

PZP390 Silicon Pressure Transmitter



Introduction

The PZP390 pressure transmitter uses high quality pressure sensors with isolated stainless steel diaphragm as sensing elements, it is tested by computer automatically and compensation for zero and sensitivity. The output of PZP390 is amplified to 4~20mA standard output by using special amplifier, simultaneously the output signal can be displayed through LCD or LED indicator at working site. The transmitter uses HART protocol so that it can easily communicate with other devices.

After long-term aging tests and stability tests, this product's performance is very reliable, it is suitable for the pressure measurement and control in bad working conditions, and presently widely used in petroleum, chemical industry, metallurgy, electric power etc.

Features

- Wider pressure range
- Pressure types: gauge, absolute and sealed gauge
- Accuracy up to 0.25%fs
- Output signal: 4~20 mA with HART protocol
- Isolated construction to measure various media
- Protection class: IP 65
- Flush diaphragm option

Applications

- Industrial process control
- Pressure measure of petroleum
- Gas, liquid pressure measurement
- Hydrology and environment control
- Chemical industry and metallurgy
- Food and medicine
- Mechanical engineering

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Specification

Parameter	Units	Data	Notes
Pressure reangs and types	bar	Gauge(G): -1~0,0~0.2, ..., ~40	
	bar	Absolute(A): 0~1, ~1.6, ..., ~40	
	bar	Sealed Gauge(S): 0~60, ~100, ..., ~600	
Overload pressure	%fs	150	[1]
Accuracy	%fs	$\leq \pm 0.25$, $\leq \pm 0.5$ (standard)	[2]
Long-term stability	%fs/year	$\leq \pm 0.2$	
Compensated temperature range	°C	-10 ~ +70	
Operating temperature range	°C	-20 ~ +85	
Storage temperature range	°C	-40 ~ +125	
Temperature coefficient of zero	%fso/°C	$\leq \pm 0.03$ ($\leq 100\text{kPa}$), $\leq \pm 0.02$ (>100kPa)	
Temperature coefficient of span	%fso/°C	$\leq \pm 0.03$ ($\leq 100\text{kPa}$), $\leq \pm 0.02$ (>100kPa)	
Output signal	mA	4~20 with HART protocol (standard), 4~20mA	
	V	0~5 V, 1~5 V.(option)	
Power supply (Us)	Vdc	12 < Us < 36	
Load resistance for current loop	Ω	$\leq (Us - 12V) / 0.02A$; for HART: $250\Omega \leq \text{load resistance} \leq 1100\Omega$	
Load resistance for voltage output	k Ω	> 5	
Insulation resistance	M Ω	100 @100Vdc	
Field display (for 4~20mA)	/	5 digits LCD display, 3 ½ digits LCD ,4 digits LED	
Environment protection	/	IP65	
Electrical connection	/	M20x1.5 (standard), 1/2NPT	
Pressure connection	/	M20x1.5, G1/2 or other	
Explosion-proof	/	no explosion proof (standard). option: Exia II CT6, Exd II CT6.	
Pressure diaphragm	/	316L SS	
Wetted parts material	/	316 SS	
Electronics housing material	/	cast aluminium	
Filling oil	/	silicone oil	
Media compatibility	/	liquids and gases compatible with 316/316L stainless steel	
Vibration resistance (20, ..., 5000 Hz)	g	20	
Response time (10% to 90%fs)	ms	≤ 1	
Seal	/	Viton O-ring	
Net weight	gram	~1000	

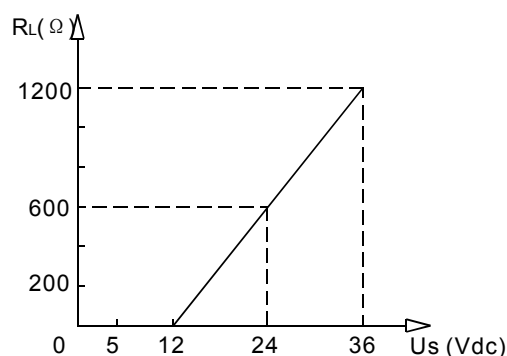
Notes: [1]. "fs" refers to full scale pressure or rated pressure.

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

Load Characteristic

load resistance for current loop:

