

MICRO SWITCH

a Honeywell Division

Installation instructions for 140PC pressure sensors

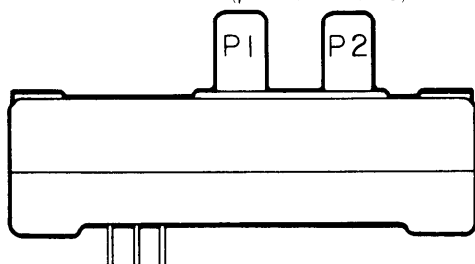
PK 87639

GENERAL INFORMATION

140PC pressure sensors provide output voltage proportional to pressure applied. They operate from a single, positive supply voltage ranging from 7 to 16VDC. Signal conditioning results in directly usable outputs; temperature compensation results in predictable performance over specified temperature ranges.

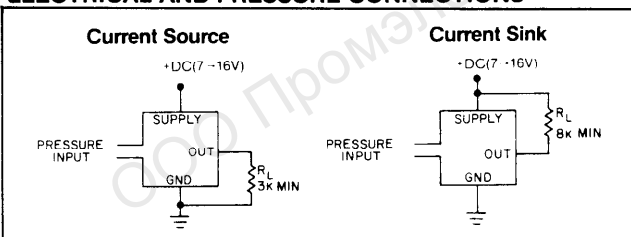
MEASURAND COMPATIBILITY

P1: Dry gases only. (Active side of IC)
P2: Materials in contact with media are polyester, epoxy adhesive and silicon bonded to borosilicate glass with an electrostatic bond (passive side of IC).



Type	Measurand Applied to Port
Absolute (A)	P1 only
Differential (D)	P1 and P2
Gage (G)	P2 only

ELECTRICAL AND PRESSURE CONNECTIONS



WARNING

Damage may result from reversal of supply and ground connections.

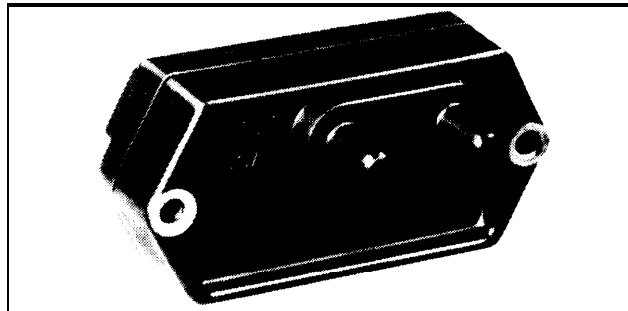
SOLDERING

Limit soldering to 315°C (600°F) maximum, with 10 seconds maximum duration.

CLEANING

Proper cleaning fluids should be selected, based on the type of contaminant to be removed. MICRO SWITCH recommends use of the following:

- Alcohols
- Fluorinated solvents



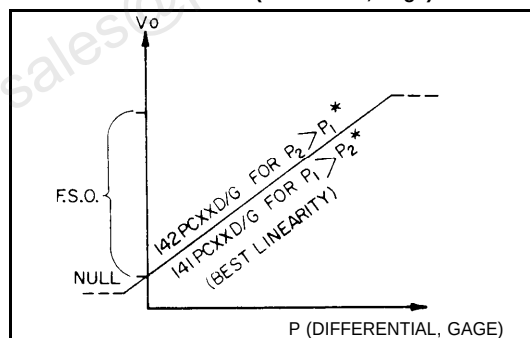
PRESSURE REFERENCE

Absolute pressure is measured with respect to a vacuum reference.

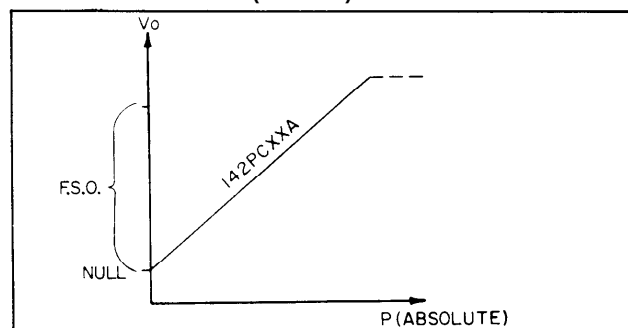
Differential pressure transducers apply P1 to the active (connection) side of the chip, and P2 to the passive side.

Gage pressure is measured with respect to atmospheric (room) pressure reference.

