



## ABSOLUTE

### Pressure Transducer / Transmitter

### AST4710

#### Overview

The AST4710 is built for applications requiring absolute pressure measurement of liquids and gases that are compatible with stainless steel. Due to its stainless steel construction, welded housing and high shock and vibration ratings, the AST4710 translates into a rugged, reliable absolute pressure transducer.

Supplied with various pressure port, output and electrical connection options, the AST4710 is well-suited for a variety of applications across many industries.

#### Benefits

- High Accuracy
- High Strength Stainless Steel Construction
- Wide Variety of Media Compatibility
- No Internal O-rings
- Rugged Construction
- CE EN61326
- Suitable for High Shock and Vibration

#### Applications

- Test Stands
- Energy and Water Management
- Autoclave
- Pressure Instrumentation
- Data Loggers
- Barometric Correctors

**Environmental Data**

**Ambient Temperature: 25°C (77°F) (Unless otherwise specified)**

<b>Operating Ambient</b>	-40 to 85°C (-40 to 185°F)
<b>Storage</b>	-40 to 125°C (-40 to 257°F)

**Shock, Vibration & Ingress Protection (IP)**

Standard	Description	Test Value
EN 60067-2-27	Shock Test	500m/s <sup>2</sup> , 6ms, half sine-wave, 6 shocks (3/direction), horizontal and vertical axis, 12 total shocks
EN 60068-2-6	Sinusoidal Vibration	5-25 Hz, 2mm, 25-150 Hz, 50m/s, Sweep rate: 1 octave/min, Duration: 24 hours/axis (48 hours total), horizontal and vertical axis
EN 60068-2-64	Random Vibration	10-2000 Hz, vibration level: 0.0314 (m/s <sup>2</sup> ) <sup>2</sup> /Hz, 24 hrs/axis (48 hrs total), 2 directions: horizontal and vertical
IEC 60068-2-32	Drop Test	Drop of 1 meter to floor made of concrete. Dropped twice on the threaded end and two times perpendicular to the threaded end.
IP-66	Ingress Protection	Dust-tight, protected against powerful water jets

**Electromagnetic Compatibility (EMC)**

Standard	Description	Test Value
EN55011	Radiated Emissions	Class A, 30-1000 MHz ±8 kV Air Discharge
EN61000-4-2	Electrostatic Discharge Immunity	±4 kV Contact Discharge, VCP, HCP
EN61000-4-3	Radiated Electromagnetic Field Immunity	10V/m, 30-2700 MHz 80% 1kHz AM Modulation ±0.5 kV, ±1 kV, ±2 kV on DC Mains
EN61000-4-4	Electrical Fast Transient/Burst Immunity	±0.5 kV, ±1 kV on I/O Ports
EN61000-4-5	Surge Immunity	±0.5 kV, ±1 kV on I/O Ports & DC Lines 10 V rms, 0.15-80 MHz, DC Mains
EN61000-4-6	Conducted Immunity	10 V rms, 0.15-80 MHz, I/O Ports 80% 1kHz AM Modulation
EN61000-4-8	Power Frequency Magnetic Field Immunity Test	30 A/m @ (50Hz, 60Hz) 3 orthogonal orientations

**Performance**

**Ambient Temperature: 25°C (77°F) (Unless otherwise specified)**

Parameters	MIN	TYP	MAX	UNITS	NOTES
Accuracy	-0.25		+0.25	%Span	1
Zero Error	-1.5		+1.5	%Span	2
Span Error	-2.0		+2.0	%Span	3
Span Error (4-20mA)	-2.0		+2.0	%Span	3
Thermal Error, Zero	-1.5		+1.5	%Span	4
Thermal Error, Span	-1.5		+1.5	%Span	5
Stability (1 year)		±0.25		%Span	
Proof Pressure		2X Rated Pressure		PSI	6
Burst Pressure		5X Rated Pressure		PSI	7
Compensated Temp. Range		0 to 70° (32 to 158°)		°C (°F)	

