

PC30 Pressure Sensor with Thread



- Piezoresistive silicon chip employed
- Perfect long term stability
- MEMS technology
- Sensor diameter: 19mm

PC30 pressure sensor is a standard and popular sensor applied in air and liquid pressure measuring. A high sensitivity silicon pressure chip is employed in the sensor. The housing is filled with oil for pressure transmission. The most important specification for industry application is long term stability. The PC30 sensor is designed for industry application with perfect long term stability.

Diaphragm and pressure range

The diaphragm diameter has tight relation with pressure measured. Low pressure requires large diameter and high pressure needs small diameter. This is caused by oil expansion during temperature changing. It creates internal pressure due to the resistance of the diaphragm. The smaller diaphragm will create large internal pressure, and it is difficult to make zero compensation.

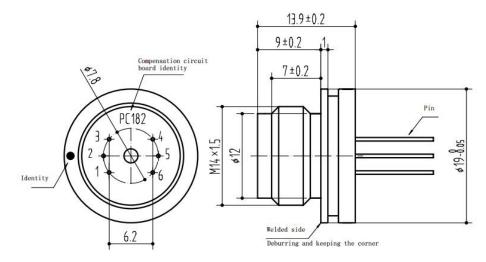
Caution

Please do not touch the diaphragm by finger and other hard objects, or it may be damaged.



