PCM2051-W-AP/GP

Monocrystalline Silicon Pressure Transmitter

Features

- Adopting German imported MEMS monocrystalline silicon sensing chips
- Wide measuring range
- 2-wire 4~20mA with HART® digital communication protocol
- Intelligent LCD gauge with backlight
- With local zero and pressure range adjustment
- High precision and excellent long-term stability
- Explosion-proof housing with superior anti-interference capability
- No mechanical moving parts, rugged construction and vibration resistance

Applications

- Widely applied in process control for petroleum, chemical, metallurgy, power, food & beverage, paper-making, pharmaceutical, machinery manufacturing, scientific research and aerospace.

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.

Product overview

The PCM2051-W-AP/GP Pressure Transmitter adopts the German-imported MEMS monocrystalline silicon pressure sensor chip. The sensor signal is converted to a standard signal through special signal processing. This product, with stable and reliable performance, has passed long-term aging and stability testing and can be used in harsh outdoor environments. It also ensures the on-site pressure display, with zero and span transferable.

The connection interface of PCM2051-W-AP/GP can be compatible with other brands' transmitters or can be customized to meet users' requirements. The products of this series are widely applied to industrial process control, petroleum, chemical, metallurgy, and other industries.

Notes:

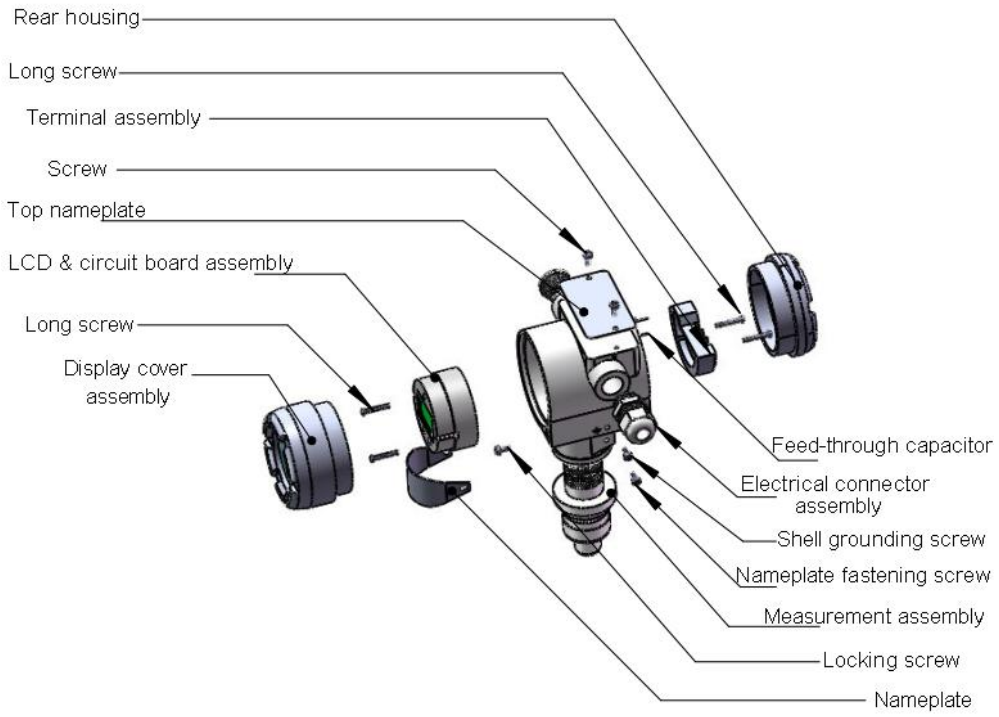
1 Do not misuse documentation.

2 The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.

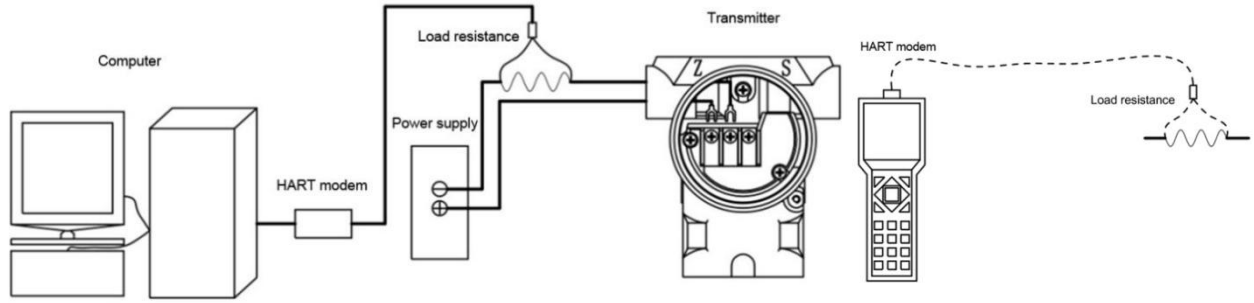
3 Complete installation, operation, and maintenance information is provided in the instructions of the product.

