



bar MDM491

Piezoresistive Differential Pressure Transmitter

MDM491 Piezoresistive Differential Pressure Transmitter is a compact full-welded (no sealed ring) differential measurement element. Silicon oil is filled in between die and two diaphragms, when the measured differential pressure is added on two diaphragms, the pressure could be transferred onto die through silicon oil.

Sensor die connects with amplifier circuit through wires, using semi-conductor's piezoresistive effect, transforming differential pressure signal into electric signal. The output signal from Weston Bridge on the sensing die has a good linear relationship with differential pressure, so the measured differential pressure could be measured precisely. The whole product is used for differential pressure measurement of various gases and liquids in pipeline in many fields including petroleum, chemi-industry, power station and hydrology, etc..



FEATURES

- Full stainless steel construction, compact size, easy installation;
- Welding and full-sealed construction; housing protection IP65;
- Using piezoresistive differential pressure sensor, 316L isolated diaphragm;
- Temperature compensation and aging, stable performance;
- Zero and span adjustable outside for plug connection version.

ELECTRIC PERFORMANCE

- Power Supply: 15V~28V DC
- Output Signal: 4mA~20mA DC(2-wire);
 OV/1V~5V/10V DC,
- 0mA~10mA/20mA DC(3-wire)
- Electrical Connection: plug or cable
- Response Time: (10%~90%): ≤1ms
- Insulation Resistance: 100MΩ, 50VDC

APPLICATION

- Industrial process control
- Differential pressure measurement
- Gas, liquid pressure measure
- Pressure checking meter
- Pressure calibrator
- Ventura and eddy-current flow meter

CONSTRUCTION PERFORMANCE

- Housing: SS 1Cr18Ni9Ti
- Diaphragm: SS 316L
- Filled liquid: silicon oil





ENVIRONMENT CONDITION

- Shock effect: ≤1% at 3gRMS, 30Hz~2000Hz
- Impact: ≤1% at 100g, 10ms
- Media: liquid or gas which is compatible with construction material

SPECIFICATION

Range Code	0A	02	03	07	08	09	10	12
Unit	КРа						MPa	
Pressure Range	0~35	0~70	0~100	0~200	0~350	0~700	0~1	0~2
+overpressure	70	150	200	400	700	1400	2.0	4.0
-overpressure	35	70	100	200	350	700	1.0	1.0
Static Pressure	≤20MPa							

ltem*	Min.	Тур.	Max.	Unit		
Ассигасу			0.5		±%FS	
Zaco Thormal Eccor	≤ 200kPa		0.75	1.25		
	> 200kPa		0.5	0.75		
	≤ 200kPa		0.75	1.25	±%r3,@35 C	
Shall Hieliliai Elloi	> 200kPa		0.5	0.75		
Stability	≤ 200kPa	0.5				
Stability	> 200kPa	0.2			тистолува	
Static Pressure	0.05			±%FS, per 100kPa		
Compensation	0~70					
Operation te	-10~80			°C		
Storage ten	-40~120					





OUTLINE CONSTRUCTION (Unit: mm)



Outline Construction and Dimension(plug connection)



Outline Construction and Dimension(cable connection)

ELECTRICAL CONNECTION

Plug Connection:

Pin	2-wire	3-wire
1	+V	+V
2	0V/+0UT	GND
3	Null	+0UT

Cable Connection:

Wire color	2-wire	3-wire		
Black	+V	+V		
Red	0V/+0UT	+0UT		
White	Null	GND		



Plug Outline Construction and Arrangement





ORDER GUIDE

Μ	M491 Piezoresistive Differential Pressure Transmitter									
		Code		Pressure Range						
			Range Code	Pressure	Overpressu	sure kPa Range		Pressure	Overpressure MPa	
		[0~X]		Range (kPa)	+	-	Code	Range (MPa)	+	-
		KPa or	0A	0~35	70	35	08	0~0.35	0.7	0.35
		MPa	02	0~70	150	70	09	0~0.7	1.4	0.7
			03	0~100	200	100	10	0~1.0	2.0	1.0
			07	0~200	400	200	12	0~2.0	4.0	1.0
			Code	Output Signal						
			E	4mA~20mA	DC					
			F	1V~5V DC						
			J	OV~5V DC						
			Q	0mA~10mA	DC					
			U	0mA~20mA	DC					
			V	0V~10V DC						
				Codo	Construction Material					
				Code	Diaphragm		Pressure port		Housing	
				22	SS 316	5L	SS		SS	
	24 SS 316L SS 316L			316L	SS 316L					
					Code	Others				
					C 1	M20×1.5	male with f	ace type seal		
					C ₂ G1/4 male					
					C 3	C ₃ G1/2 male				
					C 4	G1/4 female				
					B ₁	4-core plug connection				
					B 2	B ₂ Cable connection length:1.5m				
					M 3	M ₃ 3 ¹ / ₂ LCD digital indicator (only 4~20mADC)				
				M ₄ 3½LED digital indicator (only 4~20mADC)						
MD	M491 [0	~100]kPa	E	22	C ₄ B ₂		the whole s	рес.		

NOTES

- 1. We suggest to install tri-valve between the measured point and transmitter to protect the media adding on transmitter's positive and negative cavities slowly;
- 2. We suggest to make two pressure ports horizontally to reduce installation direction effect;
- 3. Please pay attention that the static pressure should be less than 20MPa, transmitter positive and negative cavity should be in the rating pressure range;
- 4. Digital indicator information, please refer to MPM480 datasheet;
- 5. If the user has special requirement, please feel free to contact our company.

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The information provided herein is to the best of our knowledge true and accurate, it is provided for guidance only. All specifications are subject to change without prior notification. Althen – Your expert partner in Sensors & Controls | althensensors.com

Althen stands for pioneering measurement and custom sensor solutions. In addition we offer services such as calibration, design & engineering, training and renting of measurement equipment.

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