Thick Film Ceramic Pressure Sensor

◆ Features

1. Use ceramic thick film integrated piezoresistive technology, excellent in performance, small in size and flexible in package.

2. Corrosion resistant, can directly contact and measure corrosive medium without isolation.

3. As a pressure sensing element, it is easy to integrate with the transmitter electronics.

4. High reliability, good stability, low cost, and large-scale mass production.

5. Meet EU directive 2002/95/EC on Restriction Requirements for Toxic and Hazardous Substances.

6. Used under rated pressure conditions, pressure cycle life above 1 million times.

◆ Applications

Automotive air conditioner, air compressor, fork lift, brake system, tire pressure test, water pressure, water level

◆ Key parameters

Bridge impedance: 11KΩ

Bridge resistance tolerance: ±30%

Output signal: 1.5 ～ 4 mV/V

Linearity/hysteresis/repetition: ＜ 0.2 … 1.5 ％FS

Power supply voltage: ≤ 5 ～ 30 Vdc

Zero offset: ≤±0.4 mV

Zero long-term stability: ±0.25% FSO,typ（20℃）

Insulation resistance: 1GΩ (Test conditions: 25 ° C, relative humidity 75%, apply 500VDC)

Zero, full temperature drift: level A ≤±0.02% FS/℃（0℃～70℃）

level B ≤±0.05% FS/℃（-10℃～85℃）

level C ≤±0.1% FS/℃（-10℃～85℃）

◆ Mechanical characteristics

The corresponding relationship between pressure range, overload pressure and breaking pressure is shown in Table 1.

Table 1

Pressure range （bar）	Overload pressure （bar）	Breaking pressure （bar）
0……1	2	4
0……2	4	5
0……5	10	12
0…..10	20	25
0…..20	40	50
0…..30	60	80
0…..50	100	125
0…100	200	250
0…200	400	500
0…400	600	700
0…600	800	900

◆ **Environment parameter**

Operating temperature: -40℃～80℃（ -40℃～125℃, optional ）

Storage temperature: -40℃～150℃（no leading-out terminal）

◆ **Material characteristics**

Contact dielectric material: 96% Al_2O_3

Pad: Pd/Ag

Weight: 6g

Dimension: See figure 1

◆ **Pin function**

Circuit pin function is shown in Table 2.

Table 2

Pin No.	Symbol	Function description
1	+Ub	Excitation voltage +
2	S_-	Output -
3	-Ub	Excitation voltage -
4	S_+	Output +

Product dimensions are shown in Figure 1.

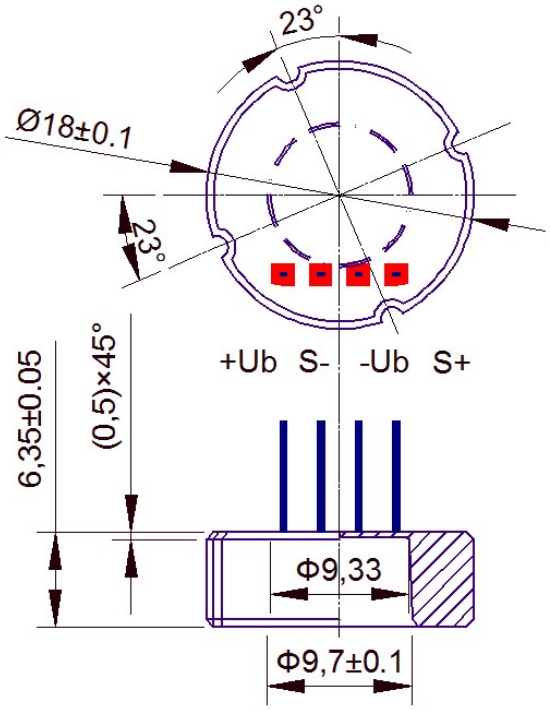

Figure 1 Dimensions

◆ **How to order**

HCPS -××× - ××

Null: regular product; T: with temperature compensation

Terminal type:0- Pd/Ag pad; 1-welding pin; 2-welding flexible wire

Pressure range (Unit: bar)

Product model

Example：

HCPS–020-0 →Ceramic Pressure Sensor, 20bar, Pd/Ag pad

HCPS–020-1 →Ceramic Pressure Sensor, 20bar, solder pin

HCPS–020-2 →Ceramic Pressure Sensor, 20bar, welding flexible wire

HCPS–020-1T→Ceramic Pressure Sensor, 20bar, solder pin with temperature compensation

◆ **HCPS series pressure specifications**

Other measurement ranges can be customized.