

144L...-PCB Series

Signal conditioned precision pressure transducers

FEATURES

- 5 to 50 mbar, 1 to 20 inH₂O gage or differential pressure
- 0...5 V output
- Internal supply regulation
- Precision temperature compensated and calibrated

SERVICE

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

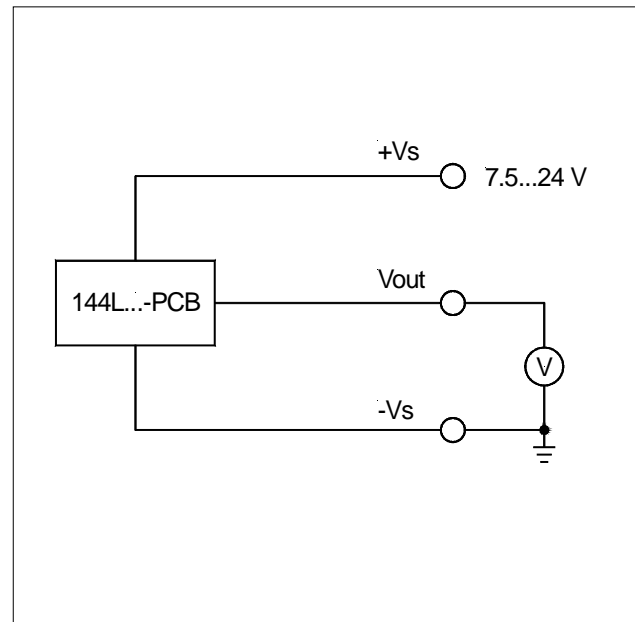


SPECIFICATIONS

Maximum ratings

Supply voltage	7.5...24 V
Maximum load current	
Source	20 mA
Sink	10 mA
Temperature limits	
Storage	-40...100 °C
Operating	-25...85 °C
Compensated	0...50 °C
Humidity limits (non-condensing)	95 %RH
Common mode pressure	
144LP...-PCB	700 mbar
144LU...-PCB	280 inH ₂ O

ELECTRICAL CONNECTION



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PERFORMANCE CHARACTERISTICS³

($V_s = 8\text{ V}$, $R_L > 100\text{ k}\Omega$, $t_{amb} = 25^\circ\text{C}$)

Part number	Operating pressure	Proof pressure ²	Burst pressure ³
144LP05D-PCB	0...5 mbar	250 mbar	500 mbar
144LP10D-PCB	0...10 mbar	500 mbar	750 mbar
144LP20D-PCB	0...20 mbar	500 mbar	750 mbar
144LP50D-PCB	0...50 mbar	500 mbar	1250 mbar
144LU01D-PCB	0...1 inH ₂ O	100 inH ₂ O	200 inH ₂ O
144LU02D-PCB	0...2 inH ₂ O	100 inH ₂ O	200 inH ₂ O
144LU05D-PCB	0...5 inH ₂ O	200 inH ₂ O	300 inH ₂ O
144LU10D-PCB	0...10 inH ₂ O	200 inH ₂ O	300 inH ₂ O
144LU20D-PCB	0...20 inH ₂ O	200 inH ₂ O	500 inH ₂ O

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset		-0.05	0	0.05	V
Full scale span ⁴		4.95	5.0	5.05	
Full scale output			5.0		
Thermal effects (0...50 °C) ⁵	Offset	devices up to 5 mbar/2 inH ₂ O all other devices	±0.04 ±0.02	±0.13 ±0.05	%FSO/°C
	Span	devices up to 5 mbar/2 inH ₂ O all other devices	±0.04 ±0.02	±0.10 ±0.04	
Non-linearity and hysteresis (BSL) ⁶			0.1	0.25	%FSO
Long term stability ⁷			±0.5		%FSO
Response time (10 to 90%)			1		ms
Position sensitivity	144LU01D-PCB		0.5		%FSO/g
	all other devices		0.1		
Power consumption (no load)			70		mW
Power supply rejection	Offset		0.05		%FSO/V
	Span		0.03		

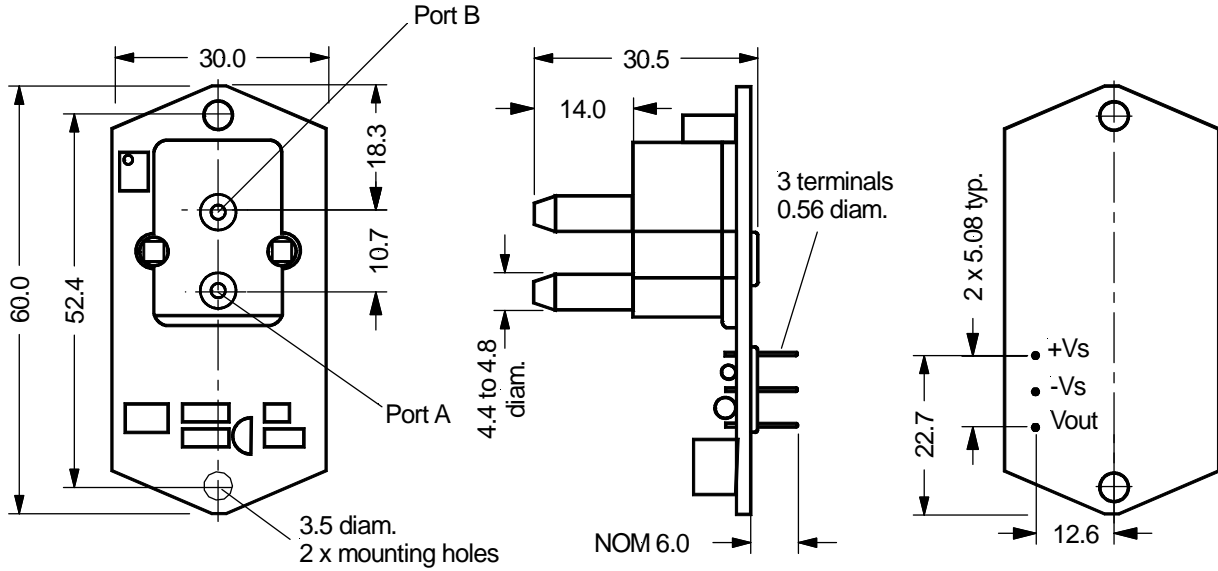
Specification notes:

1. Proof pressure is the maximum pressure which may be applied without causing durable shifts of the electrical parameters of the sensing element.
2. Burst pressure is the maximum pressure which may be applied without causing damage to the sensing element or leaks to the housing.
3. The output signal is proportional to the pressure applied to port B, relative to port A, e.g. the output signal increases when vacuum is applied to port A relative to port B.
4. Full scale span is the algebraic difference between the positive full scale output and the zero pressure offset.
5. Thermal effects tested and guaranteed from 0...50 °C relative to 25 °C. All specifications shown are relative to 25 °C.
6. Non-linearity refers to the **Best Straight Line** fit measured for offset pressure, full scale pressure and 1/2 full-scale pressure.
7. Change in output after one year or 1 million pressure cycles.

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OUTLINE DRAWING³



mass: 20 g

dimensions mm

ORDERING INFORMATION

Operating pressure	Order number
0...5 mbar	144LP05D-PCB
0...10 mbar	144LP10D-PCB
0...20 mbar	144LP20D-PCB
0...50 mbar	144LP50D-PCB
0...1 inH ₂ O	144LU01D-PCB
0...2 inH ₂ O	144LU02D-PCB
0...5 inH ₂ O	144LU05D-PCB
0...10 inH ₂ O	144LU10D-PCB
0...20 inH ₂ O	144LU20D-PCB

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

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