CUI DEVICES



## SERIES: PS06 | DESCRIPTION: PRESSURE SENSOR

### FEATURES

- temperature compensated
- multiple pressure range options
- gauge pressure
- stainless steel housing
- o-ring seal



RoHS

## SPECIFICATIONS

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| pressure range | see Pressure Specifications for more details | 0 | | 2.5 | MPa |
| pressure reference | gauge pressure | | | | |
| excitation | | | 1.5 | 2.5 | mA |
| input impedance | | 2 | | 5 | kΩ |
| insulation resistance | at 250 Vdc | 200 | | | MΩ |
| response time | up to 90%FS | | | 1 | ms |
| vibration | 20 G (20~5,000 Hz) | | | | |
| shock | 100 G for 10 ms | | | | |
| compensated temperature | ≤35 kPa models<br>all other models | 0<br>-10 | | 60<br>70 | °C<br>°C |
| operating temperature | | -40 | | 125 | °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 | | | 80 | | g |

## BASIC PARAMETERS

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| nonlinearity[1] | | -0.3 | ±0.2 | 0.3 | %FS |
| hysteresis | | -0.05 | ±0.03 | 0.05 | %FS |
| repeatability | | -0.05 | ±0.03 | 0.05 | %FS |
| zero output | | -2 | ±0.2 | 2 | mV |
| full scale span output | ≤35 kPa models<br>all other models | 40<br>60 | 90<br>90 | 150<br>150 | mV<br>mV |
| zero temperature coefficient[2] | ≤10 kPa models<br>all other models | -2<br>-1.5 | ±1.5<br>±0.75 | 2<br>1.5 | %FS<br>%FS |
| span temperature coefficient[2] | | -1.5 | ±0.75 | 1.5 | %FS |
| thermal hysteresis[3] | | -0.075 | ±0.05 | 0.075 | %FS |
| long term stability | | -0.3 | ±0.2 | 0.3 | %FS/year |

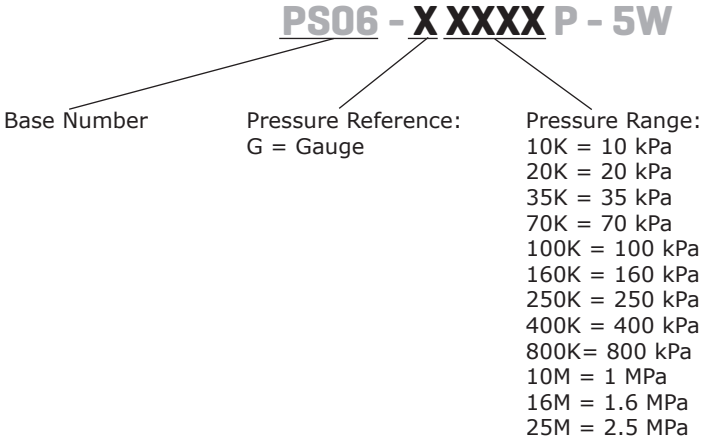
Note:
1. Calculated according to best fit straight line (BFSL) least square method.
2. In the compensated temperature range, refer to 30°C
3. After passing high and low temperature, return to the reference temperature.

## PRESSURE SPECIFICATIONS

| pressure range | pressure reference[4] | overload pressure | burst pressure |
|---|---|---|---|
| 0~10 kPa | G | 200%FS | 500%FS |
| 0~20 kPa | G | 200%FS | 500%FS |
| 0~35 kPa | G | 200%FS | 500%FS |
| 0~70 kPa | G | 200%FS | 500%FS |
| 0~100 kPa | G | 200%FS | 500%FS |
| 0~160 kPa | G | 200%FS | 500%FS |
| 0~250 kPa | G | 200%FS | 400%FS |
| 0~400 kPa | G | 200%FS | 400%FS |
| 0~800 kPa | G | 200%FS | 400%FS |
| 0~1 MPa | G | 200%FS | 400%FS |
| 0~1.6 MPa | G | 150%FS | 400%FS |
| 0~2.5 MPa | G | 150%FS | 300%FS |

Note:
4. G=gauge pressure (current atmospheric pressure as zero)

## PART NUMBER KEY

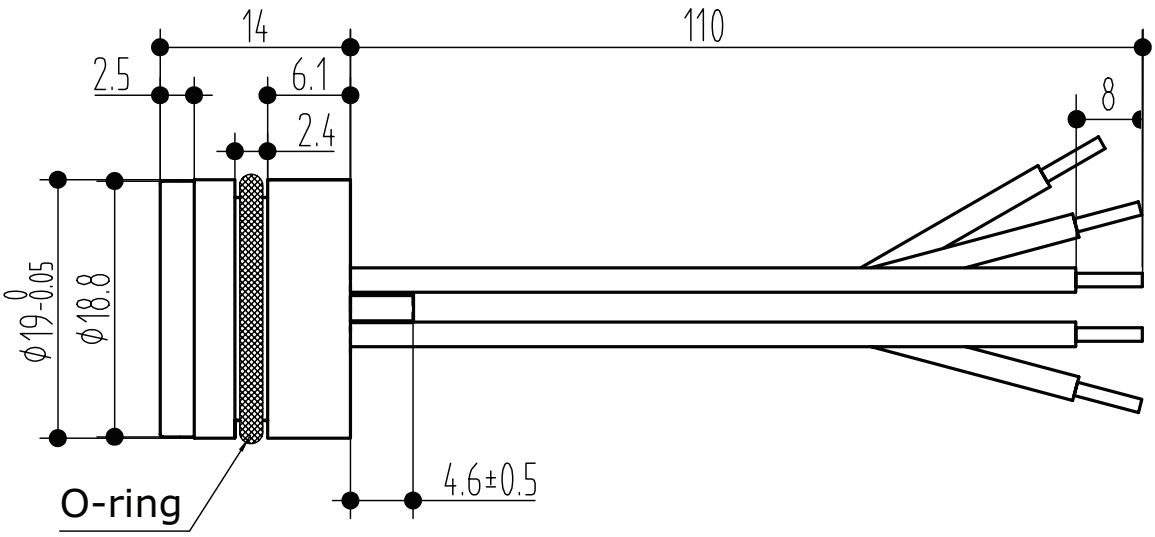


## MECHANICAL DRAWING

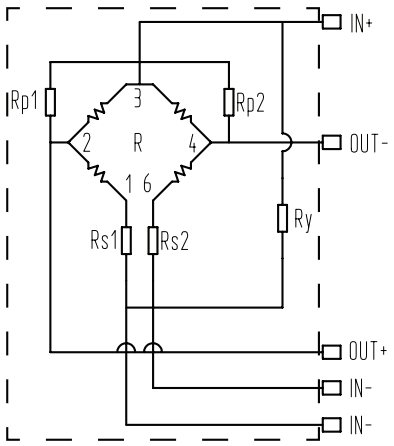
units: mm
tolerance: ±0.1 mm
unless otherwise noted

| 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 | +IN |
| Blue | -IN |
| Blue | -IN |
| Yellow | +OUT |
| White | -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 | 12/09/2021 |

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

CUI DEVICES

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