



## DIFFERENTIAL Pressure Transducer AST5400 | AST54ED | AST54EN

### Overview

AST5400 wet/wet differential pressure transducers can measure the differential pressure of liquids or gases with line pressures up to 5,000 PSI (350 bar) and a turn-down ratio of 15 to 1. Using Krystal Bond Technology, the AST5400 differential pressure transducer contains no silicone oil, O-rings, or welds. The low strain level on the diaphragm results in accurate, repeatable measurements.

The AST5400 wet/wet differential pressure transducer is commonly used to measure differential pressure across filters or calculate flow across an orifice plates. With its digital compensation, the AST5400 DP offers excellent linearity and performance over temperature.

The electronics offer a failsafe condition on the output signal.

The AST5400 DP can be manufactured using 316L, 17-4 PH, Inconel 718, or Hastelloy C276 and is available for hazardous locations.

### Benefits

- ✦ Explosion Proof and Non-Incendive Available
- ✦ ABS (American Bureau of Shipping) Approved
- ✦ Krystal Bond™ Technology
- ✦ ASIC Compensation
- ✦ Turn-Down Capability
- ✦ Both or Either Pressure Port Can See Full Line Pressure - No Expensive Balancing Valves Required
- ✦ Line Pressure up to 5,000 PSI (350 Bar)
- ✦ Smart Electronics with Failure Condition Protection
- ✦ Wide Variety of Materials for Various Liquids and Gases

## DIFFERENTIAL

AST5400 | AST54ED | AST54EN Pressure Transducer

### Applications

- ◆ Oil / Gas Equipment
- ◆ Building Automation
- ◆ Fuel Systems
- ◆ Hydraulics
- ◆ Hydrogen (316L only)
- ◆ Labs / Metrology
- ◆ Compression Systems
- ◆ Military Vehicles
- ◆ HVAC/R Systems
- ◆ Desalination Equipment (Inconel 718 Recommended)

### Performance @ 25°C (77°F) [% of FS]

<b>Total Error Band*</b>	<± 1% of Line Pressure
<b>Maximum Line Pressure</b>	5,000 PSI (350 Bar)
<b>Proof Pressure</b>	2X Line pressure**
<b>Burst Pressure</b>	5X Line pressure
<b>Pressure Cycles</b>	> 100 Million

\*Typical Values shown; Combined effects of Zero Offset, Span Tolerance, Thermal Zero, Thermal Span, Non-linearity, Repeatability and Hysteresis.

\*\*For higher line pressures, contact factory.

### Environmental Data

#### Temperature

<b>Operating</b>	-20 to 70°C ( -4 to 158°F)
<b>Storage</b>	-55 to 120°C (-67° to 248°F)

0-100% relative humidity, non-condensing

#### Thermal Limits

**Compensated Range** -20 to 70°C ( -4 to 158°F)

#### Other

<b>Shock</b>	100G, 10msec, 1/2 sine
<b>Vibration</b>	10G peak, 20 to 2000Hz
<b>EMI/RFI Protection:</b>	Yes
<b>IP Class:</b>	IP-66; IP-67 Optional

## DIFFERENTIAL

AST5400 | AST54ED | AST54EN Pressure Transducer

### Electrical Data

<b>Output</b>	4-20mA	1-5V, 0-5V, 1-6V	1-10V, 0-10V
<b>Excitation</b>	10-28VDC	10-28VDC	15-28VDC
<b>Current Consumption</b>	-	< 15mA	< 15mA
<b>Sampling Rate</b>	200Hz	200Hz	200Hz
<b>Output Load</b>	< 1mV, RMS	< 1mV, RMS	< 1mV, RMS
<b>Output Noise</b>	0-800 Ohms@10-28VDC	5k Ohms, min.	5k Ohms, min.
<b>Reverse Polarity Protection</b>	Yes	Yes	Yes

