

Installation Instructions for the 22PC Series Pressure Sensors

ISSUE 2

PK 80085

⚠ WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices, or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

GENERAL INFORMATION

22PC Series pressure sensors are four active element piezoresistive bridges. When pressure is applied, resistance changes and the 22PC provides an output signal proportional to the input pressure.

Gage pressure is measured with respect to ambient pressure. When applied pressure increases, the differential voltage $V_2 - V_4$ increases. As pressure decreases, differential voltage $V_2 - V_4$ decreases.

Differential sensors provide a differential voltage proportional to the pressure differential between port P2 and P1. As $DP = P_2 - P_1$ increases, differential voltage $V_2 - V_4$ increases. As $DP = P_2 - P_1$ decreases, differential voltage $V_2 - V_4$ decreases.

PERFORMANCE CHARACTERISTICS at 10.0 ± 0.01 VDC Excitation, 25 °C

	Min.	Typ.	Max.	Units
Excitation	—	10	12	Vdc
Response Time	—	—	1.0	ms
Input Resistance*	4.0 k	5.0 k	6.0 k	Ohm
Output Resistance*	4.0 k	5.0 k	6.0 k	Ohm
Weight		2		gram

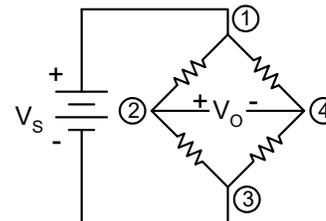
* Measured using a 1 mA current

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 °C to 85 °C [-40 °F to 185 °F]
Storage Temperature	-55 °C to 100 °C [-67 °F to 212 °F]
Shock	Qualification tested to 150 G
Vibration	Qualification tested: 0 kHz to 2 kHz, 20 G sine

Note: For media compatibility specifications refer to catalog or web site: www.honeywell.com/sensing

22PC CIRCUIT TERMINATION



Pin 1 = V_s (+)

Pin 2 = Output + (V_2)

Pin 1 is notched

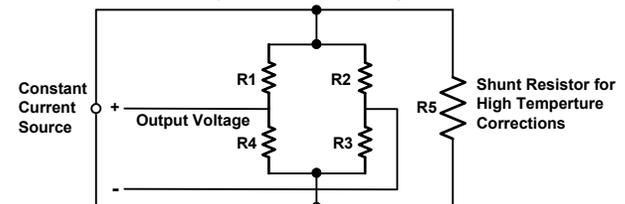
Pin 2 is next to Pin 1, etc.

Pin 4 = Output - (V_4)

Pin 3 = Ground (-)

CONSTANT CURRENT EXCITATION SCHEMATIC

1.5 mA constant current excitation significantly reduces sensitivity shift over temperature.



Noncompensated pressure sensors, excited by constant current instead of voltage, exhibit temperature compensation of Span.

Constant current excitation has an additional benefit of temperature measurement. When driven by a constant current source, a silicon pressure sensor's terminal voltage will rise with increased temperature. The rise in voltage not only compensates for the Span, but is also an indication of sensor temperature.

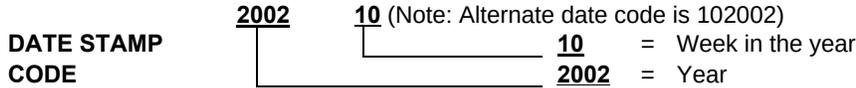
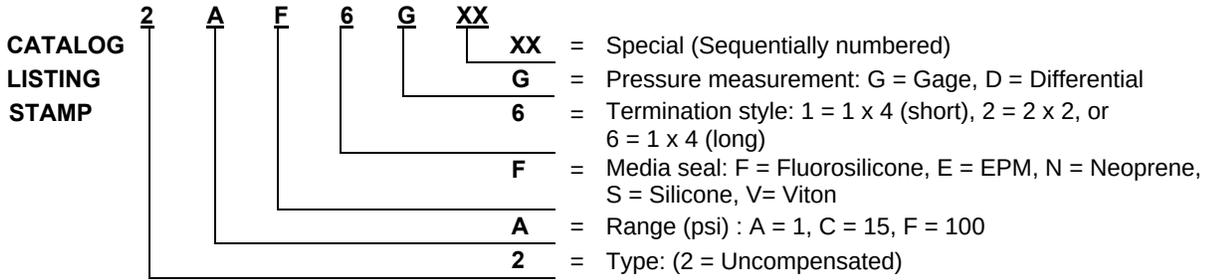
SOLDERING

Limit soldering to 315 °C [600 °F] maximum, with duration of 10 seconds maximum.

