CUI DEVICES



## SERIES: PS02 | DESCRIPTION: PRESSURE SENSOR

### FEATURES

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



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 | | 3.1 | 3.3 | 3.6 | V |
| output signal | $I^2C$ | | | | |
| 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<br>all other models | 0<br>-20 | | 60<br>85 | °C<br>°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 |

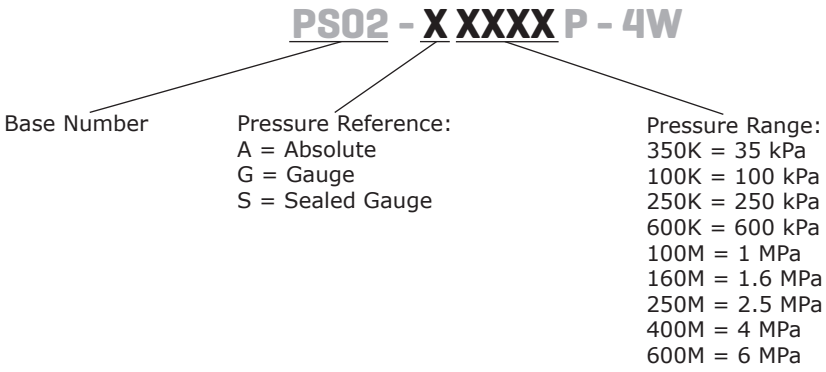
Note: 1. In the compensation temperature range, refer to 25°C.

## 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

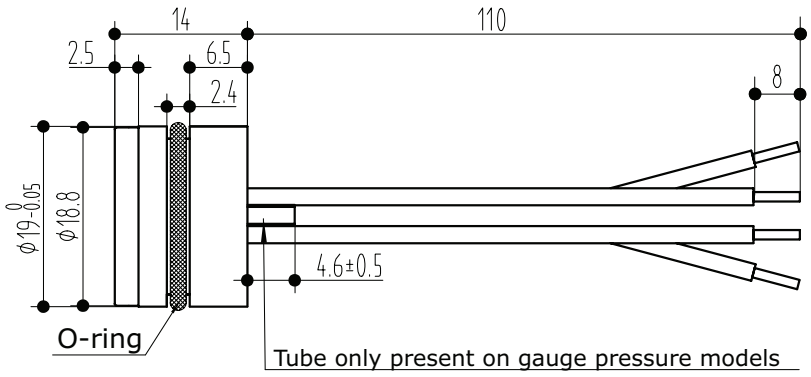


## MECHANICAL DRAWING

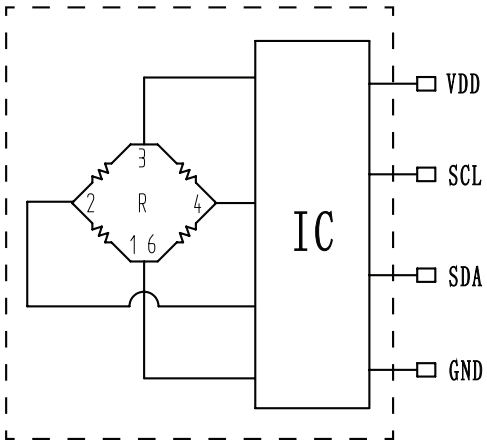
units: mm
tolerance: ±0.1 mm
unless otherwise noted

| 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 | SCL |
| White | SDA |




## 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 | updated drawing | 06/13/2022 |

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

CUI DEVICES

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