



# INSTALLATION & OPERATION INSTRUCTIONS

M-P8-1147.1A

January 1994

Sheet 1 of 1

## BEC SERIES P-47 PRESSURE TRANSDUCER Model DP8-47

For Use With Specification Sheet  
Bulletin E2-1147, Dated Jan. 1989  
or Later

Output: 4-20 mA, 2 Wire Loop  
3 or 4 Wire Current or Voltage

Power: 24 Vdc, 24 Vac

### TERMINATION SCHEDULE

- 24 Vdc Power  
4-20 mA, 2 Wire Loop Signal
- ① +24 Vdc In
- ② 4-20 mA Signal Out
- ③ No Connection

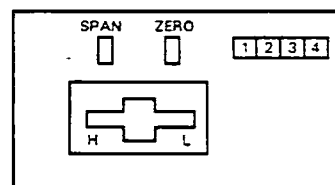
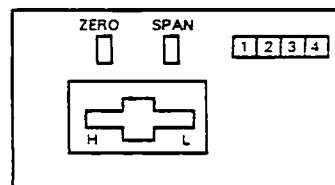
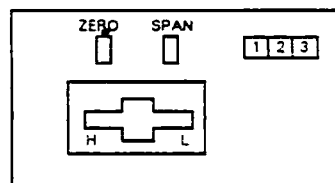
- 4-20 mA, 2 Wire, Field Conversion  
to 1-5 Vdc Signal
- ① +24 Vdc In
- ② 1-5 Vdc
- ③ 250 Ohms
- Common

- OTHER Refer to Wiring  
Diagram Provided

- 24 Vac or Vdc Power  
4-20 mA (To convert 4-20 mA  
to 1-5 Vdc, connect 250 Ohm  
resistor across term. 3 & 4.)
- ① + 24 VAC/DC
- ② - 24 VAC/DC
- ③ + Signal
- ④ - Signal (Ground)

- 24 Vac or Vdc Power  
0-5, 0-10 Vdc Signal
- ① + 24 VAC/DC
- ② - 24 VAC/DC
- ③ + Signal
- ④ - Signal (Ground)

### PRESSURE TRANSMITTER BOARD LAYOUT



### MEDIA PORT CONNECTIONS

Gauge (Positive) Pressure Sensing - -

Connect media pressure to port labeled "HIGH", with port labeled "LOW" vented to atmosphere.

Negative (Vacuum) Pressure Sensing - - -

Connect media pressure to port labeled "LOW", with port labeled "HIGH" vented to atmosphere.

Differential Pressure Sensing - - -

Connect the higher of the two media pressures to port labeled "HIGH" and the lower of the two pressures to port labeled "LOW".

Port Connections - - -

1/8" NPT female. (ALWAYS USE A SECOND WRENCH TO HOLD THE PORT HEX NUT, THEREBY ELIMINATING THE POSSIBILITY OF ROTATING THE BRASS PORT FITTING.) Thread sealant or teflon tape insures proper sealing.

(Optional metric media port connections are supplied as ordered. Check Model Number by referring to Specification Sheet E2-1147.)



**BEC CONTROLS CORP.**

2510 NORTHWEST STATION • DAVENPORT, IOWA 52809 • PHONE (800) 677-8876 • FAX (319) 285-7761



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## MEDIA COMPATIBILITY: (HIGH & LOW)

Limited only to those media which will not attack Polyester, Silicon, Fluorosilicone and Buna-N seal.

## CALIBRATION: (After applying power, allow approximately 20 to 30 minutes for stabilization of signal.)

The BEC MODEL P8-47 is calibrated for any full scale range from .5" WCD to 30 PSI.

The Zero and Span may be adjusted if necessary or desirable; however, the requested full scale range as shipped is established with fixed resistors minimizing the range of the adjustment.

The average full scale adjustability is approximately + or - 10% of the range shipped.

## OVER-PRESSURE:

All Spans up to 5 PSI	Max Pressure - 20 PSI
Spans > 5 to 15 PSI	Max Pressure - 45 PSI
Spans > 15 to 30 PSI	Max Pressure - 60 PSI

## MINIMUM PRESSURE OPERATION:

When operating at low differential pressures of less than 5" W.C. or in applications where the pressure is fluctuating rapidly - it is advisable to insert "snubbers" or air flow restrictors in the input lines. This "steadies" the output signal and keeps the signal from bouncing erratically.

## ADJUSTMENTS:

The bridge balance and temperature compensation controls are adjusted for zero differential signal across the bridge at 0 PSI. (DO NOT ADJUST)

"Z" - Zero control is adjusted for 4 mA, 1 volt or 0 volts output signal at 0 PSI, or minimum pressure.

"S" - Span control is adjusted to change the full scale range of the transducer.

The transducers are adjusted for the specified range at the factory and require no further adjustments.

## MOUNTING:

Transducer can be operated in any position; however, be alert to moisture passing through a non-waterproof electrical connector.

## WIRING:

- Make all connections with power off.
- All circuits must be wired National Electrical Code, Class 1, and in conformance with all applicable codes and requirements with approved wiring practices.

Power and signal terminal numbers are shown on front.

After applying power, allow reasonable time for signal stabilization, (20 to 30 Minutes)

## WARNING:

Fluid hammer and surges can destroy any pressure transducer and must always be avoided. A pressure snubber should be installed to eliminate the damaging hammer effects.

Fluid hammer occurs when a liquid flow is suddenly stopped, as with quick closing solenoid valves. Surges occur when flow is suddenly begun, as when a pump is turned on at full power or a valve is closed quickly.



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