140PC...-PCB Series

Signal conditioned precision pressure transducers

FEATURES

- **1 to 150 psi absolute, gage or differential pressure (custom calibrations available)**
- **1...6 V output**
- **Output ratiometric to supply voltage**
- **Precision temperature compensated and calibrated**
- **Special calibrations for small volumes on request**
- **EMC-proof**

Scale: 1 cm
1 inch

SERVICE

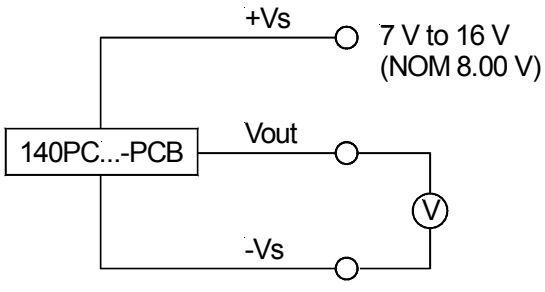
Non-corrosive, non-ionic working fluids, such as dry air and dry gases

SPECIFICATIONS

Maximum ratings

Supply voltage	7...16 V
Maximum load current	
Source	10 mA
Sink	5 mA
Temperature limits	
Storage	-55 to 100°C
Operating	-40 to 85°C
Compensated	0 to 70°C
Lead temperature (10 sec. soldering)	300°C
Humidity limits	
Pressure inlets only	0 - 98 %RH
Proof pressure[1]	
All 1 psi, 3 psi, 5 psi devices	20 psi
All 15 psi devices	30 psi
All 30 psi devices	60 psi
All 100 psi devices	150 psi
All 150 psi devices	200 psi

ELECTRICAL CONNECTION



SENSORTECHNICS www.sensortechnics.com

PERFORMANCE CHARACTERISTICS

(unless otherwise noted V_S = 8.00 ±0.01 V, R_L > 100 kΩ, t_{amb} = 25°C)

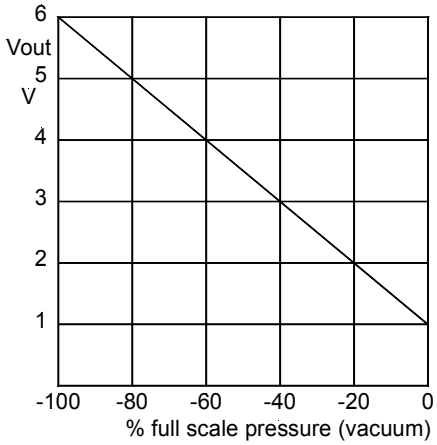
Characteristics		Min.	Typ.	Max.	Unit
Operating pressure					
vacuum gage devices[2]	141PC01G-PCB	-1		0	psig (vacuum)
	141PC05G-PCB	-5		0	
	141PC15G-PCB	-15		0	
	141PC30G-PCB	-30		0	
	141PC100G-PCB	-100		0	
differential devices[3]	142PC01D-PCB	0		1	psid(g)
	142PC05D-PCB	0		5	
	142PC15D-PCB	0		15	
	142PC30D-PCB	0		30	
	142PC100D-PCB	0		100	
	142PC150D-PCB	0		150	
absolute devices[3]	142PC15A-PCB	0		15	psia
	142PC30A-PCB	0		30	
	142PC100A-PCB	0		100	
pressure/vacuum devices[3]	143PC01D-PCB	-1		1	psid(g)
	143PC03D-PCB	-2.5		2.5	
	143PC05D-PCB	-5		5	
	143PC15D-PCB	-15		15	
Zero pressure offset	141PC.../142PC...-PCB	0.95	1.00	1.05	V
	143PC...-PCB	3.45	3.50	3.55	
Full scale span[4]	141PC.../142PC...-PCB	4.95	5.00	5.05	
	143PC...-PCB	2.45	2.50	2.55	
Full scale output		5.90	6.00	6.10	
Output at lowest specified pressure	143PC...-PCB		1.00		
Non-linearity and hysteresis (BSL)[5]			0.1	0.5	%FSO
Thermal effects[6]	all 1 psi devices		±1.5	±3.0	
Combined offset and span (0 to 70°C)	all others		±0.5	±1.0	
Long term stability[7]			±0.1		
Response time (10 to 90%)			0.1		ms
Current consumption			4.5		mA
Radiated, radio frequency electromagnetic field immunity (RFI) EN6100-4-3 grade 3, 80 to 1000 MHz, 80 % AMC (1 KHz)		10			V/m

Specification notes:

