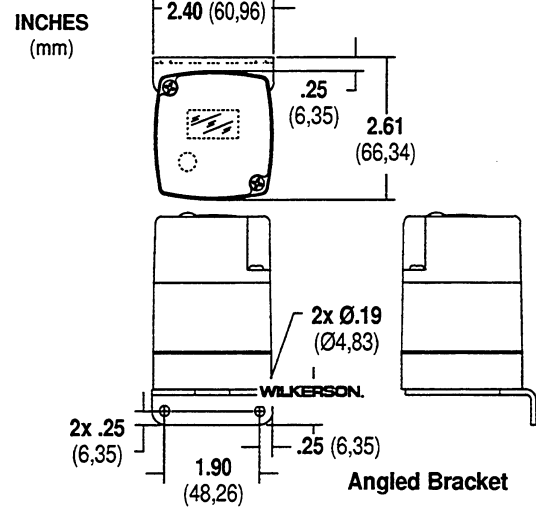
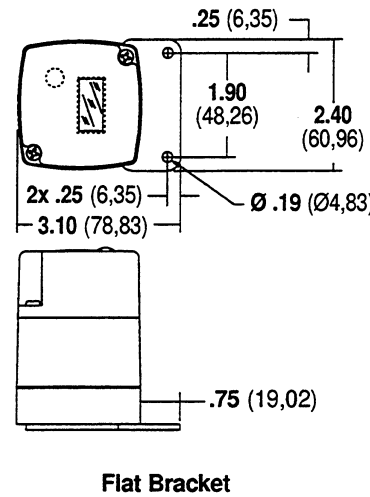


Models	Dimensions						
	A	B	C	D	E	F	G
EPV	3.28 83	1.69 43	2.35 60	.79 20	2.35 60	1.20 30	.45 11



**REPAIR KITS AND REPLACEMENT PARTS**

LCD Board and Ribbon	ERP-95-787
Control Board LCD 15/30 psig (1,0/2,0 bar)	EPP-95-782
Control Board LCD 60/90 psig (4,0/6,0 bar)	EPP-95-782
Control Board STD 15/30 psig (1,0/2,0 bar)	EPP-95-800
Control Board STD 60/90 psig (4,0/6,0 bar)	EPP-95-801
Intake Valve	ERP-95-790
Exhaust Valve	ERP-95-791
120 VAC to 12 VDC Adapter	ERP-95-796
Flat Bracket Kit	EPP-95-351
Angled Bracket Kit	EPP-95-352

**SPECIFICATIONS**

	Min	Max	Nom	Units
Supply Voltage	12	28	—	VDC
Supply Current	—	250	80	mA
Control Signal				
Voltage	0	10	—	VDC
Impedance	—	—	200	KOHM
Current	4	20	—	mA
Impedance	—	—	600	OHM
Internal	—	—	—	—
Monitor Output	0	10	—	VDC
Overall Accuracy	0.6%	1.0%	0.8%	SCALE
Supply Pressure	—	150	—	psig (bar)
		(10,3)		
Output Pressure	0	15/30/60/90	—	psig (bar)
	(0,0)	(1/2/4/6)		
Cv	—	—	.02	—

**TROUBLE SHOOTING**

- Unit fails to operate**
- 1) Verify supply voltage
  - 2) Verify control voltage
  - 3) Intake valve or controller failure
  - 4) Apply 12 VDC to valve and listen for slight click indicating valve is working
  - 5) Replace control board
- Unit remains pressurized**
- 1) Verify control voltage
  - 2) Exhaust valve or controller failure
  - 3) Apply 12 VDC to valve and listen for slight click indicating valve is working
  - 4) Replace control board
- LCD fails to display pressure**
- 1) Verify supply voltage
  - 2) Verify that ribbon cable is secure on both ends
  - 3) Have dealer check LCD board and replace if necessary
  - 4) Replace control board
- MAINTENANCE**
1. **DEPRESSURIZE THE AIR LINE PRIOR TO ATTEMPTING ANY SERVICE TO THE UNIT!**
  2. **LCD Display:** Remove the two screws from the LCD cover and carefully remove the cover. Turning the cover over, remove the two screws inside that retain the LCD board to

