PZP180 Ceramic Pressure Sensors

ProZa

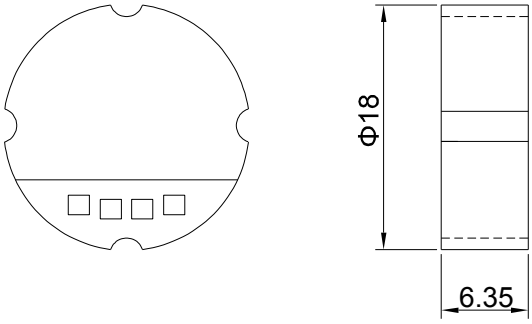
Introduction

The PZP180 monolithic pressure sensors are based on a ceramic cell and work following the piezoresistive principle. The Wheatstone bridge is screen printed directly on back of the ceramic diaphragm realized in Thick Film technology.

Thanks to superb corrosion resistance, the opposite side of the ceramic diaphragm can contact with the media to be measured without any additional protection.

Owing to the rigid monolithic structure, the sensor can be easily mounted in a plastic or metallic housing of measurement device by using O-ring.

Dimensions



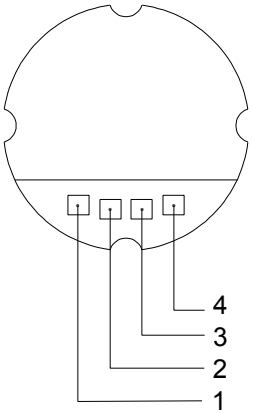
Notes: All dimensions are in mm.

Features

- Pressure range : 0~5bar, 0~10bar, … , 0~150bar
- Pressure types: Gauge
- Excellent resistance to corrosion & abrasion
- Impact and vibration resistance
- Temperature compensation on the sensor
- Wide range of operating temperature
- Φ18mm pressure sensor
- Easy mounting

Electrical Connection

solder pads (standard)



pad	connection
1	excitation +
2	signal -
3	excitation -
4	signal +

Applications

- Automotive
- Chemical industry
- Process control
- Environmental control
- Medical instrument
- Hydraulic and pneumatic equipment

Basic Condition

- Media temperature: 25±1℃
- Environment temperature: 25±1℃
- Humidity: 50%RH ±10% RH
- Barometric pressure: 86～106 kPa
- Power supply: 10 Vdc

Proza Electronic Technology

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Specifications

Parameter	Units	Data (*)	Notes
Pressure type and ranges	bar	Gauge(G): 0~5, ~10, ~16, ~20, ~25, ~30, ~40, ~50, ~100, ~150	[1]
Overload pressure	%fs	200	[2]
Output sensitivity (standard)	mV/V	2.5 ±0.5	
Conditioned-signal output (option)	/	0.5~4.5 Vdc ratiometric, 4~20mA, others on request	[3]
Excitation (for mV output)	V	5,...,20	
Power supply (Vs)	V	5 (for 0.5~4.5Vdc output), 12 < Vs < 36 (for current loop)	
Zero offset	mV/V	≤ ±0.1 (standard)	
Accuracy	%fs	≤ ±0.5 (standard)	[4]
Long-term stability	%fs/year	≤ ±0.2	
Bridge resistance	kΩ	12 ± 20%	
Insulation resistance	MΩ	100 @ 100Vdc	
Compensated temperature range	°C	0~70 (standard)	
Operating temperature range	°C	-40 ~ +125	
Storage temperature range	°C	-40 ~ +125	
Temperature coefficient of zero offset	%fso/°C	≤ ±0.03	
Temperature coefficient of span	%fso/°C	≤ ±0.03	
Response time（10% to 90%FS)	ms	≤ 1	
Process sealing	/	O-ring	
Electrical interface	/	solder pads (standard)	
	/	4 colored silicon rubber flying wires, 100mm	
Pressure diaphragm	/	ceramic (96% Al2O3)	
Pressure medium	/	compatible with pressure diaphragm	
Life time	cycles	$10x10^6$	
Net weight	gram	~3	

Notes:

(*). Testing at basic condition.

[1]. For customized pressure ranges, please consult Proza.

[2]. “fs” refers to full scale pressure or rated pressure.

[3]. others on request.

[4]. Accuracy = sqrt (non-linearity^2+ hysteresis^2+ repeatability^2) .

