

Model 85S Precision .025" W.C. to 20 LBS Differential Pressure Switches



Fig. 1, 85S Differential Pressure Switch

The Model 85S precision differential pressure switch is only 2" square and can operate on pressures as small as 0.025" water column (or 0.0144 ounce per square inch). It has 20 times the sensitivity of competitive switches. This amazing sensitivity is only possible because The Henry G. Dietz Co., Inc. developed the ability to make silicone rubber diaphragms with a thickness of less than 0.002". Model 85S switches have a normal operating range many times larger than competitive switches which often require 5 different models to cover the same range. Like advantages of the Model 85S low differential pressure switches are found in our Model 85S high differential pressure switches operating up to 20 pounds per square inch or 554" W.C..

The switches have gold or silver contacts that are normally closed and are opened when pressure or vacuum is applied. There is no on-off differential pres-

sure as with pressure switches using micro switches. If micro switches were used, the force necessary to operate them would be much higher than that required to open the normally closed contacts of our switches..

The Model 85S switches, when furnished with a 120V AC relay (see Fig. 2), can function with more increased sensitivities than if a micro switch was used. Please see drawing Fig. 3. The operating life of the relay equipped units exceeds the operating life of micro switches and provides for SPDT contacts rated at 15A-120V AC. The NEON Lamp is used for arc suppression, and will indicate when the high pressure setting is reached. Please see drawing Fig. 4 for dimensions of the Model 85S when supplied with 120V AC relay.

The Model 85S switches can also be furnished with a 24V DC relay that can also function with more sensitivity than if a micro switch was used. Please see drawing Fig. 3. The operating life of the relay equipped units exceeds the operating life of micro switches and provides for SPDT contacts rated at 15A-24V DC. The diode is used for arc suppression. Please see drawing Fig. 4 for dimensions of the Model 85S when supplied with 24 V DC relay.



Fig. 2, 85S Differential Pressure Switch with Relay



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Model 85S Precision 0.025" W. C. to 20 LBS Differential Pressure Switch

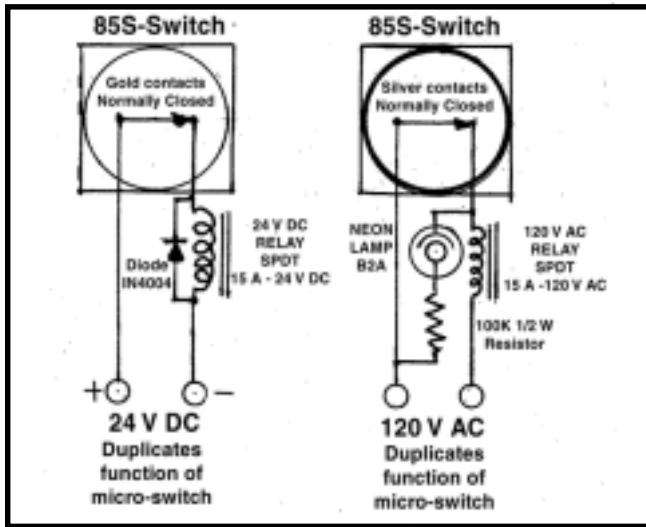


Fig. 3, 24 V DC and 120 V AC operation with Relays

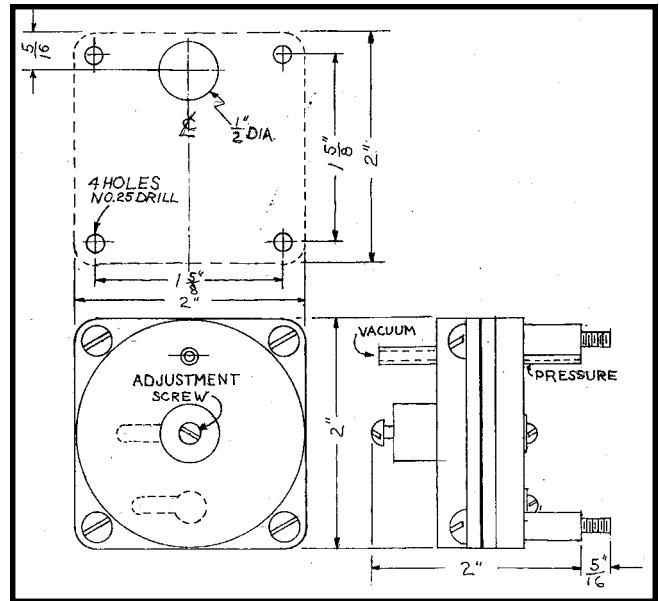


Fig. 5, Model 85S

Please see drawing Fig. 5, for dimensions of the Model 85S. All switches should be mounted on a vertical surface for most sensitivity.

The Model 85S can also be used with 120 V AC to illuminate a NEON lamp when switch contacts are open on increasing pressure or vacuum. It also can be furnished to illuminate the NEON lamp when switch contacts are closed and pressure is reduced.

Please see Fig. 6 for how 120 V AC NEON lamp can indicate high or low pressure. For these applications customer must furnish NEON lamp B2A and 33k 1/2 Watt Resistor.