- the cover and lift out the LCD board. Unplug the display board from the ribbon cable. If defective replace with a new LCD board and re-connect the ribbon cable. Making sure the LCD lens and seal are in place, replace the LCD board in the cap and secure with the two screws. Replace the cover back on the unit and secure with the two screws.
3. **Control Board:** If the unit is an LCD type, remove the LCD display board from the cap as described in step #2 and unplug the ribbon cable from the LCD board. Now unscrew the three screws that retain the control board housing and unplug the valves from the back of the control board. Carefully lift the housing with the control board still inside. Remove the control board from the bottom of the housing and replace with the new control board. Reassemble in reverse order.
  4. **Valve Replacement:** The electronic valves cannot be serviced internally. If failure occurs, replace the valve. To replace the valves, remove the housing as described in #3 above. Once the housing is removed, unscrew the defective valve from the cap. Making sure to replace with correct valve [3 position connector for intake valve and 2 position connector for the exhaust valve (figure 6)], screw the valve down until it seals on the base of the valve seal. Reassemble the control board and cap as described in steps #2 and #3.

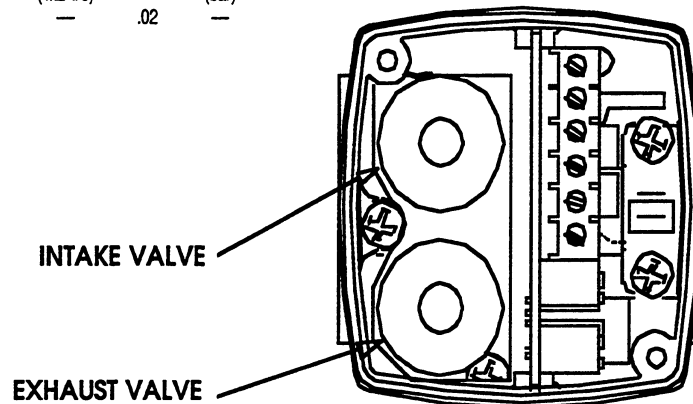


FIGURE 6

**WILKERSON**

83-890-000 REV 2 1/04

**WARNING**

Certain compressor oils, cleaning agents, solvents, paints and fumes may attack the plastic and rubber components used in the construction of this product. This product should not be used in conjunction with nor in the vicinity of these materials. Please consult the factory on chemical compatibility if in doubt. **NOTE: THIS PRODUCT IS DESIGNED AND INTENDED FOR USE IN INDUSTRIAL COMPRESSED AIR SYSTEMS.**

**DESCRIPTION**

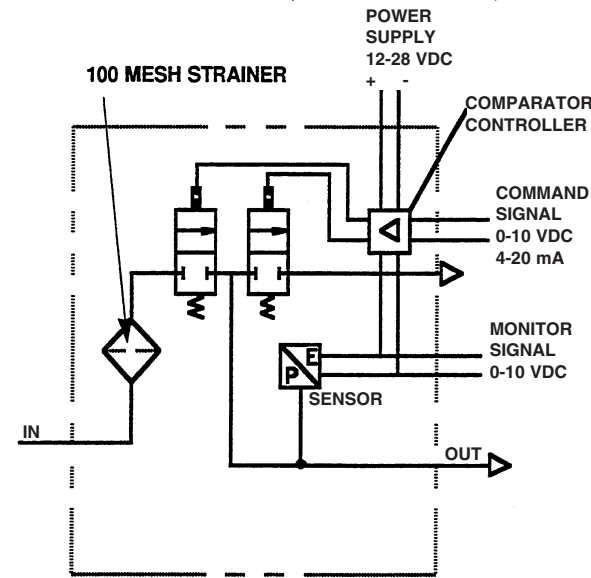
The EPV is an electro-pneumatic pressure controller capable of delivering accurate pressures. The units have an inlet and a variety of outlet port locations for convenient installation. The EPV series consists of an integral system of two control valves and feedback transducer to provide closed-loop control. In addition the units are available with an optional LCD display that displays the outlet pressure in psig or bar.

