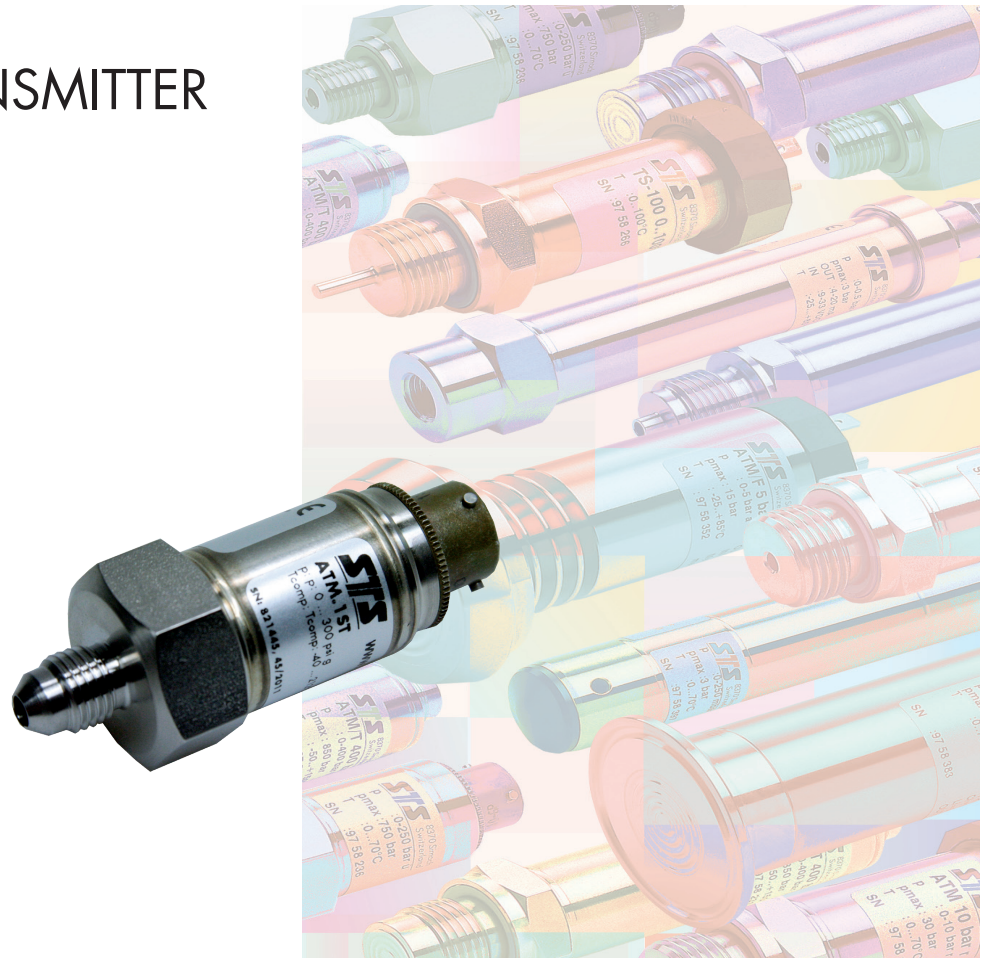


4 - 20 mA PRESSURE TRANSMITTER ATM.1ST



Features

- Total Error Band: typical $\leq 0.3\%$ FS
- Compensated temperature: -40 to 255°C
- Full scale ranges from 1 to 15,000 psi
- Gauge, absolute or sealed gauge
- Accuracies of ≤ 0.05 or 0.1% available
- 4 to 20 mA output

Product overview and applications

The ATM.1ST is an electronically compensated pressure transmitter providing a 2-wire, 4-20mA analog output. The transmitter offers accuracies of $\leq 0.05\%$ FS or $\leq 0.1\%$ FS including linearity, hysteresis, repeatability, zero and span setting errors.

The transmitters utilizes piezoresistive silicon sensor technology which STS has been refining for 20 years. The modular construction provides manufacturing flexibility and offers fast delivery for all pressure ranges and standard options.

Examples of applications include:

- Test and measurement
- Industrial process monitoring and control
- Test benches and calibration
- Automotive and engine test

Specification

Measurement

Pressure ranges

Any range from 1 to 15,000 psi FS available, in any engineering units such as psi, Pa, in H₂O, bar.