### Approvals

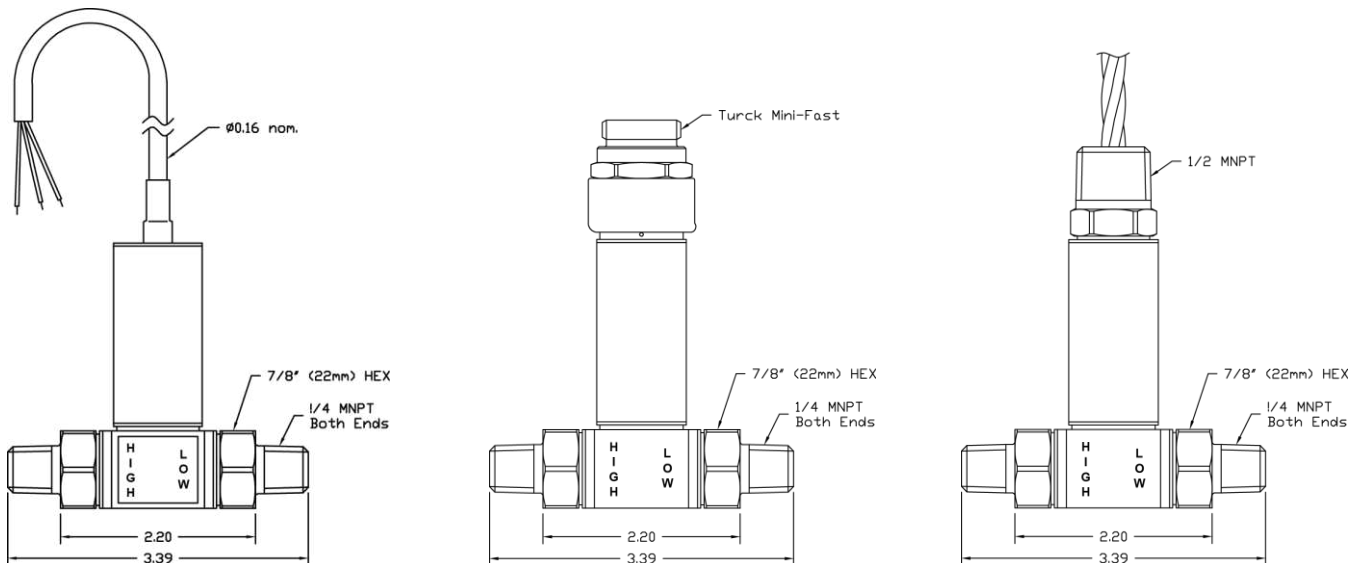
#### AST54ED

Class I, Div 1, Groups A,B,C,D Explosion Proof / Class II, Div 1, Groups E,F,G; Class III, Div 1  
ATEX and IECEx  
Ex d IIC T5 Gb, Ex tb IIIC T100°C Db

#### AST54EN

Class I, Div 2, Groups A,B,C,D Non-Sparking  
ATEX and IECEx  
Ex nA IIC T5 Gc, Ex tc IIIC T100°C Dc

### Dimensions



# DIFFERENTIAL

AST5400 | AST54ED | AST54EN Pressure Transducer

## Ordering Information

54	ED	A	01000	P	5	Y	0	0500	H	00	-Z
<b>Series Type</b>											
<b>Approval</b> ED= Explosion proof    EN= Non-Incendive    00= OEM											
<b>Process Connection</b> A= 1/4" NPT Male    F= 7/16-20 UNF Male B= 1/8" NPT Male    R= 7/16-20 UNF Female											
<b>Line Pressure</b> Insert 5-digit code from chart											
<b>Pressure Unit</b> B= Bar    H= Inches H <sub>2</sub> O    K= kg/cm <sup>2</sup> M= Millibar    P= PSI											
<b>Output</b> 1= 0.5-4.5V ratiometric    4= 4-20mA    6= 1-6V 2= 0-5V (3-wire)    5= 0-10V    G= 1-10V 3= 1-5V											
<b>Electrical Connection (see table)</b> Subject to Approval Type Selected											
<b>Wetted Material</b> 0= 17-4PH    1= 316L    2= Inconel 718    3= Titanium    4= Hastelloy C276    6= Waspalloy											
<b>Differential Pressure Range</b> Insert 4-digit code from chart											
<b>Fail Condition</b> N= Not Specified    H= Fail High    L= Fail Low											
<b>Options</b> 00= No Special Options    11= Bi-Directional DP Range											

**Approval**  
-Z= Add "-Z" for CRN Registered to ANSI/ASME B31.3.  
Contact factory for additional material, pressure, and process connection options

		Line Pressure*							
		50	100	300	500	1000	2000	5000	
Differential Pressure Range* (PSID)	CODE	00050	00100	00300	00500	01000	02000	05000	
	10	0010	✓	✓					
	20	0020	✓	✓	✓				
	50	0050		✓	✓	✓			
	75	0075		✓	✓	✓	✓		
	100	0100		✓	✓	✓	✓		
	150	0150			✓	✓	✓		
	200	0200			✓	✓	✓	✓	
	300	0300			✓	✓	✓	✓	
	500	0500				✓	✓	✓	✓
750	0750					✓	✓	✓	
1000	1000						✓	✓	
2000	2000							✓	
5000	5000							✓	

\*Other pressures available; contact factory.

Electrical Connection Table		Approval		
		00	ED	EN
A	2 ft. (24 AWG)	✓		
B	4 ft. (24 AWG)	✓		
C	6 ft. (24 AWG)	✓		
D	10 ft. (24 AWG)	✓		
E	Mini DIN 43650C	✓		
I	DIN 43650-A	✓		**
L	Conduit, 2ft.	✓		✓
M	Conduit, 4ft.	✓		✓
N	Conduit, 6ft.	✓		✓
P	Conduit, 10ft	✓		✓
R	6-Pin Bendix PT06	✓		
T	Conduit, 18AWG, 24 in	✓	✓	
U	Conduit, 18AWG, 48 in	✓	✓	
W	Conduit, 18AWG, 2m	✓	✓	
Y	M12x1 4-Pin	✓		
4	Turck Mini-Fast	✓		**

\*\*Class 1 Div 2 only

## 联系方式



**深圳市亿为测控电子有限公司**  
Shenzhen Bill-Well Measurement & Control Electronics Co., Ltd.

地址: 深圳市南山区创业路怡海广场东座 2408    邮编: 518000

电话: (+86) 0755 2641 9890    传真: (+86) 0755 2641 9680

电子邮箱: sales@bill-well.com