

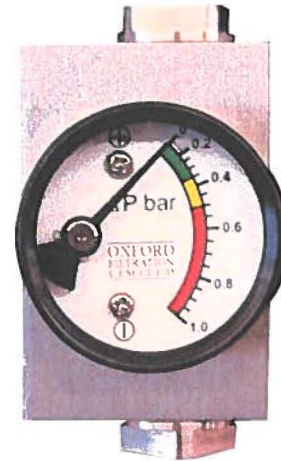


# S.P. KINNEY ENGINEERS, INC.

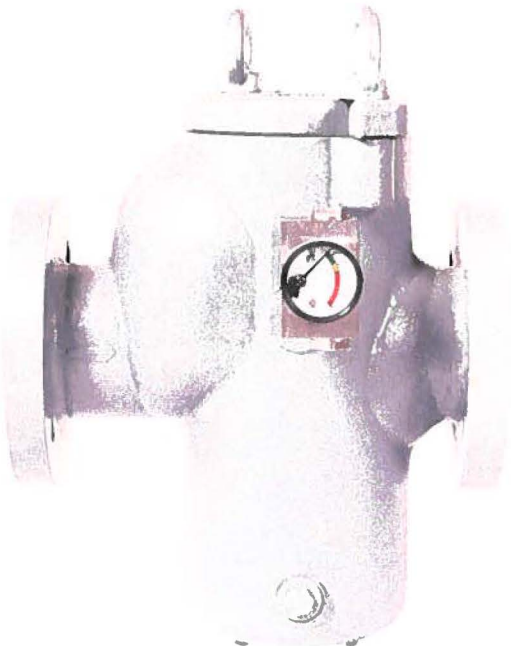
## DIFFERENTIAL PRESSURE INDICATOR AND SWITCH

### APPLICATION

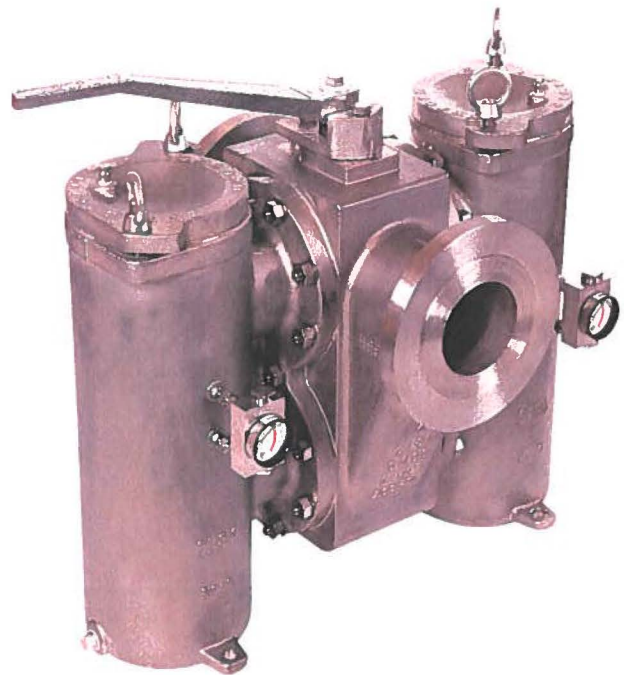
- Directly mounted on Simplex and Duplex Basket Strainers to show basket condition.
- Available in stainless steel or anodized aluminium.
- Clear green - yellow - red colour indication of filter basket condition. Green: 0-0.35 BAR. Yellow: 0.35-0.5 BAR. Red 0.5-1.0 BAR.
- Optical and/or electrical  
Max temperature 100°C (Note limitations on strainer material and flange/connection rating.)  
Protection for gauge and switch IP65 Nema 4  
Viton seals as standard.  
Overrange protection



DP fitted to Simplex Basket Strainers



DP fitted to Duplex Basket Strainers



### Fitting to Duplex Basket Strainers:

You can fit one or two DP units on your Duplex Strainer. If you choose to only fit one, fit it to your designated normal flow chamber or pipe it in across the main inlet and outlet to the strainer. Preferably at 1m distance.



