bar MDM290

FEATURES

- Pressure range: 0bar ~ 0.35bar...35bar
- Constant current or constant voltage power supply for option
- Isolated construction, Possible to various fluid media
- OEM differential pressure sensor
- Stainless steel 316L
- High static pressure 200bar
- 2 times overpressure

MICROSENSOR
AUTHORIZED DISTRIBUTOR

APPLICATION

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

MDM290 differential pressure sensor is OEM differential pressure sensor with stainless steel isolated diaphragm. It has integrated construction, high static pressure, high stability and good reliability. The high and low pressure sides are protected by isolated diaphragm. It can be used for measuring corrosive and conductive fluid media. The measured differential pressure is transmitted onto the die through the diaphragm and filling silicon oil so that the sensor could measure differential pressure precisely. The sensor is tested automatically, and compensated zero and temperature performance with provided resistors. The installation dimension is consistent with general products which makes the sensor has a good interchangeability. It is widely used for industrial process control and differential pressure measure fields, etc.

ELECTRICAL PERFORMANCE

Power supply	≤2.0mA DC
Electrical connection	100mm silicon rubber flexible wire
Common mode voltage output	50% of input (typ.)
Input impedance	3kΩ~8kΩ
Output impedance	3.5kΩ~6kΩ
Response (10%~90%)	<1ms
Insulation resistor	100MΩ@100V DC
Max static pressure	200bar
Zero drift or Static pressure	≤0.05mV/bar

ENVIRONMENTAL CONDITIONS

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

CONSTRUCTION PERFORMANCE

Diaphragm	Stainless steel 316L
Housing	Stainless steel 316L
Pin	Silicon rubber flexible wire
O-ring	FKM
Net weight	~ 36g

BASIC CONDITIONS

Media temperature	(25±1)°C
Environment temperature	(25±1)°C
Shock	0.1g (1m/s²) Max.
Humidity	(50±10)%RH
Local air pressure	(0.86 ~ 1.06)bar
Power supply	(1.5±0.0015)mA DC

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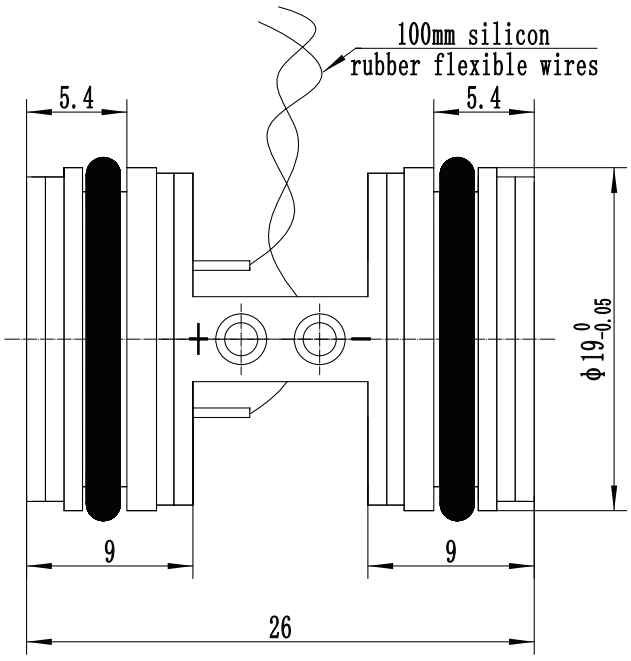
SPECIFICATION

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			±3.0	mV DC
Output/Span**	60			mV DC
Zero thermal error		±0.75	±1.0	%FS, @25°C
Span 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		±0.3	±0.5	%FS/Year

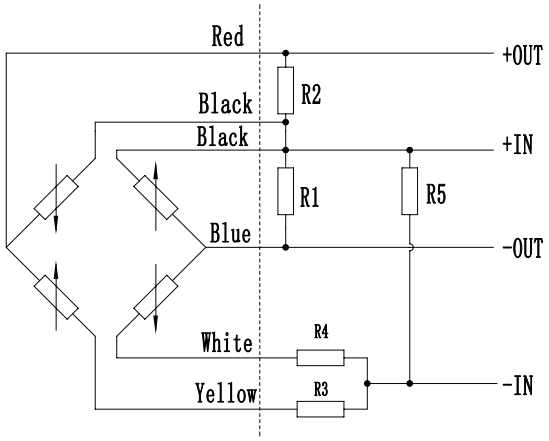
*testing at basic condition
**Output/Span=full scale output - zero point

OUTLINE CONSTRUCTION (UNIT:mm)



The suggested installation dimension is Φ19 $^{+0.05}_{+0.02}$ mm,

ELECTRICAL CONNECTION



Compensation method	Definition	Wire color
L Type	+OUT	Red
	+IN	Black
	-OUT	Blue
	-IN	Yellow
M Type	+IN	Black
	+IN	Black
	-IN	Yellow
	-IN	Yellow
	+OUT	Red
	-OUT	Blue

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Notes:

1. Compensation method M-type, range code 0A-10 for 6-wire system, 12-13 for 5-wire system.
2. The actual electrical connection method, please check the parameter label enclosed with products.
3. MDM290-M type sensor has no laser trimming board, it compensates zero drift and temperature drift by outer compensated resistors, please see the above chart for the connection. Please connect zero trimming resistor R3(R4), the other R4(R3) is short circuit as negative power supply; R1 or R2 is zero temperature drift compensated resistor, only one of them is used, the other is open circuit, please select the correct resistor value according to the specification label enclosed with sensor; R5 is sensitivity temperature compensated resistor. We suggest connecting the outer resistor and differential pressure sensor as close as possible during usage.

ORDER GUIDE

MDM290	Differential Pressure Sensor			
Range Code	Pressure range	Range Code	Pressure range
0A	0bar ~ 0.35bar	09	0bar ~ 7bar
02	0bar ~ 0.70bar	10	0bar ~ 10bar
03	0bar ~ 1bar	12	0bar ~ 20bar
07	0bar ~ 2bar	13	0bar ~ 35bar
08	0bar ~ 3.5bar		

Code	Compensation
L	Laser Trimming
M	Outer compensated resistor (providing resistor value)

Code	Electrical connection
2	100mm silicon rubber flexible wires

MDM290	10	M	2	C2	the whole spec

Notes:

1. *The default unit of the company's products is kPa,1kPa=0.01bar.*
2. *Please notice that one side of the leading wire is High Pressure Side, the other is Low Pressure Side. Or identify High Pressure Side by mark "+", and identify Low Pressure Side by mark "-" carefully.*
3. *Please pay attention to protect the diaphragm, prevent it from damaging.*
4. *Please do not pull or drag the 6 leading wires.*
5. *Temperature resistant range of standard FKM O-ring of sensor is -20°C ~ 250°C . When working temperature is lower than -20°C , or sensor is applied in critical environment, please contact us.*

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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.

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