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 harmlessness 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℃
- Various hygienic process connections

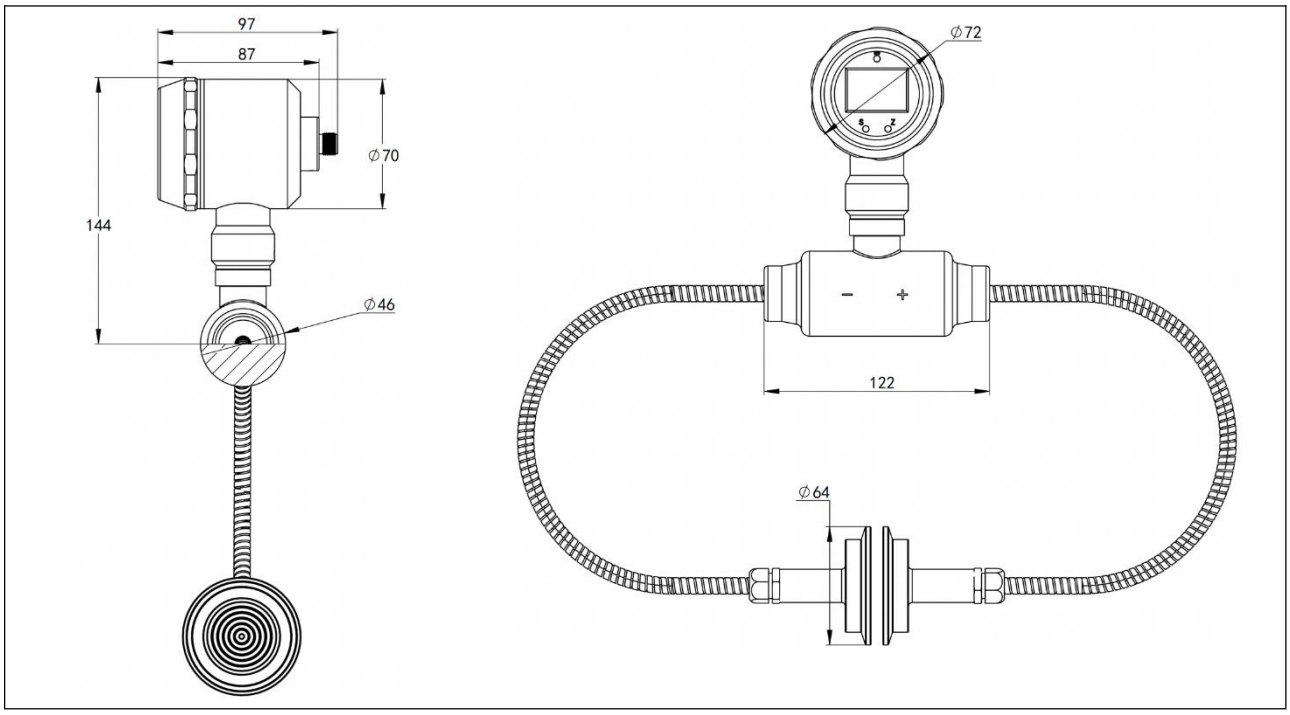
Application

- 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℃ ±0.25%FS(optional) @ 25℃
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℃
Zero scale temperature drift	±0.3%FS/10℃(within the temperature compensation range,≤100kPa) ±0.3%FS/10℃(within the temperature compensation range, >100kPa)
Full scale temperature drift	±0.3%FS/10℃(within the temperature compensation range)
Environmental Conditions	
Temperature Range	Medium temperature: -40~180℃ (Room temperature silicone oil） 0~320℃ (high temperature silicone oil) -10~170℃ (food and medical grade mineral oil) Ambient temperature: -20~80℃ Storage temperature: -10~80℃
Protection Grade	IP65, M12×1
Electrical Protection	
Short circuit protection	YES
Reverse polarity protection	No damage, circuit inoperative

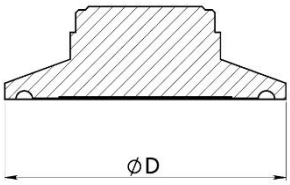
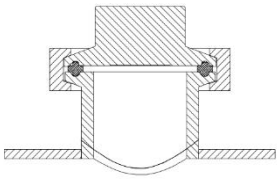
Structural Drawings (unit: mm)



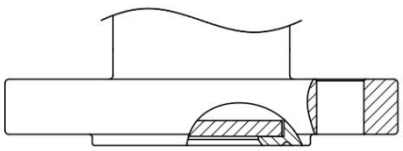
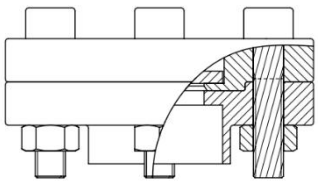
Note:

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

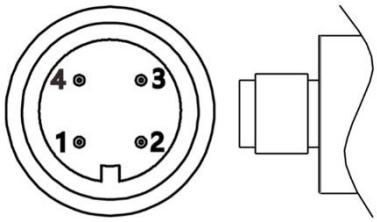
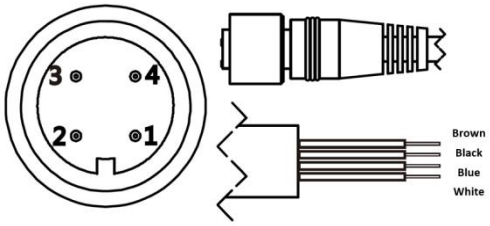
Ordering code KD40、KD50
Dimensions 
Installation diagram 

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 codeC5X）
	

Two-wire 4~20mA current output

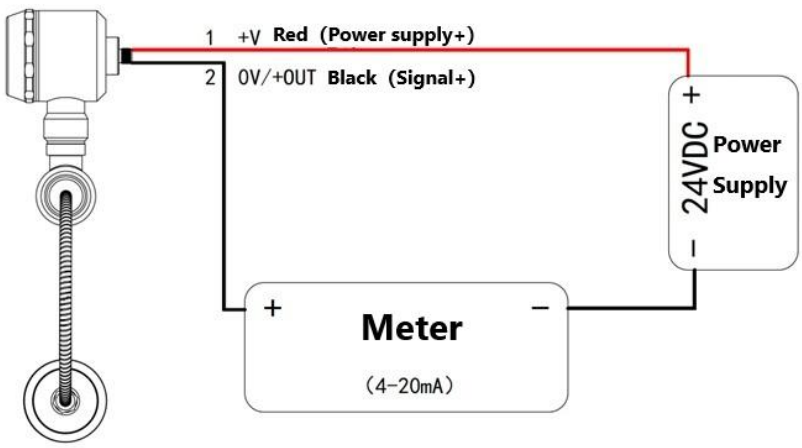
Signal Definition	Power supply+(+V)	Power supply-(0V/+OUT)
M12×1	1	2
M12×1 with cable	brown	black

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

2-wire 4~20mA output



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℃)
								HS	High temperature silicone oil(0 ~ 320℃)
								UP	Food and medical grade mineral oil(-10 ~ 170℃)
								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	