The EPV is controlled by either a 0-10 VDC or 4-20 mA external input signal, or by internal adjustment for stand-alone operation. The control signal is compared to the output signal of the internal pressure sensor and the EPV adjusts the pressure accordingly. The pressure sensor signal is also an output of 0-10 VDC for external monitoring.

**INSTALLATION**

**MECHANICAL INSTALLATION**

1. Refer to the WARNING above.
2. Do not install until you have read the entire product information sheet.
3. Maximum inlet pressure - 150 psig (10,3 bar)  
Minimum temperature - 40°F (4,4°C)  
Maximum temperature - 125°F (51,6°C)
4. Prior to installation, ensure that the pressure in the line where this product is to be



- connected is at atmospheric pressure 0 psig (0 bar).
5. Install a quality Wilkerson 5 micron filter upstream of the unit for maximum trouble free operation.
  6. Install with the inlet air on port marked and outlet on one of the outlet ports. Plug all unused ports.

**ELECTRICAL CONNECTION**

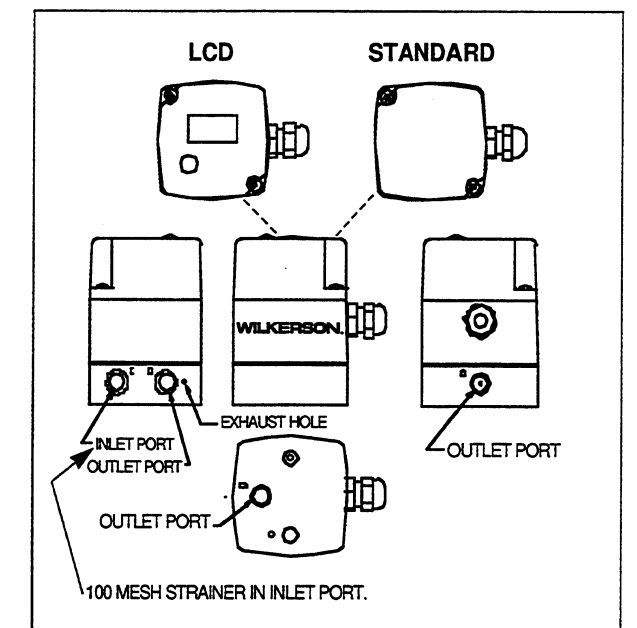
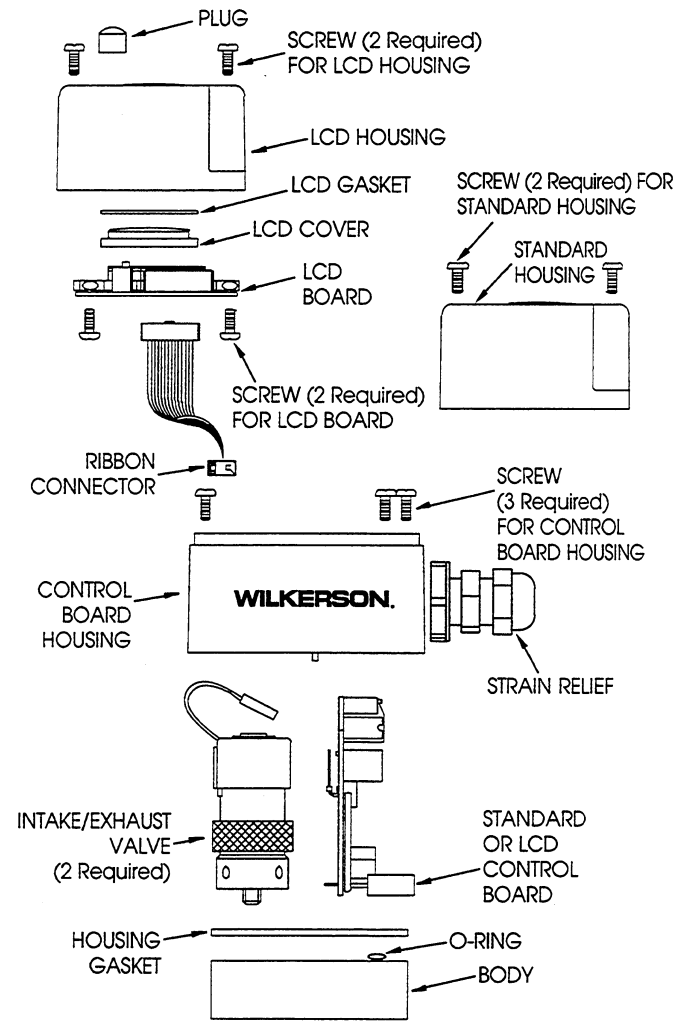
Since the same control board is used for all control signal options (figure 3A) to provide maximum flexibility at minimum cost, the board must be configured for each particular application by positioning the jumpers correctly and wiring correctly. This is a very important step to ensure optimum performance.

