AST4400 *Class 1 Div 1 IS Groups C, D with Approved Barrier*

Stainless Steel Media Isolated Pressure Sensor

RoHS COMPLIANT LEAD FREE

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

- **UL/cUL 913 (CSA 157)** Class 1 Div 1 Groups C,D when installed with an approved barrier
- 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

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, typical
Over range Protection	2X Rated Pressure
Burst Pressure	5X or 20,000 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 (10mV/V)**	**0.5-4.5V Ratiometric**
Excitation	10-28VDC	10-28VDC	5VDC, typical	5VDC, regulated
Output Impedance	>10k Ohms	<100 Ohms, Nominal	1100 Ohms, Nominal	<100 Ohms, Nominal
Current Consumption	20mA, typical	<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

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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
I= 1/4" NPT Female

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= 0-50mV (10mV/V)

Electrical[+]
A= 2 ft. (0.6 m)
B= 4 ft. (1.2 m)
C= 6 ft. (1.8 m)
D= 10 ft. (3.0 m)
E= Mini DIN 43650
F= Packard Metripack 150 3-Pin Conn.
I= DIN 43650A
L= Conduit fitting, Cable 2 ft.
M= Conduit fitting, Cable 4 ft.
N= Conduit fitting, Cable 6 ft.
P= Conduit fitting, Cable 10 ft.
Y= M12 Eurofast

Wetted Material
0= 17-4PH
1= 316 L

Now With DIN43650A!

Options
000= No special options

[+] Wiring information available at:
http://www.astsensors.com/mediacenter.php

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.

Barrier Installation

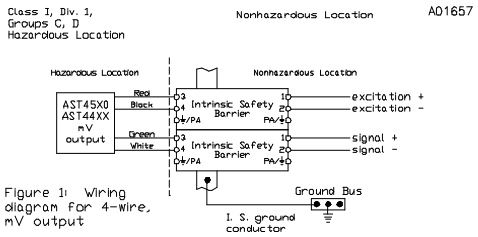


Figure 1: Wiring diagram for 4-wire, mV output

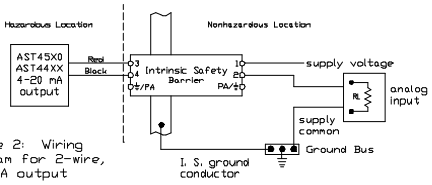


Figure 2: Wiring diagram for 2-wire, 4-20mA output

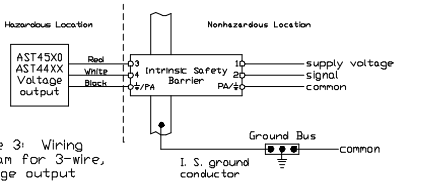


Figure 3: Wiring diagram for 3-wire, Voltage output

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
Vmax = 28Vdc
Imax = 175mA
C_i = 0.44uf
L_i = 0

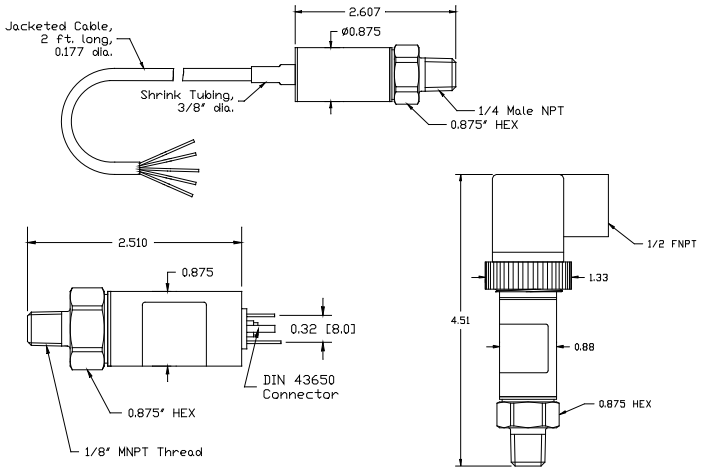
Imax is the total current available from the Associated Apparatus under any condition.

Notes:
1. Associated Apparatus shall provide intrinsically safe connections which meet the following parameters.
Voc or Vt ≤ Vmax Ca ≥ C_i + Cleads
Isc or It ≤ Imax La ≥ L_i + Lleads

2. Control Room aparatus shall not generate in excess of 250V (Umax).

3. Installation should be in accordance with Article 504 in the National Electrical Code, ANSI/NFPA 70.

Dimensional Data



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.