PC90DK Monocrystalline Silicon Differential Pressure Sensor with Flange

Features

- Imported high stability Monocrystalline Silicon differential pressure chip
- High accuracy and excellent stability
- Static pressure error within ±0.15%FS/10MPa
- Double overload protection diaphragm design
- Overpressure limit of up to 40MPa
- Constant voltage excitation
- 316L stainless steel all welded integrated structure
- Positive and negative pressure symmetrical structure

Applications

- Differential pressure transmitter core component
- Differential pressure flow transmitter core component

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

PC90DK monocrystalline silicon differential pressure sensor is a differential pressure sensor with overpressure protection function. The differential pressure sensitive core is made of highly stable monocrystalline silicon differential pressure chip imported from Germany, encapsulated by using fully welded sealing structure and filled with silicon oil under high vacuum. Diaphragms of different materials isolate measured medium from differential pressure chip, which also enables the sensor to measure the differential pressure signal of various strong corrosive media reliably for a long time. The differential pressure sensor can convert the measured differential pressure signal into a linearly proportional mill volt signal through external excitation.

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.

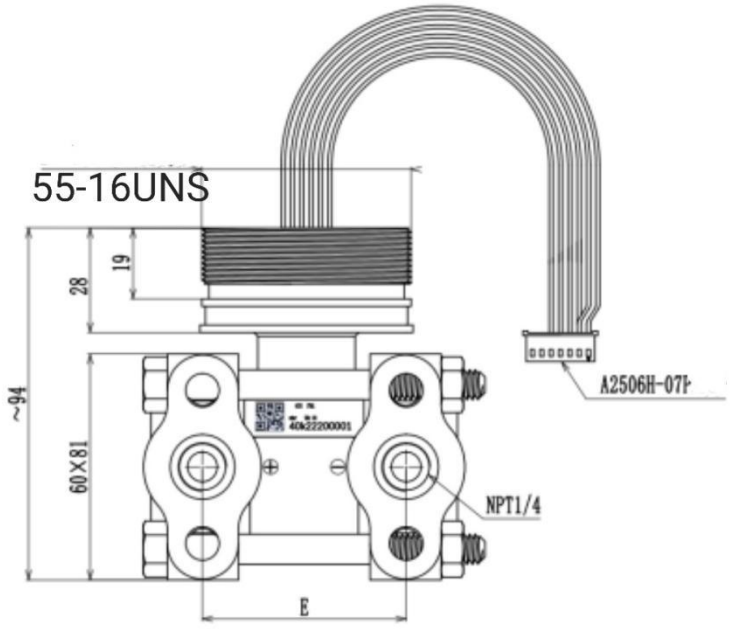
Performance parameters

Constant voltage power supply	5V DC
Operating temp.	-40℃-85℃
Medium temp.	-40℃-125℃
Output voltage	60~140mV
Zero temp. coefficient	±0.05%FS/℃
Temp. hysteresis	±0.1%FS(10kPa<Range≤3000kPa)
	±0.5%FS(Range≤10kPa)
Pressure hysteresis	±0.025%FS
Long-term drift	±0.05%FS/Year
Non-linearity	±0.5%FS(10kPa<Range≤3000kPa)
	±1.5%FS(Range≤10kPa)
Static pressure impact	±0.15%FS/10MPa
Diaphragm material	Stainless steel 316L
Flange material	SUS304 (with silicone rubber O-ring), SUS316 (with PTFE O-ring)

Structure & dimensions

In mm

Typical diagram

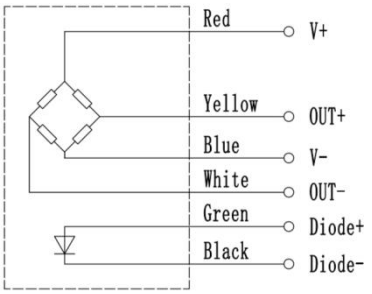


Range (code)	6k, 40k, 100k	250k	1M	3M
E(mm)	～54.5mm	～54.7mm	～55mm	～55.2mm

Pressure range selection

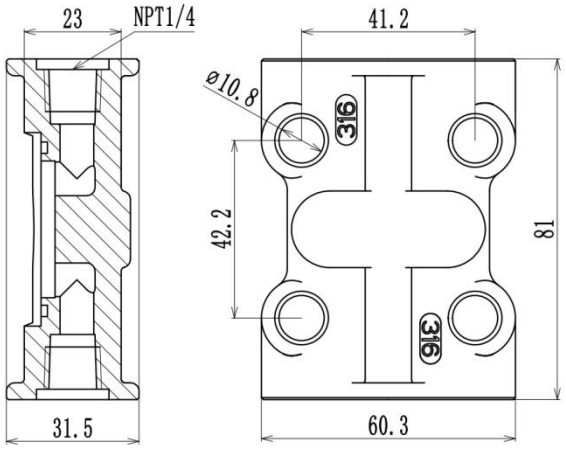
Code	Pressure range	Unilateral overpressure	Static pressure
6k	－6kPa～0～6kPa	16MPa	16MPa
40k	－40kPa～0～40kPa	16MPa	16MPa
100k	－100kPa～0～100kPa	16MPa	25MPa
250k	－100kPa～0～250kPa	16MPa	25MPa
1M	－100kPa～0～1MPa	16MPa	40MPa
3M	－100kPa～0～3MPa	16MPa	40MPa