Absolute from 0 - 1 to 0 - 360 psia FS

Gauge from 0 - 1 to 0 - 360 psig FS

Sealed from 0 - 150 to 0 - 15,000 psig FS

Consult factory for any other pressure ranges

Proof pressure

FS up to 15 psi: 45 psi
 FS > 15 psi up to 4,000 psi: 3 x FS
 FS > 4000 psi up to 9000 psi: 12,000 psi
 FS > 9000: 22,000 psi

Consult factory for higher proof pressure

Burst pressure

FS up to 350 psi: > 3,000 psi
 FS up to 9000 psi: > 12,000 psi
 FS > 9000 psi: > 22,000 psi

Consult factory for higher burst pressure

Operating temperature range

-40 to 255°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)

-40 to 255°F (with option active compensation)

Storage temperature range

-40 to 255°F

Performance

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 185°F, > 7.25 psi

TEB with option active compensation

typ. ±0.5% total for 32 to 160°F, ≤ 7.25 psi

typ. ±1.5% total for -15 to 212°F, ≤ 7.25 psi

typ. ±0.2% total for 32 to 160°F, > 7.25 psi

typ. ±0.5% total for -15 to 185°F, > 7.25 psi

Specification continued

Accuracy

Combined linearity, hysteresis, repeatability,

Zero and Span set:

≤±0.25% FS (standard)

≤±0.10% FS (option)

≤±0.05% FS (with option active compensation)

Long term stability

<0.1% FS/yr for pressure ranges > 30 psi FS

Prorated for ranges below 30 psi FS

Under standard conditions

Supply voltage

9 - 33 VDC

Influence of supply voltage < 0.05% FS

Max. load resistance

RL = (Vsupply - 9V)/0.02A

Influence of load resistance < 0.05% FS

Output signal

4 - 20 mA, 2-wires

Response time:

<1ms (10 to 90%FS)

Insulation resistance

> 50 megohms @ 500 VDC (@ 68°F)

Construction

Pressure media compatibility

Stainless steel 316L, Viton seals

Other seal materials available

Elastomerfree version available up to

10,000 psi

Pressure connection

7/16 - 20 UNF male

Other connections available

Electrical connection

DIN 43650 or Micro DIN (Fig. 3)

6-pin bayonet per MIL-C-26482 (10-6) (Fig. 4)

Polyurethane cable (Fig. 5)

Other types available

Specification continued

Weight

4.5 oz approximate (not including cable)

Vibration

10 g, 4 to 2000 Hz

Mechanical shock

100 g / 6 ms

Ordering information

Please specify the following:

1) Model number - ATM.1ST

2) Electrical connection

65 - Micro DIN 43650 (mating conn. extra)

01 - DIN 43650 (mating connector extra)

06 - 6-pin bayonet (mating connector extra)

15 - Polyurethane cable

3) Pressure range, including eng. units, type

4) Accuracy

5) Any special feature

Example ordering format:

ATM.1ST - 06 - 1,000 psig - 0.1%

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. 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA

- Lightning protection

- Intrinsic safety certification

- Cooling extension

- Explosion proof 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

- Datalogging

Dimensions (inches)

Version for medium temperature up to 255°F

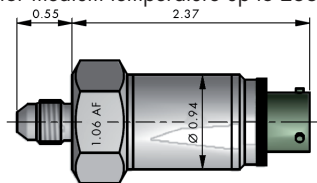


Fig. 1

Version for medium temperature up to 300°F

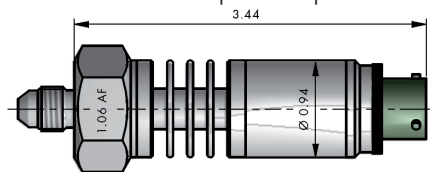


Fig. 2

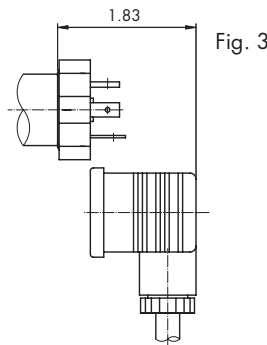


Fig. 3

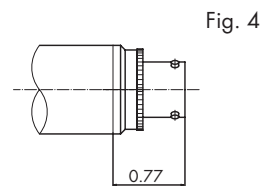


Fig. 4

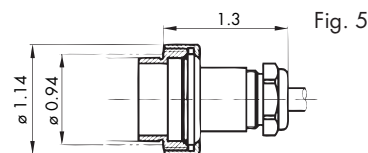


Fig. 5

Specifications may change without notice.

STS is registered ISO 9001-2000

10.00.0324.A - 908



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