$$R_L \leq (U_s - 12V) / 0.02A (\Omega)$$



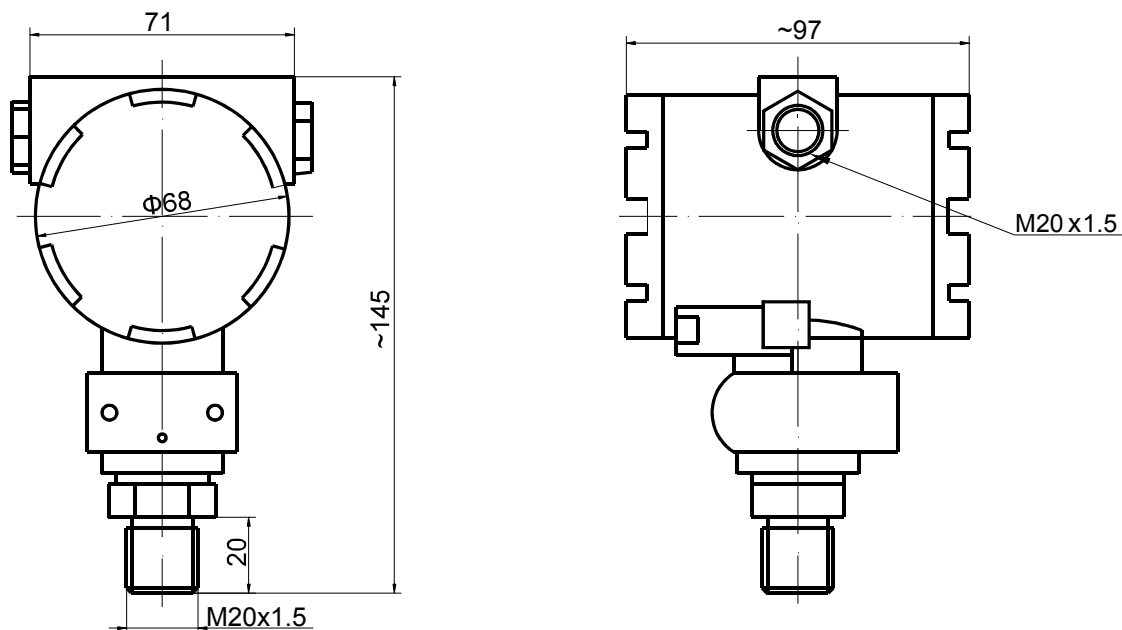
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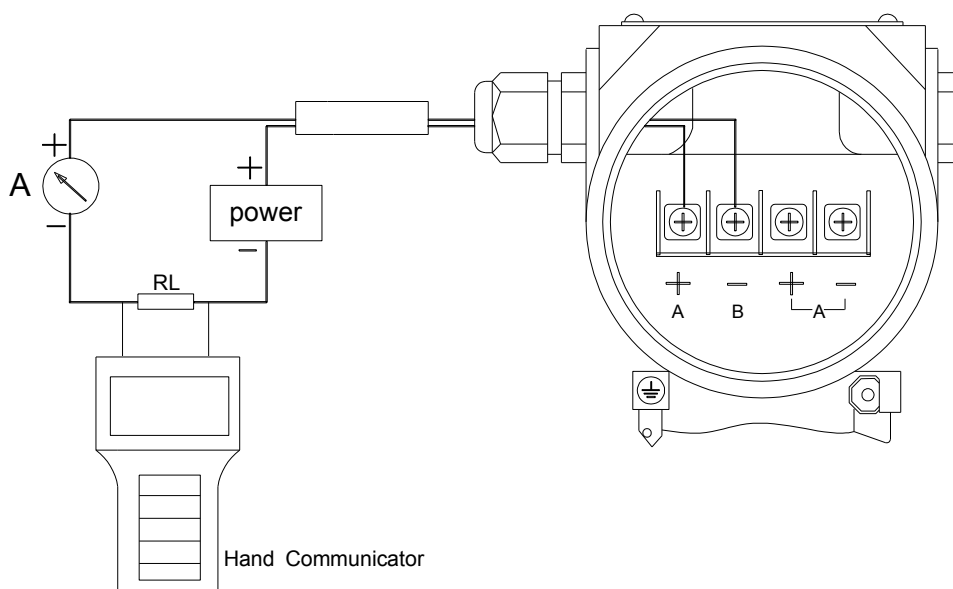
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Dimensions



Notes: All dimensions are in mm.

Electrical Connection



smart 4~20mA output with HART protocol

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Ordering Guide

model: silicon piezoresistive pressure transmitter PZP390

pressure ranges

(-1) = -1~0 bar	G	25 = 0~25 bar	G, A, S
0.2 = 0~0.2 bar	G	40 = 0~40 bar	G
0.35 = 0~0.35 bar	G	60 = 0~60 bar	S
0.7 = 0~0.7 bar	G	100 = 0~100 bar	S
1 = 0~1 bar	G, A	160 = 0~160 bar	S
2.5 = 0~2.5 bar	G, A	250 = 0~250 bar	S
4 = 0~4 bar	G, A	400 = 0~400 bar	S
6 = 0~6 bar	G, A	600 = 0~600 bar	S
10 = 0~10 bar	G, A, S	Customized ranges are available.	
16 = 0~16 bar	G, A, S		

pressure types

G = Gauge, A = Absolute, S = Sealed Gauge

accuracy

0.25 = 0.25 %fs

0.5 = 0.5 %fs (standard)

output signal

4~20 mA with HART protocol (standard), 4~20 mA, 0~5 V, 1~5 V

pressure connection

M20x1.5, G1/2 or other

electrical connection

M20x1.5(standard), 1/2NPT

field display

5 digits LCD (standard)

4 digits LED

3 ½ digits LCD

no display

customized parameter

"(*)" is necessary only for any customized parameter.

PZP390-10-G-0.5-4~20mA-G1/2-M20x1.5-no display-(*)

Examples of Ordering Code

PZP390-10-G-0.5-4~20mA+HART-G1/2-M20x1.5- 5 digits LCD

Order Note

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

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