

HPM785 Hygienic differential pressure transmitter



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Overview

HPM785 sanitary differential pressure transmitter adopts high-quality stainless-steel material and overall welded structure, with sanitary design to ensure the hygiene and safety of food and medicine. The flat membrane directly senses the pressure signal, and the silicon pressure chip is used as the sensitive element. The built-in processing circuit converts the sensor signal into a standard current signal output, and the wide temperature range performance compensation is carried out through automatic testing and laser resistance adjustment process. The product has been strictly screened through long-term aging and stability assessment processes, and the performance is stable and reliable.

This product meets the following series of sanitary requirements. In terms of material non-toxicity and harmless requirements, it includes: different grades of stainless steel materials (304L, 316L, etc.) are selected according to different conditions; all kinds of polymer materials, various rubber elastic materials, adhesives, lubricants, conductive liquid materials, thermal isolation materials, external plating materials, etc. selected shall not contain toxic and harmful components, and shall not have toxic and harmful components seepage or infiltration; the structure requires smooth surface, no dead corners, not easy to accumulate dirt residue, not easy to be polluted, easy to clean in place (CIP) and sterilize in place (SIP), etc.; the processing requires a certain degree of finish and weldability. This product is widely used in pressure and level measurement of pharmaceutical, food, brewing, milk, juice, beverage, etc.

Features

- ◆ Flush membrane structure
- ◆ Overall stainless-steel structure
- ◆ Surface roughness can reach Ra0.4
- ◆ On-site display, while outputting standard remote signal
- ◆ Support CIP and SIP, high temperature resistance above 150°C
- ◆ Various hygienic process connections