**Electrical Data**

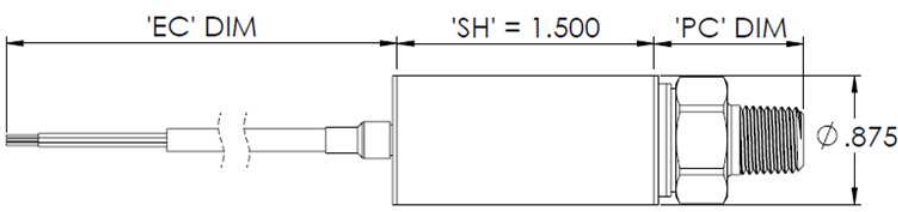
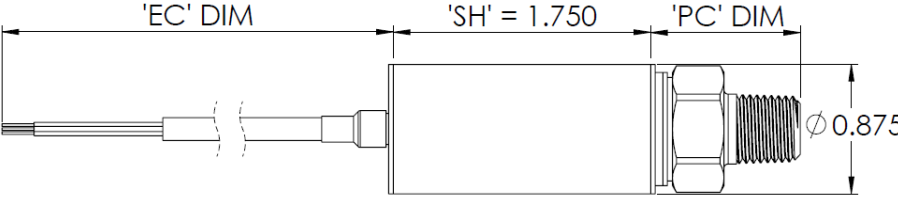
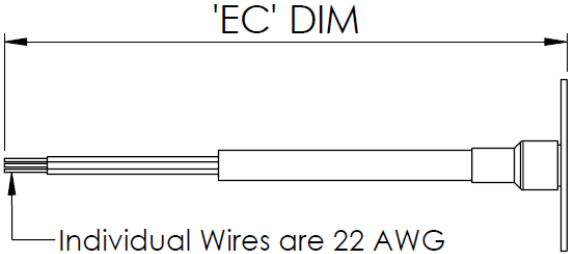
Model	AST4710		
Excitation	4-20mA	0-5V, 1-6V	0.5-4.5V Ratiometric
Output Impedance	10-28VDC	10-28VDC	5.0 ± 0.5VDC
Current Consumption	> 10k Ω	< 100 Ω	< 100 Ω
Output Noise	-	<10mA	<10mA
Output Load	-	<2mV RMS	<2mV RMS
Reverse Polarity Protection	0-800Ω	10k Ω Min.	10k Ω Min.
Bandwidth	Yes	Yes	Yes

**Notes**

1. The maximum deviation from a best fit straight line (BFSL) fitted to the output measured over the pressure range at 25°C. Includes all errors due to pressure non-linearity, hysteresis, and non-repeatability. Span is the algebraic difference between full scale output and zero pressure offset.
2. The maximum variation from the ideal offset measured at 25°C.
3. The maximum variation from the ideal full-scale span measured at 25°C.
4. The maximum variation of offset within the compensated temperature range relative to 25°C.
5. The maximum variation of full-scale span within the compensated temperature range relative to 25°C.
6. The maximum pressure that can be safely applied to the product for it to remain in specification once pressure is returned to the operating pressure range.
7. The maximum pressure that can be applied without causing escape of the pressure media.

**Dimensions & Electrical Connection**

Unless otherwise specified, all dimensions are in inches

<p style="text-align: center;"><i>EC + SH + PC = Total Nominal Product Length</i></p> 	<p><b>Ranges 25 PSI and Above</b></p> <p>EC = Electrical Connector                  SH = Sensor Housing                  PC = Process Connection                  V = Voltage Supply                  N/C = Not Connected                  WP = Wide Pin                  S = Signal</p>																	
<p style="text-align: center;"><i>EC + SH + PC = Total Nominal Product Length</i></p> 	<p><b>Ranges Below 25 PSI</b></p> <p>EC = Electrical Connector                  SH = Sensor Housing                  PC = Process Connection                  V = Voltage Supply                  N/C = Not Connected                  WP = Wide Pin                  S = Signal</p>																	
<b>Electrical Connectors Option Codes</b>																		
<b>Cable</b>																		
<b>A</b> 2ft (0.6m)	<b>B</b> 4ft (1.2m)	<b>C</b> 6ft (1.8m)	<b>D</b> 10ft (3m)															
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 2px;">Color</th> <th style="padding: 2px;">3 Wire Voltage</th> <th style="padding: 2px;">4-20mA</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Green</td> <td style="padding: 2px;">N/C</td> <td style="padding: 2px;">N/C</td> </tr> <tr> <td style="padding: 2px;">Black</td> <td style="padding: 2px;">GND</td> <td style="padding: 2px;">-V</td> </tr> <tr> <td style="padding: 2px;">Red</td> <td style="padding: 2px;">+V</td> <td style="padding: 2px;">+V</td> </tr> <tr> <td style="padding: 2px;">White</td> <td style="padding: 2px;">S</td> <td style="padding: 2px;">N/C</td> </tr> </tbody> </table>		Color	3 Wire Voltage	4-20mA	Green	N/C	N/C	Black	GND	-V	Red	+V	+V	White	S	N/C	 <p style="text-align: center;">Individual Wires are 22 AWG</p>	
Color	3 Wire Voltage	4-20mA																
Green	N/C	N/C																
Black	GND	-V																
Red	+V	+V																
White	S	N/C																

