

# PC90 Monocrystalline Silicon Pressure Sensor

## Features

- Imported monocrystalline silicon pressure die
- Excellent overpressure performance
- 316L stainless steel all welded integrated structure
- Gauge pressure type applicable to negative pressure measurement
- Suitable for a variety of threads and shells

## Applications

- Provide OEM for industrial transmitter manufacturers

### Notes:

- 1 Do not touch the diaphragm with hard objects, which may cause damage to the diaphragm.
- 2 Please read the Instruction Manual of the product carefully before installation and check the relevant information of the product.
- 3 Strictly follow the wiring method for wiring, otherwise it may cause product damage or other potential faults.
- 4 Misuse of the product may cause danger or personal injury.



## Overview

PC90 Monocrystalline Silicon Pressure Sensor adopts monocrystalline silicon sensor die with German advanced MEMS technology, achieves international leading overpressure performance and ensures the excellent stability of signal. It is assembled in all-welded seal structure and filled with silicon oil in high vacuum. Diaphragm of different materials isolates measuring medium and pressure die, meanwhile, the sensor performs long-term reliable measurement of differential pressure signals of various strong corrosive media.

PC90 Monocrystalline Silicon Pressure Sensor allows measured pressure to act directly on the diaphragm of sensor. Then the diaphragm produces a microdisplacement proportional to the pressure, which can be detected with the integrated electronic circuit and be converted to output a standard measurement signal of the corresponding pressure.

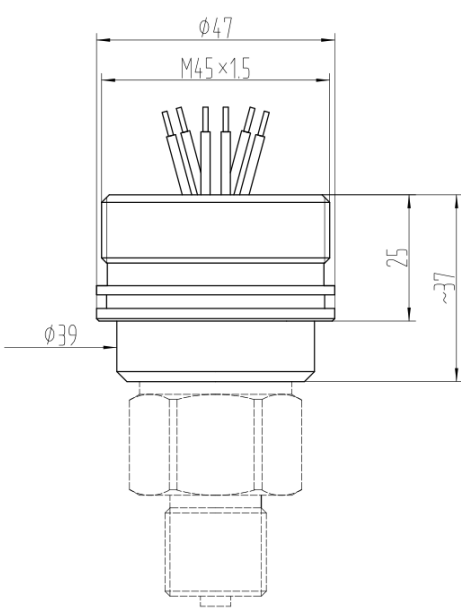
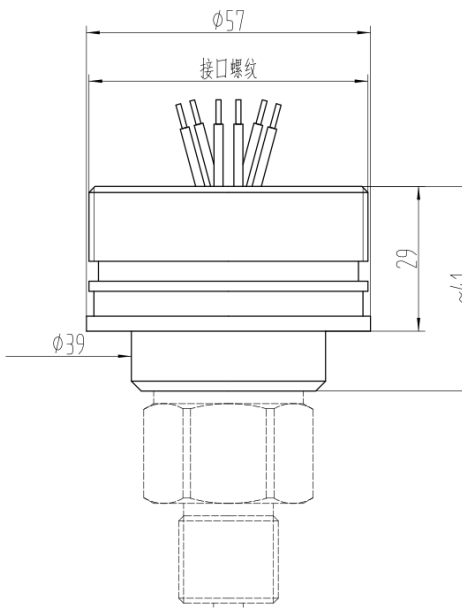
### Notes:

- 1 Do not misuse documentation.
- 2 The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- 3 Complete installation, operation, and maintenance information is provided in the instructions of the product.
- 4 Misuse of the product may cause danger or personal injury.

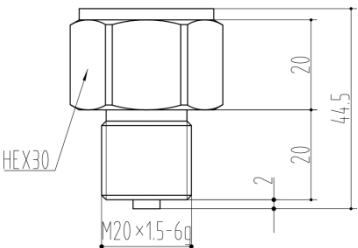
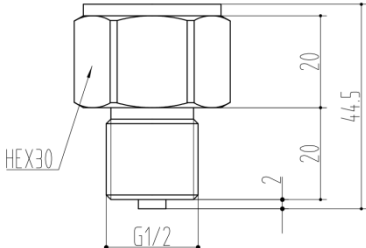
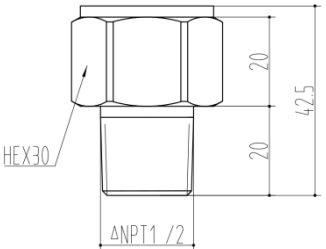
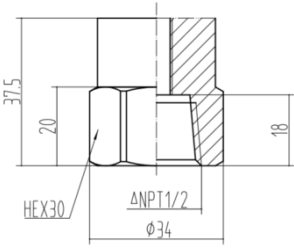
### Performance parameters

