



PRESSURE LOW Differential Transmitter AST5100

Overview

The AST5100 Wet - Wet Differential Pressure transmitter is your accurate pressure sensing device for low differential pressure. With a differential pressure range as low as 0 to 5" water column (12.5mbar), this product can be used to measure flow across an orifice, differential across a filter, tank level, or gauge pressure. Using LVDT technology and AST's advanced electronics, the AST5100 delivers accurate, repeatable measurements.

Benefits

- Accurate Low Pressure Measurement
- Excellent Repeatability
- Wide Range of Liquids and Gases including:
 - ✓ Water
 - ✓ Natural Gas
 - ✓ Hydrocarbon Fuels
 - ✓ Air
 - ✓ Non-Corrosive Gases

Applications

- Liquid Level Control including Bubbler systems
- Climate Control
- Energy Management
- Air-fuel Ratio including Measurement for Furnaces
- Vapor Recovery
- Leak Detection
- Air or liquid Filtration
- Flow Measurement

Wetted Materials

Nickel Alloy 52, Ni-Span C, Viton, 304 Stainless Steel, Aluminum 6061, RoHS Solder, Loctite 680 (meets NSF61)

Installation Guidelines

The AST5100 must be mounted on a flat surface within ± 15° to the ideal 0° plane to maintain specifications. Do not over tighten the pressure connections or insert any objects in P1 or P2 to avoid damaging the sensing element. When using isolation valves, both should be mounted close to the sensor. For liquid level and wet applications, install bleed screw adapters close to P1 and P2 so that trapped air can be purged if needed. For optimum performance, always make sure pressure is equalized within the pressure range chart ranges. The AST5100 has asymmetric protection on P1 and P2.

Performance @ 25°C (77°F)

Accuracy	< ±1.0% FS (Accuracy includes non-linearity, hysteresis & non-repeatability)
Stability (1 year)	±0.5% FS, typical
Burst Pressure	2000 PSI
Pressure Cycles	> 100,000 Cycles

Environmental Data

Temperature

Operating	-40 to 80°C (-40 to 176°F)					
Storage	-40 to 100°C (-40 to 212°F)					
0-100% relative humidity, non-condensing						

Thermal Limits

Compensated Range	0 to 55°C (32 to 131°F)
TC Zero	< ±1.5% of FS
TC Span	< ±1.5% of FS

Electrical Data

Output	4-20mA	0-5V Three Wire
Excitation	10-28VDC	10-28VDC
Output Impedance with Input Voltage Charge	-	< 0.1% from 10 to 32 VDC
Current Consumption:	-	< 10mA
Bandwidth	5Hz	5Hz
Output Noise	< 0.0035mA, RMS	< 1mV RMS
Zero Offset:	< ±1% FS	< ±1% FS
Span Tolerance:	< ±1.5% FS	< ±1.5% FS
Output Load:	0-800 Ohms@10-28 VDC	5k Ohms, Min.
Reverse Polarity	Yes	Yes

Dimensions



Ordering Information

AST5100	J	00050	Н	4	Υ	5	000
Series Type							
Process Connection J= 1/8" NPT Female							
Pressure Range See Chart							
Pressure Unit H= Inches H ₂ O P= PSI							
Outputs 2= 0-5V 3-wire 4= 4-20mA (2 wire loop powered)							
Electrical Y= M12x1							
Wetted Material 5= Nickel Alloy 52, Ni-Span C, Viton, 304 Stainless Steel, Aluminum 6061, RoHSSolder, Loctite 680 (meets NSF61)							

Options

000= No Special Options

Pressure Ranges

Differential Pressure	Pressure Code	Proof Pressure (P1>P2)	Proof Pressure (P2>P1)
0-5 inch H ₂ O (12.5 mbar)	00005H	5 PSI	3 PSI
0-10 inch H ₂ O (25 mbar)	00010H	5 PSI	3 PSI
0-20 inch H ₂ O (50 mbar)	00020H	8 PSI	5 PSI
0-50 inch H ₂ O (125.5 mbar)	00050H	15 PSI	10 PSI
0-100 inch H ₂ O (249 mbar)	00100H	35 PSI	25 PSI
0-200 inch H ₂ O (498 mbar)	00200H	35 PSI	25 PSI
0-15 PSID (1034 mbar)	00015P	75 PSI	50 PSI

Mating PUR 22 AWG Cable Assembly			Pins	Conductor Colors	0-5V 3-wire	4-20mA	The over-pressure without damage. A damage the senso	
Part Number	Cable Length]	Pin 1	Brown	+V	+V	cause no permane	
A10089	4 feet (1 m)]	Pin 2	White	N/C	N/C	zero shift caused b positive over-press	
A10090	10 feet (3 m)	1	Pin 3	Blue	-V	-V	Remove the over-p zero has not recov	
		-	Pin 4	Black	V Out	N/C	has not recovered Contact the factory	

over-pressure specification is the maximum pressure the AST510D can see hout damage. Any pressure applied over the listed numbers will likely mage the sensor and will, at minimum, cause a permanent zero shift. Oversure between 25 span and the numbers listed applied to port P1 will likely se no permanent harm. Over-pressure of between 25 span and the numbers d applied to port P2 may cause a temporary zero shift. To recover the over-pressure of the site dimits, apply a o shift caused by negative over-pressure to P2 within the listed limits, apply a not ever pressure P1 to just under the listed limit for a duration of 5 minutes. move the over-pressure P1 to just under the listed limit for a duration of 5 minutes. The site over-evert, repeat the positive over-pressure applied. If the not necovered itser the second try, the zero has been permanently shifted. tate the factory.

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