Determine what signal you will be using to control the regulator and follow the instructions for that application. The control board must be configured and wired accordingly.

- Caution: Improper wiring may result in damage to the unit.**
- To configure the unit for the desired option, and to connect the external wires to unit, remove the housing by removing the two screws on top of the unit (figure 4). Carefully lift the housing off and lay it to one side, making sure not to damage the ribbon cable that connects the control board to the LCD board, if LCD type.

The jumpers should be configured correctly from the factory for the configuration ordered and will only need to be changed if the user decides on a different control signal, pressure display or pressure range. (Refer to figure 2)

**INSTALLATION AND MAINTENANCE SHEET**  
Electronic Proportional Valve EPV



- Option #1 Sensor feedback signal**  
Internal sensor ..... Jumper on position #5
- Option #2 LCD display mode (controls LCD type only)**  
a. psig Jumper on position #4  
b. bar Jumper off position #4
- Note:** If using bar option, be careful not to lose jumper.
- Option #3 Control signal**  
a. 0-10 VDC ..... Jumper on position #1  
or  
b. Internal control ..... Jumper on position #2  
or  
c. 4-20mA ..... Jumper on position #3

**Note:** Only one control signal at a time can be used.

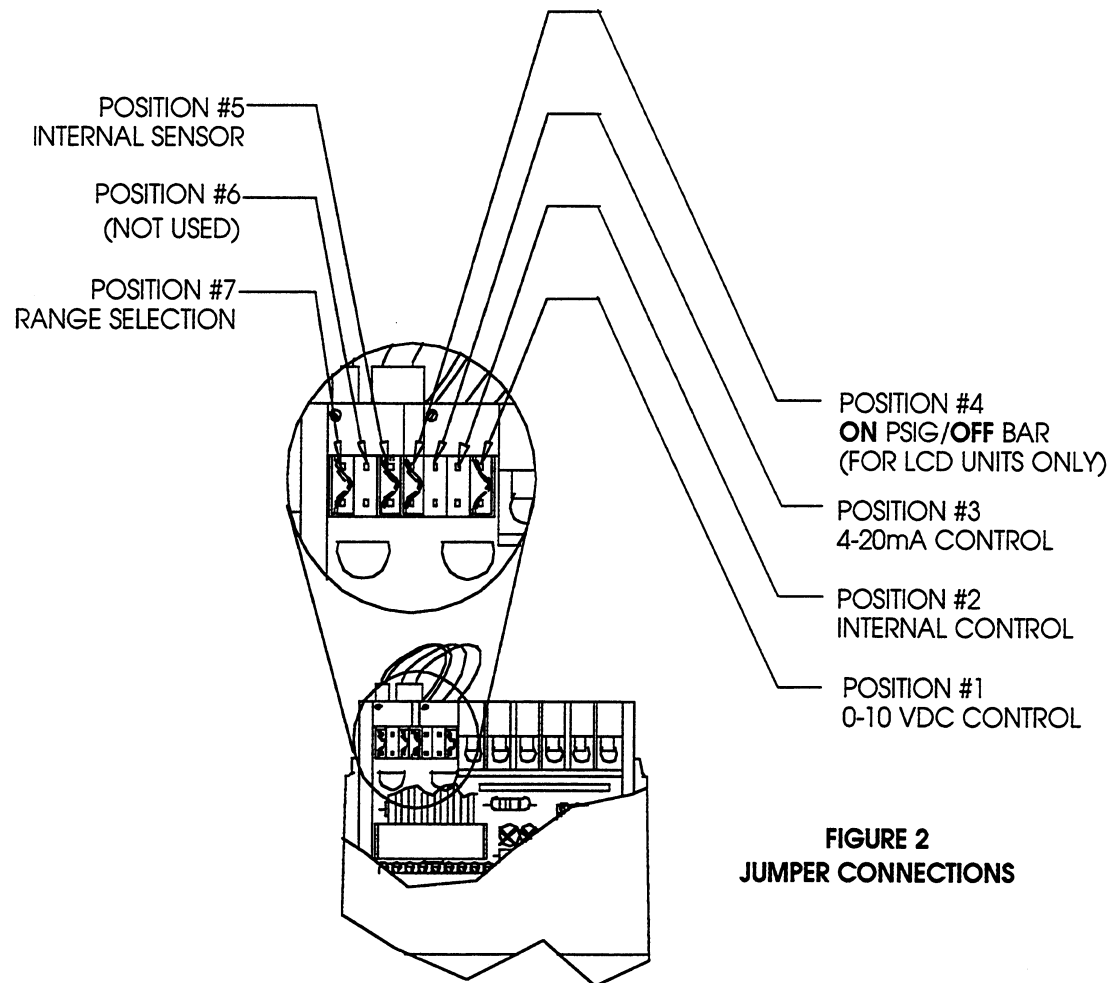
- Option #4 Pressure Range**  
Each control board has two pressure ranges available and can be selected by the Jumper on position #7

- The high range board can be configured for either:**  
a. 0-90 psig (6 bar) ..... Jumper on position #7  
or  
b. 0-60 psig (4 bar) ..... Jumper off position #7

- The low range board can be configured for either:**  
a. 0-30 psig (2 bar) ..... Jumper on position #7  
or  
b. 0-15 psig (1 bar) ..... Jumper off position #7

