

**4-20 mA PRESSURE SENSOR
PC18 CH & PCT18 CH Models**

- ◆ Technology : **Thick Film Strain Gage On Ceramic**
+ Pt 1000 Platinum Probe

Dual (P + T) simultaneous measurements (PCT18CH Model)

4-20 mA, 2 wires, Sensor + Electronics Circuit

Easy transmitters manufacturing

Operating temperature range - 20 to + 85°C

Zero and Span adjustments

18 mm Diameter
0...1 to 0...600 bar
Absolute and Gage Pressure

All applications
All aggressive media (★)

Presentation

The PC18 CH & PCT18 CH Sensors have been especially designed in order to facilitate the pressure transmitters manufacturing. They feature a 4-20 mA current output, in a 2 wires configuration and are **protected against reverse polarity and transient voltage**. A ground connection is available on a 3rd pin. In that new version, an additional Pt1000 Ω platinum probe allows the measurement of the temperature of the fluid at the same place (PCT18 CH Version).

Those models are temperature compensated, regarding both Zero Drift and Sensitivity Shift, by means of a Thick Film Thermistor screen printed onto the ceramic base plate. This allows an efficient and short temperature compensation response time.

It can be used with an unregulated excitation voltage from **9 to 30 Vdc**.

Available in both Absolute or Gage pressure configurations from 1 bar Full Scale up to 600 bar Full Scale.

- Custom solutions up to 1000 bar available on request.

◆ Transducers Manufacturing - Industrial Equipment

◆ Main Applications : Pneumatic, hydraulic, water depth measurement, medical, pharmaceutical, food industry...

Mechanical specification:

MODELS	Rated Range (bar)	Burst Pressure (bar)
• PC18 CH / PCT18 CH – 1	0...1	4
• PC18 CH / PCT18 CH – 2	0...2	5
• PC18 CH / PCT18 CH – 5	0...5	12
• PC18 CH / PCT18 CH – 10	0...10	25
• PC18 CH / PCT18 CH – 20	0...20	50
• PC18 CH / PCT18 CH – 50	0...50	125
• PC18 CH / PCT18 CH – 100	0...100	250
• PC18 CH / PCT18 CH – 200	0...200	400
• PC18 CH / PCT18 CH – 400	0...400	700
• PC18 CH / PCT18 CH – 600	0...600	800

Combined Error (Linearity + Hysteresis) $\leq \pm 0.3\%$ FS [Terminal based] [FS: 0...2 bar to 0...50 bar]
 $\leq \pm 0.4\%$ FS [Terminal based] [FS: 0...1 bar, 0...100 to 0...600 bar]
 Repeatability $\leq \pm 0.1\%$ FS

- (★) Except hydrofluoric acid

RoHS Compliant
Directive 2002/95/EC

Specification subject to change without prior notice

4-20 mA PRESSURE SENSOR PC18 CH & PCT18 CH Models

Electrical specification: (Continued)

▣ **PRESSURE**

- Excitation voltage [Vs] 9...30 Vdc
- Resistor Load [Ω] $RL = (Vs - 9) / 0.02 A$
- Power consumption 0.6 W
- Output signal 4 -20 mA (Zero & Span adjustable by potentiometers)

▣ **TEMPERATURE (PCT18 CH Model only)**

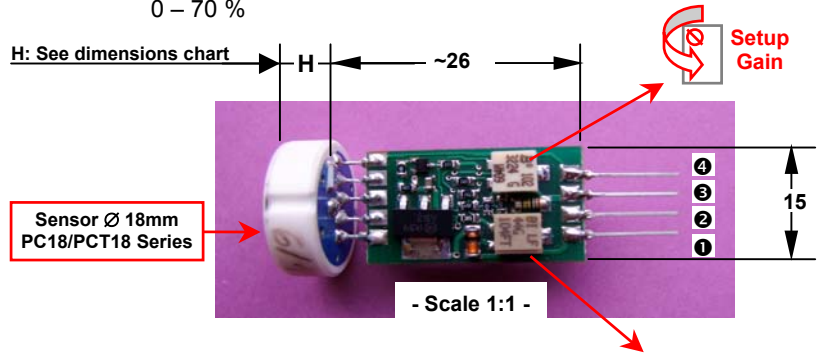
- Pt 1000 Probe 1000 Ω at 0 °C / Class B
- Sensitivity Coefficient + 3850 ppm / °C
- Norm Conformity to IEC 751 / EN 60751

