

# 140PC...-PCB Series

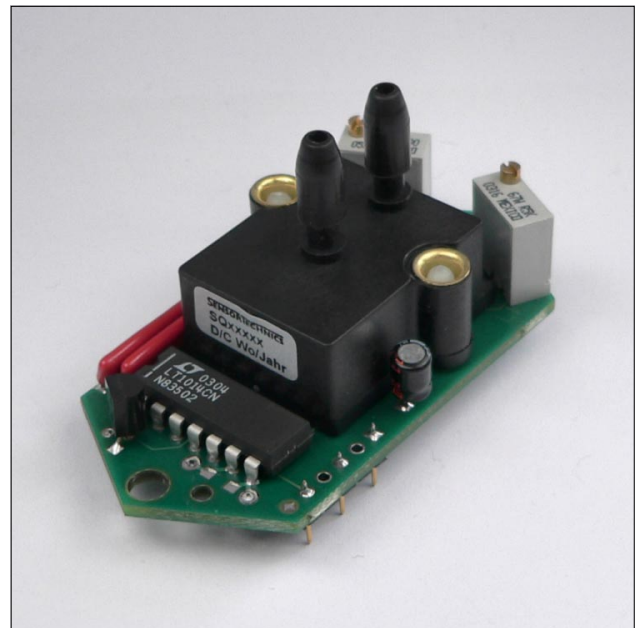
## Signal conditioned precision pressure transducers

### FEATURES

- 1 to 150 psi absolute, gage or differential pressure
- 1...6 V output
- Output ratiometric to supply voltage
- Precision temperature compensated and calibrated
- EMC-proof

### SERVICE

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

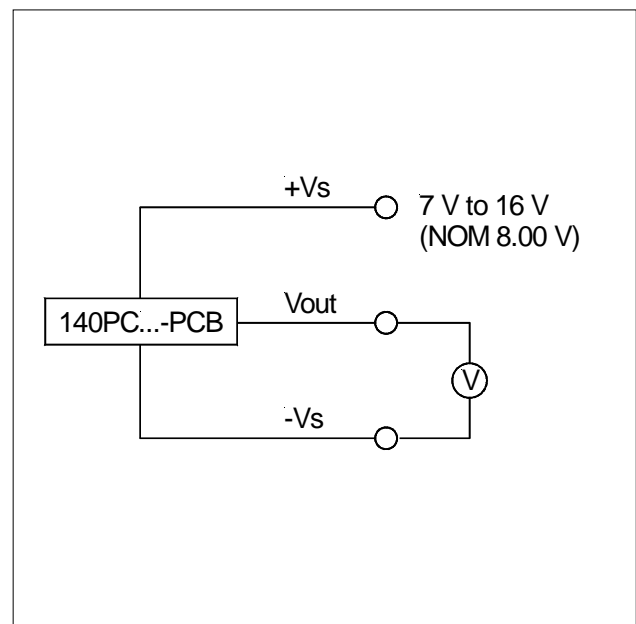


### SPECIFICATIONS

#### 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 <sup>1</sup>	
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



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### PERFORMANCE CHARACTERISTICS

(unless otherwise noted  $V_s = 8.00 \pm 0.01$  V,  $R_L > 100$  k $\Omega$ ,  $t_{amb} = 25^\circ\text{C}$ )

Characteristics		Min.	Typ.	Max.	Unit
Operating pressure					
vacuum gage devices <sup>2</sup>	141PC01G-PCB	-1		0	psig (vacuum)
	141PC05G-PCB	-5		0	
	141PC15G-PCB	-15		0	
	141PC30G-PCB	-30		0	
	141PC100G-PCB	-100		0	
differential devices <sup>3</sup>	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 <sup>3</sup>	142PC15A-PCB	0		15	psia
	142PC30A-PCB	0		30	
	142PC100A-PCB	0		100	
pressure/vacuum devices <sup>3</sup>	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 <sup>4</sup>	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) <sup>5</sup>			0.1	0.5	%FSO
Thermal effects <sup>6</sup>	all 1 psi devices		$\pm 1.5$	$\pm 3.0$	
Combined offset and span (0 to 70°C)	all others		$\pm 0.5$	$\pm 1.0$	
Long term stability <sup>7</sup>			$\pm 0.1$		
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

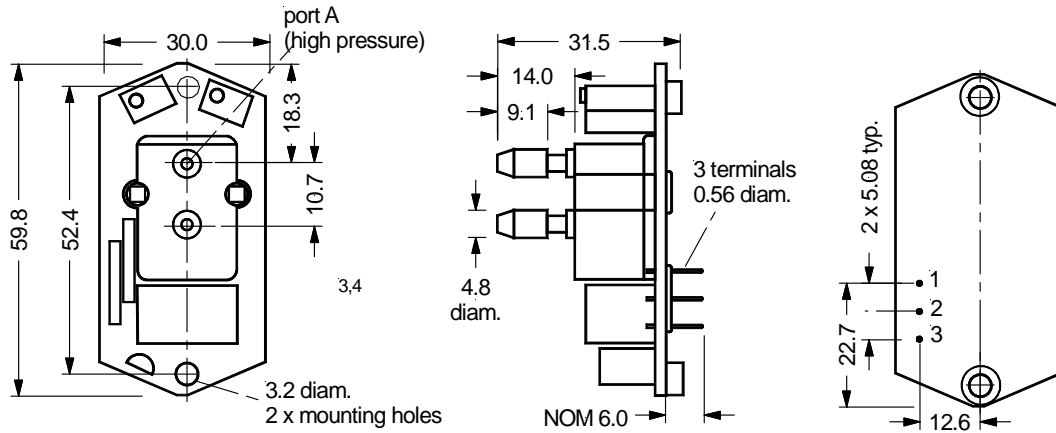
#### Specification notes:

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 **Best Straight Line** 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.

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### OUTLINE DRAWING



mass: 20 g

pin	connection
1	+Vs
2	-Vs
3	Vout

dimensions in mm

### ORDERING INFORMATION

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

Other pressure ranges and calibrations are available on request. Please contact First Sensor.

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