

HPM86 Single Crystal Silicon Pressure Transmitter



Nanjing Hangjia Electronic Technology Co., Ltd.

Overview

HPM86 Monocrystalline Silicon Pressure Transmitter adopts Germany advanced MEMS technology to make the monocrystalline silicon core of sensor and global original monocrystalline twin beams suspension design to achieve the international leading functions of high accuracy, super high over voltage and stability. The built-in professional signal processing module can perfectly combine the static pressure compensation and temperature compensation and provide super high measuring accuracy and long-term stability under the wide range of static pressure and temperature change. HPM86 can accurately measure differential pressure and transfer it to 4-20mA signal output. This product can be operated locally through three buttons or operated remotely via manual operator, configuration software and mobile APP. Without affecting the signal output, it also can display and configure.

Features

- .high accuracy and high stability
- .excellent environment suitability
- .intelligent static pressure compensation and temperature compensation to prevent the transmitter from the effect of temperature, static pressure and over voltage and control the comprehensive measuring error to the minimum
- .flexible range of compression
- .great operability and convenience
- .with 5 bit LCD digital display with backlight
- .multiple display functions(mA、 Pa、 kPa、 MPa、 bar、 mbar、 %、 psi、 mmH₂O)
- .built-in three-button with quick operation and field adjustment functions

.with various anti-corrosion materials

.comprehensive self-diagnostic function

Technical Parameters

Measuring Medium :liquid, gas, steam

- ◆ Measuring Range:

Range	kPa	mbar	Unilateral	Bilateral Static Pressure
M1	-40~40	-400~400	3MPa	25MPa
M2	-100~100	-1000~1000	8MPa	25MPa
M3	-200~200	-2000~2000	8MPa	25MPa
M4	-400~400	-4000~4000	8MPa	25MPa
L1	-4000~4000	-40000~40000	10MPa	25MPa

Output Signal:(4~20)mADC+HART protocol

- ◆ Permissible Load Resistance:0~600Ω(DC 24V)

Note: When communicates with hand-held communicator , it requires at least 250Ω load resistance.

- ◆ Supply Voltage:

General Service	DC10.5~45V
Intrinsic Safety and Explosion-proof	DC10.5~26V

Zero-scale Migration: migrate within the range between -20% of maximum range and 20% of maximum range

- ◆ Output Mode: linear output, square root output (can be adjusted remotely by configuration software)
- ◆ Environment Temperature: -40~85℃ (when fill in fluorocarbon oil:-10~60℃)
- ◆ Storage Temperature: -40~90℃

◆ Accuracy:

Range	Reference Accuracy
M1,M2,M3,M4,L1	TD 1:1...15:1 =±0.075%
	TD > 15:1
	=±(0.0015×TD+0.053) %

*TD- Range Rate

◆ Environment Temperature Influence: Total influence value/28°C (50°F)

Range	Influence
M1,M2,M3	±[0.08 % of range+0.015 % of maximum
M4,L1	±[0.08 % of range +0.03 % of maximum

- ◆ Static Pressure Influence:: ±0.05% of range/10MPa
- ◆ Overpressure Influence: ±0.05% of maximum range /10MPa
- ◆ Stability: ±0.05% of maximum range /12 months
- ◆ Explosion Proof: Ex ia II CT4; Exd II CT6

Structure Drawing

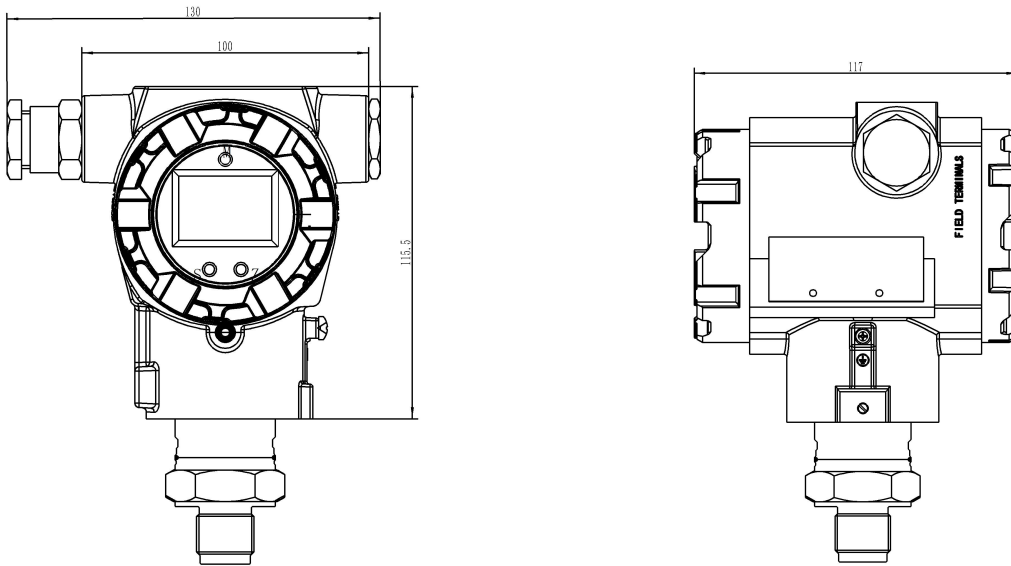
◆ Material for liquid connection: see the selection guide for details

