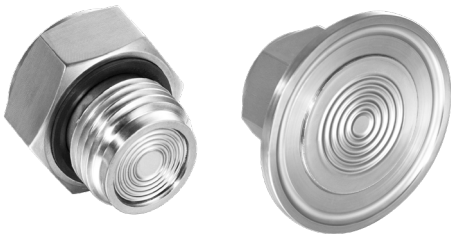


MPM280 Hygienic Pressure Sensor

Introduction

MPM280 Hygienic pressure sensor is a pressure sensing element through male thread and clamp connection. It has pressure port G1/2 male, R1/2 male, NPT1/2male, M20×1.5 male and DN25 clamp, sealed by FKM or silicon O-ring. The isolated diaphragm is welded in front of thread port, the range is 0bar~0.35bar...350bar(thread connection) and 0bar~0.35bar...35bar(clamp connection). It is suitable for pressure detection in food, medicine, health and other industries and occasions where the measuring medium may be fouled.

We can use gauge type of general, assembled and flush diaphragm type MPM280 to measure pressure below air pressure, the min. pressure can be around -1bar.



Features

- Pressure range: 0bar ~ 0.35bar...350bar
- Gauge, Absolute and Sealed gauge
- Constant current or Constant voltage power supply for option
- Isolated construction to measure various fluid media
- Thread connection
pressure:0bar~0.35bar...350bar
- Clamp connection
pressure:0bar~0.35bar~35bar
- Hygienic structure optional(Ra<0.4μm)
- Tnegtive pressure measurement is available, the lowest to around -1bar

Application

- Industrial process control
- Level measurement
- Gas, Liquid pressure measurement
- Pressure meter
- Pressure calibrator
- Liquid pressure system and Switch
- Refrigeration equipment and Air conditioner
- CIP or SIP online cleaning or sterilization system

Electrical Performance

- Power supply: ≤2.0mA DC
- Electrical connection: φ0.5mm Kovar pin or 100mm silicon rubber flexible wires
- Common mode voltage output: 50% of input (typ.)
- Input impedance: 2.5kΩ~8kΩ
- Output impedance: 3.5kΩ~6kΩ
- Response (10%~90%): <1ms
- Insulation resistor: 100MΩ@100V DC
- Overpressure: 2 times FS

Construction Performance

- Diaphragm: Stainless steel 316L
- Housing: Stainless steel 316L
- Pin: Kovar
- O-ring: FKM
- Net weight: ~50g(PC1)
~148g(PD1)
~163g (PD1s)

Environment Condition

- Shock: No change at 10gRMS,(20~2000)Hz
- Impact: 100g, 11ms
- Media compatibility: The gas or liquid which is compatible with construction material and FKM

Basic Condition

- Media temperature: $(25\pm 1)^\circ\text{C}$
- Environment temperature: $(25\pm 1)^\circ\text{C}$
- Shock: 0.1g (1m/s^2) Max.
- Humidity: $(50\pm 10)\%\text{RH}$
- Local air pressure: $(0.86\sim 1.06)\text{bar}$
- Power supply: $(1.5\pm 0.0015)\text{mA DC}$

