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Датчик давления для измерения содержания водорода MPM480GH.

Технические характеристики.



Pressure Transmitter

for Hydrogen Measurement

MPM480GH



Applications

- Hydrogen production system
- Hydrogen storage system
- Fuel cell

Features

- Inner sensor diaphragm is gold plated (MPM280Au), fully welded inner sensor assembly structure, effectively prevent hydrogen penetration
- Support reversed-polarity, overcurrent and overvoltage protection, conforming to EMI protection requirements
- Multiple output signals available
- Intrinsic safety type circuit, or use in hazardous areas
- High accuracy, up to $\pm 0.25\%FS$

Introduction

MPM480GH is a pressure transmitter designed for gas industrial applications. It contains a piezoresistive sensor (gold plated) of excellent stability and reliability, a standardized output signal circuit and the high-strength stainless steel housing. The inner sensor diaphragm is processed with gold plating, capable for use in hydrogen environment. Its fully welded inner sensor assembly structure, wide temperature working capacity, and multiple cable materials options, making it an effective pressure measuring solution for the gas industry.

Specifications

Range	0mbar ~ 250mbar...70bar
Overpressure	≤ 1.5 times FS
Pressure Type	gauge, absolute, sealed gauge
Accuracy	see Accuracy Table
Long-term Stability	$\pm 0.2\%FS/year$
Compensated Temperature	-10°C ~ 60°C
Application Temperature	-30°C ~ 85°C (B1 type, B4 type)
	-20°C ~ 70°C (B2 type, cable material: PE, PVC)
	-20°C ~ 80°C (B2 type, cable material: PUR)
Storage Temperature	-30°C ~ 85°C (B1 type, B4 type)
	-20°C ~ 85°C (B2 type)
Vibration	20g, 20Hz ~ 2000Hz
Shock	20g, 11ms
Protection Degree	IP65

Accuracy

Pressure Type	Range	Accuracy
Gauge (G)	0mbar ~250mbar < X ≤ 350mbar	±1% FS
	350mbar ≤ X ≤ 1bar	±0.5% FS
	1bar < X ≤ 70bar	±0.25% FS
		±0.5% FS
Absolute (A)	0mbar ~ 700mbar < X ≤ 1bar	±1% FS
	1bar < X ≤ 10bar	±0.5% FS
	10bar < X ≤ 70bar	±0.25% FS
Sealed gauge (S)	35bar < X ≤ 70bar	±0.25% FS
		±0.5% FS

Note: the accuracy is within the range of compensation temperature (- 10℃ ~60 ℃)
Test Standard: GB/T 17614.1-2015/IEC60770-1:2010;

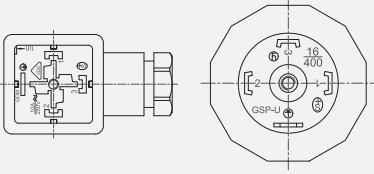
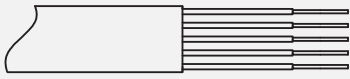
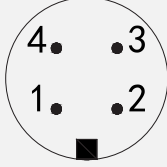
Output Signals

Output Signal	Power Supply	Output Format	Load Resistance	Insulation Resistance
4mA~20mA DC(E)	12V~28V DC	2-wire	≤(U-11)/0.02 (Ω)	100MΩ@500V DC
0V~10V DC(V)	15V~28V DC	3-wire	≥10kΩ	
0V~5V DC(J)				
1V~5V DC(F)				
0.5V~4.5V DC(K2)				
0.5V~4.5V DC(K1)	5V~10V DC			
0.5V~2.5V DC(W)	3.2V~5V DC			

Outline Dimensions

Hirschmann 4-pin Angular Connector (B1)	Cable (B2)	M12 x 1 4-pin Circular Connector (B4)

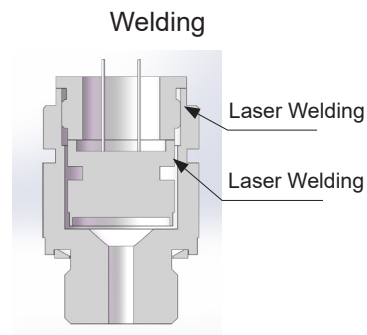
Electrical Connection

Definition	Hirschmann 4-pin Angular Connector (B1)		Cable (B2)		M12 x 1 4-pin Circular Connector (B4)	
						
	current 2-wire	voltage 3-wire	current 2-wire	voltage 3-wire	current 2-wire	voltage 3-wire
+V	1	1	red	red	1	1
+OUT	2	3	black	black	3	3
GND	null	2	null	white	null	2