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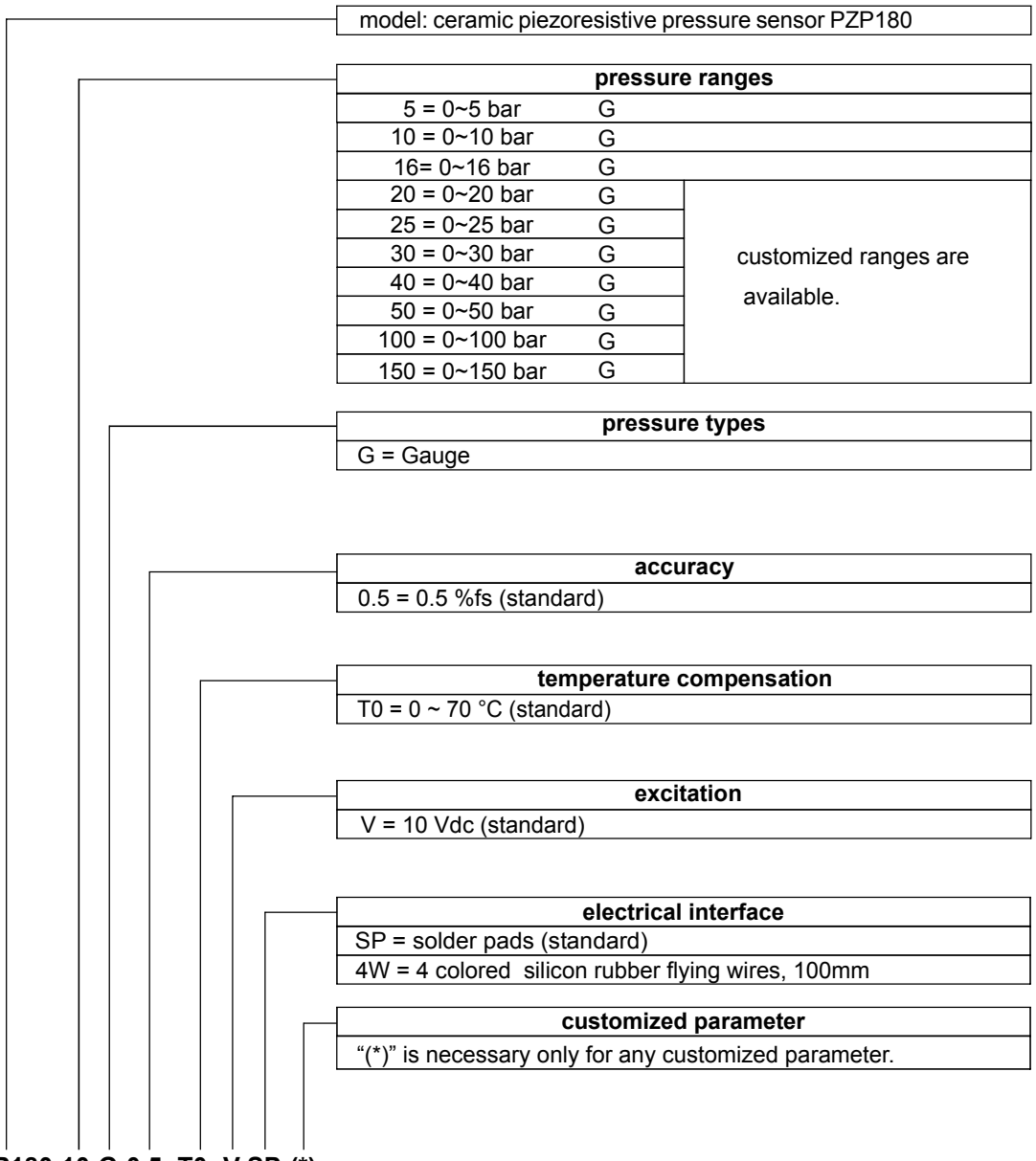
Ordering Guide



ordering code:**PZP180-10-G-0.5- T0- V-SP-(*)**

Examples of Ordering Code

model-pressure range-pressure type-accuracy-compensation-excitation-electrical interface-customized parameter

PZP180-15-G-0.5-T0-V-SP-(*)

(*): Customized pressure range = 0~15 bar.

Order Note

1. Please pay attention to protect the diaphragm. Do not touch the diaphragm by fingers and other hard objects, or it may be damaged.

2. When installing the sensor, need to install a nylon washer on the wiring side of sensor that make the sensor averaged force to avoid the zero output instability.

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