



PZP160 Silicon Pressure Sensors

Introduction

The PZP160 has a smaller diameter compared with PZP190 pressure sensor, diameter of 15.8 mm. It is based on a high-sensitivity silicon piezoresistive chip. The chip is protected against aggressive media by a stainless steel housing sealed with a concentrically corrugated diaphragm. Silicon oil filled in the housing is for transferring the pressure from the diaphragm to the chip.

Its profile, installation dimension and sealing method make PZP160 be freely interchangeable and widely used for measuring pressure field.

Features

- Pressure range : 0~2.5bar, ... , 0~250bar
- Pressure types: gauge, absolute and sealed gauge
- Accuracy up to 0.25%fs
- 0~70°C standard compensated temperature range
- Excited by current
- Isolated construction to measure various liquid or gas
- $\Phi 15.8\text{mm}$ OEM pressure sensor
- 316L stainless steel material

Applications

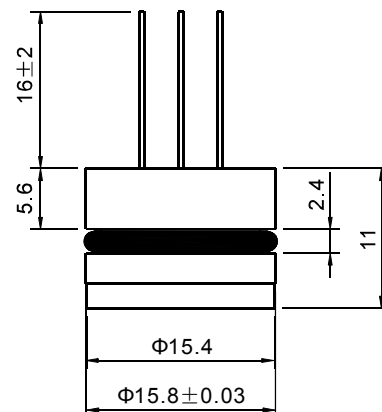
- Industrial process control
- Liquid pressure system and switch
- Gas, liquid pressure measurement
- Level measurement
- Refrigeration equipment and air conditioner
- Pressure calibrator

Environment Effect

- Position effect: deviate 90° from any orientation,
zero change $\leq 0.1\%FS$
- Shock effect: no change at 10gRMS, 20~2000Hz
- Impact: 100g, for 10 ms



Dimensions



Notes: All dimensions are in mm.

Basic Condition

- Media temperature: $25 \pm 1^\circ\text{C}$
- Environment temperature: $25 \pm 1^\circ\text{C}$
- Shock: 0.1g (1m/s/s) Max
- Humidity: 50%RH $\pm 10\%RH$
- Barometric pressure: 86~106 kPa
- Excitation: $1.5 \pm 0.0015\text{mA}$

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Specifications

Parameter	Units	Data (*)	Notes
Pressure types and ranges	bar	Gauge(G): 0~2.5, ~4, ~6, ~10, ~16, ~25	[1]
		Absolute(A): 0~2.5, ~4, ~6, ~10, ~16	
		Sealed Gauge (S): 0~10, ~16, ~25, ~60, ~100, ~160, ~250	
Overload pressure	%fs	200 (≤ 160 bar), 150 (≥ 200 bar)	[2]
Full scale output (fso)	mV	≥ 60	
Zero offset	mV	$\leq \pm 2$	
Excitation	mA	1.5 (max. 2)	
Accuracy	%fs	$\leq \pm 0.25$ (standard), $\leq \pm 0.5$	[3]
Long-term stability	%fs/year	$\leq \pm 0.2$	
Input resistance	k Ω	3~8	
Output resistance	k Ω	2.5~6	
Insulation resistance	M Ω	100 @ 100Vdc	
Compensated temperature range	$^{\circ}\text{C}$	0~70 (standard)	
Operating temperature range	$^{\circ}\text{C}$	-40 ~ +125	
Storage temperature range	$^{\circ}\text{C}$	-40 ~ +125	
Temperature coefficient of zero offset	%fso/ $^{\circ}\text{C}$	$\leq \pm 0.02$	
Temperature coefficient of span	%fso/ $^{\circ}\text{C}$	$\leq \pm 0.02$	
Response time (10% to 90%fso)	ms	≤ 1	
Process sealing	/	Viton O-ring	[4]
Electrical interface	/	4 colored silicon rubber flying wires, 100mm (standard)	
	/	6 gold-plated copper pins, $\Phi 0.5\text{mm}$, 16mm	
Pressure diaphragm	/	316L SS	
Wetted parts material	/	316L SS	
Filling oil	/	silicon oil	[5]
Pressure medium	/	compatible with pressure diaphragm and O-ring	
Life time	cycles	10×10^6	
Net weight	gram	~23	

Notes:

(*). Testing at Basic Condition.

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

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

[3]. Accuracy = $\sqrt{\text{non-linearity}^2 + \text{hysteresis}^2 + \text{repeatability}^2}$.

[4]. Other O-ring material on request.

[5]. Other filled liquid on request.