Specification

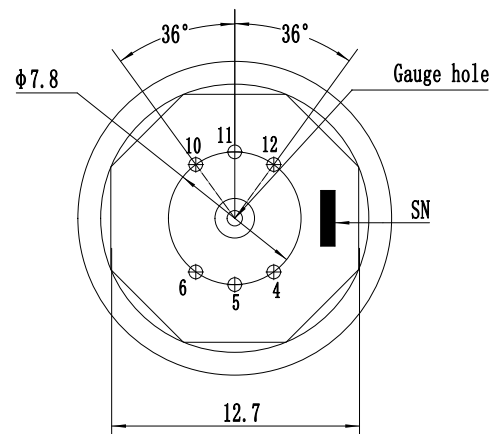
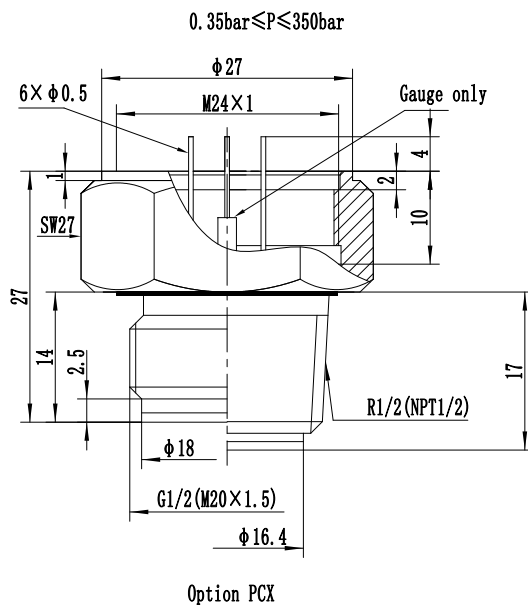
Item*	Min.	Typ.	Max.	Units
Linearity		± 0.15	± 0.25	%FS, BFSL
Repeatability		± 0.05	± 0.075	%FS
Hysteresis		± 0.05	± 0.075	%FS
Zero output		± 1.0	± 2.0	mV DC
Output/Span**	70			mV DC
Zero thermal error***		± 0.75	± 1.0	%FS, @25°C
FS thermal error***		± 0.75	± 1.0	%FS, @25°C
Compensated temp. range		0~50		°C
Working temp. range		-40~125		°C
Storage temp. range		-40~125		°C
Long-term stability		± 0.2	± 0.3	%FS/Year

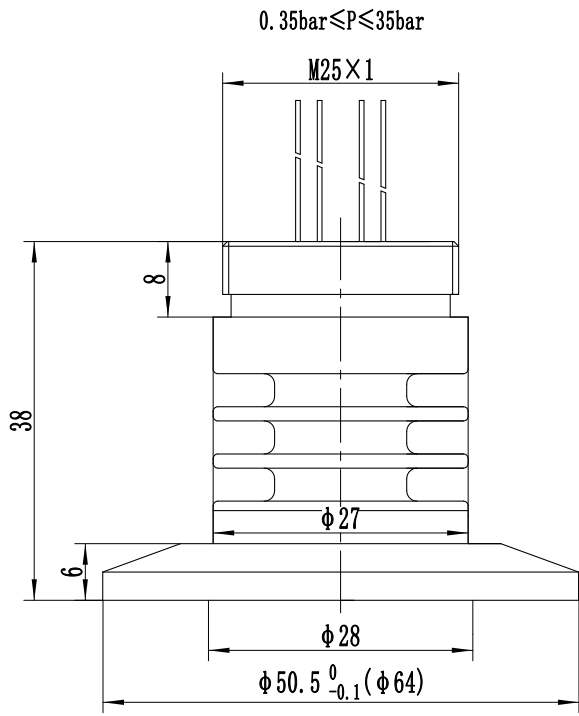
* Testing at basic condition, G: Gauge; A: Absolute; S: Sealed gauge
 ** Output/Span=full scale output - zero point
 350mbar G, FS output $\geq 60\text{mV}$
 700mbar A, 0.1bar A, 700mbar GY, 1.0bar GY, FS output $\geq 45\text{mV}$
 2.0bar A, 3.5bar A, 2bar GY, 3.5bar GY, FS output $\geq 60\text{mV}$
 *** PDX, PDXs, F type zero thermal error, FS thermal error reference temperature condition 35°C
 **** PDX, PDXs, F type compensated temp. range: $0\sim 70^\circ\text{C}$

Outline Construction

Unit: mm

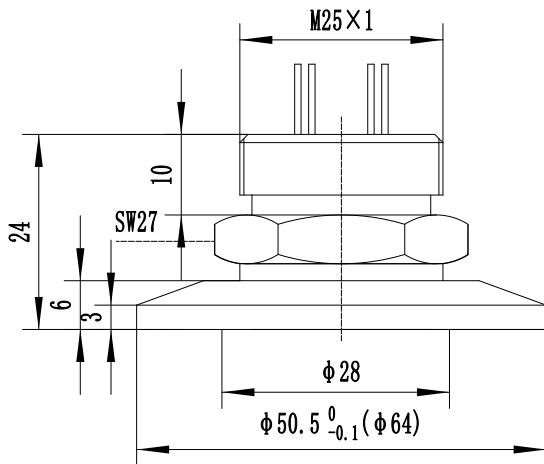
Electrical Connection





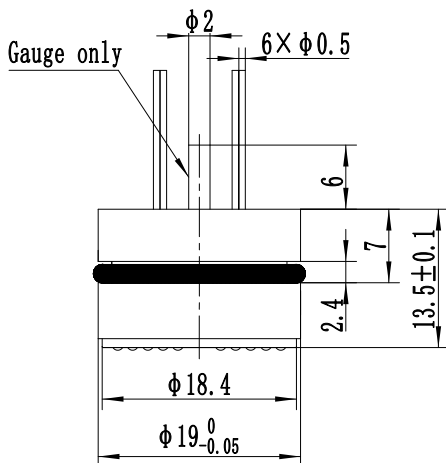
Option PD1s (PD2s)

