

Model DPM510

For Differential Pressure Measurement



Product Overview

DPM510 is made from high-quality metal capacitive differential pressure sensor. The DPM510 series smart transmitter is suitable for measuring flow, liquid level and pressure (differential pressure, gauge pressure and absolute pressure). Smart pressure transmitter is microprocessor-based pressure-sensing instrument, it has high performance and reliability with the flexibility of digital electronics.

Applications

- Process control systems
- Chemical industry
- Energy industry
- Machine building

Features

- Suitable for measurement of differential pressure, gauge pressure, absolute pressure.
- Accuracy: $\pm 0.1\%$ FSO, $\pm 0.2\%$ FSO, $\pm 0.5\%$ FSO
- Calibrated and temperature compensated
- Metal capacitive pressure sensor design
- Support FF H1, Profibus PA and HART protocols
- Excellent long-term stability

Standard Pressure Ranges

Code	Nominal pressure	SG	SD	SA	SH
2	0.03...1.5kPa		●		
3	0.075...7.5kPa	●	●		●
4	0.374...37.4kPa	●	●	●	●
5	1.86...186.8kPa	●	●	●	●
6	6.9...690kPa	●	●	●	●
7	20.68...2068kPa	●	●	●	●
8	68.9...6890kPa	●	●	●	
9	206.8...20680kPa	●			
0	413.7...41370kPa	●			

SG: gauge pressure

SD: differential pressure

SA: absolute pressure

SH: high static pressure

Performance Specifications

Parameter	Value	Notes
General Parameter		
Output Signal	Analog: 4~20mA(2 wire) Digital: HART, FF and PA signal	
Power Supply(Vs)	9...32Vdc(FF,PA) 9...32Vdc (FF, PA Explosion-proof instrument) 11.9...42Vdc (HART) 11.9...30Vdc (HART Explosion-proof instrument)	
Load Resistance	0~1500ohm (common),250~550ohm (with HART)	
Display	5 bits characters LCD display	
Start Time	<5 seconds	
Refresh Time	0.2 seconds	
Dump Adjusting	0.2~15 seconds	
Operating Temperature Range	-40 to +85°C (no display) -20 to +70°C (with display) -30 to +60°C (Explosion-proof)	
Storage Temperature Range	-40 to +100°C (no display) -40 to +85°C (with display)	
Media Temperature Range	-40 to +104°C (silicone oil) -18 to +71°C (inert liquid)	
Humidity Scale	5%~100%RH	
Static Pressure Limit	SD: 6.89MPa(for range2) SD: 13.8MPa(for range3,4,5,6,7,8) SH: 31.0MPa(for range4,5,6,7)	
Over Pressure Limit	SG: 13.8MPa(for range3,4,5,6,7,8) SG: 31.0MPa(for range9) SG: 51.7MPa(for range0)	
Parameter		
Accuracy	0.075%FS, 0.1%FS, 0.2%FS, 0.5%FS	1, 2
Temperature Effect	Total effects per 28°C(50°F)change: For range 2: ±[0.05% URL +0.25% Span] For other ranges: ±[0.025% URL +0.125% Span]	
Long-Term Stability	In 12 months, ±0.1% of maximum range	
Static pressure effect	For range 2: ±1%URL/6.9MPa For range 3: ±0.5%URL/6.9MPa For other ranges: ±0.25%URL/6.9MPa	
Location installed effect	The maximum of the zero point movement is 0.25kPa	
Power Effect	<0.005%/V range calibrated	
Physical Specifications		
Electrial connection	M20x1.5, 1/2-14NPT	
Process connection	1/4-18NPT	
Material	Isolated membrane: 316LSS, Hastelloy-C, Monel, Tantalum Exhaust/outlet valve: 316SS, 316LSS Flange and connector: 316SS O-ring: fluororubber Bolt: Zinc plating carbon steel housing: low copper of albrnze	
Net Weight	3.6kg(with display), 3.4kg(no display)	

Notes

- All values measured at 25°C(77°F)
 - Including non-linearity, hysteresis and repeatability.
- The listed specifications and dimensions are subject to change without prior notice.

Ordering Information

● Applicable ○ Not applicable

Model	Type	SG	SA	SD	SH
DPM510SG	Gauge Pressure Transmitter	●	○	○	○
DPM510SA	Absolute Pressure Transmitter	○	●	○	○
DPM510SD	Differential Pressure Transmitter	○	○	●	○
DPM510SH	high static Pressure Transmitter	○	○	○	●
Code	Pressure range	SG	SA	SD	SH
2	0.03...1.5kPa	○	○	●	○
3	0.075...7.5kPa	●	○	●	●
4	0.374...37.4kPa	●	●	●	●
5	1.86...186.8kPa	●	●	●	●
6	6.9...690kPa	●	●	●	●
7	20.68...2068kPa	●	●	●	●
8	68.9...6890kPa	●	●	●	○
9	206.8...20680kPa	●	○	○	○
0	413.7...41370kPa	●	○	○	○
Code	Output signal	SG	SA	SD	SH
A	4...20mA, Analog signal	●	●	●	●
H	HART protocol	●	●	●	●
F	FF H1 protocol	●	●	●	●
P	Profibus PA protocol	●	●	●	●
Code	Accuracy	SG	SA	SD	SH
01	0.1%FS	●	●	●	●
02	0.2%FS	●	●	●	●
05	0.5%FS	●	●	●	●
Code	Materials	SG	SA	SD	SH
	flange exhaust/outlet valve membrane filled liquid				
22	316SS 316SS 316LSS silicone oil	●	●	●	●
23	316SS 316SS Hastelloy-C silicone oil	●	●	●	○
24	316SS 316SS Monel silicone oil	●	●	●	○
25	316SS 316SS Tantalum silicone oil	●	○	●	○
33	Hastelloy-C Hastelloy-C Hastelloy-C silicone oil	●	●	●	○
35	Hastelloy-C Hastelloy-C Tantalum silicone oil	●	○	●	○
44	Monel Monel Monel silicone oil	●	●	●	○
Code	Mounting kit	SG	SA	SD	SH
B1	2" pipe mounting kit	●	●	●	●
B2	panel mounting kit	●	●	●	●
B3	2" pipe flat mounting kit	●	●	●	●
Code	Exhaust valve (optional)	SG	SA	SD	SH
D1	side exhaust valve on top	●	●	●	●
D2	side exhaust valve on bottom	●	●	●	●
D3	exhaust valve on middle	●	●	●	●
Code	Process connection	SG	SA	SD	SH
D42	1/4-18NPT(female)	●	●	●	●
D43	1/2-14NPT(female)	●	●	●	●
Code	Electrical connection	SG	SA	SD	SH
E1	M20x1.5	●	●	●	●
E2	1/2-14NPT	●	●	●	●
Code	Meters	SG	SA	SD	SH
M0	no meter	●	●	●	●
M1	LCD display	●	●	●	●
Code	Bolting materials	SG	SA	SD	SH
L1	1Cr18Ni9	●	●	●	●
L2	0Cr17Ni4Cu4Nb	●	●	●	●
L3	42CrMo	●	●	●	●

Examples of Ordering Code: DPM510SD-3-H-020-220-B1-D1-D42-E1-M1-L1

This data sheet contains product specification, properties are not guaranteed. Subject to change without notice.