



# INSTALLATION & OPERATION INSTRUCTIONS

M-P8-1148.2

January 1994

Sheet 1 of 1

## BEC SERIES P-48 PRESSURE TRANSDUCER Model DP8-48

For Use With Specification Sheet  
Bulletin E4-1148, 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

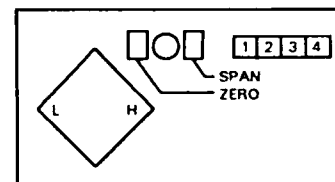
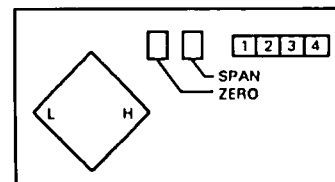
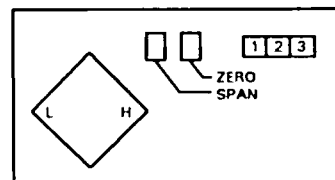
- 4-20 mA, 2 Wire, Field Conversion  
to 1-5 Vdc Signal
- ① + 24 Vdc In
- ②  $\frac{1-5 \text{ Vdc}}{250 \text{ Ohms}}$
- ③ Common

- 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 — +
- ② — - 24 VAC/DC
- ③ — + Signal
- ④ — - Signal (Ground)

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

### PRESSURE TRANSMITTER BOARD LAYOUT



### MOUNTING

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

### MEDIA SENSING PORT CONNECTION

Pipe thread connection is 1/8 " NPT. (1/4" female NPT if application requires.) **(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.

### SERVICE SUGGESTIONS

Short duration pressure "Spikes" can occur and disappear before a system relief valve or high pressure cut-out can be activated. The use of surge protectors or needle valves on the pressure port of the transmitter should be installed with non-compressible fluids thereby preventing the possibility of overpressure conditions which may exceed the maximum overpressure ranges specified in Bulletin E4-1148.



**BEC CONTROLS CORP.**

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## SERVICE SUGGESTIONS - (Continued)

Steam service or high temperature media - - When installing the P8-48 on a media line which has a fluid temperature in excess of 50°C where the pressure sensing module (Element) is enclosed within the same enclosure as the electronic circuit board, an adequate length of coiled tubing or "pigtail" should be installed between the P8-46 and the media being sensed. A "pigtail" should also be used if the sensing module will be exposed to temperature greater than 70°C.

## MEDIA COMPATIBILITY

Refer to Specification Sheet E4-1148 unless specific media sensing was requested before transmitter was ordered. Consult factory if media compatibility is in question.

## 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)

## ADJUSTMENTS:

The Zero and Span may be adjusted if necessary; however, the requested full scale range, as shipped, is established with fixed resistors minimizing the range of the adjustments.  
The average full scale adjustability is approximately + or - 10% of the range shipped.

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.

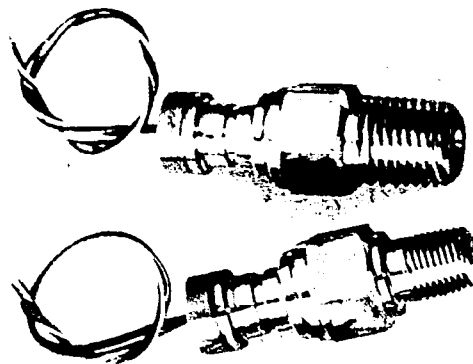
## INSTRUCTIONS FOR INSTALLING/REMOVING WIRE PLUG

### INSTALLING WIRE PLUG

1. INSERT PLUG GENTLY ON TO THE FOUR PRONGS LABELED ON THE TRANSDUCER BOARD.
2. PAY VERY CLOSE ATTENTION TO COLOR CODES ON WIRES AND BOARD, AS THIS MAY DAMAGE UNIT IF NOT FOLLOWED PROPERLY. (NOTE IF NOT LABELED COLORS GO AS FOLLOWS WITH POTS UP, GREEN, WHITE, BLUE AND RED).

### TO REMOVE

1. MAKE SURE POWER TO UNIT IS DISCONNECTED BEFORE REMOVING WIRE PLUG.
2. GENTLY PULL WIRE PLUG FROM TRANSDUCER BOARD OBSERVING WIRE COLOR SEQUENCE.



## 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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