

**COMBINATION  
PRESSURE & TEMPERATURE TRANSMITTER  
ATM.1ST/T**



Features

- 4-20mA, 3 or 4 wire
- 0-15 to 0-360 psi  
*15,000 psi available*
- TEB typ.  $\leq 0.3\%FS$
- $\leq 0.1\%$  or  $\leq 0.25\% FS$
- -58 to 300°F

Applications

- Engine Test
  - Automotive
  - Aviation
  - Dynamometers
- Satellite Launch Vehicles
  - Propellants
  - Chamber Pressure
  - Fuel Level
- Flight Test
  - Hydraulic Systems
  - Flight Control Systems
  - HVAC Systems
- Drone/UAV/AUV/ROV
  - Hydraulic Systems
  - Avionics
- Manufacturing
- Motorsport

**PRODUCT OVERVIEW**

The ATM.1ST/T is a precision transmitter based on the STS well proven ATM series but incorporating a PT1000 measuring element to provide a dual 4-20mA output in either 3 or 4 wire configuration. Ranges up to 15,000 psi available, consult factory.

Modular construction, backed by the 25 year proven history of STS piezoresistive sensor technology, provide manufacturing flexibility and fast delivery for all ranges.

Contact Us

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Represented by:



**Specification**

**Measurement**

**Pressure ranges**

Any range from 1 to 360 psi FS available, in any engineering units such as psi, Pa, in H<sub>2</sub>O, bar.

Absolute from 0-2 to 0 - 360 psia FS

Gauge from 0-1 to 0 - 360 psig FS

Ranges up to 15,000 psi consult factory

**Proof Pressure**

FS up to 15 psi: 45 psi

FS > 15 psi to 360 psi: 3 x FS

Consult factory for higher proof pressure

Consult factory for higher burst pressure

**Operating Temperature Range**

-40 to 255°F (process media)

**Compensated Temperature Range**

32 to 160°F (standard)

-15 to 212°F (option)

-40 to 212°F (option)

**Accuracy for Pressure**

≤ ±0.1% FS

≤ ±0.25% FS

Combined linearity, hysteresis, repeatability, zero and span set

**Total Error Band (TEB)**

typ. ±0.8% total for 32 to 160°F, ≤ 7.25 psi

typ. ±1.3% total for -15 to 212°F, ≤ 7.25 psi

typ. ±0.3% total for 32 to 160°F, > 7.25 psi

typ. ±0.75% total for -15 to 212°F, > 7.25 psi

TEB includes linearity, hysteresis, repeatability, zero and span settings and temperature effects at max. signal span (16mA)

**Response Time**

<1ms (10 to 90%FS)

**Long Term Stability**

0.1% FS/yr for pressure ranges > 30 psi

Prorated for ranges below 30 psi

Under standard conditions

**Specification Continued**

**Temperature Measurement**

**Temperature Range**

Any range between -58 to 300°F with a minimum temperature span of 55°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

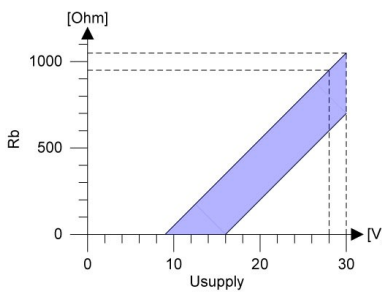
**Output Signals for Pressure & Temperature**

Dual 4 - 20 mA, 3 or 4 wire configuration

**Circuit Diagram**

3 and 4 wire configuration, see below

**Load Resistance**



RL (max): (Vsupply - 9V)/0.02A

RL (min): (Vsupply - 15V)/0.02A

Influence of load resistance < 0.05% FS

**Insulation Resistance**

> 50 megohms @ 500 VDC (@ 68°F)

**Specification Continued**

**Construction**

**Material**

Stainless steel 316L

**Process Connections**

Standard:

1/2 NPT male with probe ØT 0.16" x L 0.11"

Optional:

9/16"-18 UNF male

Optional probe lengths (L): ½", 1", 2", 3"

Consult factory for other options

**Weight**

5.5oz. (approximate not including cable)

**Vibration/Mechanical Shock**

4 g, 4 to 100 Hz / 100 g / 6 ms

**Ordering Information**

For ordering code go to:

[www.pmc1.com/orderATM1st/T](http://www.pmc1.com/orderATM1st/T)

OR

Call the factory at:

**203 792-8686**

**Options**

STS offers a wide range of options for these 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

Special oil filling for food application etc.

Alternate construction i.e. titanium, hastelloy

Alternate seals i.e. EPDM, Kalrez

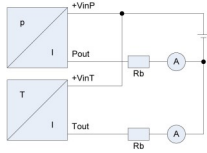
Wide range of pressure connectors

Wide range of electrical connectors

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

**MECHANICAL DETAILS**

Circuit diagram, 3-wire configuration



Circuit diagram, 4-wire configuration

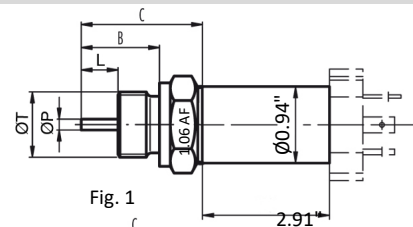
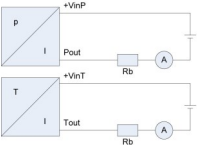


Fig. 1

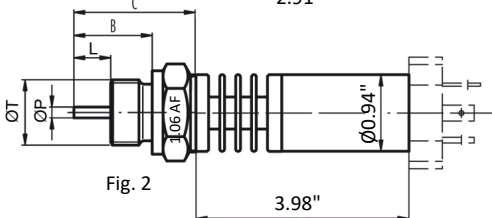


Fig. 2

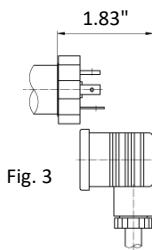


Fig. 3

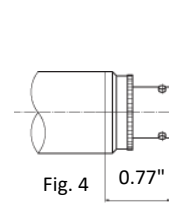


Fig. 4

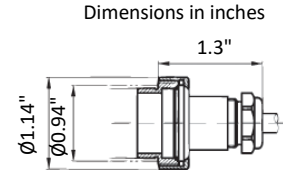


Fig. 5

Dimensions (see pressure connection details above for options)  
 L B C ØP (probe) ØT (thread)  
 0.11 0.78 1.28 0.16 1/2 NPT male

STS is registered ISO 9001:2008

**Sensors For:**

- Temperature
- Acceleration
- Pressure
- Position
- Torque
- Speed
- Angle
- Force

**Services For:**

- OEM
- On-Time Delivery
- Custom Engineering
- Application Engineering