



GENERAL PURPOSE PRESSURE TRANSMITTER ATM.ECO



Global Sensor Excellence

Features

- 0-5/10 & 0.5-4.5 VDC
- 4-20 mA
- 0-5 to 0-15,000 psi
- $\leq 0.2\%$ Accuracy
- -40 to 250°F

Applications

- Test & Measurement
- Industrial Process
- Test Benches
- Engine Tests
- Automotive

PRODUCT OVERVIEW

The ATM.ECO is a pressure transducer offering high performance with the inherent benefits of the ATM.1ST precision pressure transmitter but at a more affordable price. The digitally compensated pressure transmitter is offered with a 3-wire, analog voltage output of 0-5/10 or 0.5-4.5 VDC or 2-wire, 4-20 mA. The transmitter offers total static accuracies of $\leq 0.2\%$ FS including linearity, hysteresis, repeatability, zero and span setting errors.

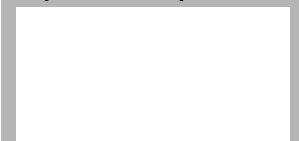
This performance is achieved by selecting the very best piezoresistive silicon sensor technology which STS has been refining for more than 30 years. The ATM.ECO is suitable for static and dynamic pressure measurements with a frequency response of $< 1\text{ms}$. The modular construction provides manufacturing flexibility and offers fast delivery for all pressure ranges and standard options.

Barometric or compound pressure ranges available.

Contact

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Represented by:



Specification

Measurement

Pressure ranges

Any range from 0-5 to 0-15,000 psi FS available, in any engineering units such as psi, Pa, in H₂O, bar.

- Absolute from 0-5 to 0 -15,000 psia FS
- Gauge from 0-5 to 0 -1,000 psig FS
- Sealed gauge from 0-150 to 0-15,000 psig FS
- Barometric 18-32"Hg (others available)
- Max. offset 26"Hg, min. span 12"Hg
- Compound from ±2.5 to -14.7 to 1,000 psi*

*must specify exact range. Performance related to the span.

For other ranges consult factory.

Proof Pressure

- FS up to 15 psi: 45 psi
 - FS > 15 psi to 4,000 psi: 3 x FS
 - FS > 4,000 psi to 9000 psi: 12,000 psi
 - FS > 9,000 psi: 22,000 psi
- Consult factory for higher proof pressure

Burst Pressure

- FS up to 350 psi: >3,000 psi
 - FS up to 9,000 psi: >12,000 psi
 - FS > 9,000 psi: >22,000 psi
- Consult factory for higher burst pressure

Process Temperature Range

- 40 to 250°F (Fig. 1, standard)
- 40 to 300°F (Fig. 2)

Compensated Temperature Range

- 32 to 160°F (standard)
- 15 to 212°F (option)
- 40 to 212°F (option)

Storage Temperature Range

- 40 to 250°F

Performance

Total Error Band (±typ/±max)

- ≤0.4/0.8%: 32 to 160°F, ≤15 psi Range
- ≤0.3/0.6%: 32 to 160°F, >15 to ≤1,500 psi Range
- ≤0.7/1.0%: 32 to 160°F, >1,500 to ≤15,000 psi Range

Specification Continued

Total Error Band (±typ/±max) Continued

- ≤0.6/1.0%: -15 to 212°F, ≤15 psi Range
- ≤0.4/0.8%: -15 to 212°F, >15 to ≤1,500 psi Range
- ≤1.0/1.2%: -15 to 212°F, >1,500 to ≤15,000 psi Range

- ≤0.8/1.4%: -40 to 212°F, ≤15 psi Range
 - ≤0.6/1.2%: -40 to 212°F, >15 to ≤1,500 psi Range
 - ≤1.0/1.5%: -40 to 212°F, >1,500 to ≤15,000 psi Range
- Total Error Band includes static accuracy and thermal effects over compensated range.

Accuracy

Combined linearity, hysteresis, repeatability, zero and span settings:
All Ranges ≤±0.2% FS
See ATM.1ST for higher performance.