Electrical Connectors Option Codes (Cont'd)											
E DIN 43650C 8.0mm (Mini-DIN)			I DIN 43650A 18.0mm (Big-DIN)			R 6 Pin Bendix			Y M12X1		
Pin	3 Wire Voltage	4-20mA	Pin	3 Wire Voltage	4-20mA	Pin	3 Wire Voltage	4-20mA	Pin	3 Wire Voltage	4-20mA
1	S	N/C	1	+V	+V	A	+V	+V	1	+V	+V
2	GND	-V	2	GND	-V	B	S	-V	2	N/C	N/C
3	+V	+V	3	S	N/C	C	N/C	N/C	3	GND	-V
WP	N/C	N/C	WP	N/C	N/C	D	GND	N/C	4	S	N/C
						E	N/C	N/C			
						F	N/C	N/C			

Pressure Port Option Codes			
A 1/4 NPT Male	C 1/4 BSPP Male	F 7/16 – 20 UNF Male	J 1/8 NPT Female
P 1/2 NPT Male			

Legend	
✓	Standard Available
X	Not Available

**Available Process Connection, Material Configurations & Pressure Codes**

**316L PSI**

Pressure Range	Pressure Range Code	PSI Unit	Process Connection Code				
			A	C	F	J	P
0 - 15	A0015	P	✓	✓	✓	✓	✓
0 - 30	A0030	P	✓	✓	✓	✓	✓
0 - 50	A0050	P	✓	✓	✓	✓	✓
0 - 100	A0100	P	✓	✓	✓	✓	✓
0 - 200	A0200	P	✓	✓	✓	✓	✓
0 - 300	A0300	P	✓	✓	✓	✓	✓

\*See Ordering Information for list of options.

## INDUSTRIAL OEM

AST4710 Pressure Transmitter

### Ordering Information

AST4710

A

A0100

P

4

A

1

000

#### Process Connection

A= 1/4" NPT Male  
C= 1/4" BSPP Male  
F= 7/16" - 20 UNF Male (not available under 50PSI)  
J= 1/8" NPT Female (Panel Mount)  
P= 1/2" NPT Male

#### Pressure Range

Insert Pressure Range Code (see table for availability)

#### Pressure Unit

P= PSI

#### Output

2= 0-5V  
3= 1-5V  
4= 4-20mA (loop powered)  
5= 0-10V

#### Electrical Connection

A= 2 ft. (0.6m)  
B= 4 ft. (1.2m)  
C= 6 ft. (1.8m)  
D= 10 ft. (3.0m)  
E= Mini DIN 43650  
I= DIN 43650A  
R= 6- Pin Bendix  
Y= M12x1 Eurofast

#### Wetted Material

1= 316L

#### Option Codes

000= No Options

### NORTH AMERICA

American Sensor Technologies, Inc. (AST),  
a TE Connectivity Company  
Tel: 800-522-6752  
Email: [customercare.molive@te.com](mailto:customercare.molive@te.com)

### ASIA

Hong Kong Sensor Technologies (HKST),  
a TE Connectivity Company  
Tel: 0400-820-6015  
Email: [customercare.shzn@te.com](mailto:customercare.shzn@te.com)

### TE.com/sensors

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.