Differential Pressure Transducer

AST5300 > **AST53ED** > **AST53EN**

The AST5300 offers low differential pressure measurement ranges in high line pressure applications with excellent burst pressure capabilities. The AST5300 has no oil filled cavities and no internal o-rings to fail, making it ideal for food and beverage, oil & gas, pharmaceuticals, semiconductor industries and cold ambients.

Benefits

- ABS (American Bureau of Shipping) Approved
- Oil free - no containment issues
- Wide operating temperature
- Wide range of liquid & gas compatibility
- Compact size
- ***Explosion Proof Rated (AST53ED)***
  - CSA30 Class I Zone 1 Group IIC
  - Class I Division 1 Groups A, B, C, D
  - Class II Division 1 Groups E, F and G
  - Class III Division 1
- ***Non-Incendive Rated (AST53EN)***
  - CSA213 Class I Division 2 Groups A, B, C, D
  - ANSI/ISA 12.27.01 Single Seal Device

Applications

- Flow measurement
- High Purity Gases
- Tank level monitoring
- Ballast measurement
- Filtration
- Cryogenics

Environmental Data

Temperature	
Operating	-40 to 85°C (-40° to 185°F)
Storage	-55 to 120°C (-67° to 248°F)
Media	-55 to 125°C (-67° to 257°F)
Compensated Range	-5 to 65°C (23° to 149°F)
Total Thermal Error	<±1.0% of FS (10 PSID) <±1.5% of FS (5 to 9 PSID) <±1.0% of FS (1 PSID) ♦

Performance @ 25°C (77°F) [% of FS]

Line Pressure (Common)	1,500 PSI, maximum (see page 2)
Burst Pressure	5,000 PSI, minimum
Proof Pressure (5-10 PSID)	500 PSI
Proof Pressure (1 PSID)	150 PSI ♦
Linearity	<± 0.2% BFSL
Zero Offset	<± 1.0%
Span Tolerance	<± 0.5%

Electrical Data

Output	**0-5V, 1-5V Three Wire**	**4-20mA**	**0.5-4.5V Ratiometric**
Excitation	10-28VDC	10-28VDC	5VDC, reg
Current Consumption:	<10mA	-	<10mA
Output Load:	10k Ohms	0-800 Ohms	10k Ohms
EMI / RFI Protection	100V/m	100V/m	100V/m
Reverse Polarity Protection	Yes	Yes	Yes

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Ordering Information

AST53	ED	DP	0010	P	4	W	8	000

Series Type

Approval
ED= Explosion proof
EN= Non-Incendive
00= OEM

Mounting / Pressure Connection
DP= Threaded Fittings (1/4" FNPT)

Differential Pressure
0001= 1 PSI♦
0005= 5 PSI
0006= 6 PSI
0007= 7 PSI
0008= 8 PSI
0009= 9 PSI
0010= 10 PSI

Pressure Unit
P= PSI

Output
1= 0.5-4.5V ratiometric
2= 0-5V (3-wire)
3= 1-5V
4= 4-20mA

Electrical Connection (see table)
Subject to Approval Type Selected

Wetted Material
8= 316L & Inconel x750

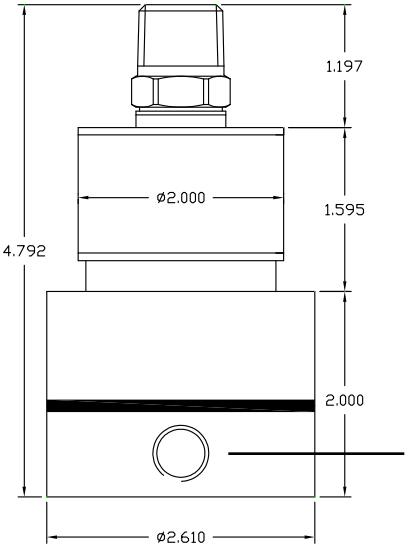
Options
00= No Special Options

Electrical Connection Table		00	ED	EN
I	DIN 43650-A	*		*
M	Conduit, 4ft.	*		*
N	Conduit, 6ft.	*		*
R	6-Pin Bendix PT06	*		
T	Conduit, 18AWG, 24 in		*	
U	Conduit, 18AWG, 48 in		*	
W	Conduit, 18AWG, 2m		*	
Y	M12 4-Pin	*		

LINE PRESSURE
The line pressure specification is the maximum pressure the AST5300 can see without damage. Any pressure applied over the listed number will likely damage the transducer and will, at minimum, cause a permanent zero shift. Line pressure should be applied evenly to both ports during start up and shut down. [A Line pressure of 500 psi or less can be applied to one pressure port with the other port at 0psi and will not cause a zero shift of the output. Pressure above 500 PSI to one side may cause a temporary zero shift.]

To recover from a zero shift caused by negative over-pressure to "L" (low / downstream process connection) within the listed limits, apply a positive over-pressure "H" (high / upstream process connection) to 1,450 PSI for a duration of five minutes. Remove the over-pressure and check the zero with no pressure applied. If the zero has not recovered, repeat the positive over-pressure and recheck zero. If it has not recovered after the second try, the zero has been permanently shifted. Contact the factory.

Dimensional Data



Process Connections
DP = 1/4" FNPT
H = high / upstream pressure
L = low / downstream pressure