

AST4400 Class 1 Div 1 IS Groups C, D with Approved Barrier Stainless Steel Media Isolated Pressure Sensor



OVERVIEW

The AST4400 is a media isolated stainless steel pressure sensor with a wide variety of options. In addition to its rugged construction and best price-to-performance ratio in the industry, the AST4400 is the solution for pressure measurement in Intrinsically Safe areas.

BENEFITS

- ◆ High Strength Stainless Steel Construction
- ◆ No Oil, Welds or Internal O-rings
- ◆ Wide Operating Temperature Range
- ◆ Ranges up to 10,000 PSI
- ◆ Low Static and Thermal Errors
- ◆ Unparalleled Price and Performance
- ◆ Compatible with Wide Range of Liquids and Gases
- ◆ EMI/RFI Protection
- ◆ UL/cUL 913 Class 1 Div 1 Groups C,D when installed with an approved barrier

APPLICATIONS

- ◆ Industrial OEM Equipment
- ◆ Water Management
- ◆ Pneumatics
- ◆ Hydrogen Storage (316L SS)
- ◆ HVAC/R Equipment
- ◆ Control Panels
- ◆ Hydraulic Systems
- ◆ Data Loggers

Performance @25°C (77°F)	
Accuracy*	< ±0.25% BFSL
Stability (1 year)	±0.25%FS, typ
Over range Protection	2X Rated Pressure
Burst Pressure	5X or 10,000 psi (whichever is less)
Pressure Cycles	> 100 Million
* Accuracy includes non-linearity, hysteresis & non-repeatability	



Environmental Data

Temperature	
Operating	-40 to 85°C (-40 to 185°F)
Storage	-40 to 100°C (-40 to 212°F)
Thermal Limits	
Compensated Range	0 to 55°C (30 to 130°F)
TC Zero	<±1.5% of FS
TC Span	<±1.5% of FS
Other	
Shock	100G, 11 msec, 1/2 sine
Vibration	10G peak, 20 to 2000 Hz.
EMI/RFI Protection:	Yes
Rating:	IP-66

Electrical Data

Output	4-20mA	1-5VDC, 1-6VDC	0-50mV	0.5-4.5V Ratiometric
Excitation	10-28VDC	10-28VDC	5VDC,typ	5VDC,reg
Output Impedance	>10k Ohms	<100 Ohms, Nominal	1100 Ohms, Nominal	<100 Ohms, Nominal
Current Consumption:	20mA, typ.	<10mA	<5mA	<10mA
Bandwidth	(-3dB): DC to 250 Hz	(-3dB): DC to 1kHz	(3dB): DC to 5kHz, min	(3dB): DC to 1kHz
Output Noise:	-	<2mV RMS	-	<2mV RMS
Zero Offset:	<±1% of FS	<±1% of FS	< ±2% of FS	<±1% of FS
Span Tolerance:	<±2% of FS	<±1.5% of FS	< ±2% of FS	<±1.5% of FS
Output Load:	0-800 Ohms@10-28VDC	10k Ohms, Min.	>1M Ohms	10K Ohms, Min.
Reverse Polarity Protection	Yes	Yes	-	No

Ordering information

AST4400 A 00500 P 4 E 0 000

Series Type

Process Connection

A=1/4" NPT Male
 B=1/8" NPT Male
 C=1/4" BSPP Male
 F=7/16" - 20 UNF Male

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
 4= 4-20mA (2 wire loop powered)
 6= 1-6V
 A= 10mV/V

Electrical

A= 2Ft.(0.6m) F= Packard Metripack 150 3-Pin Conn.
 B= 4Ft.(1.2m) L= Conduit fitting, Cable 2ft
 C= 6Ft.(1.8m) M= Conduit fitting, Cable 4ft
 D= 10Ft.(3.0m) N= Conduit fitting, Cable 6ft
 E= Mini DIN 43650 P= Conduit fitting, Cable 10ft

Wetted Material

0=17-4PH
 1=316 L

Options

000 -No special options

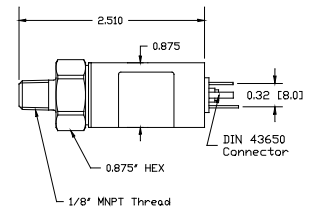
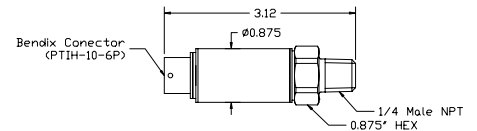
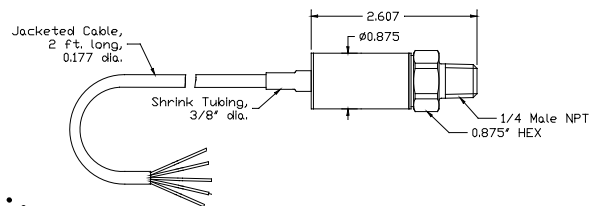
Pressure Ranges*

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	0-10	00010
0-200	00200	0-20	00020
0-500	00500	0-50	00050
0-1,000	01000	0-100	00100
0-2,500	02500	0-250	00250
0-5,000	05000	0-350	00350
0-7,500	07500	0-500	00500
0-10,000	10000	0-700	00700

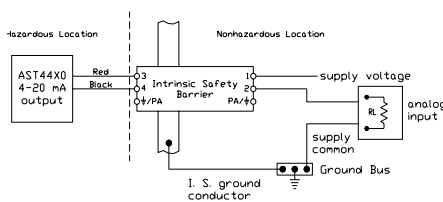
*Typical ranges. All ranges between 0-25 psi and 0-10,000 psi available.

**Compound ranges up to -14.7 to 2500 psi available. Please consult factory.

Dimensional Data



Barrier Installation

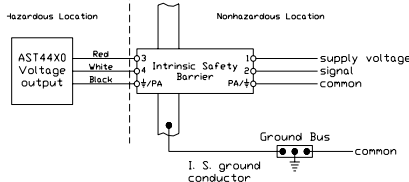


The transducers listed below are designed for installation in a Class I, Division 1, Groups C and D, Division 1 hazardous location when connected to Associated Apparatus as described in note 1.

Entity Parameters

V_{max} = 28Vdc
 I_{max} = 175mA
 C₁ = 0.44uF
 L₁ = 0

I_{max} is the total current available from the Associated Apparatus under any condition.



Notes:
 1. Associated Apparatus shall provide intrinsically safe connections which meet the following parameters:
 V_{oc} or V_t V_{max} C_a C₁ + C_{leads}
 I_{sc} or I_t I_{max} L_a L₁ + L_{leads}

2. Control Room apparatus shall not generate in excess of 250V (U_{max}).
 3. Installation should be in accordance with Article 504 in the National Electrical Code, ANSI/NFPA 70.

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.

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