Performance parameters	
Pressure range	±6kPa G, ±40kPa G, ±100kPa G, -100~250kPa G, 0~100kPa A, 0~250kPa A, -0.1~1MPa G, -0.1~3MPa G, 0~10MPa S, 0~20MPa S, 0~40MPa S
Pressure reference	Gauge pressure, Absolute pressure, Sealed gauge pressure
Supply	12V~32V, recommended 24V
Output signal	4~20mA + HART protocol
Accuracy	±6kPa: ±0.1%FS; Other pressure ranges: ±0.075%FS (Standard ranges, 25±5℃)
Temp. drift	±6kPa: ±0.3%FS; Other pressure ranges: ±0.25%FS (Standard ranges, -20~70℃)
Ambient temp.	-30℃~70℃
Medium temp.	-40℃~120℃
Mechanical vibration	20g (20~5000Hz)
Shock resistance	100g (11ms)
Overload pressure	Refer to “pressure range selection”
Long-term stability	±0.1%FS/year
Protection	IP67
Ex-proof grade	Ex d IIC T6 Gb
Material	Housing: cast aluminum alloy; isolation diaphragm: 316L.
Medium compatibility	All kinds of media compatible with SS316L.
Response time	HART collects data from sensor: 0.1s; HART outputs data: 0.5s.

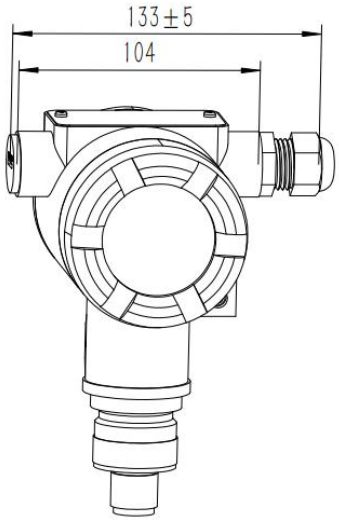
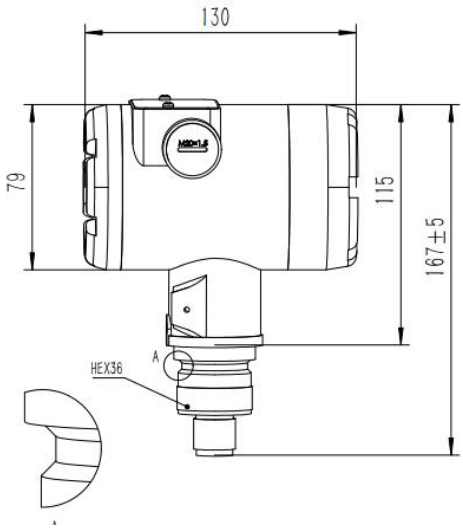
Component diagram

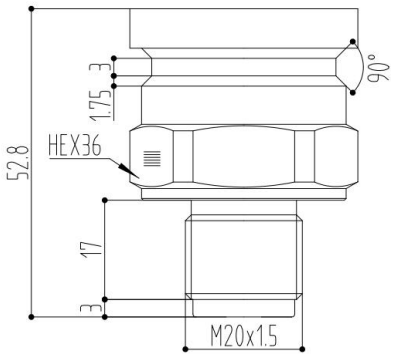
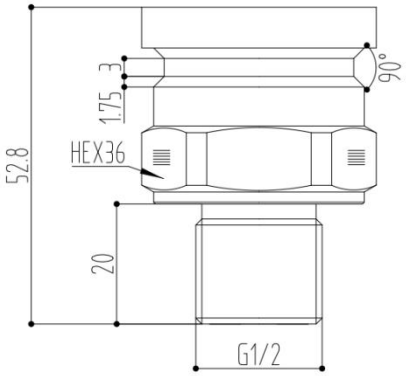
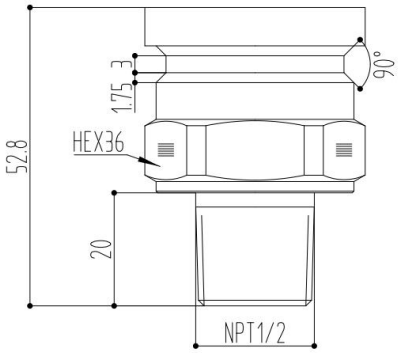
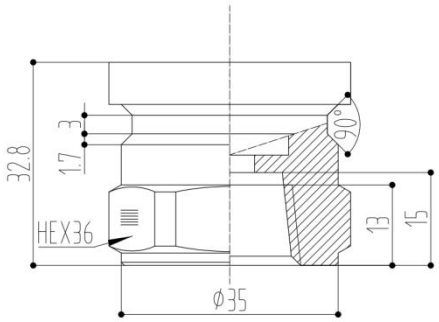


