



## CURRENT TO PRESSURE TRANSDUCER OR VOLTAGE TO PRESSURE TRANSDUCER

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## INTRODUCTION / DESCRIPTION

The model IPT is a board level pressure controller to be mounted in a machine enclosure. The control signal can be 4 to 20 mdc or 0 to 10 vdc. The IPT incorporates an inlet valve, an exhaust valve, and a pressure sensor all on a common manifold mounted directly to the printed circuit board. The IPT operates by comparing the actual pressure, as measured by the pressure sensor, to the set point reference input signal. If the actual pressure is less than the set point, the inlet valve is opened to increase the pressure. If the actual pressure is greater than the set point, the exhaust valve is opened to decrease the pressure.

The device can be mounted in any orientation without need for recalibration. Mounting options include: mounting on standoffs through mounting holes provided; mounting on DIN 35 rail using mounting clips provided; or mounting in a customer supplied DIN 35 Modular Circuit Housings.

## INSTALLATION

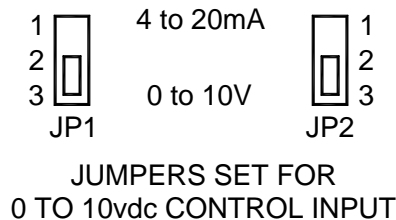
Mount the unit in an electrical enclosure where the ambient temperature is 0 to 40°C. The unit can be installed in an electrical enclosure on a DIN 35 rail by installing the two mounting clips and pressing the unit (mounting clips down) onto the rail until it snaps into place.

The IPT should be located as close as possible to the clutch or brake being controlled. Long, oversized air lines connecting the IPT to the clutch or brake must be avoided, since they reduce system response. Also, avoid the use of undersized fittings that will limit air flow and cause excessive pressure drop downstream of the IPT.

The air inlet, output, and exhaust air line connections to the IPT are made through 1/8 NPT ports on the manifold. The exhaust port can have a muffler installed, or can be plumbed out of the electrical enclosure. The inlet port incorporates a 40-micron filter screen for large contaminants, but the air supply to the unit must be filtered, dry and free of oil. Input pressure must be greater than the maximum required output pressure and less than 150 psi. Input air pressure above 150 psi can damage the unit.

## ELECTRICAL CONNECTIONS

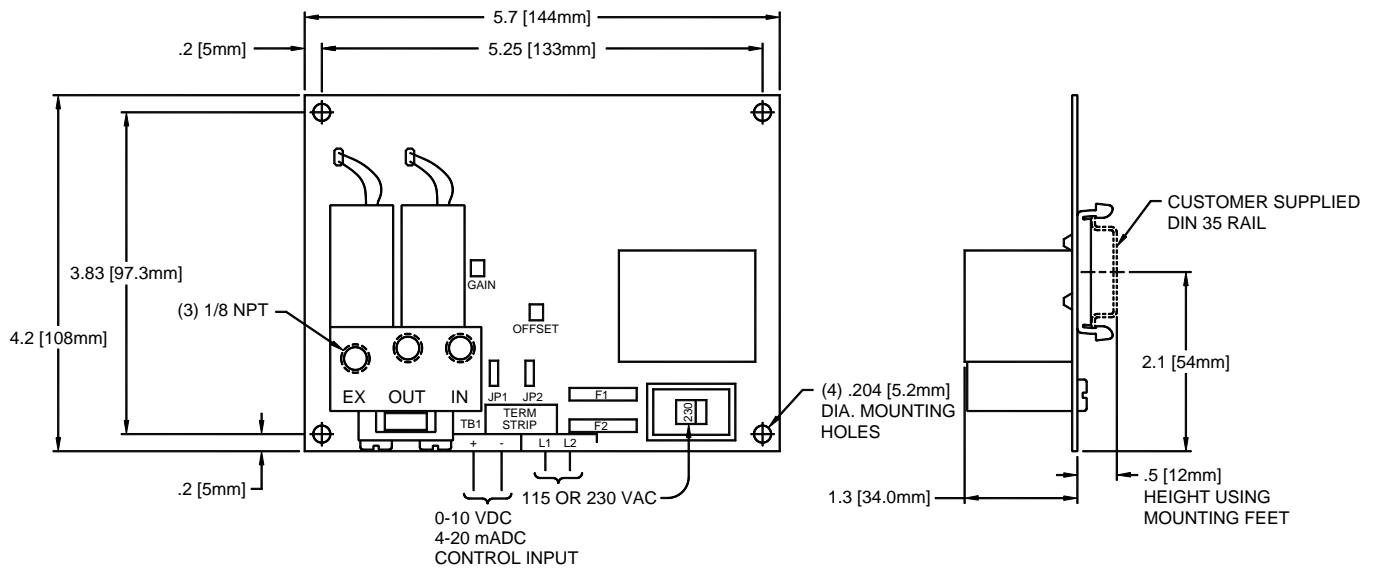
All electrical connections are made on terminal block TB1. Set power switch to match the voltage of the AC line, 115 or 230vac. Connect AC power to terminals 3 and 4. Set the input jumpers JP1 and JP2 to the positions corresponding to the control input signal type. For a 4 to 20 madc input, place the jumpers to connect JP1-1 with JP1-2 and JP2-1 with JP2-2. For 0-10vdc input, place jumpers to connect JP1-2 with JP1-3, and JP2-2 with JP2-3. Connect the appropriate control input signal to terminals 1 and 2. Terminal 2 is the lower potential line.



The IPT has been adjusted at the factory for a 4 to 20 madc or 0 to 10 vdc control input signal to produce a 0 to 80 psig output pressure. No further adjustments are required. However, if adjustment of the output pressure is desired, see note below.

## SPECIFICATIONS

Input Power ..... 115/230 vac  $\pm$ 10%, 50/60 Hz, switch selectable  
Control Input..... 4 to 20 madc, 249 $\Omega$  input impedance  
0 to 10 vdc, 10K $\Omega$  input impedance  
Output Pressure ..... 0 to 80 psig  
Maximum Supply Pressure ..... 150 psig  
Minimum Supply Pressure ..... greater than maximum desired output pressure  
Linearity, Hysteresis & Repeatability ..... 0.5% of full scale



**NOTE: ADJUSTMENT** (Not normally required)

The adjustment procedure is as follows:

1. Adjust the control input signal to a level slightly greater than its minimum value (0vdc or 4ma).
2. Adjust the "offset" potentiometer until the output pressure is slightly greater than zero.
3. Adjust the control input signal to its maximum value.
4. Adjust the "gain" potentiometer until the output pressure is at the desired maximum level.
5. Repeat this procedure as required.



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