



# TRANSDUCER, GAUGE PRESSURE AND VACUUM (WET OR DRY)

LOW PRESSURE RANGES, 0-1" WCD TO 0-30 PSI

Bulletin E2-1144

## SERIES P-44 (4-20mA, 2-Wire; 4-Wire Current or Voltage Output)

### DESCRIPTION:

The BEC P-44 Pressure Transducer is a piezoresistive device which is ideal for applications requiring exact pressure measurement where the benefits of repeatability, low hysteresis and long term stability are important. In addition, ruggedness and reliability are traditional solid state benefits.

Each sensing element is developed around a .100 inch square silicon chip with integral sensing diaphragm and four piezoresistors.

Pressure applied to the diaphragm causes a flex which changes resistance and results in a low level output voltage proportional to – pressure change. The sensing resistors are connected as a four-active-element bridge for best linearity and sensitivity.

The low level output voltage of the sensing element is amplified, temperature compensated and conditioned to supply current or DC voltage analog signal outputs with micro-processor compatibility.

Zero and Span thermal effects are maintained at minimum values over typical industrial operating temperature ambients.

### APPLICATIONS:

BEC P-44 Pressure Transducers provide an accurate, reliable and economical means for monitoring gauge pressures in HVAC automation, pneumatic systems and process control. The output can be easily interfaced with chart recorders, data loggers, computerized monitoring and control systems.

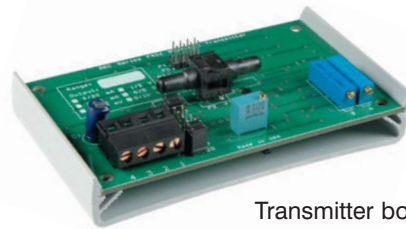
- Pneumatic Control Interfacing
- Direct Read-out Interface For: Test Stands and Process Variables
- Vacuum Applications
- Duct Statics
- Liquid Head Pressure
- Pneumatic Conveying



Transmitter with Nema 4 enclosure



Transmitter with display



Transmitter board only for panel mounting

### FEATURES

#### STANDARD

- 100% Solid State
- Diff. Ranges: 1" WCD to 30 PSI (Pos. or Neg.)
- Temp. Compensated Linear Analog Output
- Reverse Polarity Protected
- Zero and Span Adjustments

#### AVAILABLE OPTIONS

- 115 Volt AC Power
- SPDT Form C Alarm Contacts
- Square Root Extraction Output
- Integral LCD Read-out
- Explosion-proof Enclosure

### SPECIFICATIONS

Proof Pressure	10 PSI (5 PSI Sensor)	Thermal Stability	Zero	+/-0.02%/Deg C
	30 PSI (15 PSI Sensor)		Span	+/-0.02%/Deg C
	60 PSI (30 PSI Sensor)			
Temp. Range Sensing Module	Operating	Response Time	100 milliseconds	
	Compensated			
Transmitter Accuracy	0 Deg C/50 Deg C	Humidity Effects	5-99% RH Non-Condensing	
	+/- 0.75% FS		Media Compatibility	Consult Factory
Zero & Span Adjustment	+/-10%	Shock	+/-0.05% FS for 100 g's, 20 milliseconds	
		Vibration	+/-0.1% FS for 0-2000 Hz, 20g's	
		Stability 1 Year	+/-0.3% Span/Year	
		(With Existing Zero/Span Potentiometers)		