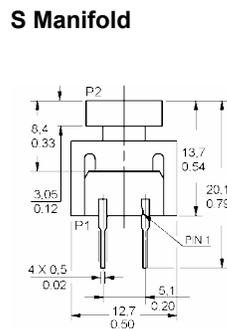
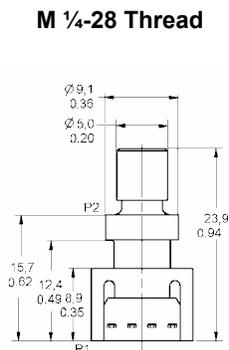
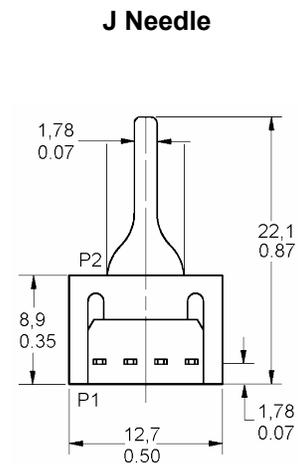
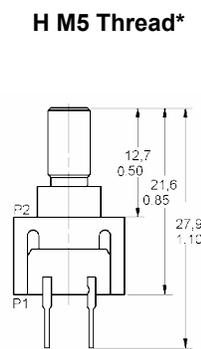
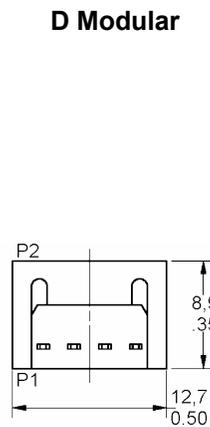
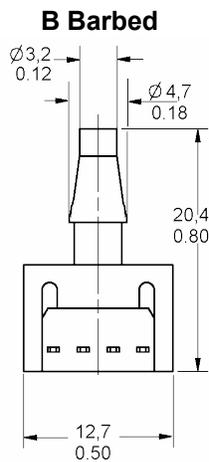
CLEANING

Proper cleaning fluids should be selected, based on the type of contaminants to be removed. Honeywell recommends alcohols or fluorinated solvents. Do not immerse the sensor.

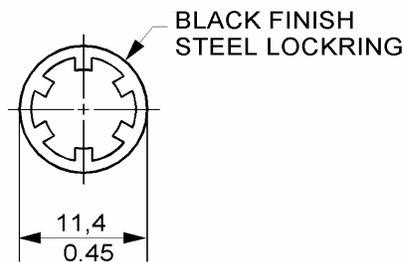
22PC LASER BRANDING SCHEME (Note: Alternate form is the entire catalog listing)



ADDITIONAL PORT VARIATIONS (dimensions for reference only) mm/in



Accessory PC-10182 — Steel locking



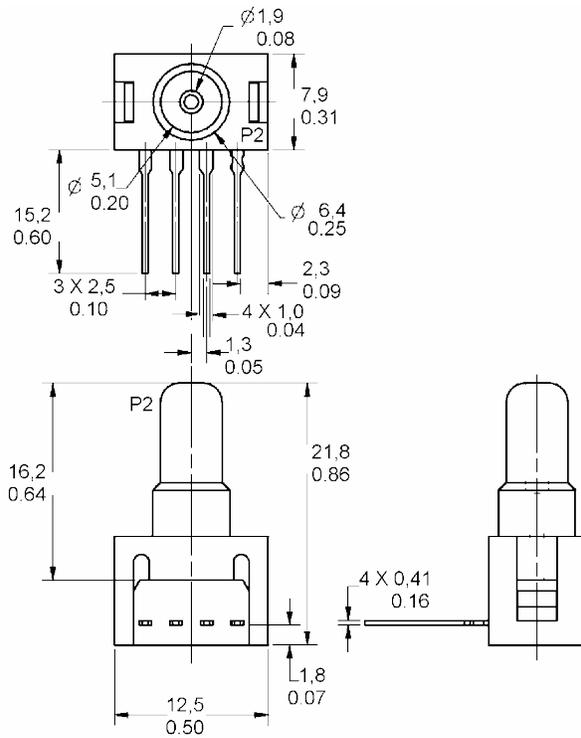
* Recommended torque for sealing is 4 in-lb. Do not exceed 6 in-lb of torque. Use size 007 O-Ring. O-Ring counterbore dimensions are 0.04 ± .005 in D x 0.300 ± .003 in Dia.

