Honeywell

Honeywell Sensing and Control

24PCAFA6D

Actual product appearance may vary.

Pressure Sensors: Measurement Type: Gage, Vacuum Gage, Differential, Wet/ Wet Differential; Signal Conditioning: Unamplified; Pressure Range: ± 1.0 psi; Port Style: Straight

Features

- True wet/wet differential sensing
- Miniature package
- Variety of gage pressure port configurations - easily and quickly modified for your special needs
- Operable after exposure to frozen conditions
- Choice of termination for gage sensors
- 2 mA constant current excitation significantly reduces sensitivity shift over temperature
- Can be used to measure vacuum or positive pressure

Potential Applications

Medical

- Oxygen and nitrogen gas distribution in hospitals
- Dental chairs

Environmental

- Water control valves
- Instrumentation
- Irrigation equipment
- Filter monitoring equipment

Industrial Instrumentation

- Robotics
- Pressure valves
- Leak detection
- Air compressors

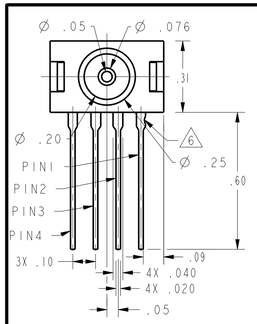
Analytical Instrumentation

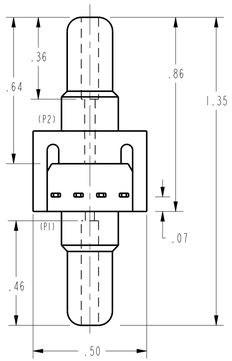
- Gas chromatography

Description

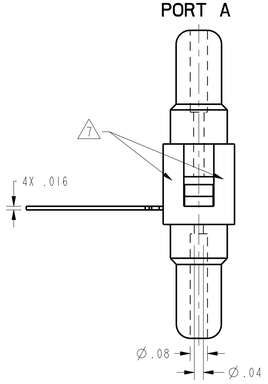
The 24PC Series miniature pressure sensors provide reliable differential pressure sensing performance in a compact package. The sensor features a proven sensing technology that utilizes a specialized piezoresistive micro-machined sensing element. The low power, non-amplified, non-compensated Wheatstone bridge circuit design provides inherently stable mV outputs over 0.5 psi through 250 psi sensing ranges.

Product Specifications	
Measurement Type	Wet-Wet Differential/Gage/ Vacuum Gage
Signal Conditioning	Unamplified
Pressure Range	± 1.0 psi
Maximum Overpressure	20.0 psi
Supply Voltage	10.0 Vdc typ., 12.0 Vdc max.
Compensated	No
Output Calibration	No
Response Time	1 ms max.
Termination	PCB; 1 x 4; 0.600 in
Port Style	Straight
Package Style	Honeywell - 20PC
Linearity	± 0.25% span typ., ± 1.0% span max. (P2 > P1)
Typical Sensitivity	45 mV/psi
Full Scale Span	45 mVdc typ.
Null Offset	0 mV typ.
Null Shift over Temperature	± 1.0 mV typ.
Span Shift Over Temperature	± 5.0% span typ.
Repeatability & Hysteresis Error	± 0.15 % span typ.
Input Resistance	4.0 kOhm min., 5.0 kOhm typ., 6.0 kOhm max.
Output Resistance	4.0 kOhm min., 5.0 kOhm typ., 6.0 kOhm max.
Shock	Qualification tested to 150 g
Vibration	MIL-STD-202 Method 213 (150 g half sine 11 ms)
Weight	2 g [0.07 oz]
Operating Temperature Range	-40 °C to 85 °C [-40 °F to 185 °F]
Storage Temperature Range	-55 °C to 100 °C [-67 °F to 212 °F]
Media Compatibility	Limited to media which will not attack polyetherimide, silicon, flourosilicone, silicone, EPDM and neoprene seals.
UNSPSC Code	411121
UNSPSC Commodity	411121 Transducers
Availability	Global
Series Name	24PC





PORT A



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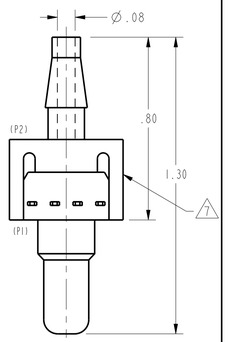
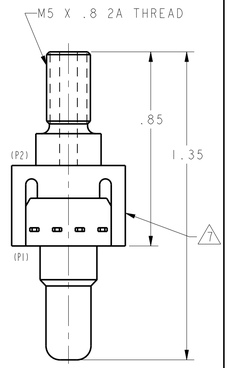


PORT H



24PC _ _ _ 6D

- STYLE
  - (D) DIFFERENTIAL
- TERMINATION
  - (6) 1 X 4 (.60 IN.)
- PORT
  - (A) STRAIGHT
  - (B) BARB
  - (H) 5mm THREAD
- SEAL
  - (F) FLUOROSILICONE
  - (N) NEOPRENE
- PRESSURE
  - (A) 1 PSI
  - (B) 5 PSI
  - (C) 15 PSI
  - (D) 30 PSI
  - (E) .5 PSI
  - (F) 100 PSI
  - (G) 250 PSI