Long Term Stability

<0.1% FS/yr for pressure ranges > 15 psi FS
Prorated for ranges below 15 psi FS
Under standard conditions

Supply Voltage

9-33 VDC (4-20 mA output)
10-30 VDC (for 5V output)
12-30 VDC (for 10V output)
Influence of supply voltage < 0.05% FS
Current Consumption for voltage output: typ.3mA
Reverse Polarity Protected

Min. Load Resistance

RL = (Vsupply - 9V)/0.02A (current output)
RL > 10 Kohms (voltage output)
Influence of load resistance < 0.05% FS

Output Signal

- 4-20 mA, 2-wires
- 0.5-4.5 VDC, 3-wires
- 0- 5 VDC, 3-wires
- 0-10 VDC, 3-wires

Response Time:

<1ms (10 to 90% FS)

Insulation Resistance

>50 Mohms @ 500 VDC (@ 68°F)

Specification Continued

Construction

All wetted parts are Stainless Steel 316L. For ranges >10,000 psi wetted parts are Inconel, 316L and Zeron®100. All material NACE compatible.

Welded, hermetic construction when using appropriate electrical connector.

Alternate construction i.e. Titanium, Hastelloy

Process Connections

- ¼" NPT male or female
- 7/16 - 20 UNF - 3A male

Other connections available at:

www.pmc1.com/connectorsATMECO

Electrical Connection

DIN 43650 (Fig. 12) or Micro DIN
300 Series St.St. Hermetic 6-pin bayonet per MIL-C-26482 (10-6) (Fig. 14)
Polyurethane cable (Fig. 16)
Mating connectors not supplied as standard
Other connections available at:

www.pmc1.com/connectorsATMECO

Weight

Typically 4.5oz (not including cable)

Vibration

10g, 4 to 2000 Hz,

Mechanical Shock

100g/6ms

Ordering Information

For ordering code go to:

www.pmc1.com/orderATMECO 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:

- Electrical: i.e. 4-20mA, RS485, HART etc.
- Lightning protection
- Intrinsic safety certification
- Pressure snubber and bleed port
- Special oil filling for food application etc.

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

MECHANICAL DETAILS

Version for fluid/gas temperature up to 250°F

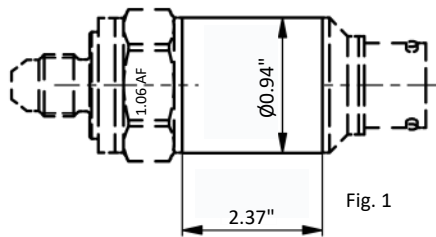


Fig. 1

Version for fluid/gas temperature up to 300°F

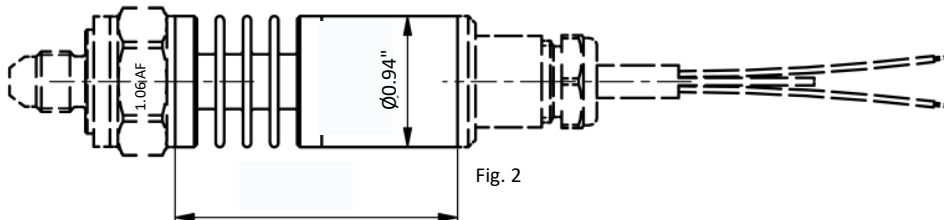


Fig. 2

Dimensions in inches

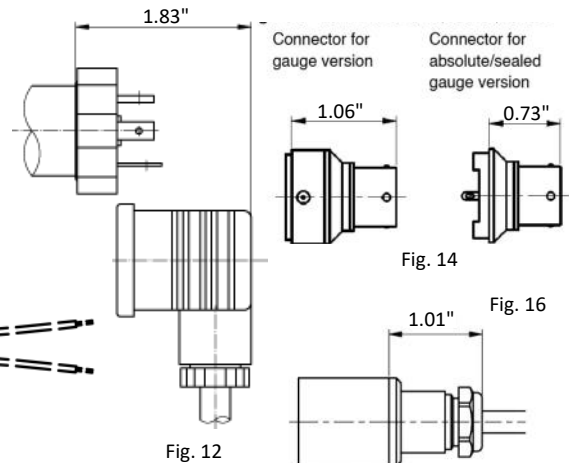


Fig. 12

Fig. 14

Fig. 16

STS is registered ISO 9001:2015