

24PC Series *(mbar)*

Unamplified, uncompensated pressure sensors

FEATURES

- 0...50 mbar to 0...16 bar gage or differential
- High impedance bridge
- Miniature package
- Different pinning configurations
- Usable for wet/wet applications⁸

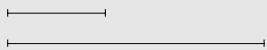
SERVICE

All media compatible with

port 1: - polyetherimide
- silver-filled silicone
- silicon nitride

port 2⁹: - polyetherimide
- fluor-silicone
- silicon



Scale:  1 cm
1 inch

SPECIFICATIONS

Maximum ratings

Supply voltage 12 V

Temperature limits
Storage -55 to +100°C
Operating -40 to +85°C

Lead temperature (10 sec. soldering) 300°C

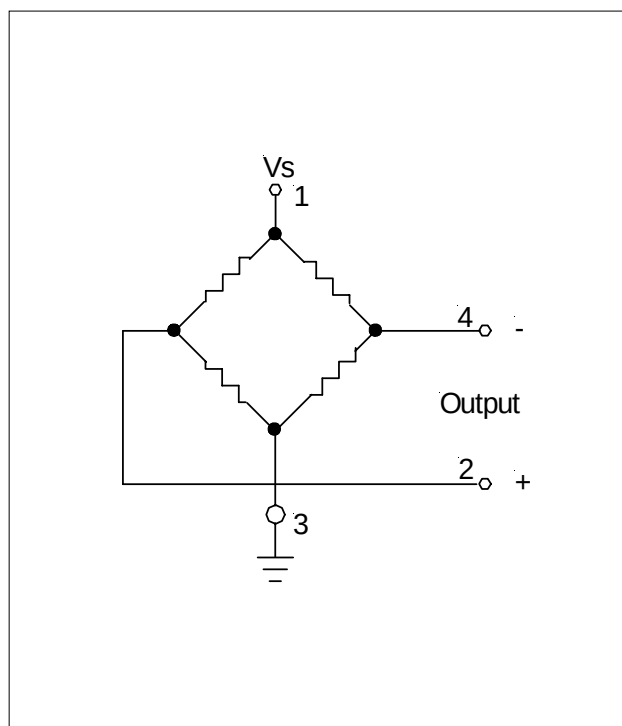
Humidity limits 0...100 %RH

Vibration (0 to 2000 Hz)
(qualification tested) 20 g sine

Mechanical shock (qualification tested) 150 g

Proof pressure¹
all 50, 100 and 250 mbar devices 1.4 bar
all 1 bar devices 3 bar
all 2 bar devices 4 bar
all 5 bar devices 12 bar
all 10 and 16 bar devices 35 bar

ELECTRICAL CONNECTION



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PRESSURE SENSOR CHARACTERISTICS

$V_s = 10.0 \pm 0.01 \text{ V}$, $t_{\text{amb}} = 25^\circ\text{C}$ (unless otherwise noted)

Part number	Operating pressure	Full-scale span ²			Sensitivity typ.
		Min.	Typ.	Max.	
24PC0050xxA	0 - 50 mbar	21 mV	33 mV	44 mV	660 $\mu\text{V}/\text{mbar}$
24PC0100xxA	0 - 100 mbar	44 mV	66 mV	88 mV	660 $\mu\text{V}/\text{mbar}$
24PC0250xxA	0 - 250 mbar	61 mV	83 mV	105 mV	333 $\mu\text{V}/\text{mbar}$
24PC01K0xxA	0 - 1 bar	159 mV	218 mV	276 mV	220 $\mu\text{V}/\text{mbar}$
24PC02K0xxA	0 - 2 bar	232 mV	320 mV	410 mV	160 $\mu\text{V}/\text{mbar}$
24PC05K0xxA	0 - 5 bar	113 mV	163 mV	215 mV	32.6 $\mu\text{V}/\text{mbar}$
24PC10K0xxA	0 - 10 bar	84 mV	123 mV	163 mV	12.3 $\mu\text{V}/\text{mbar}$
24PC16K0xxA	0 - 16 bar	134 mV	197 mV	260 mV	12.3 $\mu\text{V}/\text{mbar}$

COMMON PERFORMANCE CHARACTERISTICS

$V_s = 10.0 \pm 0.01 \text{ V}$, $t_{\text{amb}} = 25^\circ\text{C}$ (unless otherwise noted)

