144L...-PCB Series

Signal conditioned precision pressure transducers

FEATURES

- **0...5 to 0...50 mbar, 0...1 to 0...20 "H_2O gage or differential pressure (custom calibrations available)**
- **0...5 V output**
- **Single power supply**
- **Internal supply regulation**
- **Precision temperature compensated and calibrated**

SERVICE

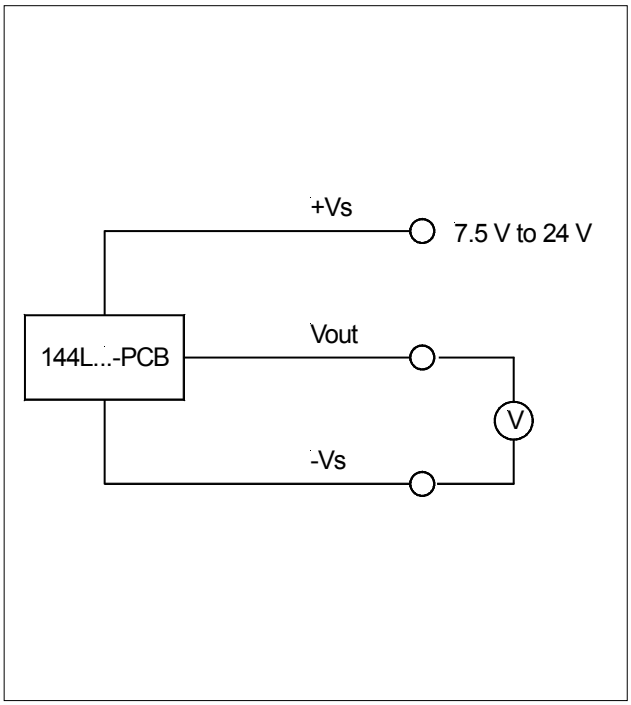
Non-corrosive, non-ionic working fluids, such as dry air and dry gases

SPECIFICATIONS

Maximum ratings

Supply voltage	7.5...24 V
Maximum load current	
source	20 mA
sink	10 mA
Temperature limits	
Storage	-25 to 85°C
Operating	-10 to 70°C
Compensated	0 to 50°C
Lead temperature (10 sec soldering)	300°C
Humidity limits	
pressure inlets only	0 - 95 %RH
Proof pressure[1]	
144LP...-PCB	300 mbar
144LU...-PCB	4 psi
Common mode pressure	
144LP...-PCB	600 mbar
144LU...-PCB	8 psi

ELECTRICAL CONNECTION



PERFORMANCE CHARACTERISTICS

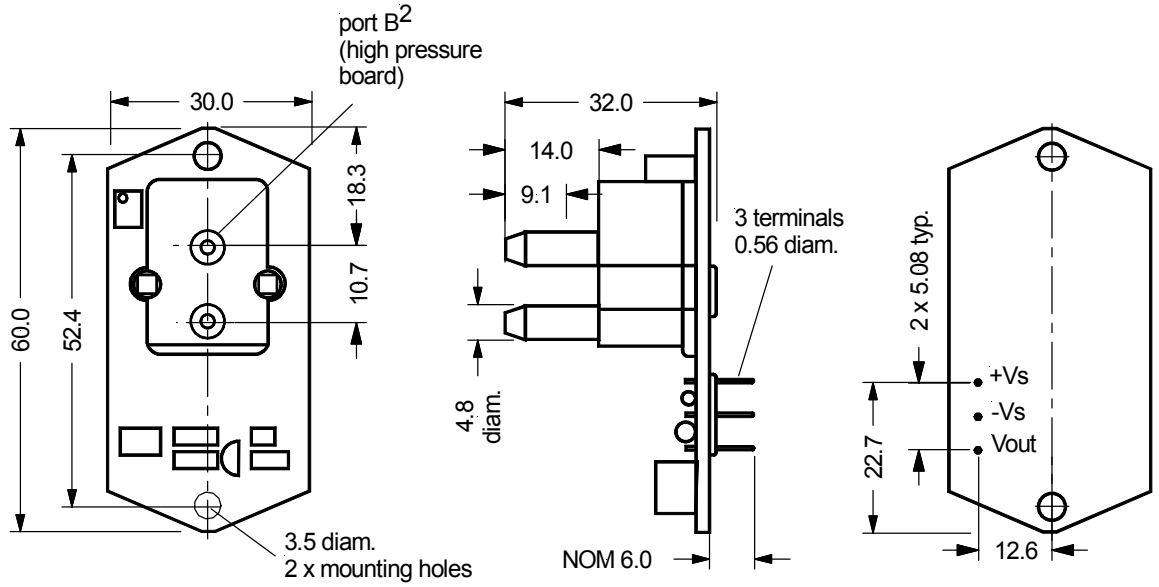
(unless otherwise noted V_S = 8 V, R_L > 100 kΩ, t_{amb} = 25°C)

Characteristics			Min.	Typ.	Max.	Unit
Operating pressure[2]		144LP05D-PCB 144LP10D-PCB 144LP20D-PCB 144LP50D-PCB	0 0 0 0		5 10 20 50	mbar
		144LU01D-PCB 144LU02D-PCB 144LU05D-PCB 144LU10D-PCB 144LU20D-PCB	0 0 0 0 0		1 2 5 10 20	"H_2O
Zero pressure offset			-0.05	0	0.05	V
Full scale output			4.9	5.0	5.1	
Full scale span[3]				5.0		
Thermal effects (0 to 50°C)[4]	Offset	144LU01D-PCB 144LU02D-PCB 144LP05D-PCB all other devices		±0.05 ±0.02 ±0.02 ±0.01	±0.15 ±0.07 ±0.07 ±0.03	%FSO/°C
	Span	144LU01D-PCB all other devices		±0.05 ±0.02	±0.10 ±0.04	%FSO
Non-linearity and hysteresis (BSL)[5]				0.1	0.5	
Long term stability[6]				±0.2		
Response time (10 to 90%)				200		µs
Position sensitivity		144LU01D-PCB all other devices		0.5 0.1		%FSO/g
Current consumption				4.2		mA
Power supply rejection	Offset Span			0.05 0.03		%FSO/V

Specification notes:

1. Proof pressure is the maximum pressure which may be applied without causing damage to the sensing element.
2. 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.
3. Full scale span is the algebraic difference between the positive full scale output and the zero pressure offset.
4. 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.
5. Thermal effects tested and guaranteed from 0 to 50°C relative to 25°C. All specifications shown are relative to 25°C.
6. Change in output after one year or 1 million pressure cycles.

OUTLINE DRAWING



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 "H_2O	144LU01D-PCB
0...2 "H_2O	144LU02D-PCB
0...5 "H_2O	144LU05D-PCB
0...10 "H_2O	144LU10D-PCB
0...20 "H_2O	144LU20D-PCB

Custom calibrations available