ABSOLUTE MAXIMUM RATINGS

	Ratings
Supply voltage	7.5 Vdc
Temperature ranges	
Operating	0 °C to 50 °C [32 °F to 122 °F]
Storage	0 °C to 70 °C [32 °F to 158 °F]
Common mode pressure	150 in. H_2O
Lead temperature (soldering 2 to 4 seconds)	250 °C [482 °F]
Proof pressure	10 in H_2O
Burst pressure [9]	5 psi

PERFORMANCE SPECIFICATIONS [1]

	Min.	Typ.	Max.	Unit
Operating pressure	-	-	4.0	In. H_2O
Sensitivity Ta = 25 °C [77 °F]	1700	2500	5500	µV/V/ In. H_2O
Full-scale span 4 In. H_2O [2]	34	50	110	mV
Temperature coefficient of span [3, 4]	-2850	-2400	-1950	ppm/°C
Zero pressure offset Ta = 25 °C [77 °F]	-40	0	40	mV
Temperature coefficient of offset [3]	-	±4	-	µV/V/°C
Combined linearity and hysteresis [5]	-	0.5	1.0	% FS
Long-term stability of offset and sensitivity [6]	-	0.5	-	% FS
Response time (10 % to 90 %) [7]	-	100	-	µS
Input resistance Ta = 25 °C [77 °F]	-	4.7	-	kOhm
Temperature coefficient of resistance [3, 4]	2100	2300	2500	ppm/°C
Output impedance	-	4.7	-	kOhm
Repeatability [8]	-	0.5	-	% FS
Position sensitivity	-	50	-	µV/V/g

SPECIFICATION NOTES

1. Reference conditions: supply voltage Vs = 5 Vdc, Ta = 25 °C [77 °F]. Common-mode line pressure = 0 psig. Pressure applied to P2.
2. Span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure.
3. Slope of the best straight line from 0 °C to 50 ° C [32 °F to 122 °F]. For operation outside this temperature, contact factory for more specific application information.
4. This parameter is not 100 % tested. It is guaranteed by process design and tested on a sample basis only.
5. See definition of terms. Hysteresis is the maximum output difference at any point within the operating pressure range for increasing and decreasing pressure
6. Long-term stability over a one year period.
7. Response time for a 0 PSI to full-scan span pressure step change. 10 % to 90 % rise time.
8. Maximum difference in output at any pressure with the operating pressure range and temperature within 0 °C to 50 °C [32 °F to 122 °F] after
   a. 100 temperature cycles, 0 °C to 50 ° C [32 °F to 122 °F]
   b. 1.5 million pressure cycles, 0 psi to full-scale span.
9. If the maximum burst pressure is exceeded, even momentarily, the package may leak or burst, or the pressure sensing die may fracture.

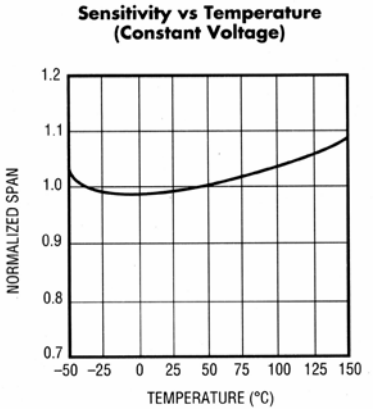
NOTE: Due to the delicate nature of these very sensitive devices, some special handling is required. Parts are sensitive to shock and vibration and must be handled with care. Dropping on any hard surface (bench top, etc.) can destroy the device. Note 10 in H_2O overpressure.