Pressure range 1MPa, 1.6MPa, 2.5MPa, 4MPa, 6MPa, 10MPa, 16MPa, 25MPa, 40MPa, 60MPa, 100MPa (bar and psi u available) Pressure reference Absolute pressure Sealed gauge pressure Output signal 300%F.S.(s70Kpa) 200%F.S.(<25Mpa) 150%F.S.(≥25Mpa) Output signal ±2mV Zero output ±2mV Span output ≥60mV Span output ≥60mV Span output ±025%F.S. (Typical) and hysteresis) ±0.25%F.S. (Typical) Excitation 1.5mA (Typical) Compensated temp. -10°C -70°C Operating temp. -40°C -125°C Storage temp. -40°C -125°C Zero temp. coefficient 0.02%F.S./°C(≥100kPa) 0.04%F.S./°C(<100kPa) Span temp. coefficient 0.02%F.S./°C(≥100kPa) 0.04%F.S./°C(<100kPa) Insulation resistance >200Mhm/250VDC Input impedance 2kΩ-5kΩ Long term stability 20 2%F.S.S./year Vibration 20 (20-500Hz) Oil filling Silicon oil O-ring NBR, Viton Housing and diaphragm Stainless steel 316L Wire conne	Pressure range				
Overpressure 300%F.S.(<25Mpa)	Pressure range	1MPa, 1.6MPa, 2.5MPa, 4MPa, 6MPa, 10MPa, 16MPa, 25MPa, 40MPa, 60MPa, 100MPa (bar and psi unit available)			
Output signal ±2mV Span output ≥60mV Specification ±0.25%F.S. (Typical) Accuracy (linearity, repeatability and hysteresis) ±0.25%F.S. (Typical) Excitation 1.5mA (Typical) Compensated temp. -10°C -70°C Operating temp. 40°C -125°C Storage temp. -40°C -125°C Zero temp. coefficient 0.02%F.S./°C(≥100kPa) 0.04%F.S./°C(<100kPa)	Pressure reference	Absolute pressure Sealed gauge pressure			
Zero output $\pm 2mV$ Span output $\ge 60mV$ Specification $\pm 0.25\% F.S. (Typical)$ Accuracy (linearity, repeatability and hysteresis) $\pm 0.25\% F.S. (Typical)$ Excitation $1.5mA (Typical)$ Compensated temp. $-10^{\circ}C - 70^{\circ}C$ Operating temp. $-40^{\circ}C \cdot 125^{\circ}C$ Storage temp. $-40^{\circ}C \cdot 125^{\circ}C$ Zero temp. coefficient $0.02\% F.S./^{\circ}C (<100 kPa) = 0.04\% F.S./^{\circ}C (<100 kPa)$ Span temp. coefficient $0.02\% F.S./^{\circ}C (<100 kPa) = 0.04\% F.S./^{\circ}C (<100 kPa)$ Insulation resistance $\ge 200 Mom/250 VDC$ Input impedance $2k\Omega - 5k\Omega$ Long term stability $50.2\% F.S./year$ Vibration $20g (20-5000 Hz)$ Oil fillingSilicon oilO-ringNBR, VitonHousing and diaphragmStainless steel 316LWire connection4 wire (typical) 5 wire (available) $39 \times \varphi 0.015$, Silicon shielded, 200°C bearing	Overpressure	300%F.S.(≤70Kpa) 200%F.S.(<25Mpa) 150%F.S.(≥25Mpa)			
Span output ≥60mV Specification Accuracy (linearity, repeatability and hysteresis) ±0.25%F.S. (Typical) Excitation 1.5mA (Typical) Compensated temp. -10°C - 70°C Operating temp. -40°C - 125°C Storage temp. -40°C - 125°C Zero temp. coefficient 0.02%F.S./°C(<100kPa) 0.04%F.S./°C(<100kPa)	Output signal				
Specification Accuracy (linearity, repeatability and hysteresis) ±0.25%F.S. (Typical) Excitation 1.5mA (Typical) Compensated temp. -10°C -70°C Operating temp. -40°C -125°C Storage temp. -40°C -125°C Zero temp. coefficient 0.02%F.S./°C(≥100kPa) [0.04%F.S./°C(<100kPa)	Zero output	±2mV			
Accuracy (linearity, repeatability and hysteresis)±0.25%F.S. (Typical)Excitation1.5mA (Typical)Compensated temp10°C -70°COperating temp40°C -125°CStorage temp40°C -125°CZero temp. coefficient0.02%F.S./°C(<100kPa) 0.04%F.S./°C(<100kPa)	Span output	≥60mV			
and hysteresis)InterferenceExcitation1.5mA (Typical)Compensated temp10°C -70°COperating temp40°C -125°CStorage temp40°C -125°CZero temp. coefficient0.02%F.S./°C(≥100kPa) 0.04%F.S./°C(<100kPa)	Specification				
Excitation1.5mA (Typical)Compensated temp10°C -70°COperating temp40°C -125°CStorage temp40°C -125°CZero temp. coefficient0.02%F.S./°C(≥100kPa) 0.04%F.S./°C(<100kPa)	Accuracy (linearity, repeatability	±0.25%F.S. (Typical)			
Compensated temp. -10° C -70°COperating temp. -40° C -125°CStorage temp. -40° C -125°CZero temp. coefficient 0.02% F.S./°C(≥100kPa) 0.04% F.S./°C(<100kPa)	and hysteresis)				
Operating temp. $-40^{\circ}\text{C} - 125^{\circ}\text{C}$ Storage temp. $-40^{\circ}\text{C} - 125^{\circ}\text{C}$ Zero temp. coefficient $0.02\%\text{F.S./}^{\circ}\text{C}(\geq 100\text{kPa}) 0.04\%\text{F.S./}^{\circ}\text{C}(<100\text{kPa})$ Span temp. coefficient $0.02\%\text{F.S./}^{\circ}\text{C}(\geq 100\text{kPa}) 0.04\%\text{F.S./}^{\circ}\text{C}(<100\text{kPa})$ Insulation resistance $> 200\text{Mohm/}250\text{VDC}$ Input impedance $2\text{k}\Omega$ -5k Ω Long term stability $< 0.2\%\text{F.S.S./year}$ Vibration $20g$ (20-5000Hz)Oil fillingSilicon oilO-ringNBR, VitonHousing and diaphragmStainless steel 316LWire connection4 wire (typical) 5 wire (available) $39 \times \phi 0.015$, Silicon shielded, 200°C bearing	Excitation	1.5mA (Typical)			
Storage temp. -40° C -125°CZero temp. coefficient 0.02% F.S./°C(≥100kPa) 0.04% F.S./°C(<100kPa)	Compensated temp.	-10°C -70°C			
Zero temp. coefficient $0.02\%F.S./°C(\geq 100kPa) 0.04\%F.S./°C(<100kPa)$ Span temp. coefficient $0.02\%F.S./°C(\geq 100kPa) 0.04\%F.S./°C(<100kPa)$ Insulation resistance $>200Mohm/250VDC$ Input impedance $2k\Omega-5k\Omega$ Long term stability $\leq 0.2\%F.S.S./year$ Vibration $20g (20-5000Hz)$ Oil fillingSilicon oilO-ringNBR, VitonHousing and diaphragmStainless steel 316LWire connection4 wire (typical) 5 wire (available) $39 \times \phi 0.015$, Silicon shielded, 200°C bearing	Operating temp.	-40°C -125°C			
Span temp. coefficient 0.02% F.S./°C(≥100kPa) 0.04% F.S./°C(<100kPa)Insulation resistance>200Mohm/250VDCInput impedance $2k\Omega$ -5kΩLong term stability< 0.2% F.S.S./yearVibration20g (20-5000Hz)Oil fillingSilicon oilO-ringNBR, VitonHousing and diaphragmStainless steel 316LWire connection4 wire (typical) 5 wire (available)39× ϕ 0.015, Silicon shielded, 200°C bearing	Storage temp.	-40°C -125°C			
Insulation resistance >200Mohm/250VDC Input impedance 2kΩ-5kΩ Long term stability ≤0.2%F.S.S./year Vibration 20g (20-5000Hz) Oil filling Silicon oil O-ring NBR, Viton Housing and diaphragm Stainless steel 316L Wire connection 4 wire (typical) 5 wire (available) 39×φ0.015, Silicon shielded, 200°C bearing	Zero temp. coefficient	0.02%F.S./ºC(≥100kPa) 0.04%F.S./ºC(<100kPa)			
Input impedance 2kΩ-5kΩ Long term stability ≤0.2%F.S.S./year Vibration 20g (20-5000Hz) Oil filling Silicon oil O-ring NBR, Viton Housing and diaphragm Stainless steel 316L Wire connection 4 wire (typical) 5 wire (available) 39×φ0.015, Silicon shielded, 200°C bearing	Span temp. coefficient	0.02%F.S./ºC(≥100kPa) 0.04%F.S./ºC(<100kPa)			
Long term stability ≤0.2%F.S.S./year Vibration 20g (20-5000Hz) Oil filling Silicon oil O-ring NBR, Viton Housing and diaphragm Stainless steel 316L Wire connection 4 wire (typical) 5 wire (available) 39×φ0.015, Silicon shielded, 200°C bearing	Insulation resistance	>200Mohm/250VDC			
Vibration20g (20-5000Hz)Oil fillingSilicon oilO-ringNBR, VitonHousing and diaphragmStainless steel 316LWire connection4 wire (typical) 5 wire (available)39×φ0.015, Silicon shielded, 200°C bearing	Input impedance	2kΩ-5kΩ			
Oil filling Silicon oil O-ring NBR, Viton Housing and diaphragm Stainless steel 316L Wire connection 4 wire (typical) 5 wire (available) 39×φ0.015, Silicon shielded, 200°C bearing	Long term stability	≤0.2%F.S.S./year			
O-ring NBR, Viton Housing and diaphragm Stainless steel 316L Wire connection 4 wire (typical) 5 wire (available) 39×φ0.015, Silicon shielded, 200°C bearing	Vibration	20g (20-5000Hz)			
Housing and diaphragmStainless steel 316LWire connection4 wire (typical) 5 wire (available)39×φ0.015, Silicon shielded, 200°C bearing	Oil filling	Silicon oil			
Wire connection 4 wire (typical) 5 wire (available) 39×φ0.015, Silicon shielded, 200°C bearing	O-ring	NBR, Viton			
	Housing and diaphragm	Stainless steel 316L			
Pin connection Kovar pin (0.6um Gold platted)	Wire connection	4 wire (typical) 5 wire (available) 39×φ0.015, Silicon shielded, 200°C bearing			
	Pin connection	Kovar pin (0.6um Gold platted)			