Electrical connection

Wire color	Wire connection	Schematic diagram
Red	**(IN+)**	
Blue	**(IN-)**	
Yellow	**(OUT+)**	
White	**(OUT-)**	
Green	**(Diode+)**	
Black	**(Diode-)**	

Splint kit

SUS304、SUSU316 Splint Drawing（Unit：mm）



No.:	Name Specification	Qty
	SUSU304 Splint kit assembly	
1	SUS304Splint81×60.3×31.5	2
2	SUS304 bolt and nut M10×85	4
3	O-Ringφ42×2Silcone Rubber	2
4	SUS304Discharge valve NPT1/4	2
	SUSU316Splint kit assembly	
1	SUS316Splint 81×60.3×31.5	2
2	SUSU304bolt and nut M10×85	4
3	Outside dial of Teflon padφ42×2.3×2.2	2
4	SUS316discharge valve NPT1/4	2

How to order

PC90DK - 100k H11 - d17 K1

Model: PC90DK

Pressure range selection:
6k=±6kPa
40k=±40kPa
100k=±100kPa
250k=±250kPa
1M=±1MPa
3M=±3MPa

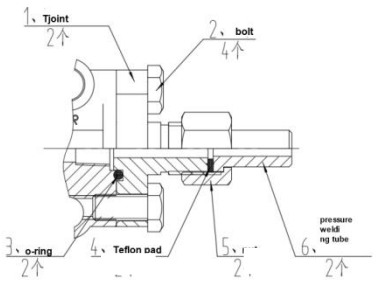
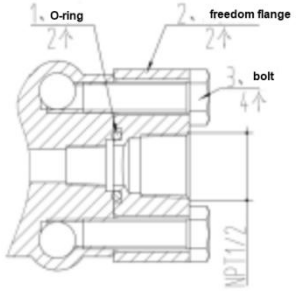
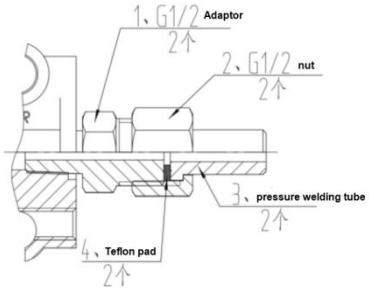
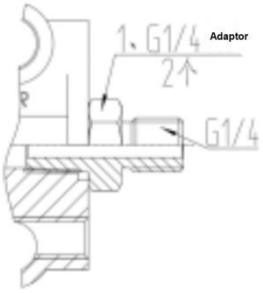
Threaded connection:
H11 = 55-16 thread
H10=M56×1.5
H9=M45×1.5
H2=M27×2

Flange:
K0= SUS304
K1= SUS316

Terminal wire:
Default 6-wire with 100mm
d17=terminal A2506H-07P 150mm

Example: PC90DK-100kH11-d17k1
Refer to product model PC90DK, with pressure range ±100kPa, thread 55-16, terminal A2506H-07P 150mm, SUS316 flange, diaphragm material stainless steel 316L, and filling oil silicon oil.

Parts' selection

Part's selection code	Name	Qty	Installation
C1: M20×1.5 with welding tube	T-joint	2	
	M10×20 bolt	4	
	O-ring	2	
	TEFLON pad	2	
	M20 nut	2	
	φ14×4pressure welding pipe	2	
C7F: NPT1/2(F)with freedom flange	O-ring	2	
	Freedom flange	2	
	M10×35 bolt	4	
	-	-	
	-	-	
C2: G1/2 with welding tube	NPT1/4convert G1/2 adaptor	2	
	G1/2 nut	2	
	φ14×4 pressure welding pipe	2	
	TEFLON pad	2	
	-	-	
C3: G1/4 Adapter	NPT1/4convert G1/4adaptor	2	
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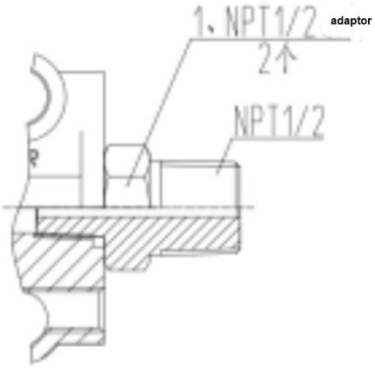
C7: NPT1/2 Adapter	NPT1/4convert NPT1/2adaptor	2	
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Ordering tips:

1. If other requirements are required, please specify specifically.

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