First feed the cable through the strain relief provided and remove the retaining nut for the strain relief. Now feed the wires through the hole in the control board housing, slide the retaining nut over the wires and secure the strain relief to the housing making sure to have the required amount of wire to connect them to the terminal block. Once this is completed you can connect the wires to the terminal block as the following describes.

Now, with the unit configured to the desired options, the external electrical connection of the unit can be done. This is accomplished by securing the wires directly to the control board terminal block on the upper right hand side of the unit (figure 3). It is recommended that a shielded cable with the required number of wires for your application be used to connect the unit if using an external control and monitor signal. The shield should be connected to the supply ground and not to the unit. If using the internal control, only a supply voltage will be required, although the monitor signal can be used.



**FIGURE 2  
JUMPER CONNECTIONS**

If using an external control circuit, connect the wires to the appropriate terminals as follows: (Refer to figure 3)

- Control signal:**  
- If using a 0-10 VDC control signal, connect the control wire to position #5.  
- If using a 4-20mA control signal, connect control wire to position #6.

- Monitor signal: (if used)**  
- Connect the external monitor feedback to position #3, this outputs a 0-10 VDC that corresponds to a 1 VDC per 10% of range.

- Supply voltage and common ground:**  
- Connect the supply voltage positive pole (+) to position #1.  
- Connect the common ground (-) for supply, control and monitor signals to position #2.

If using the internal resistor control, wire the unit as follows:

- Monitor signal: If monitor signal is not required, no connection is required.**  
- Connect the external monitor feedback to position #3, this outputs a 0-10 VDC that corresponds to a 1 VDC per 10% of range.