Sensor Structure



Sensor Sealing



Materials

Wetted Parts

Isolated Diaphragm: SS 316L(gold plated)

Pressure Port: SS 304/SS 316L

Non-wetted Parts

Housing: SS 304 / SS 316L

Cable: PE / PUR/ PVC

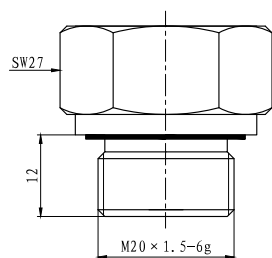
Note: the first one of each structural part is default material.

Process Connection

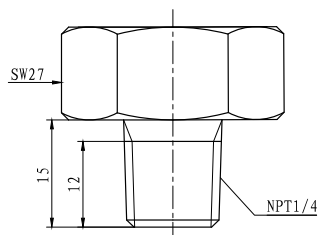
Process Connection Dimensions

unit: mm

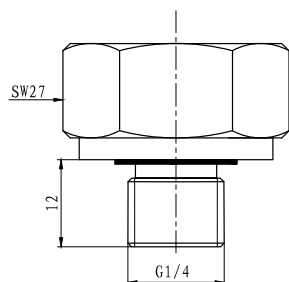
M20×1.5 male, end face seal (C1)



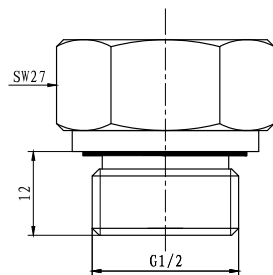
NPT1/4 male (C6)



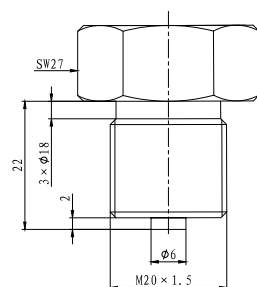
G1/4 male, end face seal (C2)



G1/2 male, end face seal (C3)



M20×1.5 male, waterline seal (C5)



Ordering Guide

MPM480GH Pressure Transmitter												
Range			Measurement Range: 0mbar ~ 250mbar...70bar									
[0 ~ X]mbarL or barL			X: actual measured range, L means cable length when electrical connection is B2									
			Code	Pressure Type								
			G	gauge								
			A	absolute								
			S	sealed gauge								
			Code	Accuracy ^①								
			A1	±0.25%FS								
			A2	±0.5%FS								
			A3	±1%FS								
			Code	Electrical Connection ^②								
			B1	4-pin Plug Connector								
			B2	cable Connection								
			B4	M12×1 4-pin Plug Connector								
			Code	Output Signals								
			E	4mA~20mA DC								
			F	1V~5V DC								
			J	0V~5V DC								
			V	0V~10V DC								
			K1	0.5V~4.5V DC (5V~10V DC Power)								
			K2	0.5V~4.5V DC (15V ~ 28V DC Power)								
			W	0.5V~2.5V DC (3.2V~5V DC Power)								
			Code	Sensor Sealing								
			O2	Welding								
			Code	Materials								
				Isolated Diaphragm	Pressure Port			Housing				
			22	SS 316L	SS 304			SS 304				
			24	SS 316L	SS 316L			SS 316L				
			Code	Process Connection								
			C1	M20×1.5 male, end face sealing								
			C2	G1/4 male, end face sealing								
			C3	G1/2 male, end face sealing								
			C6	NPT1/4 male								
			Code	Cable material(B2 usage)								
			Null									
			P1	PE								
			P2	PUR								
			P3	PVC								
MPM480GH	[0 ~ 16]bar	G	A2	B2	E	O2	22	C2	P1	Complete Type Specification		

Ordering Notes

- " ① " means accuracy, see "Accuracy" on page 2;
- " ② " means electrical connection, when electrical connection is B1 or B4, terminal mating will not be provided by default; please specify it in the order if needed;
- If metrology verification certificate is needed or there are other requirements, please contact us and specify it in the order.

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