Supply	Constant voltage
Operating temp.	-40°C-85°C
Storage temp.	-50°C-125°C
Output voltage	60~140mV
Zero temp. coefficient	±0.05%FS/°C
Temp. hysteresis	±0.1%FS(Range≥10kPa)
	±0.5%FS(Range<10kPa)
Pressure hysteresis	±0.05%FS
Long-term drift	±0.05%FS/Year
Nonlinearity	±0.5%FS(Range≥10kPa)
	±1.5%FS(Range<10kPa)
Max. overpressure	See "Pressure range selection" below.
Diaphragm material	Stainless steel 316L, Hastelloy C

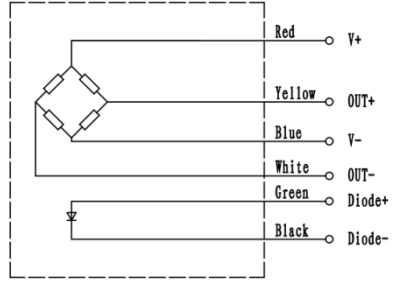
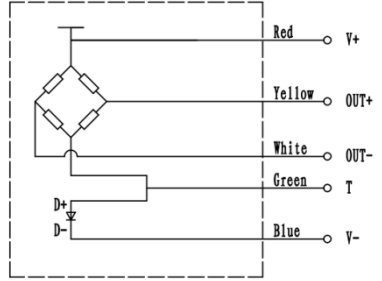
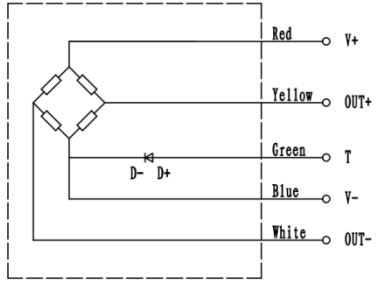
### Structure & dimensions

Rear thread code	H9: M45×1.5	H10: M56×1.5 H11: 55-16 British thread
Dimensional drawing in mm	 <p>Technical drawing of the H9 sensor showing dimensions: top diameter <math>\phi 47</math>, rear thread M45×1.5, main body diameter <math>\phi 39</math>, and two height dimensions of 25 and ~37.</p>	 <p>Technical drawing of the H10/H11 sensor showing dimensions: top diameter <math>\phi 57</math>, rear thread 接口螺纹, main body diameter <math>\phi 39</math>, and two height dimensions of 29 and ~41.</p>

### Pressure connection

Thread code	C1: M20×1.5-6g	C2: G1/2
Dimensional drawing (in mm)		
Recommended torque	15~25Nm	15~25Nm
Thread code	C7: NPT1/2	C7F: NPT1/2 (Female)
Dimensional drawing (in mm)		
Recommended torque	15~25Nm	15~25Nm

### Electrical connection



Electrical schematic diagram 1*	Electrical schematic diagram 2	Electrical schematic diagram 3
		
Wire color	Wire definition	
Red	Excitation+ (IN+)	
Blue	Excitation – (IN-)	
Yellow	Output+ (OUT+)	
White	Output- (OUT)	
Green	Temperature (T) or Temperature+ (Diode+)	
Black	Temperature- (Diode-)	