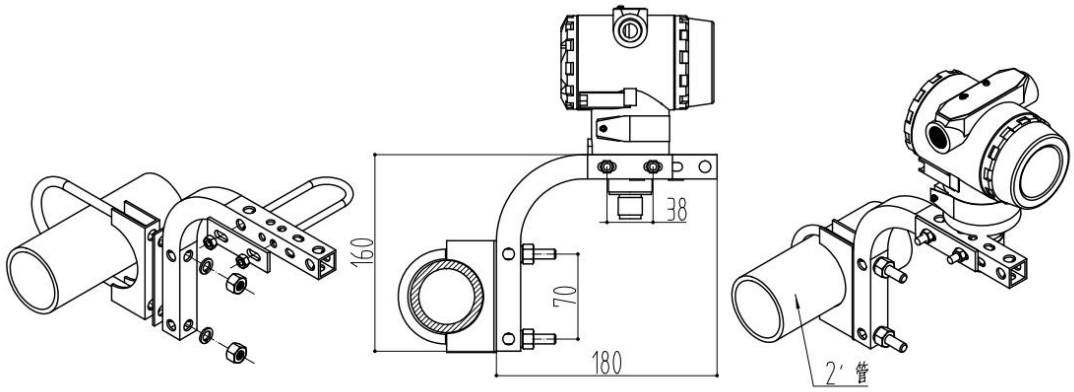
HART communication connection diagram



Dimension(in mm)

Product model	Dimension
PCM2051-AP/GP	
	

Pressure connection		
Pressure connection code	**C1: M20×1.5-6g**	**C2: G1/2**
Dimension In mm		
Recommended torque	15~25Nm	15~25Nm
Pressure connection code	**C7: NPT1/2**	**C7F: NPT1/2 (Female)**
Dimension In mm		
Recommended torque	15~25Nm	15~25Nm

L-shape bracket	

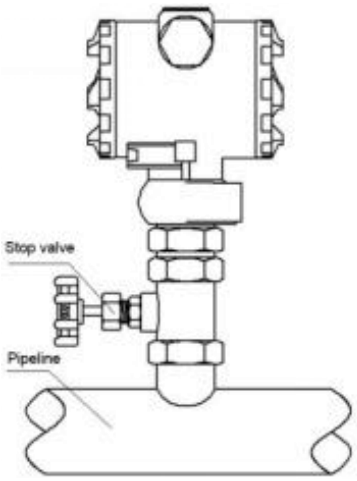
Installation instruction (for reference only)

Installation tips:

(1) The product is installed vertically on the field pressure connection.

(2) When installing outdoors, the transmitter should be placed in a ventilated and dry place, avoiding direct exposure to strong light and rain; otherwise, it will cause performance degradation or malfunction.

(3) When installing the product in a lightning-prone area, “lightning protection” should be indicated when ordering; meanwhile, it is highly recommended to install lightning protection devices on site, and ensure both the product and power supply are reliably grounded. These measures will reduce the probability of lightning damage to the transmitter.



(4) If no output or abnormal output after installation, please check:

① Whether the electrical connection is accurate and firm;

② Whether the supply voltage is too low and whether the load resistance is too high.

Pressure range selection

Code	Pressure range	Overpressure
6kG	±6kPa	300kPa
40kG	±40kPa	1MPa
100kG	±100kPa	2MPa
250kG	-100~250kPa	4MPa
100kA	0~100kPa A	2MPa
250kA	0~250kPa A	2MPa
1MG	-0.1~1MPa	6MPa

3MG	-0.1~3MPa	12MPa
10MS	0~10MPa	20MPa
20MS	0~20MPa	40MPa
40MS	0~40MPa	60MPa

Note: G: Gauge pressure, A: Absolute pressure, S: Sealed gauge pressure

Ordering information

PCM2051-W-GP - 40k - C7 - M4 - J6X

Product model
PCM2051-W-GP: Gauge Pressure
PCM2051-W-AP: Absolute Pressure

Pressure range
6k: ±6kPa Gauge Pressure
40k: ±40kPa Gauge Pressure
100k: ±100kPa Gauge Pressure
250k:-100~250kPa Gauge Pressure
100kA: 0~100kPa Absolute Pressure
250kA: 0~250kPa Absolute Pressure
1M: -0.1~1MPa Gauge Pressure
3M: -0.1~3MPa Gauge Pressure
10M: 0~10MPa Sealed gauge pressure
20M: 0~20MPa Sealed gauge pressure
40M: 0~40MPa Sealed gauge pressure
Others

Electrical connection
J6X: Ex-proof housing with display (M20×1.5)
J16X: Ex-proof housing with display (NPT1/2 female)
Others

Diaphragm material
Default: 316L
Others

Pressure connection
C1: M20×1.5
C2: G1/2
C7: NPT1/2
C7F: NPT1/2Female
Others

Example of ordering information: PCM2051-W-GP - 40k - C7 - M4 - J6X

Product model: PCM2051-W-GP, GP: gauge pressure, 40k: pressure range 40kPa, C7: pressure connection NPT1/2, M4: diaphragm material is 316L, J6X: electrical connection is ex-proof housing with display (M20×1.5), gauge: Zhongrui gauge head.

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.

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