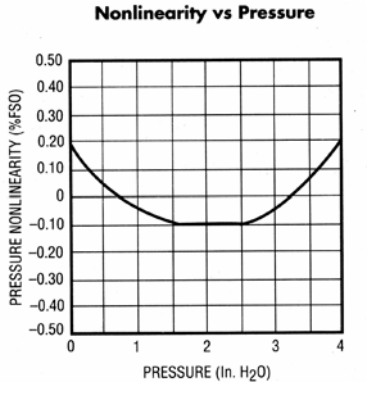
Pressure Sensors

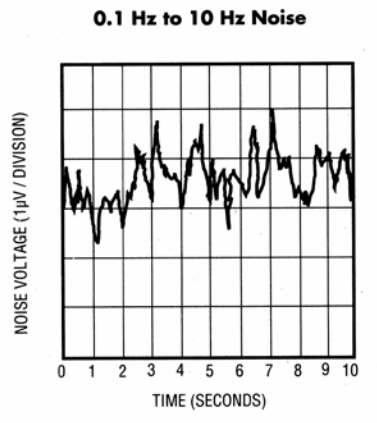
Low Pressure Sensor

SLP Series

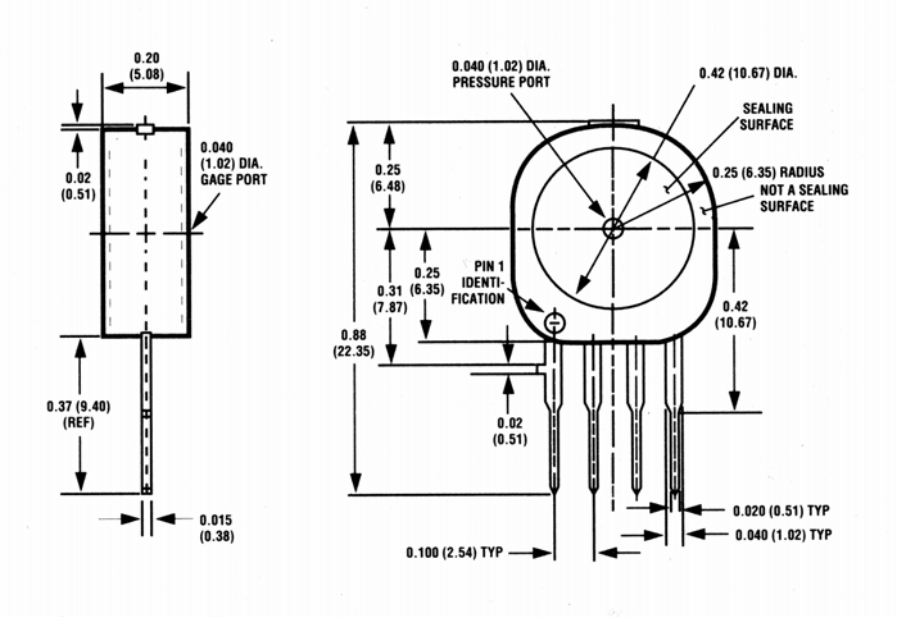
TYPICAL PERFORMANCE CHARACTERISTICS



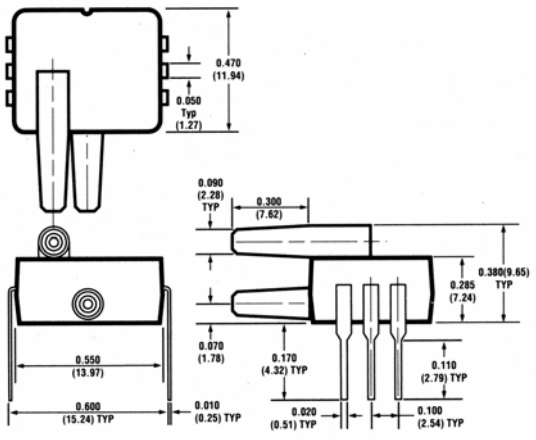




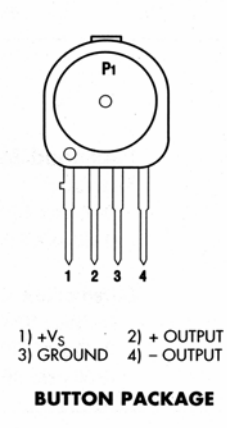
DIMENSIONAL DRAWING – BUTTON SENSOR (for reference only mm/in)

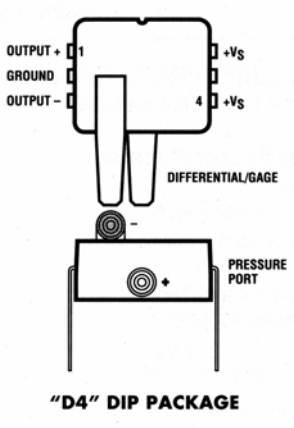


DIMENSIONAL DRAWING –D4 SENSOR (for reference only mm/in)



ELECTRICAL CONNECTIONS





Pressure Sensors

Low Pressure Sensor

SLP Series

APPLICATION INFORMATION

The SLP family of pressure sensors function as a wheatstone bridge. When pressure is applied to the device, the resistors in the arms of the bridge change as shown in Figure 1. The resulting differential output voltage, V_O, is easily shown to be $V_O = V_B \times \Delta R/R$. Since the change in resistance is directly proportional to pressure, Vo can be written as $V_O = S \times P \times V_B + V_{OS}$ Where,

V_O is the output voltage in mV

S is the sensitivity in mV/V psi

P is the pressure in psi

V_B is the bridge voltage in volts

V_{OS} is the offset error, (the differential output voltage when the applied pressure is zero)

FIGURE 1

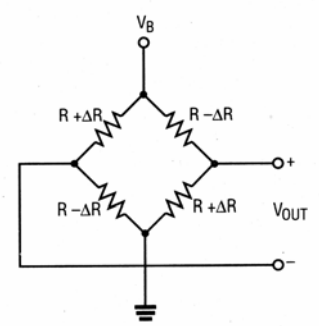
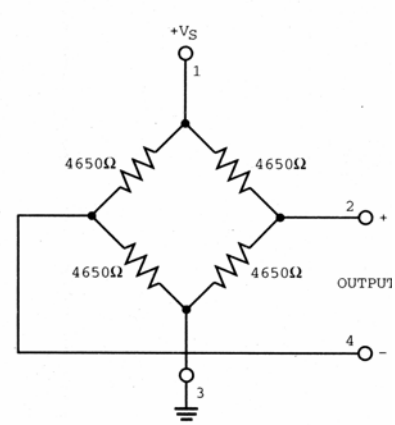


Figure 1.

EQUIVALENT CIRCUIT



ORDER GUIDE

Pressure Range	Sensor in Button Package	Sensor in DIP Package
0 in to 4 in H_2O	SLP004D	SLP004DD4

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. **The foregoing is Buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

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While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

For application assistance, current specifications, or name of the nearest Authorized Distributor, contact a nearby sales office. Or call:

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