0.35bar ≤ P ≤ 35bar

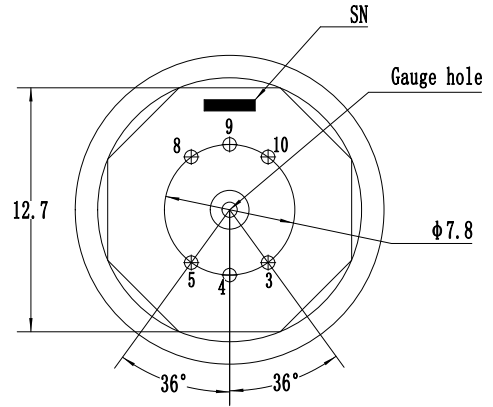


Option PD1 (PD2)

0.35bar ≤ P ≤ 200bar



Option F



Pin	Definition	Wire color
4	+OUT	Red
5	+IN	Black
6	-IN	Yellow or White
10	-OUT	Blue
Other pins are useless		

Pin	Definition	Wire color
4	+OUT	Red
5	-IN	Yellow or White
8	+IN	Black
9	-OUT	Blue
Other pins are useless		

Pin	Definition	Wire color
4	-OUT	Blue
5	-IN	Yellow or White
8	+IN	Black
9	+OUT	Red
Other pins are useless		

Notes

1. The actual electrical connection method, please check the parameter label enclosed with products.

Order Guide

MPM280		Hygienic Pressure Sensor						
	code	range	Ref.	Range code	range	Ref.		
	0B	0bar~0.20bar	G	10	0bar~10bar	G.A		
	0A	0bar~0.35bar	G.A	12	0bar~20bar	G.A		
	02	0bar~0.70bar	G.A	13	0bar~35bar	G.A.S		
	03	0bar~1bar	G.A	14	0bar~70bar	S.A		
	07	0bar~2bar	G.A	15	0bar~100bar	S.A		
	08	0bar~3.5bar	G.A	17	0bar~200bar	S.A		
	09	0bar~7bar	G.A	18	0bar~350bar	S.A		
	Code	Pressure type						
	G	Gauge						
	A	Absolute						
	S	Sealed gauge						
	Code	Pressure connection						
	0 or null	O-ring						
	F	Flat film(0.35bar~200bar),Φ19mm						
	PC1	Flush film,M20×1.5 External thread						
	PC2	Flush film,R1/2 External thread						
	PC3	Flush film,G1/2 External thread						
	PC4	Flush film,NPT1/2 External thread						
	PD1	DN25 Clamp connection						
	PD1s	DN25 Clamp connection with heat sink						
	PD2	DN50 Clamp connection						
	PD2s	DN50Clamp connection with heat sink						
	Code	Compensation						
	L	Laser trimming						
	M	Outer compensated resistor(providing resistor value)						
	Code	Electrical connection						
	1	Kovar pin(default)						
	2*	100mm silicon rubber flexible wires						
	Code	Special measurement						
	Y**	Gauge sensor to measure vacuum(-1bar~0bar)						
	0 or null	normal type						
	W	NEObee M20						
MPM280	08	G	PC1	L	1	Y	W	The whole spec
<p>* The default code for electrical connection is "1"on the parameter card. And it is also allowed to print code "1" if the electrical connection is flexible wire (original code "2"). The wire length shall be as per customers' request on the contact.</p> <p>** The gauge pressure type can be used to measure negative pressure (02 GY: 700mbar~0bar, 03 GY and above: -1.0bar~0bar).</p> <p>*** PDX Pressure measurement range:0bar~0.35bar...35bar</p>								

Notes

- The default unit of all the products is kPa
(1kPa=0.01bar).