The Model 85S has an unlimited life when used with low voltage, such as 5 V DC, and is excellent for use with electronic circuits. Fig. 7 shows how a LED can be illuminated by either open or closed contacts. Customer must furnish LED and resistor.

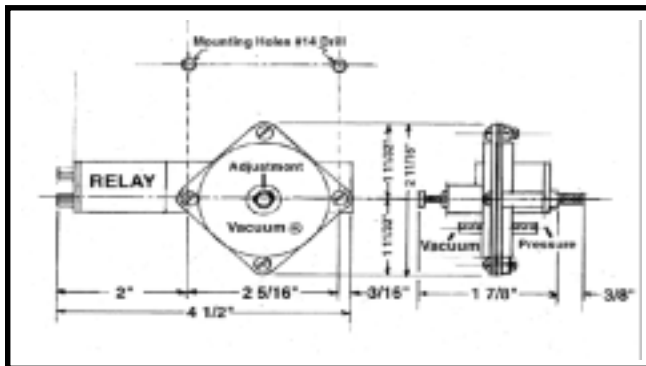


Fig. 4, Model 85S Supplied with relay

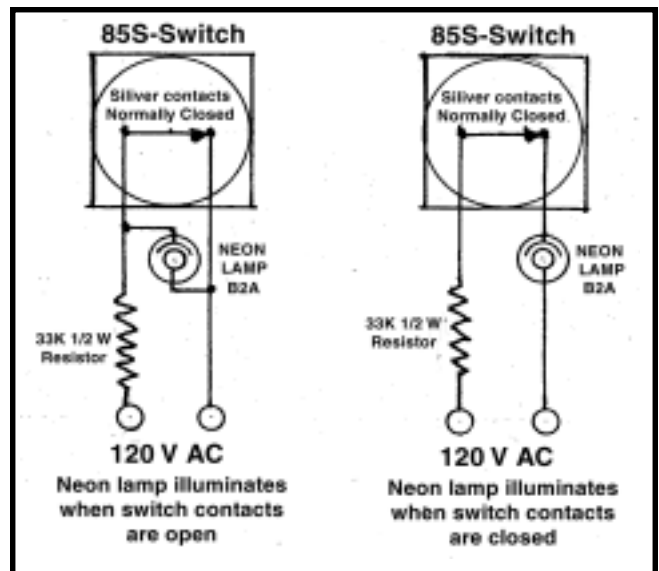


Fig. 6, 120 V AC illuminates NEON Lamps



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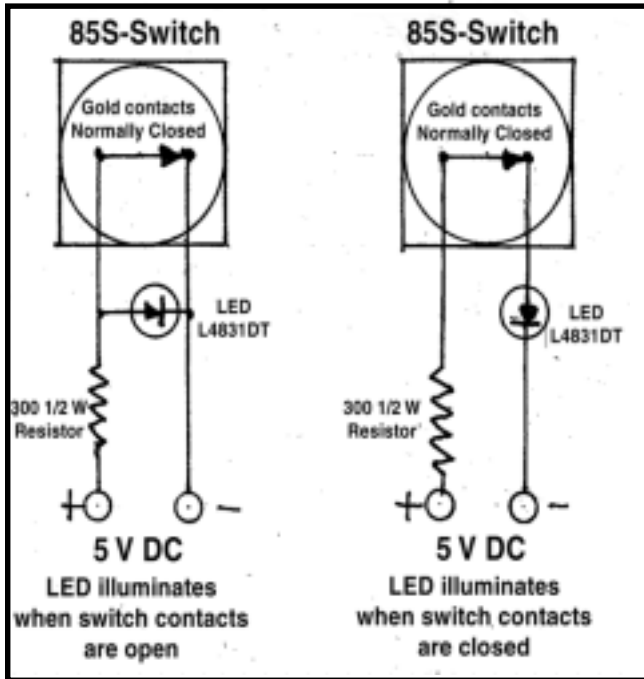


Fig. 7, 5 V DC illuminates LEDs

Model 85S Precision Differential Pressure Switch is custom built to meet the specific requirements of the customer. The following are listed to show the switches cover a large range of operation. Often using switches of other manufacture would require 3 to 5 different range switches to cover the range of a single Model 85S. The result is fewer switches have to be stocked.

Samples of available ranges

Model 85S-1

Operating range 0.025" W.C. to 0.25" W.C.
or 630 to 2000 feet per minute air velocity

Model 85S-2

Operating range 0.1" W.C. to 20" W.C

Model 85S-3

Operating range 0.1" W.C. to 35" W.C.

Switches are available up to 20 Lbs. per square inch
or 554" W.C.

Used as: an airflow switch or sensor

(to detect air flow velocity from 630 feet to 12,000 feet per minute.)

switch or sensor to detect dirty air filters

switch or sensor to detect water level

(as little as .025" high)

switch or sensor to detect placement of parts

switch or sensor to detect ventilation of rooms

switch or sensor to detect forced entry

switch or sensor to detect pressurization or vacuum

switch or sensor to detect inhalation

switch or sensor to detect blower operation

switch or sensor to detect forced air cooling

We will meet your critical requirements for thousands of other applications with our skills of over 55 years manufacturing products to detect pressures as low as 1/2 of 1,000 of an ounce per square inch.



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