4 - 20 mA PRESSURE TRANSMITTER ATM.1ST

Features

• Total Error Band: typical $\leq 0.3\%$ FS
• Compensated temperature: -40 to 255°F
• Full scale ranges from 1 to 15,000 psi
• Gauge, absolute or sealed gauge
• Accuracies of $\leq 0.05$ or $0.1\%$ available
  Includes linearity, hysteresis, repeatability AND zero and span settings
• 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 utilize piezoresistive silicon sensor technology which STS has been refining for 25 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
4 to 20 mA Pressure Transmitter ATM.1ST

**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 > 4,000 psi up to 9,000 psi: 12,000 psi
FS > 9,000: 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

**Performance**

**Total Error Band (TEB)**
typ. ±0.5% total for 32 to 160°F, ≤ 7.25 psi
typ. ±1.3% total for -15 to 212°F, ≤ 7.25 psi
typ. ±1.5% total for -40 to 212°F, ≤ 7.25 psi
typ. ±0.2% total for 32 to 160°F, ≤ 30 psi
typ. ±0.75% total for -15 to 212°F, ≤ 30 psi
typ. ±0.1% total for 32 to 160°F, ≤ 1450 psi
typ. ±0.75% total for -15 to 212°F, ≤ 1450 psi
typ. ±0.3% total for 32 to 160°F, ≤ 1450 psi
typ. ±0.75% total for -15 to 212°F, ≤ 1450 psi
typ. ±1.0% total for -40 to 212°F, ≤ 1450 psi

**TEB with option active compensation**
typ. ±0.1% total for 32 to 160°F, > 7.25, ≤ 30 psi
typ. ±0.3% total for -15 to 212°F, > 7.25, ≤ 30 psi
typ. ±0.5% total for -40 to 212°F, > 7.25, ≤ 30 psi
typ. ±0.1% total for 32 to 160°F, ≤ 1450 psi
typ. ±0.3% total for -15 to 212°F, ≤ 1450 psi
typ. ±0.5% total for -40 to 212°F, ≤ 1450 psi

**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)

**Operating temperature range**
-40 to 255°F (Fig. 1, standard)
-40 to 300°F (Fig. 2)

**Accuracy**
Combined linearity, hysteresis, repeatability, Zero and Span set:
≤ ±0.25% FS (standard)
≤ ±0.1% FS (option)
≤ ±0.05% FS (with option active compensation)

**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)

**Construction**
Pressure media compatibility
Stainless steel 316L, Viton seals
Other seal materials available
Elastomerfree version available up to 10,000 psi

**Pressure connection**
Stainless steel 316L, Viton seals
Other seal materials available

**Pressure 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

**Dimensions (inches)**

**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
- Intrinsically safe certification
- Cooling extension
- Pressure snubber
- Special oil filling for food application etc.
- Alternate construction i.e. 316L, Hastelloy
- Alternate seals i.e. EPDM, Kalrez
- Wide range of pressure connectors
- Wide range of electrical connectors

**Specifications may change without notice.**

STS is registered ISO 9001:2008

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**Fig. 1**
**Fig. 2**
**Fig. 3**
**Fig. 4**
**Fig. 5**

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