

AST46PT Vented Gauge / ASIC



CSA Approved Explosionproof Pressure / Temperature Transmitter

Overview

AST46PT high accuracy Explosionproof Pressure/Temperature Transmitter is CSA approved for use in hazardous areas including:

- ✓ CSA 30 (UL1203/FM3615) Class 1 Zone 1 Group IIC
- ✓ CSA 30 Class 1 Div 1 Groups A, B, C, D Explosionproof

Applying digital compensation, this product offers top performance over a wide temperature range. Utilizing Krystal Bond Technology™, the sensing element will measure pressure in the most extreme temperature conditions. Where other sensor technologies will freeze or boil, the AST46PT uses a one piece stainless steel sensor to offer continuous operation.

Benefits

- ANSI/ISA-12.27.01.2003 Certified "Single Seal" (no secondary seal required)
- Pressure and Temperature Output from One Device
- ASIC Compensation
- Superb Temperature Performance
- Wide Operating Temperature Range
- Excellent Accuracy
- High Proof and Burst Pressure
- Ranges from 10 to 1,000 PSI Gauge*
- Available in Exotic Alloys (Consult Factory for Inconel 718 or Hastelloy C276)

Applications

- Well Optimization
- Oil and Gas Pipelines
- Drilling Platforms
- Panel Instrumentation
- CNG / Hydrogen Fill Stations
- Paint Booths
- Remote Telemetry Unit
- Cold Climate Drilling & Mining

* For pressures over 1,000 PSI, see AST46PT Factory Sealed Gauge data sheet.



Performance @ 25°C (77°F)

Accuracy**	<±0.1% BFUL
Stability (1 year)	±0.1% FS, typical
Over range Protection*	2X Rated Pressure, standard
Burst Pressure	5X or 50,000 PSI, whichever is less
Pressure Cycles	> 100 Million

**Accuracy Includes: non-linearity, hysteresis, and non-repeatability

*For higher proof pressures, contact factory

Environmental Data

Temperature

Operating Ambient	-40 to 85°C (-40 to 185°F)
Operating Media	-55 to 125°C (-65 to 250°F)
Storage	-50 to 105°C (-58 to 221°F)

Thermal Limits

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

Other

Shock	100G, 11 msec, 1/2 sine
Vibration	10G peak, 20 to 2000 Hz.
EMI/RFI Protection:	Yes
Rating:	IP-65

Electrical Data

Output	4-20mA**	0-5V, 1-5V, 1-6V	0-10V, 1-10V	0.5-4.5V Ratiometric
Excitation	10-28VDC	10-28VDC	15-30VDC	5VDC, Regulated
Current Consumption	-	< 10mA	< 10mA	< 10mA
Sampling Rate	400Hz	400Hz	400Hz	400Hz
Output Noise	< 1mV, RMS	< 1mV, RMS	< 1mV, RMS	< 1mV, RMS
Zero Offset	< ± 0.5% FS	< ± 0.5% FS	< ± 0.5% FS	< ± 0.5% FS
Span Tolerance	< ± 0.5% FS	< ± 0.5% FS	< ± 0.5% FS	< ± 0.5% FS
Output Load	0-800 Ohms@10-28VDC	5k Ohms, min.	5k Ohms, min.	5k Ohms, min.
Reverse Polarity Protection	Yes	Yes	Yes	Yes

**For units with loop-powered 4-20mA output, the pressure loop must be powered or the temperature output will not operate.



Ordering Information

AST46PT 1 A G 0500 P 3 T 1 H 000

Series Type

Temperature Output
 1= -40 to 85°C (-40 to 185°F)
 2= -40 to 125°C (-40 to 250°F)
 3= 0 to 70°C (30 to 158°F)
 4= -55 to 125°C (-65 to 250°F)
 5= -18 to 93°C (0-200°F)

Process Connection
 A= 1/4" Male NPT
 I= 1/4" NPT Female
 P= 1/2" NPT Male

Pressure Reference
 G= Gauge Pressure
 V= Gauge Pressure (Vacuum Calibrated)

Pressure Range (Vented Gauge)
 Insert 4 digit pressure range code from chart

Pressure Unit
 B= Bar H= Inches H₂O K= kg/cm² P= PSI

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

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

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

Failure State
 H= High L= Low N= None

Options: Use 000 for no options

Pressure Ranges*	
Pressure in PSIG	Pressure Range Code
0-2.5	00069**
0-5	0005
0-10	0010
0-15	0015
0-25	0025
0-50	0050
0-100	0100
0-200	0200
0-500	0500
0-1,000	1000

*For sealed pressure units, see **AST46PT Factory Sealed Gauge data sheet**. **2.5 PSI sensor must be ordered in inches of H₂O.

*Consult factory on availability

Dimensional Data

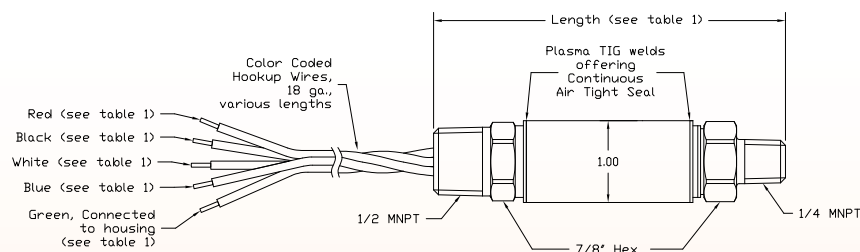


Table 1

Output	Power Connections		Output Connections		Green	Length	For U.S. installations, sensor case ground (green wire) must be bonded to ground according to Article 501 & 505 of the NEC.
	Red	Black	White	Blue			
Voltage	+V Supply	-V Supply	Pressure	Temperature	Case Ground	4.68"	
4-20mA	+Pressure	-Pressure	-Temperature	+Temperature	Case Ground	5.18"	

Warranty

Workmanship - AST, Inc. pressure transmitters have a limited one-year warranty to the original purchaser. AST, Inc. will replace or repair, free of charge, any defective transmitter. This warranty does not apply to any units that have been modified; misused, neglected or installed where the application exceeds published ratings. AST's sensors are made with pride in New Jersey, USA. If in the area please feel free to stop by for a visit!

Installation/Applications - The purchaser is responsible for media compatibility, functional adequacy, and correct installation of the transmitter.