



CPCL04DFC



Actual product appearance may vary.

Pressure Sensors: Measurement Type: Differential; Signal Conditioning: Unamplified; Pressure Range: ± 4.0 in H₂O; Port Style: Barbed: Commercial Grade

Features

- Low Cost, Small Size
- Temperature Compensated
- Zero and Span Calibrated
- MilliVolt Output
- Differential, Gage and Absolute Pressure
- Constant Voltage Excitation
- High Impedance - Low Current

Potential Applications

- Medical Applications
- Applications Requiring Small Size
- Applications Requiring Vacuum Reference

Description

The CPC and CPX Series sensors integrate silicon micromachined sensing technology, temperature compensation, and calibration in a complete family of low cost packages. This series offers the most cost-effective solution for design requirements. These piezoresistive pressure sensors use micromachined silicon chips mounted on a ceramic and protected with a plastic cap. Several tube arrangements with nylon housings are available for various pressure applications. On devices of 5 psi and above, the topside of the chip is protected against humidity by a Silgel coating. While the sensors are designed for use with noncorrosive, nonionic pressure media, they accommodate many gases that are used in medical applications. The CPC Series is designed for the lowest cost and smallest profile. The standard packages have only a plastic cap for OEM applications. The CPC...F accommodates pressure measurements in tube applications.

Product Specifications	
Measurement Type	Differential, Gage
Signal Conditioning	Unamplified
Pressure Range	± 4.0 in H ₂ O
Maximum Overpressure	100 in H ₂ O
Supply Voltage	3.0 Vdc min., 12.0 Vdc typ., 16.0 Vdc max.
Compensated	Yes
Output Calibration	Yes
Termination	PCB
Port Style	Barbed
Package Style	Honeywell DI-CPC
Typical Sensitivity	6.25 mV/in H ₂ O
Full Scale Span	25 mV typ.
Null Offset	0 mV typ.
Null Shift over Temperature	± 1.0 mV typ.
Span Shift Over Temperature	± 2.0% span
Linearity, Hysteresis Error	± 0.25 % typ. ± 1 % max. Span
Input Resistance	5.0 kOhm min.
Output Resistance	3.0 kOhm typ.
Operating Temperature Range	-25 °C to 85 °C [-13 °F to 185 °F]
Compensated Temperature Range	0 °C to 70 °C [32 °F to 158 °F]
Storage Temperature Range	-40 °C to 125 °C [-40 °F to 257 °F]
Media Compatibility	Port 1: Dry gases only. Media must be compatible with epoxy-based adhesive. Port 2: Wetted materials. Media must be compatible with nylon housing, epoxy adhesive and silicon.
UNSPSC Code	411121
UNSPSC Commodity	411121 Transducers
Availability	Global
Series Name	CPCL

REV	DOCUMENT	CHANGED BY	CHECK
8	0032662	DDN 31JUL07	CMH

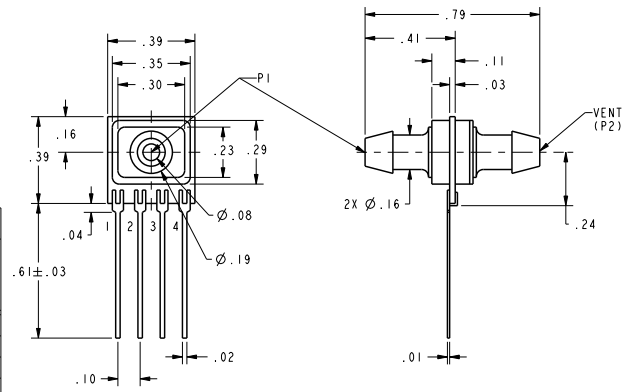
SERIES
DESIGNATES PRESSURE
L - LOW PRESSURE (IN H₂O)
 - NO DESIGNATION (PSI)
PRESSURE RANGE
 04, 10 IN H₂O
 0.3, 01, 05, 15, 30 PSI