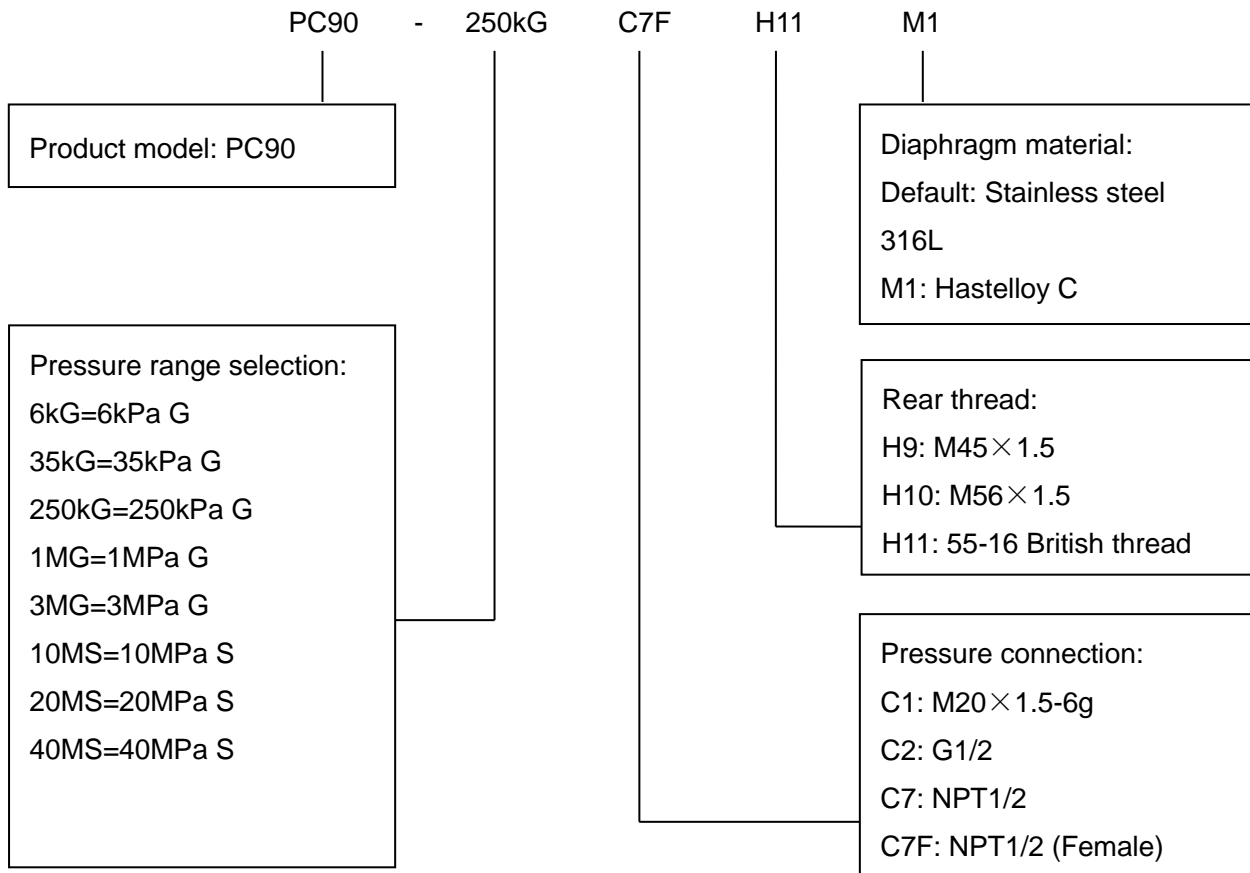
\* Default electrical connection

### Pressure range selection

Code	Min. pressure	Pressure reference	Pressure range	Overpressure
6kG	600Pa	Gauge pressure	0~6kPa	300kPa
35kG	3.5kPa	Gauge pressure	0~35kPa	1MPa
100kG	10kPa	Gauge pressure	0~100kPa	2MPa
250kG	25kPa	Gauge pressure	0~250kPa	4MPa
1MG	100kPa	Gauge pressure	0~1MPa	6MPa
3MG	300kPa	Gauge pressure	0~3MPa	12MPa
10MS	1MPa	Sealed gauge pressure	0~10MPa	20MPa
20MS	2MPa	Sealed gauge pressure	0~20MPa	40MPa
40MS	4MPa	Sealed gauge pressure	0~40MPa	60MPa

### Accessories

Model	Appearance	Description	Material No.
H3051T(Silicon)		<ol style="list-style-type: none"> <li>1. LCD</li> <li>2. LCD header rotatable</li> <li>3. Green backlight</li> <li>4. 4~20mA+HART</li> <li>5. LCD removable</li> </ol>	100040100002
JT3051TH(Silicon)		<ol style="list-style-type: none"> <li>1. LCD</li> <li>2. LCD header not rotatable</li> <li>3. Grey backlight</li> <li>4. 4~20mA+HART</li> <li>5. LCD removable</li> </ol>	100040100027
JT3051TS(Silicon)		<ol style="list-style-type: none"> <li>1. LCD</li> <li>2. LCD header not rotatable</li> <li>3. Grey backlight</li> <li>4. 4~20mA</li> <li>5. LCD removable</li> </ol>	100040100028



**Example:** PC90-250kGC7FH11

Refer to product model PC90, with pressure range 250kPa, pressure reference gauge pressure, pressure connection NPT1/2 (Female), rear thread 55-16 British thread and diaphragm material stainless steel 316L.

**Ordering tips**

1. Accessories need to be ordered separately.
2. The default electrical connection is 1. If 2 or 3 is required, please specify.

Wotian reserves the right to make any change in this publication without notice. The information provided is believed to be accurate and reliable as of this product sheet.

**Contact us**

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