

AST44LP *Class 1 Div 1 IS Groups C, D with Approved Barrier*

Stainless Steel Media Isolated Pressure Sensor



OVERVIEW

The AST44LP is a media isolated stainless steel pressure sensor with a wide variety of options. In addition to its rugged construction and the best price-to-performance ratio in the industry, the AST44LP is the solution for low 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 Welds or Internal O-rings
- Wide Operating Temperature Range
- Ranges from 0-2.5 to 0-15 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
- Vapor Recovery
- External Tank Levels
- HVAC/R Equipment
- Control Panels
- Hydraulic Systems
- Data Loggers



Performance @25°C (77°F)

Accuracy*	< ±0.25% BFSL (< ±0.5% BFSL for 0-1 PSI)
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

Ordering Information

AST44LP A 00005 P 4 E 1 000

Series Type

Process Connection
 A=1/4" NPT Male
 F=7/16" - 20 UNF Male
 I= 1/4" NPT Female

Pressure Range

Insert pressure range from chart

Pressure Unit

H= Inches H₂O P= PSI

Outputs

1= 0.5-4.5V ratiometric* 6= 1-6V
 3= 1-5V A= 10mV/V
 4= 4-20mA (2 wire loop powered)

Electrical*

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

Wetted Material

0=17-4PH
 1=316 L

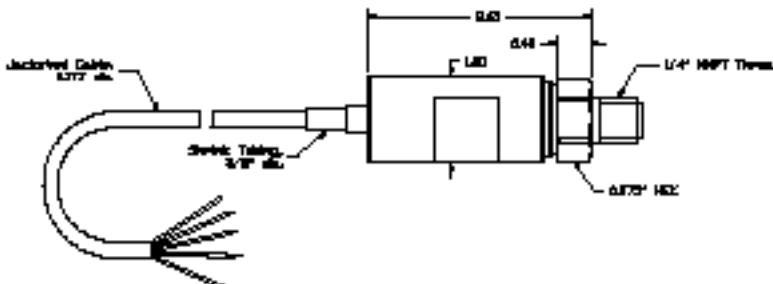
Options

000 -No special options

*Consult factory on availability

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

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.

Pressure Ranges

Gage PSIG	Pressure Range Code
0-1	00001
0-2.5	00069*
0-5	00005
0-7.5	00208*
0-10	00010
0-15	00015

*2.5 and 7.5 PSI Sensor must be ordered in inches of H₂O.

Barrier Installation

Class I, Div. 1, Groups C, D Hazardous Location Nonhazardous Location A01657

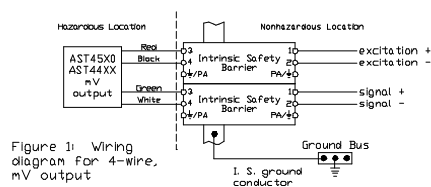


Figure 1: Wiring diagram for 4-wire, mV output

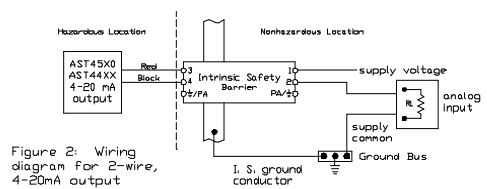


Figure 2: Wiring diagram for 2-wire, 4-20mA output

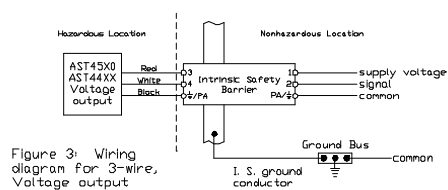


Figure 3: Wiring diagram for 3-wire, Voltage output

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

Entity Parameters

V_{max} = 28Vdc
 I_{max} = 175mA I_{max} is the total current available from the Associated Apparatus under any condition.
 C₁ = 0.44uF
 L₁ = 0

Notes:

- Associated Apparatus shall provide intrinsically safe connections which meet the following parameters.
 $V_{oc} \text{ or } V_t \leq V_{max}$ $C_o \geq C_1 + C_{leads}$
 $I_{sc} \text{ or } I_t \leq I_{max}$ $L_o \geq L_1 + L_{leads}$
- Control Room apparatus shall not generate in excess of 250V (V_{max}).
- Installation should be in accordance with Article 504 in the National Electrical Code, ANSI/NFPA 70.