
AC10(WT19) Industrial Pressure Sensor



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

AC10(WT19) industrial pressure sensor is a standard and most 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 sensor is designed for industry application with perfect long term stability.

Diaphragm and pressure range

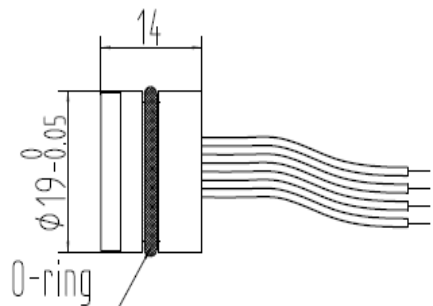
The diaphragm diameter has tight relation with pressure measured. Low pressure requires large diameter and high pressure needs small diameter. This is caused by oil expansion during temperature changing. It creates internal pressure due to the resistance of the diaphragm. The smaller diaphragm will create 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			
Pressure range	-100kPa, 10kPa, 35kPa, 70kPa, 100kPa, 250kPa, 400kPa, 600kPa, 1MPa, 1.6MPa, 2.5MPa, 4MPa, 6MPa, 10MPa, 16MPa, 25MPa, 40MPa, 60MPa, 100MPa(bar and psi unit available)		
Pressure reference	Gauge pressure Absolute pressure Sealed gauge pressure		
Overpressure	300%F.S.($\leq 70\text{kPa}$) 200%F.S.($< 25\text{Mpa}$) 150%F.S.($\geq 25\text{Mpa}$)		
Output signal			
Zero output	$\pm 2\text{mV}$		
Span output	100mV(Typical) 60mV($< 100\text{kPa}$)		
Specification			
Accuracy (linearity, repeatability and hysteresis)	$\pm 0.25\% \text{F.S. (Typical)}$		
Excitation	1.5mA (Typical) 5VDC 10VDC		
Compensated temp.	$-10-70^{\circ}\text{C}$ (Typical) $0-60^{\circ}\text{C}$ ($< 100\text{kPa}$)		
Operating temp.	$-40-125^{\circ}\text{C}$		
Storage temp.	$-40-125^{\circ}\text{C}$		
Zero temp. coefficient	0.02%F.S./ $^{\circ}\text{C}$ ($\geq 100\text{kPa}$) 0.04%F.S./ $^{\circ}\text{C}$ ($< 100\text{kPa}$)		
Span temp. coefficient	0.02%F.S./ $^{\circ}\text{C}$ ($\geq 100\text{kPa}$) 0.04%F.S./ $^{\circ}\text{C}$ ($< 100\text{kPa}$)		
Insulation resistance	$> 200\text{Mohm}/250\text{VDC}$		
Bridge resistance	Min.	Max.	Unit
	2600	5500	ohm
Long term stability	$\leq 0.2\% \text{F.S.}/\text{year}$		
Vibration	20g (20-5000HZ)		
Shock	100g, 10ms		
Response time	$\leq 1\text{ms}$ (10% to 90%F.S.)		
Lifetime	10^*10^6 (cycles)		
Oil filling	Silicon oil (Typical) Olive oil available for sanitary application		
O-ring	NBR, Viton		
Housing and diaphragm	Stainless steel 316L		
Wire connection	4 wire (typical) 5 wire (available)	39 $\times\phi 0.015$, Silicon shielded, 200 $^{\circ}\text{C}$ bearing	
Pin connection	Kovar pin (0.6um Gold plated)		
Weight	30g(approx)		

