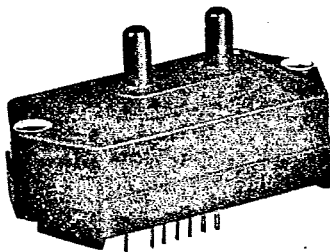


149PC Series Solid State Pressure Sensors/High Level



DESIGN CONSIDERATIONS

	Min.	Typ.	Max.
Excitation (VDC)	10.0	24.0	32.0
Response Time (msec.)	—	—	1.0
Overpressure (psi)	—	—	45
Weight (grams)	—	28	—
Output Ripple	None, DC device		

FEATURES

- Unidirectional differential pressure measurement
- 2-wire, 4-20mA output current linearly proportional to pressure input
- Terminal pins provide for optional external null and F.S.O. current output adjustment

ORDER GUIDE

PRESSURE RANGE (psi)

3-15

CATALOG LISTING

Differential

149PC15D

ACCURACY SPECIFICATIONS

At 24.0 $\pm$ 0.01 VDC excitation,
25 ohm load, 25° C

Parameter	Min.	Typ.	Max.
Overpressure (psi)	—	—	45
Linearity			
Best Fit Straight Line and Hysteresis (%F.S.O.) P1 > P2	—	± 0.15	± 0.25
Null and Sensitivity Shift (% F.S.O.) 25° to 0° C, 25° to 50° C	—	—	± 1.0
Repeatability (%F.S.O.)	—	—	± 0.15
Supply Voltage Sensitivity (% F.S.O.) 20-24 VDC and 24-28 VDC	—	± 0.15	—
Current Output (mA)			
P1 = 3 psig, P2 = 0 psig	3.8	4.0	4.2
P1 = 15 psig, P2 = 0 psig	19.8	20.0	20.2
Stability over One Year (F.S.O.)	—	± 1.0	—
Null and F.S.O. Adjustment	External interface pins provided for a maximum adjustment of $\pm 10\%$		

Solid State Pressure Sensors/High Level 149PC Series

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ENVIRONMENTAL SPECIFICATIONS

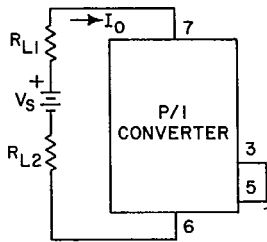
Temperature	Operating	-40° to 85° C (-40° to 185° F)
	Storage	-55° to 100° C (-67° to 212° F)
	Compensated	0° to 50° C (32° to 122° F)
Shock	MIL-STD-202, Method 213 (50 g, half sine, 11 msec.)	
Vibration	MIL-STD-202, Method 204 (10 to 2000 Hz at 10 g)	
Media	P2 port	Wetted materials: polyester housing, epoxy adhesive, silicon, borosilicate glass, and silicon-to-glass bond*
	P1 port	Dry gases only

*Liquid medias containing some highly ionic solutions could potentially neutralize the chip-to-glass tube bond.

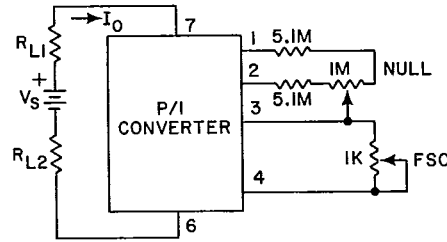
149PC Series Solid State Pressure Sensors/High Level

T-65-13

ELECTRICAL CONNECTION - 149PC



Basic Operation
(External jumper not supplied)



Connection of external trimpots to null and
F.S.O. adjustment

NOTES

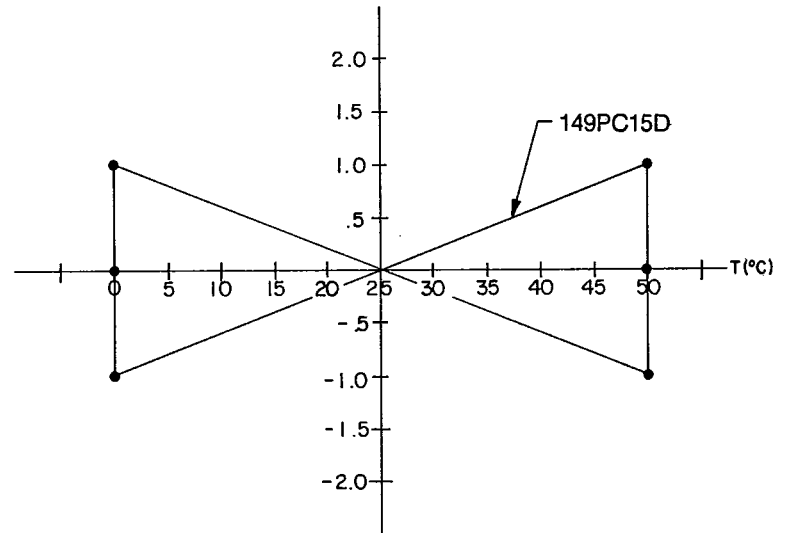
1. Numbers represent termination pins.
2. 4 to 20mA current flows from pin 6 to pin 7.