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Pressure Transmitters

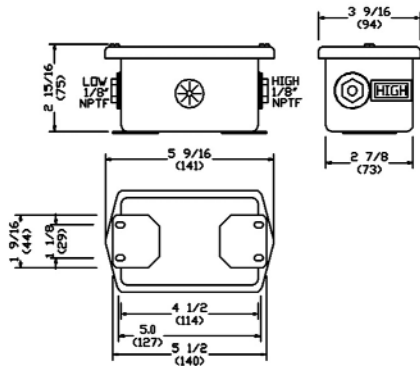
### ORDERING INFORMATION

<b>G</b>	<b>P8</b>		-	<b>44</b>		<b>W</b>	-	<b>G</b>	-	<b>0/1"</b>	-	<b>A</b>	<b>2</b>
REFERENCE G. Gauge Ref.	MFGR'S CODE (Assigned by Factory)			MODEL SERIES (Assigned by factory)		ENCLOSURE X. No Enclosure W. Nema-4, Weatherproof E. Explosion-Proof		OUTPUT B. 4-20 mA (2-Wire) D. 1-5 Vdc (3 Wire) F. 4-20 mA (4-Wire) G. 0-5 Vdc (4-Wire) H. 0-10 Vdc (4-Wire)		RANGES 0 to 1" WC 0 to 3" WC 0 to 5" WC 0 to 10" WC 0 to 25" WC  0 to 1 PSI 0 to 5 PSI 0 to 15 PSI 0 to 30 PSI Request		POWER A. 24 Vdc B. 24 Vac/dc C. 115 Vac Request	MEDIA 1. Air 2. Water, oil, fuels, lubricants, etc. 3. Freons 4. Steam, soap 5. Caustic vapors 6. Request  (Media compatibility should be confirmed before use.)
SPECIAL REQMTS R. Inverted Output L. LCD Display (Integral) S. Sq. Rt. Extraction Output A. Analog Input to Two Adjustable SPDT Form C Relay Alarm Contacts													

### DIMENSIONS

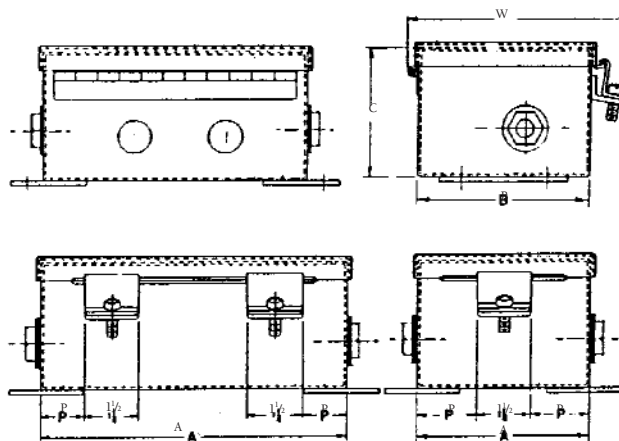
CONSULT FACTORY FOR CRITICAL MOUNTING DIMENSIONS

ENCLOSURE STYLE "W" (Nema-4, -12, -13)  
(Transducer - No Special Requirements)  
or Sq. Root Output (2 Wire)

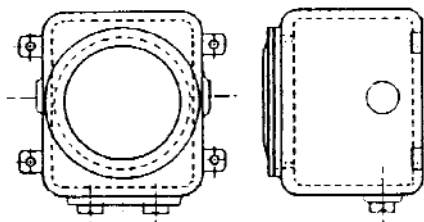


ENCLOSURE STYLE "W1" thru "W3" (Nema-4, -12, -13)  
(Transmitters requiring any of the following:)

- 115 VAC Power
- SPDT Form C Relay Alarm Contacts
- Integral CD Read-out
- Sq. Root Extraction Output (4 Wire)



ENCLOSURE STYLE "E," EXPLOSION PROOF  
Class I, Group D, Class II, Groups E, F & G  
(External dimensions vary with transducer options required)



2 Clamps Used When "A" = 8" or More

Enclosure Style	Gauge	Box Size A+B+C	Mounting 5/16 Dia., 4 Holes Center Line Dim.	Over-All Dimensions Length/Width	P
W1	16	6x4x3	6-3/4 x 2	7-1/2x4-15/16	2-3/8
W2	16	6x6x4	6-3/4 x 4	7-1/2x4-15/16	2-3/8
W3	16	8x6x3-1/2	8-3/4 x 4	9-1/2x4-15/16	1