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## DIFFERENTIAL PRESSURE INDICATOR AND SWITCH

### Operating Principle

High and Low pressures are separated by a sensor assembly consisting of a magnet piston, teflon seal and a range spring. The difference in pressure causes the sensor assembly to move in proportion to the change against a range spring.

A rotary magnet, located in a separate body compartment and isolated from the acting pressures, is rotated by magnetic coupling as per the linear movement of the sensor assembly. A pointer attached to the rotary magnet indicates differential pressure on the dial.

**Switch:** Reed switches are located adjacent to the pressure chamber and are activated by the magnetic field of the sensor assembly.

**Note:** The instruments are calibrated to give  $\pm 2\%$  full scale accuracy on ascending readings.

The standard dp indicator is not designed for suction applications and for these duties discuss with our technical sales team and an alternative indicator will be offered.

### Switch Setting

Please follow these instructions when your differential pressure instruments are supplied with a switch. The switches are normally factory set to save time at customer's end. However they are field adjustable.

**CAUTION:** Supply should not exceed switch rating. For higher supply, use of a relay circuit is recommended.

### Switch Adjustment

- Switch adjustment screw is located on a plastic cover.
- Rotate the screw anti-clockwise to increase the set point and clockwise to decrease the set point.
- One or two trials may be necessary to attain the exact set point.

Above procedure to be followed by putting the instrument on the test bed or while in actual service.

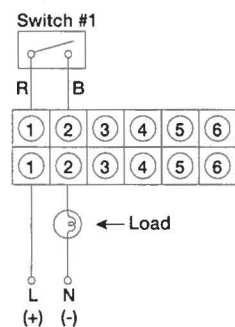
**Note:** Instrument and switch has IP65 protection. PG7 or PG9 glands provided for cables. Use cable sizes dia 3 to 6.5 mm and dia 4 to 8 mm respectively.

### SPST Switch (SPDT also available)

Switches are provided as per customer requirement. Please refer to gauge label for switch specification.

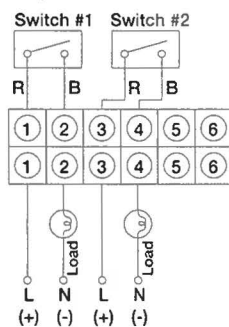
#### One SPST switch

Reed switches & terminal strip connection



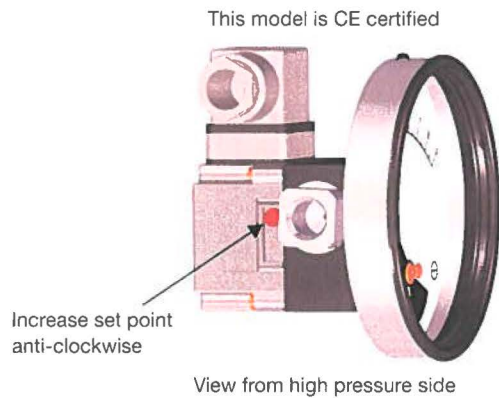
#### Two SPST switches

Reed switches & terminal strip connection



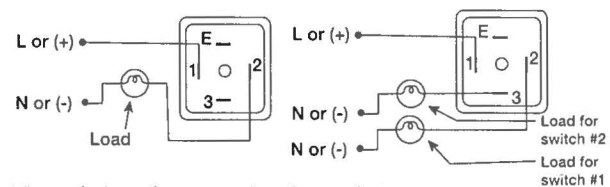
### Installation

Two mounting holes  $\frac{1}{4}$  BSP are provided at the back of the instrument body. On a Simplex or Duplex strainer a coupling kit is provided to mount the unit directly onto pre-tapped holes on the strainer. The unit can be mounted on the inlet or outlet side of the strainer. De pressurize the system and connect ensuring the high and low DP are connected to the correct corresponding connections. Ensure instrument location does not expose it to vibration.

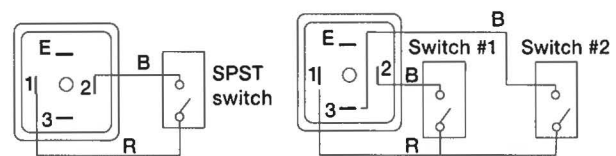


### Reed switches & Din plug connection

View of socket for supply connections



View of plug after removing the socket



R = Red, B = Black, L = Live  
Body to be suitably earthed while using