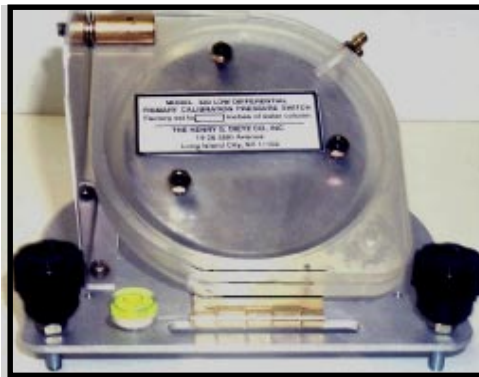


**MODEL 320 LOW DIFFERENTIAL PRIMARY  
CALIBRATION PRESSURE SWITCH  
with single moving part (Patent Pending)  
Factory set to NIST standards to provide a single  
primary calibration point of operation  
Range: 0.001" water column to 0.350" water column**

The Dietz Model 320 Low Differential Primary Calibration Pressure Switch can be factory set to NIST standards adjusted to operate from 0.001" water column to 0.350" water column. It can only have a single factory set point of operation.



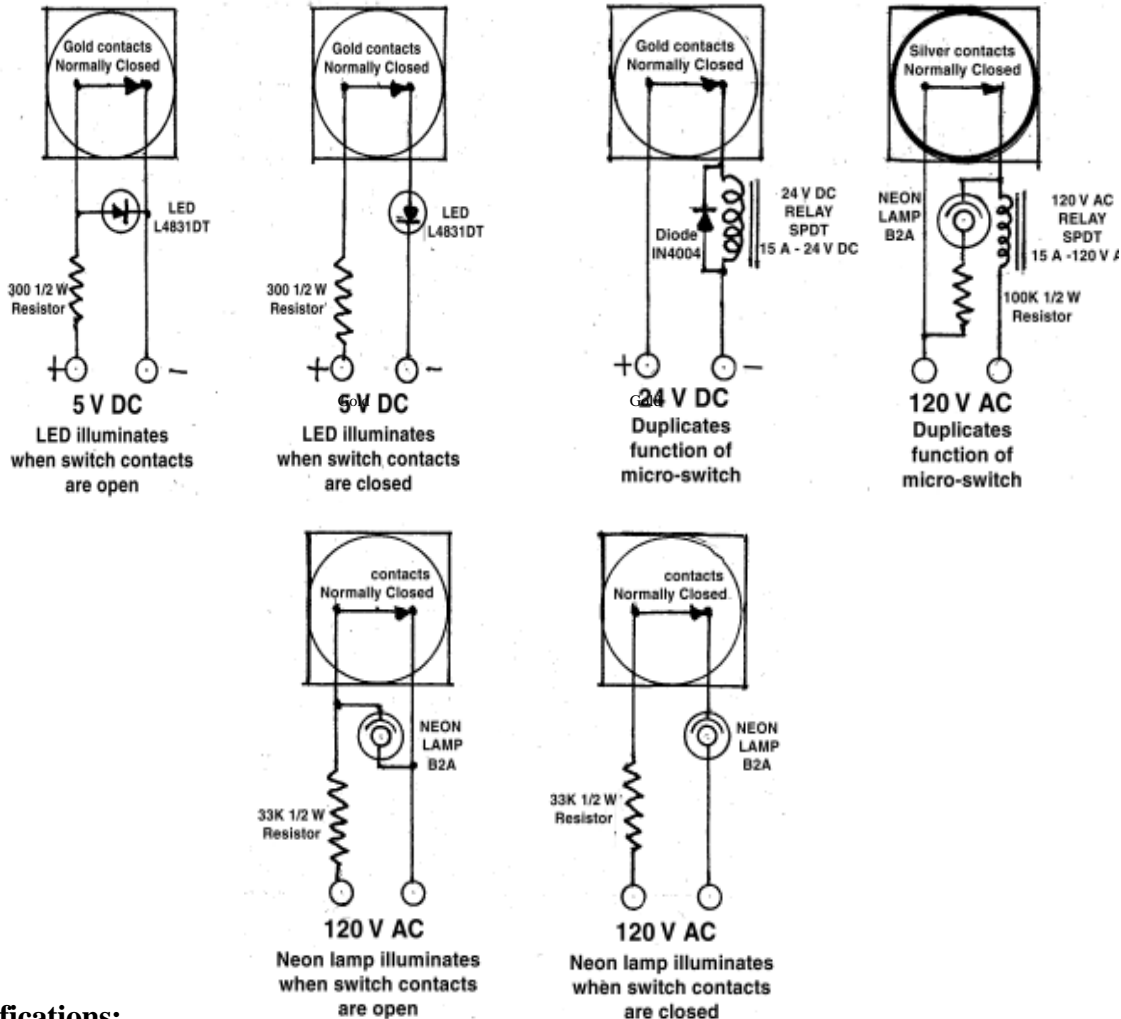
The operating principle is that a vertically free floating piston in a cylinder is pushed upward when air pressure acts on the weighted piston. The piston must float freely in its cylinder. The pressure in the circuit will be determined by the weight of the piston divided by the affected area of the piston with correction for temperature and local gravity. The seal between the piston and the cylinder must not allow the air to escape and have very low friction. This is accomplished by using 0.002" thick silicone rubber for the seal and having the piston move only a few thousandths of an inch. The maximum pressure is determined by the weight of the piston. Other pressures are obtained by balancing out the weight of the piston by moving the piston from a horizontal position to a vertical position.

The unit must be adjusted to be level by using the circular level on the unit and the two adjusting knobs. Mounting surface must be free from vibration. The switch employs normally closed gold contacts and there are no on-off differential pressures.

Care must be exercised, but with proper circuit design a relay can function with more sensitivity than if a micro-switch was used. Please see drawings Fig. 1, Fig. 2, and Fig.3 for circuit suggestions.

For pressures of 0.001" water column to 0.056" water column it is necessary to balance out the weight of the piston by moving it from a horizontal to a vertical position. When the piston is vertical it has no weight and will detect 0.001" water column. Moving it to a horizontal position it will detect 0.056" water column. For values above 0.056" water column it is necessary to change the weight of the piston and have it in a horizontal position.

The use of normally closed gold contacts makes it possible to detect when pressure is lost. Power is used only when pressure is lost, and a battery powered unit will have a long life. Contact Dietz Co. for alarm circuits that provide for a time delay and indicate low battery power.



**Specifications:**

**Current Rating:** 40 mA resistive load used for life in excess of 20 million cycles

**Temperature:** Limits 40 to 120 degrees F

**Switch Type:** Normally closed contacts

**Electrical Connections:** Solder lugs

**Pressure Connections:** 3/16" inside diameter plastic tubing

This switch, to our knowledge, is the only switch able to detect extreme low pressures of 0.001" water column and up and be a primary standard traceable to NIST standards. If you have any questions call: (718) 726-3347.

**THE HENRY G. DIETZ CO., INC.**

**14-26 28th Avenue, Long Island City, New York 11102**