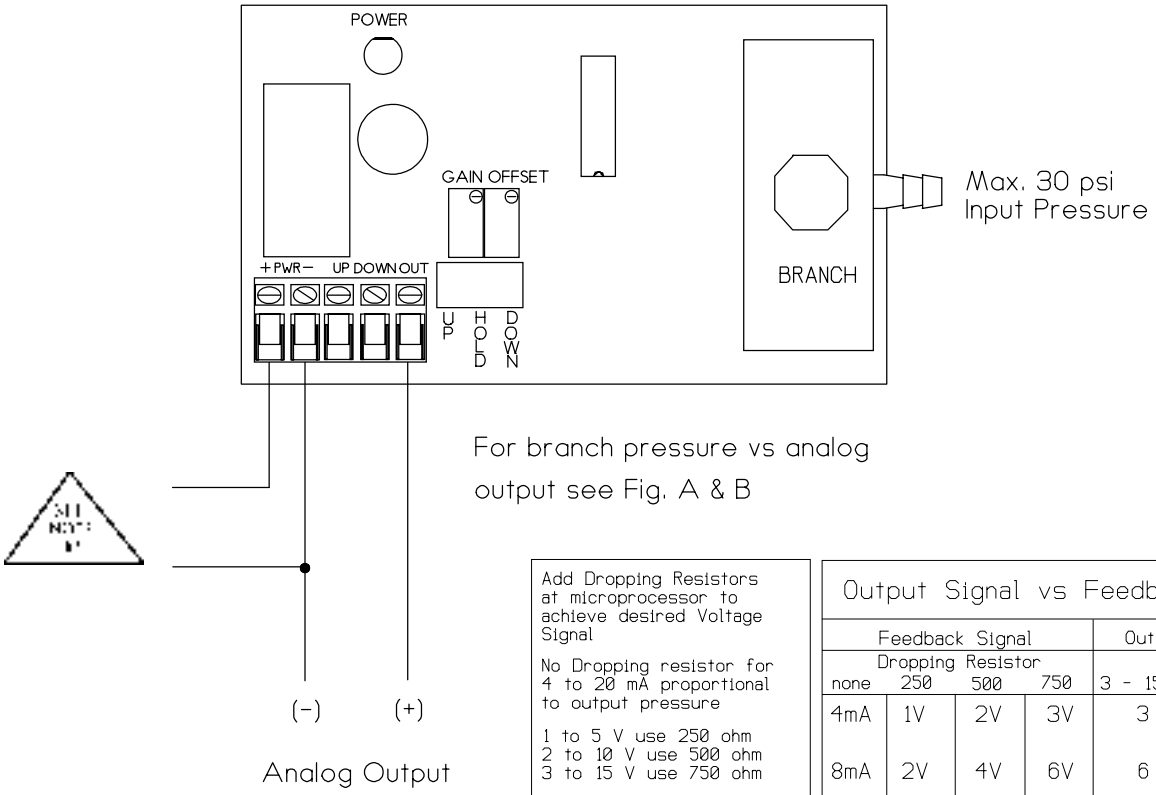
PTP

Pressure Sensor with Proportional Analog Current or Voltage Output



Add Dropping Resistors at microprocessor to achieve desired Voltage Signal

No Dropping resistor for 4 to 20 mA proportional to output pressure

1 to 5 V use 250 ohm
2 to 10 V use 500 ohm
3 to 15 V use 750 ohm

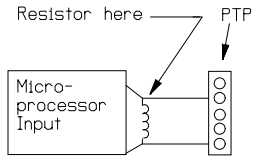


Fig A

Output Signal vs Feedback Signal

Feedback Signal (Dropping Resistor)				Output Pressure	
none	250	500	750	3 - 15 psi	3 - 30 psi
4mA	1V	2V	3V	3	3
8mA	2V	4V	6V	6	9.75
12mA	3V	6V	9V	9	16.5
16mA	4V	8V	12V	12	23.25
20mA	5V	10V	15V	15	30

Figure B

INSTALLATION

READ THESE INSTRUCTIONS BEFORE YOU BEGIN INSTALLATION.

Ground yourself before touching board. Some components are static sensitive.

MOUNTING:

Circuit board may be mounted in any position. If circuit board slides out of snap track, a non-conductive "stop" may be required.

Use only fingers to remove board from snap track. Slide out of snap track or push against side of snap track and lift that side of the circuit board to remove. Do not flex board or use tools.

POWER CONNECTIONS:

1) 24 VDC - with power off, connect 24 volt DC power supply to "PWR" (+) and (-) terminals on the board.

   24 VAC - with power off, connect one transformer secondary leg to "PWR" (+) and the other to (-) on the board, along with signal output common (-). Check the wiring configuration of any other loads that may be connected to this transformer. Any field device connected to this transformer must use the same common. If you are not sure of other field device configuration, use separate transformers.

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2) If the 24 volt AC power is shared with devices that have coils such as relays, solenoids, or other inductors, each coil must have an MOV, AC Transorb, or other spike snubbing device across each of the shared coils. Without these snubbers, coils produce very large voltage spikes when de-energizing that can cause malfunction or destruction of electronic circuits.

3) If the 24 volt DC power is shared with devices that have coils such as relays, solenoids, or other inductors, each coil must have an MOV, DC Transorb, or a diode placed across the coil or inductor. The cathode or banded side of the diode (or DC Transorb) connects to the positive side of the power supply.

4) The secondary voltage should be isolated from earth ground, chassis ground, and neutral leg of the primary winding. Grounding should be to the system common only. Failure to follow these procedures can result in improper operation.

5) You should measure the actual voltage output of the secondary. If the output is not fully loaded you may read a higher voltage than the circuit board can handle.

The gauge port will accept a miniature 1/8" FNPT back-ported pressure gauge to allow direct reading of branch line pressure. The gauge should be sealed with teflon sealing tape. A backup wrench should be used to hold the manifold. ADJUSTMENT OF INSTALLED GUAGES. If installation requires adjustment of the guage for proper reading of the face, turn the gauge no more than 1/2 turn in either direction. O rings in the bottom of the gauge port will allow this without leakage.

The surface between the manifold and pressure transducer is a pressure seal. Do NOT stress the circuit board or allow the manifold to move. Hold the manifold in one hand while installing pneumatic tubing onto the fitting and use care when removing tubing to avoid damaging fitting or moving manifold.

Field calibration voids warranty.

Terminals "up"and "down" are not used. If a voltage output is desired install the dropping resistors between terminals at the microprocessor controller location to minimize voltage drop. See Fig. A.

CHECKOUT

Apply power to terminals "PWR" (+) and (-). The PTP will begin tracking and responding to the pressure input signal instantly. Apply minimum and maximum pressure and measure response against the chart in Figure B. Check test meter for proper scale selection and correct lead connection. Response between the minimum and maximum values will be linear, therefore software algorithms should be easy to derive.

Power Supply: 24 VAC or VDC (+\- 10%)	Output Load Impedance:
Power Consumption: 50 mA	Current: 4 to 20mA/750 ohms max
Pneumatic Input Signal (range specified	Voltage: 1 to 5 VDC/250 ohms
when ordered): 3 to 15 psig	2 to 10 VDC/500 ohms
3 to 30 psig	3 to 15 VDC/750 ohms
	Accuracy: 1 % fullscale

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