Characteristics	Min.	Typ.	Max.	Unit
Zero pressure offset	-30		+30	mV
Temperature effects (0 - 50°C) ⁴	Offset	±2.0		
	Span	-2000		ppm/°C
Temperature effects on bridge impedance ⁴		+2200		
Linearity (P2 > P1, BSL) ³		±0.25	±1.0	% span
Repeatability and hysteresis ⁵		±0.15		
Long term stability ⁷		±0.5		
Input impedance	4.0	5.0	6.0	kΩ
Output impedance	4.0	5.0	6.0	
Response time ⁶			1.0	ms

Specification notes:

1. The maximum specified pressure which may be applied to the sensor without causing a permanent change in the output characteristics.
2. Span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure. Span is ratiometric to the supply voltage.
3. Linearity (BSL), the deviation of measured output at constant temperature (25°C) from "Best Straight Line" determined by three points, offset pressure, full-scale pressure and half full-scale pressure.

$$\left[V_{\frac{1}{2} \text{ full scale}} - \left\{ \frac{V_{\text{full scale}} - V_{\text{offset}}}{(\text{full scale pressure})} \times (\frac{1}{2} \text{ full scale pressure}) + V_{\text{offset}} \right\} \right] : 2 (V_{\text{full scale}}) \times 100 \%$$

where: V = measured value for each device

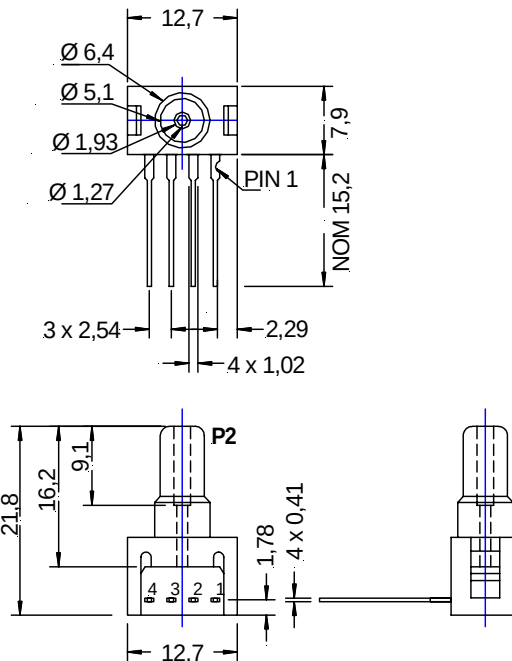
4. Error band of the offset voltage, span or bridge impedance in the specified temperature range, relative to the 25°C reading.
5. Repeatability, the deviation in output readings for successive application of any given input pressure (all other conditions remaining constant). Hysteresis, the error defined by the deviation in output signal obtained when a specific pressure point is approached first with increasing pressure, then with decreasing pressure or vice versa (all other conditions remaining constant).
6. Response time for 0 to full-scale pressure step change, readings taken at 10 % and 90 % of full-scale pressure.
7. Long term stability of offset and span over a period over one year.
8. The sensors might be used on both ports, for media compatible with the components, specified under "Service" (page 1).
9. **Other sealing materials are available on request.** Minimum order quantities might be required.
10. **Other pressure port styles, like barbed ones, luers, modular, M5, needle style or flow through connection, are available on request.** For these specials see the data sheet "24/26PC specials". Minimum order quantities might be required, call Sensorteknics for assistance.

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OUTLINE DRAWINGS¹⁰

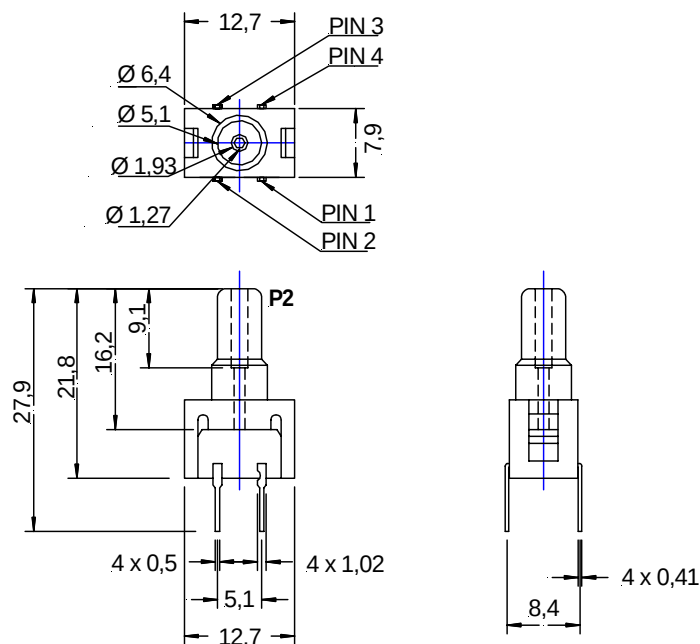
24PCxxxxG6A (single inline pinning, 1 x 4), *gage pressure devices*



