

AST20PT *Industrial ASIC*



Stainless Steel Media Isolated Pressure Temperature Sensor

Overview

The AST20PT is a digitally compensated pressure-temperature dual output transducer/transmitter, offering measurements from a single process point, reducing process penetration points and leaks. Krystal Bond™ Technology alone offers excellent non-linearity and non-repeatability performance. When it is combined with the ASIC, the AST20PT steps into its own league of high performance pressure sensing at an affordable price.

Benefits

- Asic Compensation
- Temperature Performance
- Real Time Thermal Compensation
- Real Time Linearity Correction
- Turndown Capability

Applications

- Aerospace
- Analytical Instruments
- Hydraulics
- Hydrogen*
- Labs / Metrology
- Medical
- Military
- Test Stands

*Consult factory for media compatibility



Performance @ 25°C (77°F)

Accuracy**	< ± 0.1% BFSL
Stability (1 year)	± 0.1% FS, typical
Proof Pressure*	2X Rated Pressure, standard
Burst Pressure	5X or 50,000 PSI, whichever is less
Pressure Cycles	> 100 Million
**Accuracy includes non-linearity, hysteresis & non-repeatability	
*For higher proof pressures, contact factory	

Environmental Data

Operating <i>Ambient</i> Temperature	-40 to 85°C (-40 to 185°F)
Operating <i>Media</i> Temperature	-55 to 125°C (-65 to 250°F)
Storage Temperature	-50 to 125°C (-58 to 250°F)
Thermal Limits	
Compensated Range	0-70°C (30 to 158°F)
TC Zero	< ± 0.5% FS
TC Span	< ± 0.5% FS
Other	
Shock	100G, 11msec, 1/2 sine
Vibration	10G peak, 20 to 2000Hz
EMI/RFI Protection:	Yes
Rating:	IP-66

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	15-28VDC	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

AST20PT 1 A 00500 P 3 E 1 H 000

Series Type

Temperature Output Range
 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
 B= 1/8" Male NPT
 P= 1/2" NPT Male
 W= F250C Female Autoclave

Pressure Range
 Insert pressure range from chart

Pressure Unit
 B= Bar K= kg/cm2 P= PSI

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

Electrical
 A= 2 ft.(0.6m) D= 10 ft.(3.0m) S= 4- Pin Bendix
 B= 4 ft.(1.2m) E= Mini DIN 43650 R= 6- Pin Bendix
 C= 6 ft.(1.8m) I= DIN 43650-A Y= Turck M12 4-Pin Eurofast

Wetted Material**
 0=17-4PH 1=316 L 2= Inconel 718 6= Waspalloy

Fail Condition
 N= Not Specified H= Fail High L= Fail Low

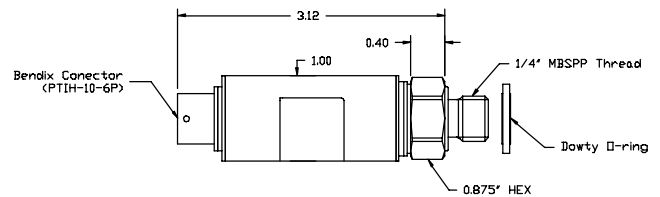
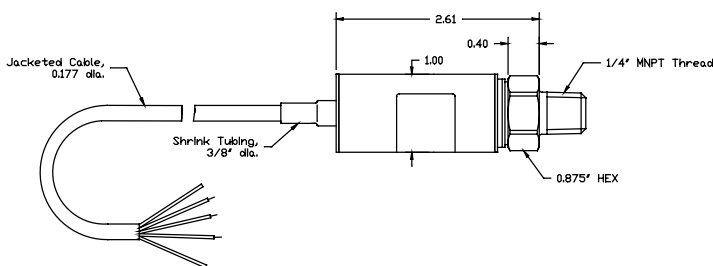
Options
 000= No Special Options

PSIG Measurement Range	Pressure Range Code	BARG Measurement Range	Pressure Range Code
-14.7 to 25*	V0025*	-1 to 2*	V0002*
0-25	00025	0-2	00002
0-50	00050	0-5	00005
0-100	00100	0-7	00007
0-150	00150	0-10	00010
0-200	00200	0-20	00020
0-250	00250	0-35	00035
0-500	00500	0-50	00050
0-1,000	01000	0-70	00070
0-2,500	02500	0-100	00100
0-3,000	03000	0-250	00250
0-5,000	05000	0-350	00350
0-7,500	07500	0-500	00500
0-10,000	10000	0-700	00700
0-15,000	15000	0-1,000	01000
0-20,000	20000	0-1,400	01400

Typical ranges. All ranges between 0-25 PSI and 0-20,000 PSI available.
 *Compound ranges up to -14.7 to 500 PSI available. Please consult factory.

*1/8" NPT Male not available under 50PSI or with 316L
 F250C Female Autoclave is the only option for 10,000 to 20,000PSI, not available in 316L
 **316L available up to 10,000 PSI, Consult factory on availability of Inconel and Waspalloy

Dimensional Data



Wiring information available at: <http://www.astensors.com/mediacenter.php>

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.