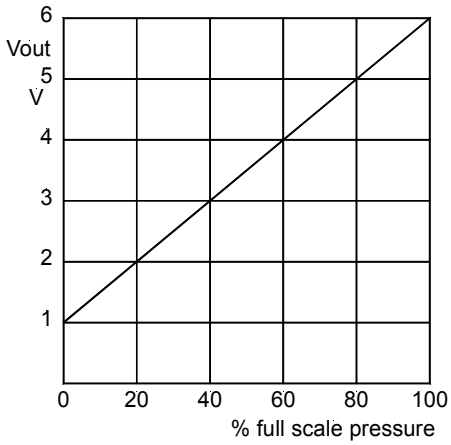
1. Proof pressure is the maximum pressure which may be applied without causing damage to the sensing element.
2. The output signal of all 141PC...-PCB devices is proportional to the vacuum applied to port A, relative to port B, e. g. the output signal increases when pressure is applied to port B relative to port A.
3. The output signal of all 142PC...**D**-PCB and 143PC...**D**-PCB devices is proportional to the pressure applied to port A, relative to port B, e.g. the output signal increases when vacuum is applied to port B relative to port A.
4. Full scale span is the algebraic difference between the positive full scale output and the zero pressure offset.
5. Non-linearity refers to the **B**est **S**traight **L**ine fit measured for offset pressure, full scale pressure and 1/2 full scale pressure.
6. Thermal effects tested and guaranteed from 0 - 70°C relative to 25°C. All specifications shown are relative to 25°C.
7. Change in output after one year or 1 million pressure cycles.

OUTPUT CHARACTERISTICS

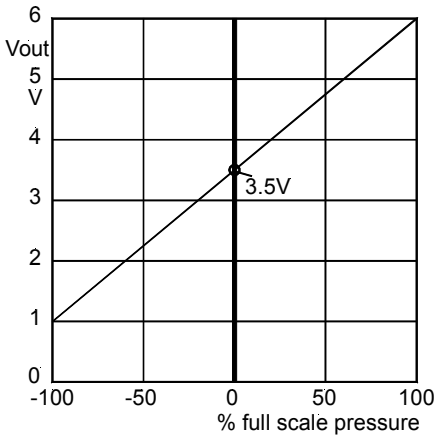
Vacuum gage devices
141PC...-PCB



Differential devices
142PC...-PCB

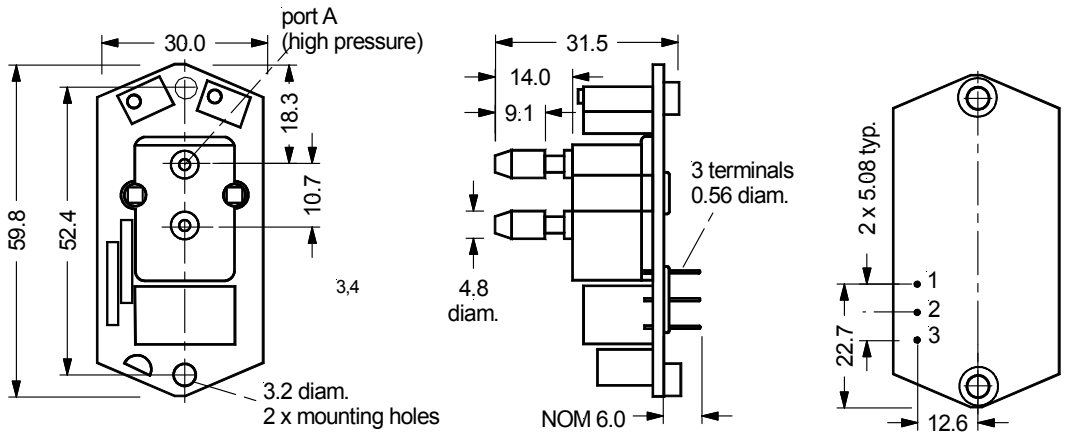


Pressure/vacuum devices
143PC...-PCB



140PC...-PCB Series
Signal conditioned precision pressure transducers

OUTLINE DRAWING



mass: 20 g

pin	connection
1	+Vs
2	-Vs
3	Vout

dimensions in mm

ORDERING INFORMATION

Operating pressure	part number
Vacuum gage devices	
0 to -1 psig	141PC01G-PCB
0 to -5 psig	141PC05G-PCB
0 to -15 psig	141PC15G-PCB
0 to -30 psig	141PC30G-PCB
0 to -100 psig	141PC100G-PCB
Differential / gage devices	
0 to 1 psid(g)	142PC01D-PCB
0 to 5 psid(g)	142PC05D-PCB
0 to 15 psid(g)	142PC15D-PCB
0 to 30 psid(g)	142PC30D-PCB
0 to 100 psid(g)	142PC100D-PCB
0 to 150 psid(g)	142PC150D-PCB
Absolute devices	
0 to 15 psia	142PC15A-PCB
0 to 30 psia	142PC30A-PCB
0 to 100 psia	142PC100A-PCB
Pressure/vacuum devices	
0 to ±1 psid(g)	143PC01D-PCB
0 to ±2.5 psid(g)	143PC03D-PCB
0 to ±5 psid(g)	143PC05D-PCB
0 to ±15 psid(g)	143PC15D-PCB

Custom calibrations available