Wire connection



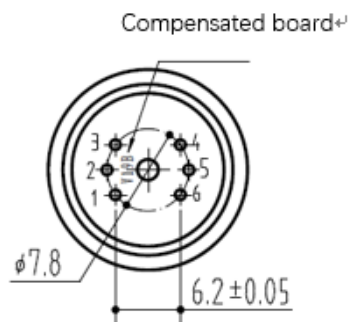
In mm

Wire	Connection
red	excitation+
blue	excitation-
yellow	output+
white	output-

Pin connection

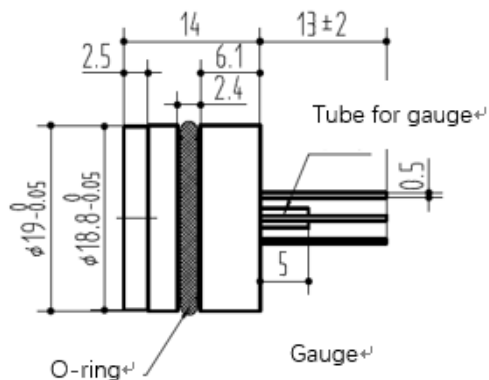
Pressure range: $\leq 10\text{MPa}$

Pressure range: $> 10\text{MPa}$



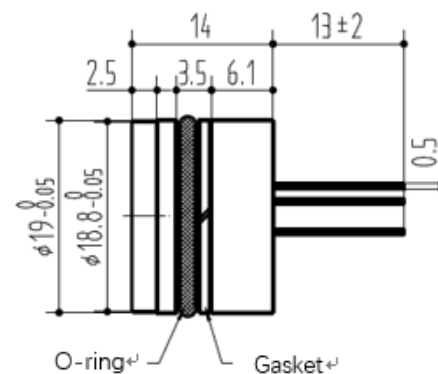
Without temperature compensation

Pin	Connection
3	excitation+
1 or 6	excitation-
5	pending
2	output+
4	output-



1.5mA supply with temperature compensation

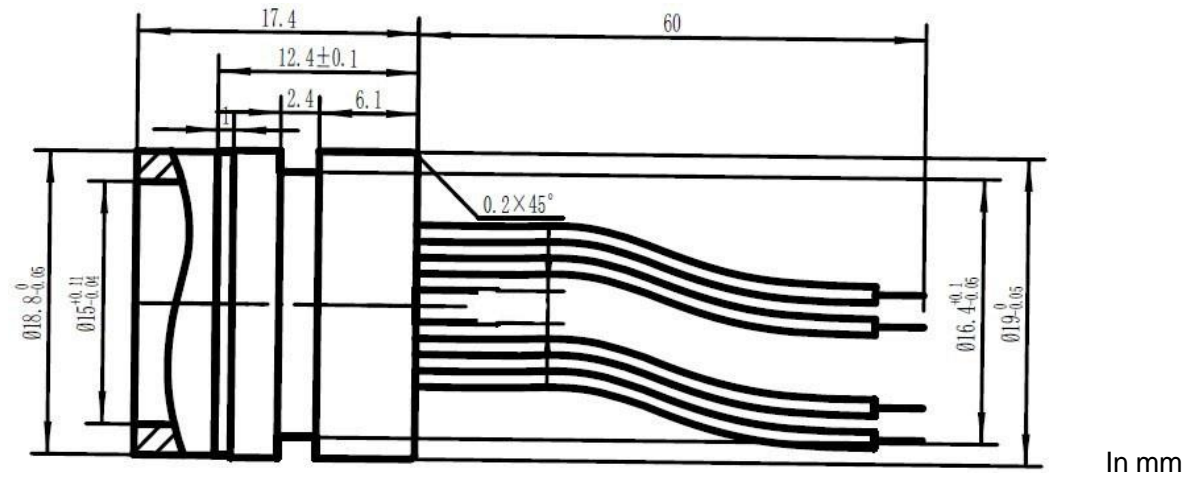
Pin	Connection
3	excitation+
5	excitation-
1 or 6	pending
2	output+
4	output-



5V supply with temperature compensation

Pin	Connection
5	excitation+
1 or 6	excitation-
3	pending
2	output+
4	output-

Drawing of front welding sensor



How to order

AC10(WT19) XX—XX—XX—XX—XX

Pressure range

Please write directly

Pressure reference

A: absolute pressure

G: gauge pressure

S: sealed gauge pressure

Excitation

C1: 1.5mA

C2: 10V

C3: 5V

Diaphragm material

D1: stainless steel 316L

D2: hastelloy

D3: flush diaphragm

D4: front welding

Electrical Connection

W: wire connection

P: pin connection