CATALOG LISTING	LASER BRANDS /7\
24PCAFA6D	4AF6D
24PCBFA6D	4BF6D
24PCCFA6D	4CF6D
24PCDFA6D	4DF6D
24PCEFA6D	4EF6D
24PCEFB6D	4EF6D
24PCFFA6D	4FF6D
24PCGFA6D	4GF6D
24PCCFB6D	4CF6D
24PCGFB6D	4GF6D
24PCGNH6D	4GN6D

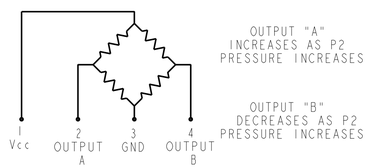
GENERAL OPERATING CHARACTERISTICS
(ELECTRICAL PERFORMANCE AT 10.00 ±0.01 VDC EXCITATION, 25°C)

PARAMETERS	PRESSURE RANGES (PSI)	MIN	TYP	MAX	UNITS
NULL OFFSET	ALL	-30	0	+30	mV
NULL SHIFT /2\ 0° TO 25°C OR 25° TO 50°C			±1.0		
SPAN /1\ P2 > P1	0 TO .5 D	25	35	45	
	0 TO 1 D	30	45	60	
	0 TO 5 D	85	115	145	
	0 TO 15 D	165	225	285	
	0 TO 30 D	240	330	420	
	0 TO 100 D	156	225	294	
	0 TO 250 D	145	212	280	
SENSITIVITY SHIFT /2\ 0° TO 25°C OR 25° TO 50°C P2 > P1 AT 10 VDC AT 2 mA	ALL		±5.0		%SPAN
LINEARITY P2 > P1 (BFSL) P1 > P2	ALL		.2	1.0	
REPEATABILITY & HYSTERESIS	ALL		±.5		
STABILITY OVER 1 YEAR			±1.5		
EXCITATION VOLTAGE INPUT RESISTANCE			5.0K		OHMS
(P1 > P2) (P2 > P1) OVERPRESSURE AT 25°C	0 TO .5 D			20	PSI
	0 TO 1 D			20	
	0 TO 5 D			20	
	0 TO 15 D			45	
	0 TO 30 D			60	
	0 TO 100 D			200	
	0 TO 250 D			500	
TEMPERATURE STORAGE OPERATE	ALL	-55° TO +100°C (-67°F TO +212°F) -40° TO +85°C (-40°F TO +185°F)			

NOTES
/1\ SPAN IS THE ALGEBRAIC DIFFERENCE BETWEEN END POINTS (OUTPUT AT MINIMUM AND MAXIMUM PRESSURE)
/2\ TEMPERATURE ERROR IS CALCULATED WITH RESPECT TO 25° AND EXPRESSES THE DEVIATION THAT COULD OCCUR AS TEMPERATURE IS RAISED OR LOWERED TO LIMITS INDICATED
3 - INPUT MEDIA LIMITED ONLY TO THOSE MATERIALS THAT WILL NOT ATTACK HOUSING MATERIAL, SILICON, OR SEAL MATERIAL
4 - TERMINALS ARE PLATED FOR SOLDERING
5 - LIMIT SOLDERING TO 315° FOR 10 SECONDS MAX
/6\ PIN 1 IS IDENTIFIED BY NOTCH IN LEAD
/7\ CATALOG LISTING AND DATE CODE BRANDED HERE. ALTERNATE FORMAT OF CATALOG LISTING BRAND IS THE ENTIRE CATALOG LISTING

METRIC	INCHES
0,41	.016
0,51	.020
1,02	.040
1,3	.05
1,8	.07
1,93	.076
2,0	.08
2,3	.09
2,5	.10
3,6	.14
5,1	.20
6,4	.25
7,9	.31
8,9	.35
9,1	.36
11,7	.46
12,7	.50
15,2	.60
16,3	.64
20,3	.80
21,8	.86
22,6	.89
33,0	1.30
34,3	1.35
35,6	1.40

CIRCUIT DIAGRAM



ANSI Y14.5M-1982 APPLIES

FED. MFG. CODE 91929
MICRO SWITCH a Honeywell Division

BRIDGE PRESSURE SENSOR

CATALOG LISTING
24PC SERIES CHART 15

THIRD ANGLE PROJECTION
SCALE 3 : 1
DO NOT SCALE PRINT
UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
ONE PLACE (.0) +.030
TWO PLACE (.00) +.015
THREE PLACE (.000) +.005
ANGLES +
WEIGHT 2 OZ.

M 24PC SERIES CHART 15 | RELEASE NO. PR 22870 | PAGE 1 OF 1 | REPLACES
DRAWING NUMBER 10
ISSUE
CHECK
REVISIONS
A PR24080 J AN 30 JUN 99 28JUN05
B 203107 G J W 22 MAY 01 AK
C 203567 T S W 25 JUL 01 CHECK
D 203656 T S W 12 SEP 01
E 203940 L S A 28JUN05 CHECK
F 3013886 CMW 28JUN05 JAF 30JUN99 CHECK
PTC/CAD 2D
DRAWN J A F 30JUN99