- Supply voltage and common ground:**  
- Connect the supply voltage positive pole (+) to position #1.  
- Connect the common ground (-) for supply, and monitor signals to position #2.

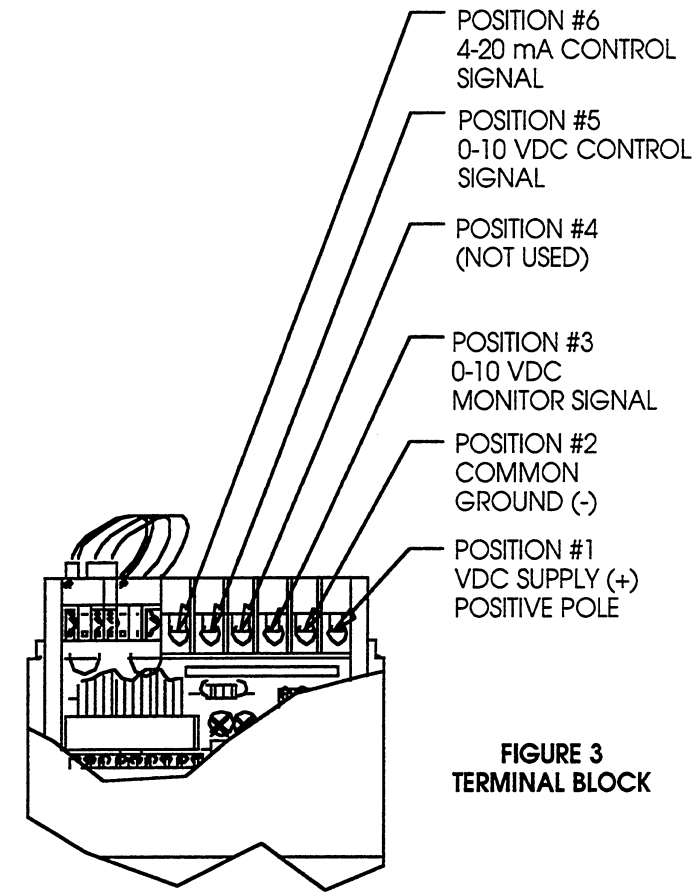
**Caution:** Reversing the polarity of the supply signal may result in damage to the board.

Once the wires are properly located, secure the wires in the terminal block and tighten the strain relief to secure the wires and provide protection from the environment.