Material code	Isolation Diaphragm	Install Splint
S	Isolation diaphragm :SUS316L	SUS316L
H	Isolation diaphragm: hastelloy C	SUS316L
T	Isolation diaphragm: tantalum	SUS316L
G	Isolation diaphragm: gold plated	SUS316L

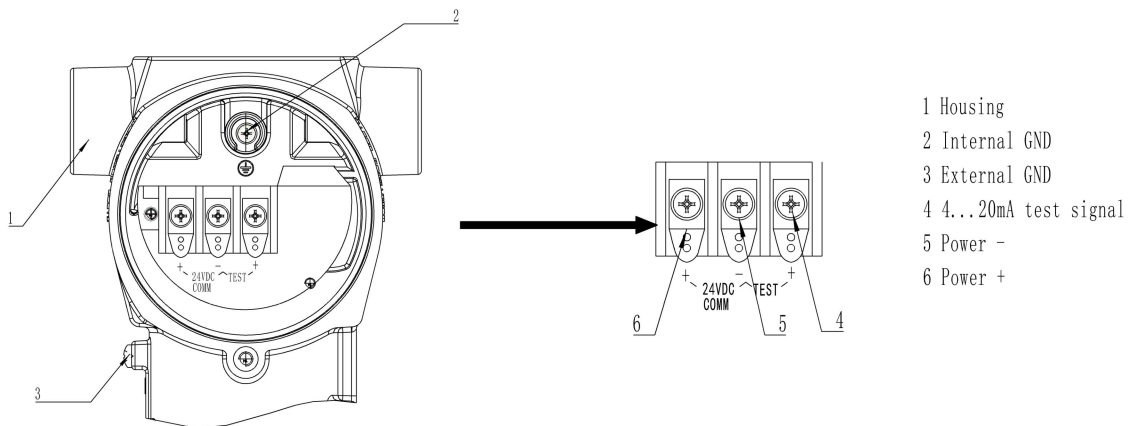
- ◆ Transmitter shell: low copper aluminum die casting + polyurethane coating
- ◆ Transmitter shell cover: low copper aluminum die casting + polyurethane coating
- ◆ Protection grade: IP66
- ◆ Nameplate: SUS304
- ◆ Filling oil: silicone oil, fluorine oil, sanitary oil, etc
- ◆ External dimension: according to the external drawing

- ◆ Weight: about 2.9-3.1kg (body)
- ◆ Cable inlet: M20×1.5

Structure Drawings(unit:mm)



Electrical Connection



Ordering Guide

Item NO.	Code							Illustration
HPM86								Monocrystalline Silicon Differential Pressure Transmitter
Output Signal	H	-	-	-	-	-	-	4~20mA, HART Protocol Digital Communication
Measuring Range (diaphragm capsule)	S1	-	-	-	-	-	-	Range:-1~1kPa
	S2	-	-	-	-	-	-	Range:-6~6kPa
	M1	-	-	-	-	-	-	Range:-40~40kPa
	M2	-	-	-	-	-	-	Range:-100~100kPa
	M3	-	-	-	-	-	-	Range:-200~200kPa
	M4	-	-	-	-	-	-	Range:-400~400kPa
	L1	-	-	-	-	-	-	Range:-4~4MPa
L2	-	-	-	-	-	-	Range:-40~40MPa	
Material of Contacted Liquid	S	-	-	-	-	-	-	Isolation diaphragm:SUS316L
	H	-	-	-	-	-	-	Isolation diaphragm: Hastelloy C
	T	-	-	-	-	-	-	Isolation diaphragm:Tantalum
	G	-	-	-	-	-	-	Isolation diaphragm: Gold Plating
Filling Liquid	S	-	-	-	-	-	-	Silicone Oil
	F	-	-	-	-	-	-	Fluorocarbon Oil
	O	-	-	-	-	-	-	Vegetable Oil
Thread Spec	N14F	-	-	-	-	-	-	1/4NPT Internal Thread
	N12F	-	-	-	-	-	-	1/2NPT Internal Thread
	M20M	-	-	-	-	-	-	M20*1.5 External Thread
Electrical Connection			M20	-	-	-	-	M20x1.5
Display Header			D	-	-	-	-	with LCD display
			N	-	-	-	-	N/A
Installment Holder			L	-	-	-	-	L holder
			N	-	-	-	-	N/A
Holder Material			T	-	-	-	-	Sherardize on Carbon Steel
			S	-	-	-	-	Stainless Steel 304
			X	-	-	-	-	Other Requirements
Explosion-Proof	d	-						Explosion-proof Type,Exd II CT6
	N	-						N/A
Order Code							V	Special Requirements
Reference Item: HPM86-H-M1-S-S-M20M-M20-D-N-L-S-N-V								