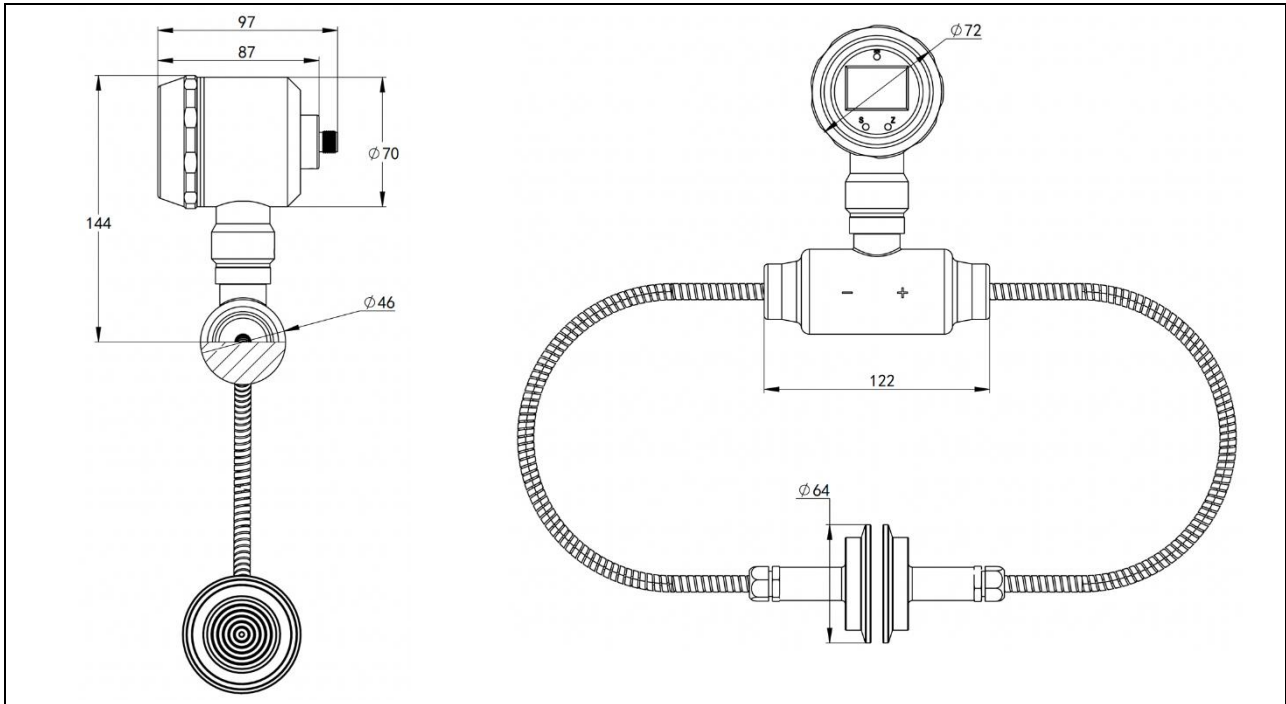
Application

- ◆ Food and beverage industry
- ◆ Pharmaceutical industry
- ◆ Liquid level measurement
- ◆ Differential pressure measurement in the field of industrial process control

Technical Parameters

Pressure Range	
Range (differential pressure)	0~10kPa···1MPa
One-side overload	16MPa
Static Pressure	25MPa
Negative pressure resistance	-100kPa
Measuring Medium	
Type	Various liquids and gases compatible with contact materials
Output/Power Supply	
Standard	2-wire: 4~20mA / Vs=10~30V
Standard	2-wire: 4~20mA+HART / Vs=12~32V
Standard	4-wire: Modbus-RTU/RS485 / Vs=12~30V
Performance	
Accuracy*	±0.5%FS(typical) @ 25°C ±0.25%FS(optional) @ 25°C
Long term stability	±0.50%FS/year, ≤100kPa ±0.25%FS/year, >100kPa
(*includes linearity, hysteresis, and repeatability)	
Temperature Drift Characteristics	
Compensation temperature range	-10~70°C
Zero scale temperature drift	±0.3%FS/10°C (within the temperature compensation range, ≤100kPa) ±0.3%FS/10°C (within the temperature compensation range, >100kPa)
Full scale temperature drift	±0.3%FS/10°C (within the temperature compensation range)
Environmental Conditions	
Temperature Range	Medium temperature: -40~180°C (Room temperature silicone oil) 0~320°C (high temperature silicone oil) -10~170°C (food and medical grade mineral oil) Ambient temperature: -20~80°C Storage temperature: -10~80°C
Protection Grade	IP65, M12×1
Electrical Protection	
Short circuit protection	Permanent
Reverse polarity protection	No damage, circuit inoperative
Electromagnetic compatibility	Conforms to EN 61326

Structural Drawings (unit: mm)



Note:

1. The dimensions listed in the picture may change as the technology is updated.
2. For other shapes, please consult the sales engineer.

Process Connection

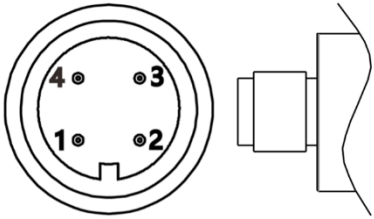
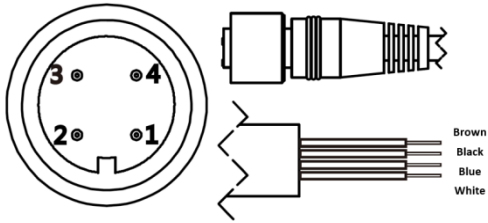
Ordering code K252、K505、K640			
Dimensions			
Installation diagram			
Standard	Specification	Size (ϕD)	Code
Tri-Clamp	2"	64	K640

Ordering code KD40、KD50		
Dimensions		
Installation diagram		
Standard	Specification	Code
HG/T 20592 flange	DN50-DN100	KF**