ACCURACY GRADE
C - COMMERCIAL GRADE
H - HIGH GRADE
PORT OPTION
F - AXIAL
 - MODULAR
PRESSURE REFERENCE
D - DIFFERENTIAL

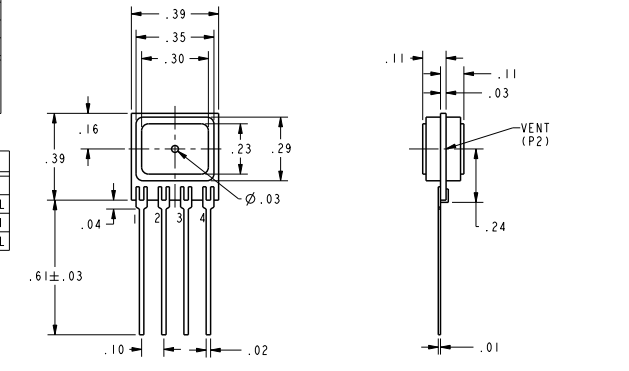
CATALOG LISTINGS

CPCLO4DFC
CPCL10DFC
CPCO_3DFC
CPCO1DFC
CPCO5DFC
CPC15DFC
CPC30DFC
CPCL04DC
CPCO_3DFH
①
CPC150DFC
CPCO1DFH
CPC60DFC

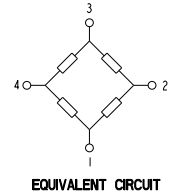
D - STYLE (DIFF)	PERFORMANCE AT 25°C AND 12±0.01 Vdc (UNLESS OTHERWISE STATED)										
	C-GRADE			H-GRADE			UNITS	FULL SCALE PRESSURE PSI	OVER PRESSURE PSI		
	MIN	NOM	MAX	MIN	NOM	MAX					
NULL OFFSET (0 PSIG) (L04 LISTING)	-2	0	2	N/A	N/A	N/A	mV				
NULL OFFSET (0 PSIG), ALL LISTINGS EXCEPT L04	-1	0	1	-0.5	0	0.5	mV				
4 IN H ₂ O (PI>P2) (L04 LISTING)	23	25	27	N/A	N/A	N/A	mVdc	4 IN H ₂ O	3		
4 IN H ₂ O (PI>P2) (SCDA121 CPCL04GFC)	23	25	27	N/A	N/A	N/A	mVdc	4 IN H ₂ O	5		
10 IN H ₂ O (PI>P2) (L10 LISTING)	19	20	21	19.5	20	20.5	mVdc	10 IN H ₂ O	5		
0.3 PSI SPAN (PI>P2)	19	20	21	19.5	20	20.5	mVdc	0.3	5		
1 PSI SPAN (PI>P2)	17	18	19	17.8	18	18.2	mVdc	1	5		
5 PSI SPAN (PI>P2)	57	60	63	59	60	61	mVdc	5	15		
15 PSI SPAN (PI>P2)	85	90	95	89	90	91	mVdc	15	45		
30 PSI SPAN (PI>P2)	85	90	95	89	90	91	mVdc	30	90		
60 PSI SPAN (PI>P2)	85	90	95	89	90	91	mVdc	60	180		
100 PSI SPAN (PI>P2)	95	100	105	99	100	101	mVdc	100	250		
150 PSI SPAN (PI>P2)	85	90	95	89	90	91	mVdc	150	250		
NULL SHIFT OVER TEMPERATURE (0-25, 25-70 °C)	---	---	±1	---	---	±.5	mV				
SPAN SHIFT OVER TEMPERATURE (0-25, 25-70 °C)	---	---	±2	---	---	±.1	% SPAN				
COMBINED LINEARITY AND HYSTERESIS	---	0.25	1	---	0.25	0.5	% SPAN				



DF HOUSING



D HOUSING



EQUIVALENT CIRCUIT

PIN OUT

1	-V EXCITATION
2	+ OUTPUT SIGNAL
3	+ V EXCITATION
4	- OUTPUT SIGNAL

GENERAL OPERATING CHARACTERISTICS

	ALL PRESSURES			UNITS
	MIN	NOM	MAX	
EXCITATION VOLTAGE	3	12	16	Vdc
SUPPLY CURRENT	---	---	3.5	mA
INPUT RESISTANCE	5	---	---	K-OHMS
OUTPUT RESISTANCE	---	3	---	K-OHMS
OPERATING TEMPERATURE	-25	---	85	°C
STORAGE TEMPERATURE	-40	---	125	°C

- NOTES**
- SPAN IS THE ALGEBRAIC DIFFERENCE BETWEEN THE OUTPUT AT FULL SCALE PRESSURE AND THE OFFSET OUTPUT
 - TEMPERATURE ERROR IS CALCULATED WITH RESPECT TO 25°C
 - LINEARITY IS MEASURED AT 1/2 FULL SCALE PRESSURE USING BEST STRAIGHT LINE FIT
 - THE OUTPUT OF THE SENSOR IS PROPORTIONAL, RATIO-METRIC, TO THE EXCITATION VOLTAGE. THE EXCITATION MAY VARY BETWEEN 3 TO 16 Vdc. ALL SPECIFICATIONS WILL NOMINALLY BE CHANGED BY THE RATIO OF V_{EXCITATION}/12.0 Vdc
 - LIMIT SOLDERING TO 315°C FOR LESS THAN 10 SECONDS
 - PIN 1 IS IDENTIFIED BY THE DOT ON THE HOUSING AS SHOWN ON THE VARIOUS DRAWINGS
 - APPLY PRESSURE TO PORT INDICATED ON THE DRAWINGS SHOWN
 - SENSORS ARE OPERATIONAL OVER VACUUM PRESSURE RANGE
 - INPUT MEDIA RESTRICTED TO DRY GASES ONLY
 - THE L04 LISTING HAS A TEMPERATURE SHIFT RANGE FROM 0 TO 25°C AND 25 TO 50°C

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE: <input checked="" type="checkbox"/> DECIMAL <input type="checkbox"/> FRACTION <input type="checkbox"/> MIXED	DRAWN	TSM	6FEBO3
NO PLACE .X ±.040 ±.1	CHECK	CMH	6FEBO3
ONE PLACE .X ±.030 ±0.4	THIS DRAWING COVERS A PROPRIETARY ITEM AND IS THE PROPERTY OF HONEYWELL. THIS DRAWING IS NOT TO BE COPIED OR USED WITHOUT THE PERMISSION OF HONEYWELL.		
TWO PLACE .XX ±.015 ±0.15	TITILE		
THREE PLACE .XXX ±.005 ±	PRESSURE SENSOR		
ANGLES ±	SIZE DWG TYPE		
RAW MATERIAL-COMMERCIAL STANDARD	C I		
THIRD ANGLE PROJECTION	DRAWING NAME		
	CPC DIFF SERIES CHART 1		
	REV		
	8		
	SCALE 3:1		
	WEIGHT		
	SHEET 1 OF 1		