** Recommended torque for sealing is 8 in-lb. Do not exceed 12 in-lb. Use size 009 O-Ring. O-Ring counterbore dimensions are .040 ± .002 in D x 0.360 ± .003 in Dia.

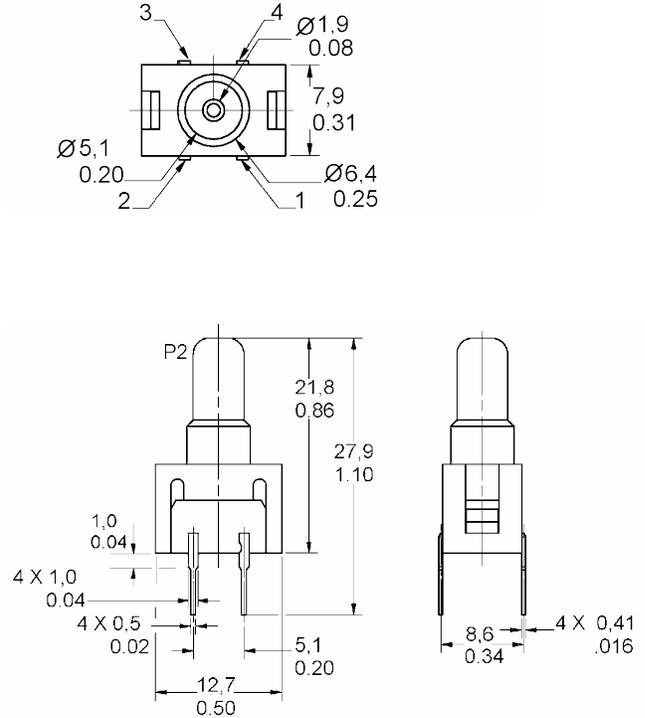
MOUNTING DIMENSIONS (dimensions for reference only) mm/in

GAGE SENSOR

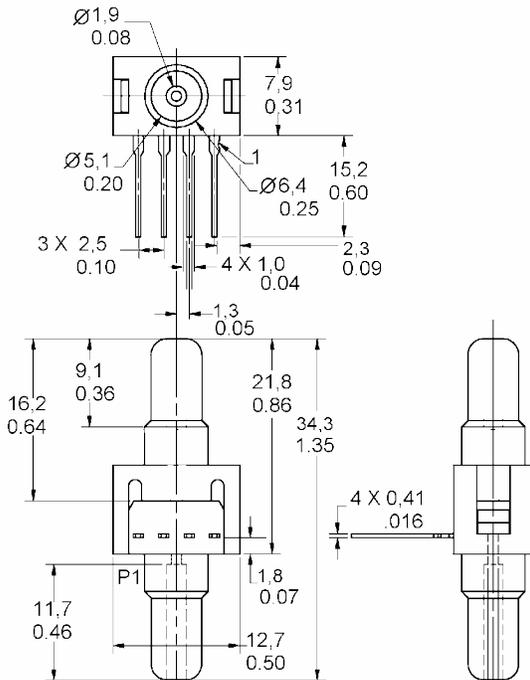
1 x 4 Termination (Style 6) Port Style A, Straight
 Pin 1 is notched, Pin 2 is next to Pin 1, etc.



2 x 2 Termination (Style 2) Port Style A, Straight
 Pin 1 is notched, Pin 1 is shown at lower right corner.
 Pins 2, 3, 4 are clockwise.



DIFFERENTIAL SENSOR 1 X 4 Termination (Style 6) Port Style A, Straight (Only)



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, 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, check the Honeywell web site or call:

1-800-537-6945 USA

1-800-737-3360 Canada

1-815-235-6847 International

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