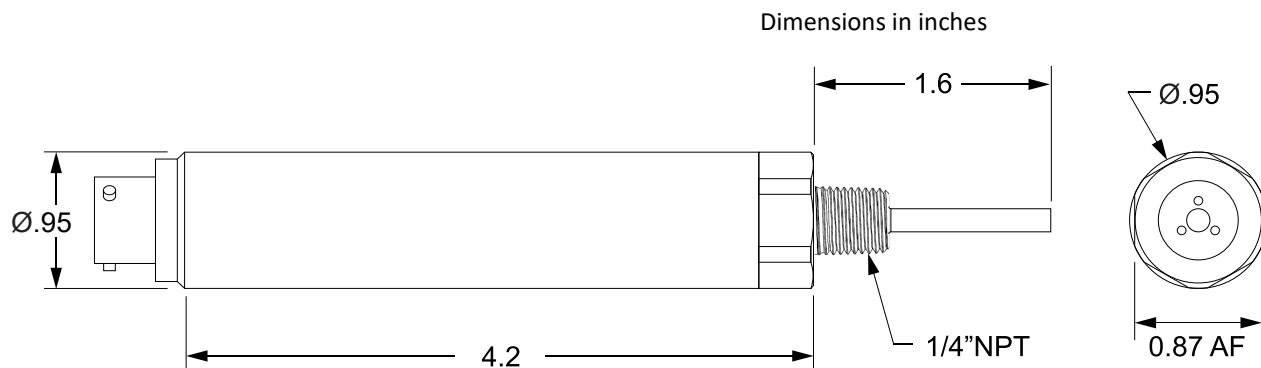
Alternate construction i.e. titanium, hastelloy

Wide range of pressure connectors

Wide range of electrical connectors

PMC Engineering adopts a continuous development program which sometimes necessitates specification changes without notice

MECHANICAL DETAILS



Shown with bayonet electrical connector

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