$$R_{L1} + R_{L2} = R_L \text{ (total load resistance)}$$

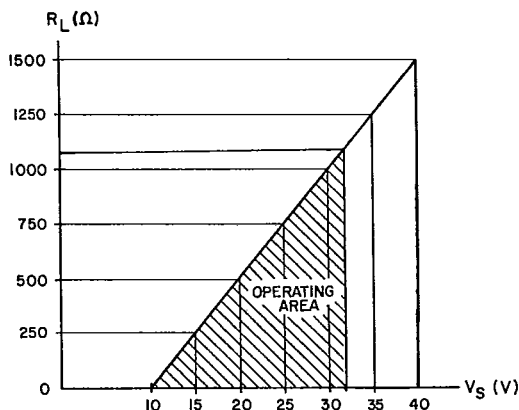
NULL AND SENSITIVITY SHIFT

Current output pressure sensors are 100% tested to insure that the maximum null and sensitivity temperature shift does not exceed the specification. The diagram at right illustrates how null and sensitivity shift relates to temperature. Note that the maximum shift occurs at temperature extremes. Therefore, if a sensor is not exposed to the entire temperature range, the maximum null and sensitivity shift will actually be less than the value specified.

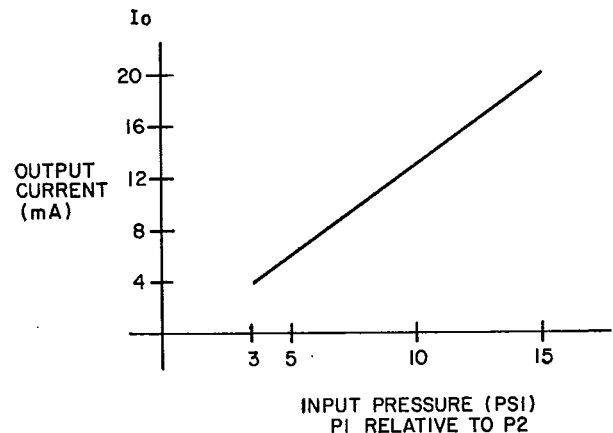
NULL AND SENSITIVITY SHIFT (% F.S.O.)



EXTERNAL LOAD RESISTANCE VS SUPPLY VOLTAGE



SCALING OF 149PC SERIES WITH 8V EXCITATION

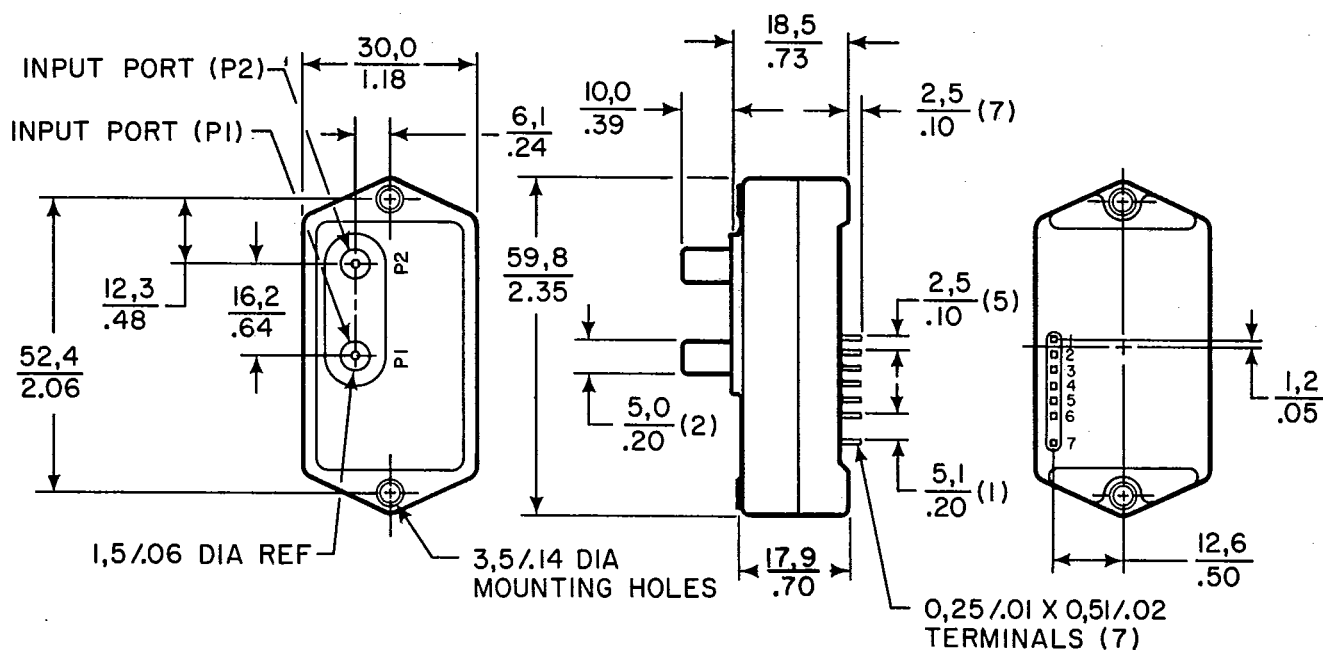


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Solid State Pressure Sensors/High Level 149PC Series

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MOUNTING DIMENSIONS (For reference only)



149PC CONSTRUCTION