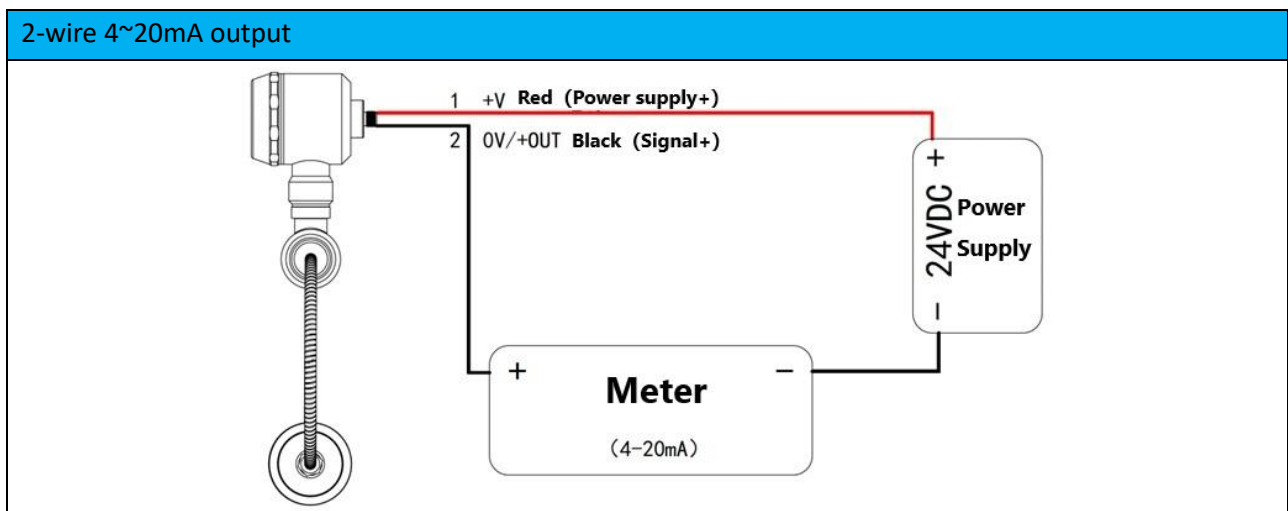
Structural Materials

Ordering Code	Part	Material
S4	Shell	304
S6		316L
S4	Clamp/Flange	304
S6		316L
S6	Pressure interface	316L diaphragm
HC		HASTELLOY C diaphragm
TA		Tantalum diaphragm

Electrical Connection

M12×1 (Ordering code C5)		M12×1, with cable (Ordering code C5X)		
				
Two-wire 4~20mA current output				
Signal Definition	Power supply+(+V)	Power supply-(0V/+OUT)		
M12×1	1	2		
M12×1 with cable	brown	black		
Four-wire Modbus-RTU/RS485 output				
Signal Definition	Power supply+(+V)	Power supply-(-V)	RS485A	RS485B
M12×1	1	2	3	4
M12×1 with cable	brown	black	blue	white

Electrical Wiring Diagram



Ordering Guide

Model	Type							
HPM785	Hygienic differential pressure transmitter							
	Range	Measuring Range						
	(0 ~ X)kPa	X is upper limit						
		Code	Output signal					
		B1	(4 ~ 20)mA					
		B7	RS485					
		B8	HART					
			Code	Pressure interface				
			K640	Tri-Clamp 2"				
			KF50	DN50PN10				
			KF80	DN80PN10				
			Code	Electronical connection				
			C5	M12×1				
			C5X	M12×1 with cable				
			Code	Housing material				
			S4	304				
			S6	316L				
			Code	Clamp or flange material				
			S4	304				
			S6	316L				
			Code	Diaphragm				
			S6	316L				
			HC	HaC				
			TA	tantalum				
			Code	Others				
			(M,N)	For example, the high pressure side is 2m and the low pressure side is 3m, which is expressed as (02,03)				
			ZL4	304 material mounting bracket				
			ZL6	316L material mounting bracket				
			NS	Room temperature silicone oil(-40 ~ 180°C)				
			HS	High temperature silicone oil(0 ~ 320°C)				
			UP	Food and medical grade mineral oil(-10 ~ 170°C)				
			EP	Electrolytic polishing of wetted parts				
			QF	factory inspection report				
				Other customized requirements				
eg:HPM785	(0 ~ 20)kPa	B1 B8	K640	C5	S4	S6	S6	(02,03) ZL6 NS

Certification Information

Factory certification	
Certification organization	CQM
Quality management system	ISO 9001:2015
Certification scope	Research, development and manufacture of pressure transmitter and temperature transmitter
Certificate No.	00223Q21711R1S

CE	
Certification organization	ECM
Certification scope	Pressure Transmitter (Differential Pressure Transmitter)
Mark	CE
Related to CE Directive	2014/30/EU
Certificate No.	6G241223.NHEWC83