EXPLOSION-PROOF
Pressure / Temperature Transmitter
AST46PT

Overview
Applying digital compensation, the AST46PT offers top performance over hot and extremely cold temperatures. Having pressure and temperature at the same device can add safety and greater accuracy to overall system design at the fraction of the cost of an additional transmitter.

Benefits
Factory Sealed Gauge Pressure Transducer
- Pressures from 100 to 20,000 PSI
- CSA approved for use in hazardous areas including:
  - UL1203/FM3615 Class I Zone 1 Group IIC
  - Class I Div 1 Groups A, B, C, D Explosionproof
  - Class II Div 1 Groups E, F, G Dust Ignition-proof

Vented Gauge Pressure Transducer
- Pressures from 1 to 1,000 PSI Gauge
- CSA approved for use in hazardous areas including:
  - Class I Zone 1 Group IIC
  - Class I Div 1 Groups A, B, C, D Explosionproof

Benefits
- ATEX / IECEx: Class I, Zone 1, Ex d IIC T5 Gb (Ta = -40°C to 85°C)
- ANSI/ISA-12.27.01.2003 Certified “Single Seal” (no secondary seal required)
- ABS (American Bureau of Shipping) Approved
- ASIC Compensation
- Superb Temperature Performance | Wide Operating Temperature
- Excellent Accuracy
- High Proof and Burst Pressure
- Exotic Alloys Available (consult factory for Inconel 718 or Hastelloy C276)
Applications
- Well Optimization
- Oil and Gas Pipelines
- Drilling Platforms
- Marine & Offshore
- CNG / Hydrogen Fill Stations
- Paint Booths
- Remote Telemetry Unit
- Cold Climate Drilling & Mining
- Panel Instrumentation

Performance @ 25°C (77°F)
- Accuracy: <±0.1% BFSL (includes non-linearity, hysteresis & non-repeatability, for higher proof pressures contact factory)
- Accuracy (Temp.): ±2%TEB
- Stability (1 year): ±0.1% FS, typical
- Over Range Protection: 2X Rated Pressure, Minimum
- Burst Pressure: 5X or 50,000 PSI (whichever is less)
- Pressure Cycles: >100 Million

Environmental Data
Temperature
- Operating Ambient: -40 to 85°C (-40 to 185°F)
- Operating Media: -55 to 125°C (-65 to 250°F)
- Storage: -55 to 105°C (-67 to 221°F)
- 0-100% relative humidity, non-condensing

Thermal Limits
- Compensated Range: -20 to 70°C (-4 to 158°F)
- TC Zero: <±0.5% of FS
- TC Span: <±0.5% of FS

Other
- Shock: EN 60068-2-27
- Vibration: EN 60068-2-6, 60068-2-64, and IEC 68-2-32
- EMI/RFI Protection: Yes
- Rating: IP-65 (vented), IP-66 (factory sealed)
Electrical Data

- **Output**: 4-20mA
- **Excitation**: 10-28VDC
- **Current Consumption**: <10mA
- **Sampling Rate**: 400Hz
- **Output Noise**: <1mV, RMS
- **Zero Offset**: <±0.5% FS
- **Span Tolerance**: <±0.5% FS
- **Output Load**: 0-800 Ohms@10-28VDC 5k Ohms, min.
- **Reverse Polarity Protection**: Yes

**Dimensions**

- **Model Series**
  - AST4600
  - AST46HA
  - AST46PT (4-20mA)
  - AST46PT (Voltage)
  - AST46SW

- **Body Diameter “A”**: 0.875”, 1”, 1”, 1”, 1”
- **Overall Length “B”**: 3.64”, 4.3”, 4.8”, 4.3”, 4.8”

**Wiring**

- **Output**: Red, Black, White, Blue
- **Voltage**: +V Supply, -V Supply, Pressure, Temp.
- **4-20mA**: Pressure, -Temp., +Temp., Case Ground

For U.S. installations, sensor case ground (green wire) must be bonded to ground according to Article 501 & 505 of the NEC.
### Ordering Information

**AST46PT**

<table>
<thead>
<tr>
<th>Temperature Output</th>
<th>Series Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1= -40 to 85°C (-40 to 185°F)</td>
<td>1 A G 0500</td>
</tr>
<tr>
<td>2= -40 to 125°C (40 to 257°F)</td>
<td>P 3 T 1 H 000-Z</td>
</tr>
<tr>
<td>3= 0 to 70°C (32 to 158°F)</td>
<td></td>
</tr>
</tbody>
</table>

**Process Connection**

- A= 1/4” NPT Male (up to 10,000 PSI)
- P= 1/2” NPT Male (up to 15,000 PSI)
- I= 1/4” NPT Female (up to 15,000 PSI)
- W= F250C Female Autoclave (10,000 to 20,000 PSI)

**Pressure Range**

- G= Gauge Pressure**
  - 1= Sealed Gauge up to 10,000 PSI
  - V= Gauge Pressure (Vacuum Calibrated)**
  - 2= Sealed Gauge up to 10,000 PSI
  - 0= Sealed Gauge up to 9,999 PSI

**Insert Pressure Code**

<table>
<thead>
<tr>
<th>Pressure PSI</th>
<th>Pressure Code Sealed</th>
<th>Pressure Code Vented</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>G 0001</td>
<td>0-100</td>
</tr>
<tr>
<td>0-1.5</td>
<td>G 0006</td>
<td>0-200</td>
</tr>
<tr>
<td>0-3.5</td>
<td>G 0028</td>
<td>0-500</td>
</tr>
<tr>
<td>0-10</td>
<td>G 0065</td>
<td>0-1,000</td>
</tr>
<tr>
<td>0-15</td>
<td>G 0115</td>
<td>0-2,000</td>
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<tr>
<td>0-25</td>
<td>G 0160</td>
<td>0-3,000</td>
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<tr>
<td>0-50</td>
<td>G 0200</td>
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<tr>
<td>0-100</td>
<td>G 0260</td>
<td>0-5,000</td>
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<tr>
<td>0-200</td>
<td>G 0340</td>
<td>0-7,500</td>
</tr>
<tr>
<td>0-300</td>
<td>G 0430</td>
<td>0-10,000</td>
</tr>
<tr>
<td>0-500</td>
<td>G 0530</td>
<td>0-15,000</td>
</tr>
<tr>
<td>0-1000</td>
<td>G 0600</td>
<td>0-20,000</td>
</tr>
</tbody>
</table>

**Pressure Unit**

- 5= kg/cm²
- P= PSI

**Outputs**

- 1= 0.5-4.5V ratiometric
- 2= 0-10V (3 wire)
- 3= 1-5V (3 wire + case connection)
- 4= 4-20mA (loop powered + case connection)
- 5= 0-10V (3 wire)
- 6= 1-6V (3 wire + case connection)

**Electrical**

- T= 2ft. 18 AWG wires
- U= 4ft. 18 AWG wires
- W= 2 Meter 18 AWG wires

**Wetted Material**

- 0= 17-4PH
- 1= 316L
- 2= Inconel 718
- 4= Hastelloy C276

**Failure State**

- N= None
- L= Low
- H= High

**Options**

- 000= No Options
- 588= 0.5-2.5V non-ratiometric (3-5VDC)

**Approval**

- Z= Add “-Z” for CRN Registered to ANSI/ASME B31.3. Contact factory for material, pressure, and process connection options.

Note: CSA approved products require case/earth ground electrical connection. See wiring installation sheet for further details.

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