mass: 2 g

dimensions in mm

24PCxxxxG2A (dual inline pinning, 2 x 2), *gage pressure devices*



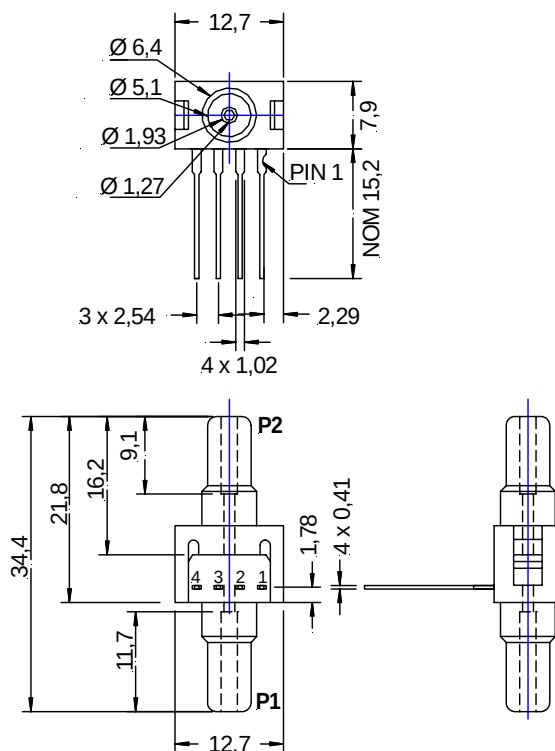
mass: 2 g

dimensions in mm

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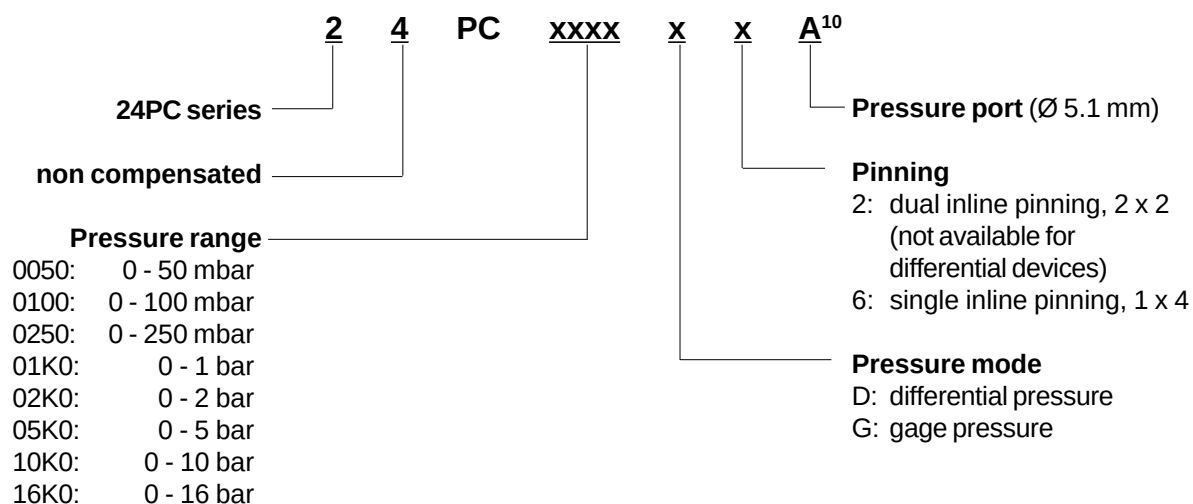
24PCxxxD6A (single inline pinning, 1 x 4), differential pressure devices



mass: 2 g

dimensions in mm

ORDERING INFORMATION



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