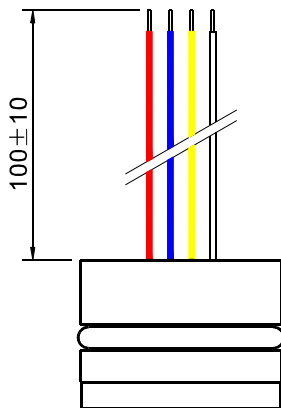
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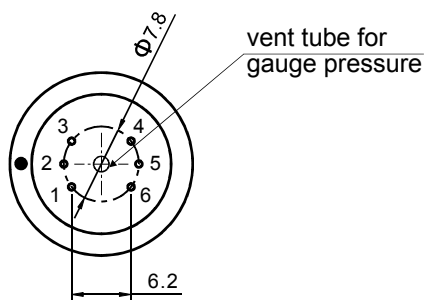
Electrical Connection

4 colored silicon rubber flying wires(4W)



wire color	connection
red	excitation +
blue	excitation -
yellow	signal +
white	signal -

6 gold-plated copper pins (6P)



pin	connection
3	excitation +
5	excitation -
2	signal +
4	signal -

Notes: - All dimensions are in mm.

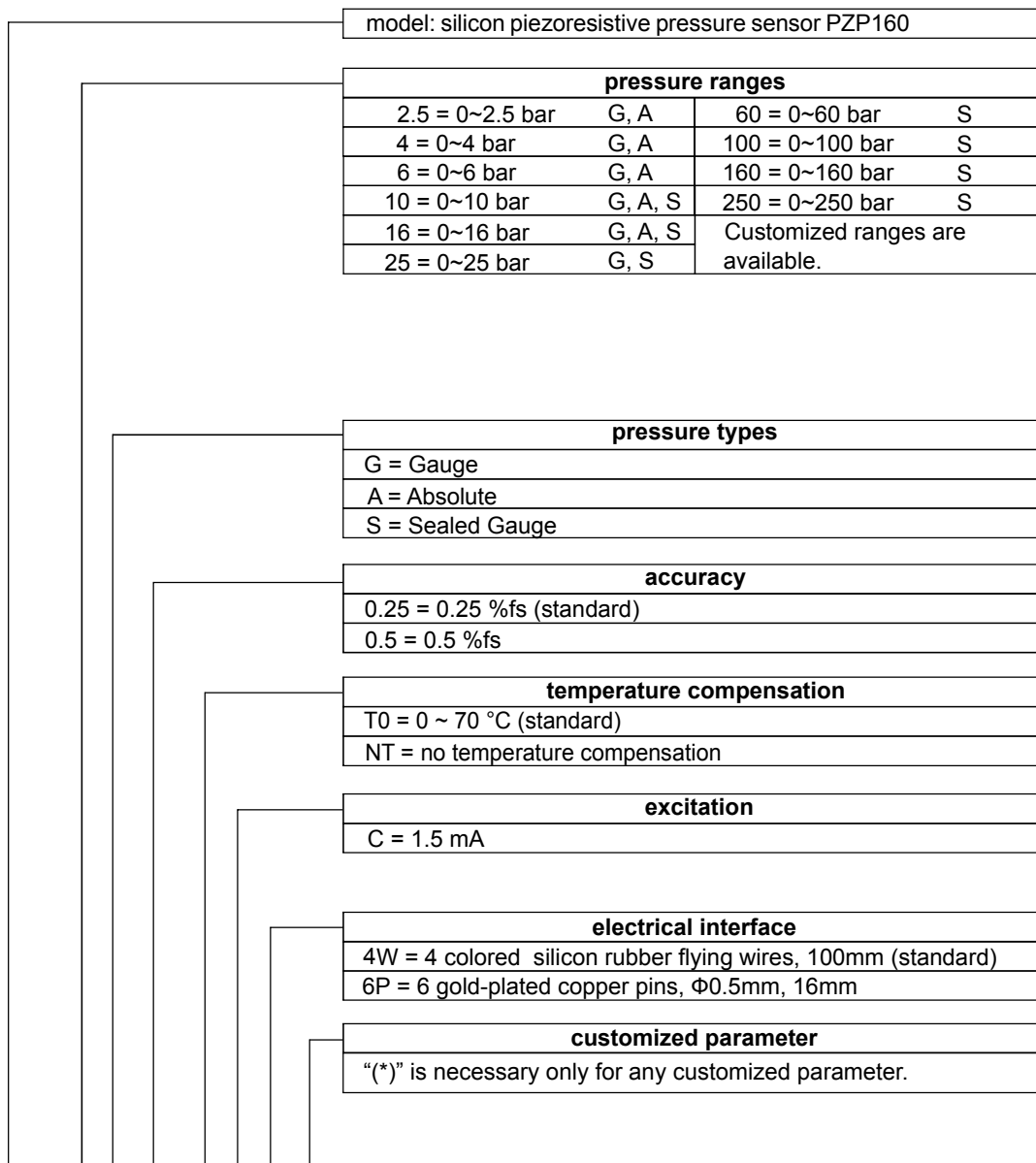
- In case of alterations, please refer to the label on the package delivered.

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Ordering Guide



ordering code: PZP160-10-G-0.25-T0-C-4W-(*)

Examples of Ordering Code

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

PZP160-25-G-0.25-T0-C-4W

Order Notes

1. For any critical working environment or pressure media, please inform me before order.
2. Please pay attention to protect the diaphragm. Do not touch the diaphragm by fingers and other hard objects, or it may be damaged.

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