



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)

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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)

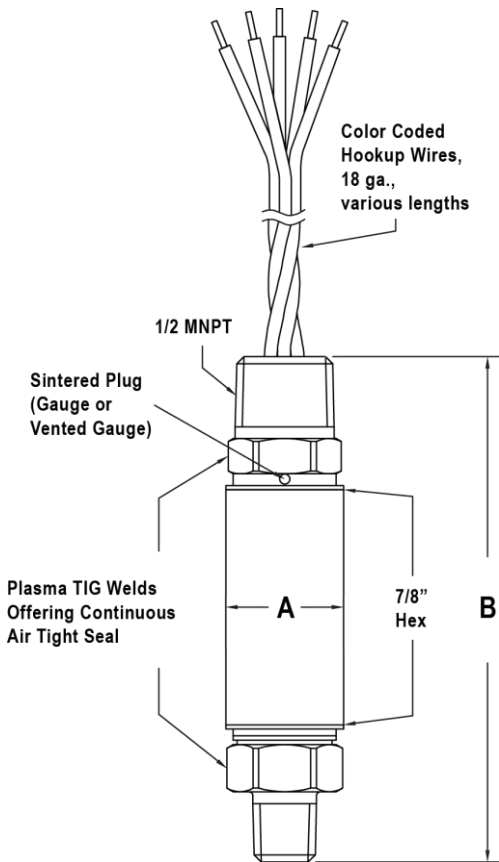
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Electrical Data

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

Dimensions



Model Series	Body Diameter "A"	Overall Length "B"
AST4600	0.875"	3.64"
AST46HA	1"	4.3"
AST46PT (4-20mA)	1"	4.8"
AST46PT (Voltage)	1"	4.3"
AST46SW	1"	4.8"

Output	Wiring				Green
	Power Connections		Output Connections		
	Red	Black	White	Blue	
Voltage	+V Supply	-V Supply	Pressure	Temp.	Case Ground
4-20mA	+Pressure	- 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.

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Ordering Information

AST46PT 1 A G 0500 P 3 T 1 H 000 -Z

Series Type

Temperature Output

1= -40 to 85°C (-40 to 185°F) 4= -55 to 125°C (-67 to 250°F)
 2= -40 to 125°C (-40 to 257°F) 5= -18 to 93°C (0-200°F)
 3= 0 to 70°C (32 to 158°F)

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)

* for other ports contact factory, *W* not available in 316L

Pressure Range

G= Gauge Pressure** 1= Sealed Gauge up 10,000 to 19,999 PSI
 V= Gauge Pressure (Vacuum Calibrated)** 2= Sealed Gauge 20,000 PSI
 0= Sealed Gauge up to 9,999 PSI

** Not suitable for Class II

Insert Pressure Code

Pressure PSI	Pressure Code	Pressure Code	Pressure PSI	Pressure Code	
					Pressure Code
0-1	G	0001	0-100	0	0100
0-2.5++	G	0069	0-200	0	0200
0-5	G	0005	0-500	0	0500
0-7.5++	G	0208	0-1,000	0	1000
0-10	G	0010	0-1,500	0	1500
0-15	G	0015	0-2,500	0	2500
0-25	G	0025	0-3,000	0	3000
0-50	G	0050	0-5,000	0	5000
0-100	G	0100	0-7,500	0	7500
0-200	G	0200	0-10,000	1	0000
0-500	G	0500	0-15,000	1	5000
0-1,000	G	1000	0-20,000	2	0000

Pressure Unit

B= Bar K= kg/cm2 P= PSI

Outputs

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

Electrical

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

Wetted Material

(consult factory on availability of Inconel 718 and Hastelloy C276)

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

Failure State

H= High L= Low N= None

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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