Environmental specification:

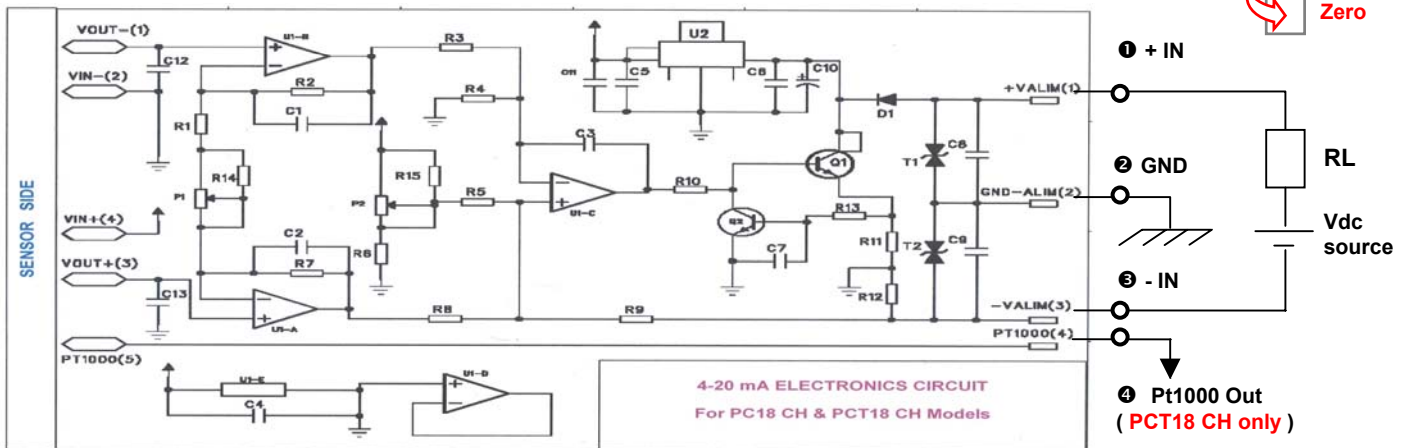
- Material in contact with fluid Alumina Al₂O₃ – 96%
- Operating temperature range (Fluid) - 25 to + 125°C
- Operating temperature range (Ambient) - 25 to + 85°C
- Storage temperature range - 40 to + 105°C
- Residual Temperature effect (Zero + Span) ≤ ± 0.03% FS /°C [Ranges 5 bar up to 600 bar]
≤ ± 0.04% FS /°C [Range 1 bar & 2 bar]
- Relative Humidity (Absolute Sensor) 0 – 100 %
- Relative Humidity (Gage/Relative Sensor) 0 – 70 %

Dimensions (mm):

Thickness of PC 18 / PCT18 Sensors			
FS (bar)	H (mm)	FS (bar)	H (mm)
1	5.18 +/- 0.08	50	5.65 +/- 0.10
2	5.25 +/- 0.08	100	5.95 +/- 0.10
5	5.25 +/- 0.08	200	6.25 +/- 0.10
10	5.33 +/- 0.08	400	6.85 +/- 0.10
20	5.45 +/- 0.08	600	7.15 +/- 0.10



Schematic Diagram:



◆ **Ordering Code:**

PC18 CH – XXX – X

- Model (PC18 or PCT18 version) ↑
- Pressure range (in bar) ↑
- Pressure measurement (Absolute) A ↑
- (Gage/Rel.) R ↑

- Important Notice:

- ▣ Refer to Inst01 (PC/PCT18 - Instruction For Use)
- ▣ Additional Info : Please consult our Technical Notes on www.citysensors.com

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