CUDEVICES

SERIES: PS01 | DESCRIPTION: PRESSURE SENSOR

FEATURES

- temperature compensated
- multiple pressure range options
- absolute, gauge and sealed pressure options
- stainless steel housing
- o-ring seal

RoHS

SPECIFICATIONS

parameter	conditions/description	min	typ	max	units
pressure range	see Pressure Specifications for more details	0		6	MPa
pressure reference	gauge pressure, absolute pressure, sealed gauge pressue				
excitation		4.5		5.5	V
output signal	ratiometric	0.5		4.5	V
insulation resistance	at 250 Vdc	200			MΩ
vibration	20 G (20~5,000 Hz)				
shock	100 G for 10 ms				
compensated temperature	<100 kPa models all other models	0 -20		60 85	°C °C
operating temperature		-40		105	°C
storage temperature		-40		125	°C
life			1,000,000		cycles
RoHS	yes				

MECHANICAL

parameter	conditions/description	min	typ	max	units
measured medium	all 316L compatible liquids and gases				
housing/diaphragm	stainless steel 316L				
dimensions	Ø19 x 14				mm
weight		19		25	g

BASIC PARAMETERS

parameter	conditions/description	min	typ	max	units
accuracy[1]			±0.5		%FS
hysteresis			±0.05	±0.1	%FS
repeatability			±0.05	±0.1	%FS
zero temperature drift[1]			±1.0	±1.5	%FS
span temperature drift[1]			±1.0	±1.5	%FS
thermal hysteresis			±0.05	±0.2	%FS
long term stability			±0.25		%FS/year

Note: 1. In the compensation temperature range, refer to 25°C.

PRESSURE SPECIFICATIONS

pressure range	pressure reference[2]	overload pressure	burst pressure
0~35 kPa	G	300%FS	400%FS
0~100 kPa	G, A	200%FS	300%FS
0~250 kPa	G	200%FS	300%FS
0~600 kPa	G	200%FS	300%FS
0~1.0 MPa	G	200%FS	300%FS
0~1.6 MPa	G, S	200%FS	300%FS
0~2.5 MPa	G, S	200%FS	300%FS
0~4.0 MPa	S	200%FS	300%FS
0~6.0 MPa	S	200%FS	300%FS

Note: 2. A=absolute pressure (vacuum is zero); G=gauge pressure (current atmospheric pressure as zero); S=sealed gauge pressure (calibrated atmospheric pressure is zero).

PART NUMBER KEY

PS01 - X XXXX P - 3W

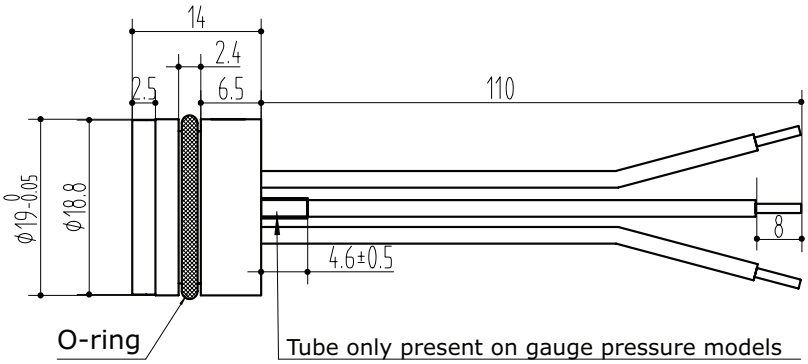
- **PS01** — Base Number
- **X** — Pressure Reference:
  - A = Absolute
  - G = Gauge
  - S = Sealed Gauge
- **XXXX** — Pressure Range:
  - 350K = 35 kPa
  - 100K = 100 kPa
  - 250K = 250 kPa
  - 600K = 600 kPa
  - 100M = 1 MPa
  - 160M = 1.6 MPa
  - 250M = 2.5 MPa
  - 400M = 4 MPa
  - 600M = 6 MPa

MECHANICAL DRAWING

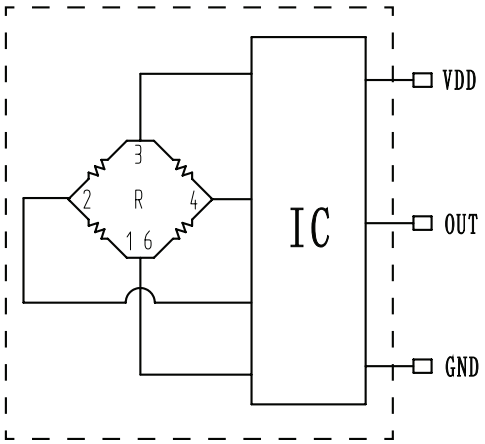
units: mm
tolerance: ±0.1 mm
unless otherwise noted

ITEM	DESCRIPTION	MATERIAL	PLATING/COLOR
A	housing	SS 316L	
B	diaphragm	SS 316L	
C	oil filling	silicon oil	
D	o-ring	NBR	black
E	wires	silicon; OD: 1.4 mm; 0.15 mm²	

WIRE CONNECTIONS	
Wire Color	Function
Red	VDD
Blue	GND
Yellow	OUT



INTERFACE DIAGRAM



USAGE CONSIDERATIONS

1. Do not touch the diaphragm with hard objects, which may cause damage to the diaphragm.
2. Strictly follow the wiring method, otherwise it may cause product damage or other potential faults.
3. Misuse of the product may cause danger or personal injury.
4. Pressure range can be selected higher or lower than actual conditions, but should be within ±30%FS.
5. Pressure reference consists of gauge pressure, absolute pressure, and sealed gauge pressure.

   a. Gauge pressure is based on the current atmospheric pressure. Generally, it refers to the measurement of pressure which is greater than the current atmospheric pressure. Negative pressure is a special case of gauge pressure. It refers that there is such working condition that the pressure of work site is lower than the current atmospheric pressure.

   b. Absolute pressure is based on vacuum.

   c. Sealed gauge pressure uses absolute pressure die for gauge pressure product based on the atmospheric pressure of production site.
6. Confirm the maximum overload of the applied system, which should be less than the overload protection limit of the sensor, otherwise it will affect the product life or even damage the product.
7. The material and process for manufacturing negative pressure sensors are different from those of positive pressure sensors. So, gauge pressure sensors cannot be used as substitue of negative pressure sensors.

REVISION HISTORY

rev.	description	date
1.0	initial release	12/14/2021
1.01	logo, datasheet style update	08/05/2022

The revision history provided is for informational purposes only and is believed to be accurate.