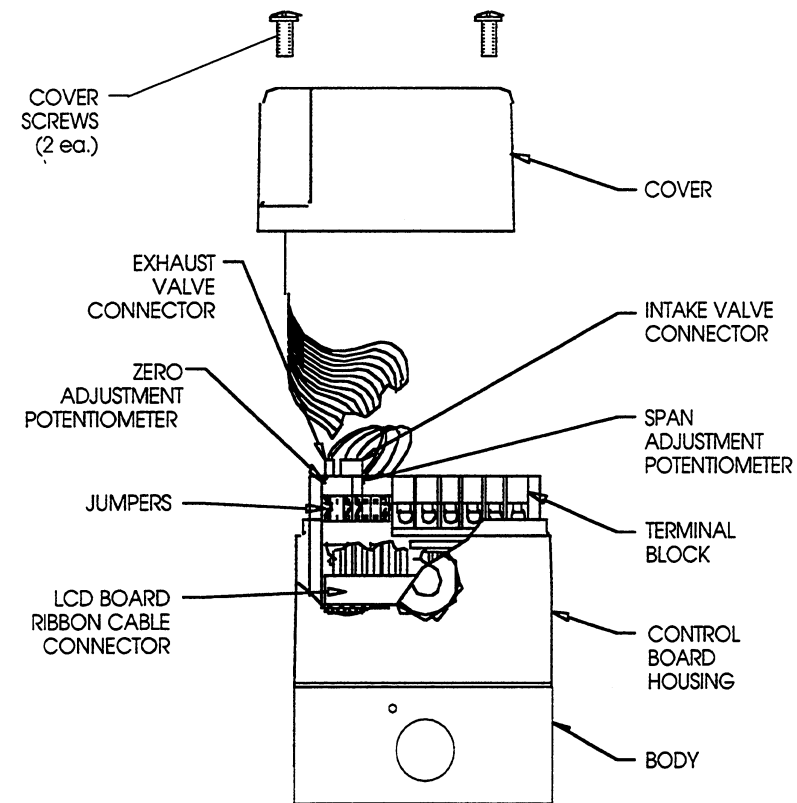
**ZERO AND SPAN ADJUSTMENT:**

The zero and span adjustment was set at the factory and should not require any further adjustment. If the zero and span do need to be adjusted, energize the unit. Input 0 VDC to the control signal and using a volt meter, measure the output on the position #3 of the terminal block. The output should be -.01 to 0 VDC. If not turn the zero potentiometer (figure 4) until the output is correct. To adjust the span, attach an external pressure gauge and apply 8 VDC to the control signal. Then adjust the span potentiometer (figure 4) until the P2 pressure is 80% of the range selected [i.e., 12 psig (.83 bar) for 0-15 psig (0-1 bar), 24 psig (1.67 bar) for 0-30 psig (0-2 bar), 48 psig (3.3 bar) for 0-60 psig (0-4 bar), 72 psig (4.96 bar) for 0-90 psig (0-6 bar)]. This completes the zero and span adjustments. Now carefully replace the cover. It can be installed in two positions, 180 degrees apart from each other. Then replace the two cover screws.

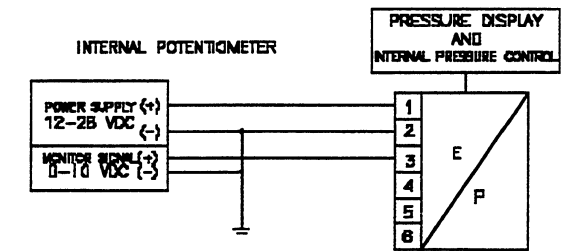
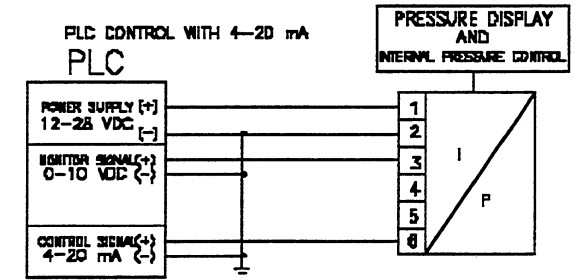
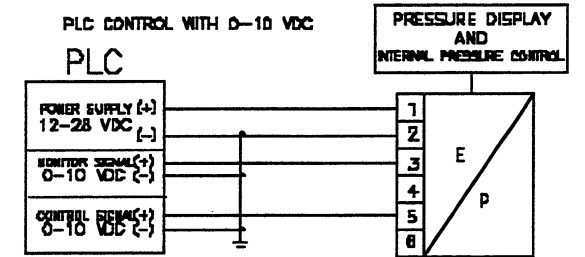
The unit is now ready for operation. Supply pressure and power to the unit can be turned on.



**FIGURE 3  
TERMINAL BLOCK**



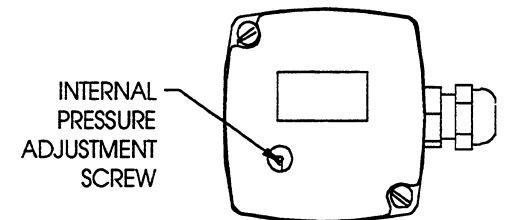
**FIGURE 4**



**FIGURE 3A  
CONTROL OPTIONS**

**IF INTERNALLY CONTROLLED:**

To adjust the pressure, pry the internal adjustment cap off. With power and pressure to the unit turn the adjustment screw (figure 5) until the desired pressure is achieved then replace the cap.



**FIGURE 5**