1.5mA supply with temperature compensation

Pin	Connection
1 and 6	Pending
2	Output+
3	Excitation+
4	Output-
5	Excitation-

5V supply with temperature compensation

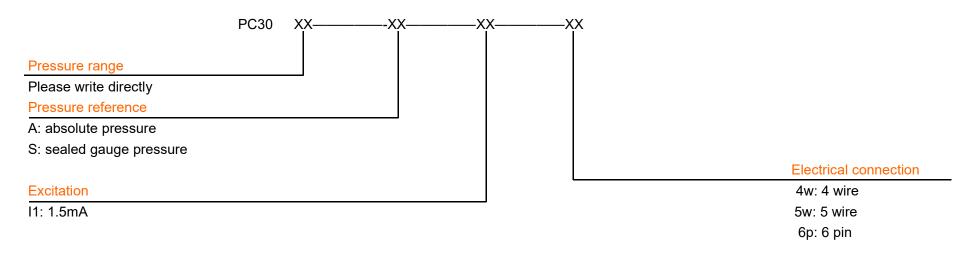
Pin	Connection
1 or 6	Excitation+
2	Output+
3	Excitation+
4	Output-
5	Pending

Without temperature compensation

Pin	Connection
1 and 6	Excitation+
2	Output+
3	Excitation+
4	Output-
5	Pending



How to order



Wotian reserves the right to make any change in this publication without notice. The information provided is believed to be accurate and reliable as of this product sheet.

Contact us

Nanjing Wotian Technology Co.,Ltd. website: www.wtsensor.com Add: 5 Wenying Road, Binjiang Development Zone, Nanjing, 211161, China Sales Manager: Wuzhou Lian

Email: lianwuzhou@wtsensorus.com