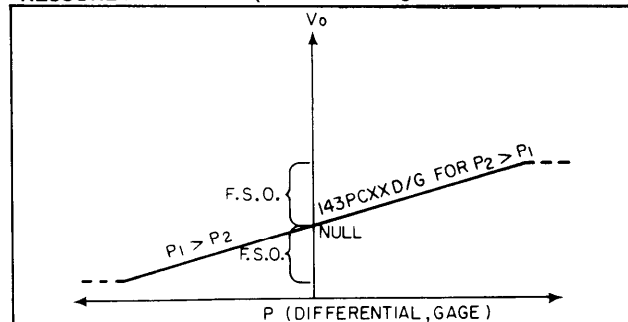
PRESSURE REFERENCE (Differential, Gage)



PRESSURE REFERENCE (Absolute)



PRESSURE REFERENCE (Differential, Gage, 143PC)



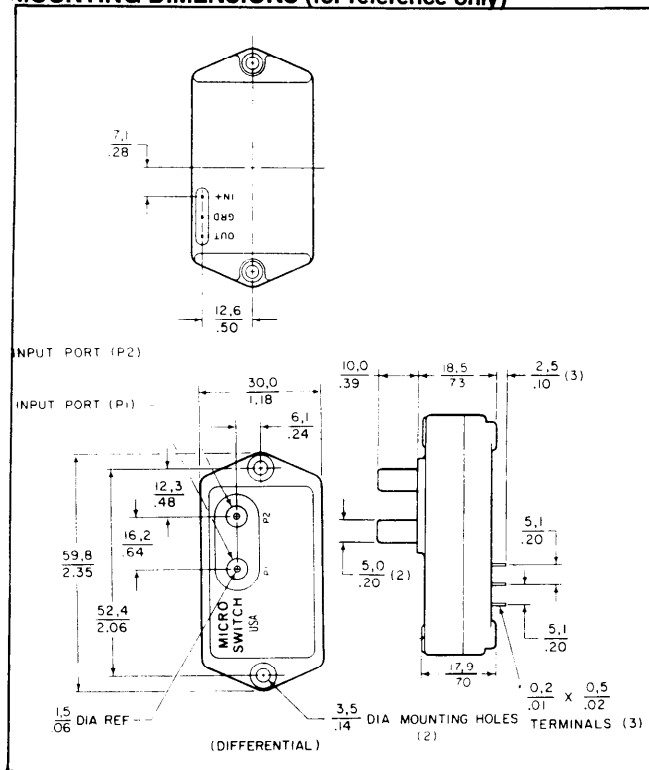
*Reversing the pressure relationship of 141PC or 142PC will cause the output to saturate below null.

141/142/143PC SPECIFICATIONS at 8.0 ± 0.01VDC Excitation, 25 °C

PARAMETER	140PC TYPE	PRESSURE RANGE	Min.	Typ.	Max.	UNITS
F.S.O. (Full Scale Output)*	141/2 143	All All	4.95	5.00 ±2.50	5.05	V
Null Offset	141/2 143	All All	0.95 3.45	1.00 3.50	1.05 3.55	V
Output at Full Pressure	141/2 143	All All, P2 > P1 P2 < P1	5.90 5.90	6.00 6.00 1.00	6.10 6.10	V
Excitation	All	All**	7.0	8.0	16	VDC
Output Current Source Sink	All	All	10 5			mA mA
Supply Current 10K ohm load	All	All		8.0	20.0	mA
Overpressure	141/2 143	0.1, 0-5 0-15 0-15 (L), 0-30 ±1, ±1.5 ±5 ±15			20 45 60 20 20 45	psi
Operating Temperature	All	All	-40°C to +85°C (-40°F to +185°F)			
Storage Temperature	All	All	-55°C to +125°C (-65°F to +257°F)			

* F.S.O. is the algebraic difference between end points (output at null and full pressure).

** 8.0 VDC is recommended with 1 psi devices.

MOUNTING DIMENSIONS (for reference only)

WARRANTY/REMEDY - Seller warrants its products to be free from defects in design, material and workmanship under normal use and service. Seller will repair or replace without charge any such product it finds to be so defective on its return to Seller within 18 months after date of shipment by Seller. **The foregoing is in lieu of all other expressed or implied warranties (except of title), including those of merchantability and fitness for a particular purpose.** The foregoing is also purchaser's sole remedy and is in lieu of all other guarantees, obligations, or liabilities or any consequential, incidental, or punitive damages attributable to negligence or strict liability, all by way of example.

While we provide application assistance on MICRO SWITCH products, personally and through our literature, it is up to the customer to determine the suitability of the product in the application.

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