MDM291 Differential Pressure Transducer

Features

·No O-rings, all welding construction, possible for various media
·Pressure range: 0～35kPa…2MPa
·Constant Current Power Supply
·Stainless steel 316L
·High static pressure 20MPa
·Wide temperature compensation: -20 ℃~+50℃
·Pressure port G1/4 male

Application

·Industrial Process Control ·Differential Pressure Measure
·Ventura and Eddy -current flow meter

Introduction

MDM291 piezoresistive differential pressure transducer is an OEM differential pressure measure element using stainless steel isolated diaphragm, all welding construction and having no O-rings. It has unified construction, higher static pressure, good stability and reliablity. The high and low pressure sides are both protected by isolated diaphragm and welded with male screw thread pressure port, therefore the two pressure sides are both possible to corrosive and conductive liquid media. The measured pressure is transmitted onto the die through isolated diaphragm and filling silicon oil. The sensor element choose high accuracy and high stability silicon die. It achieves precise differential pressure measurement. The transducer is produced in advanced production line, through automatic computer testing and temperature compensation, so it has good temperature feature. It can be widely used in industrial process control field etc. for differential pressure measurement.

Specification

Power supply: ≤2.0mADC
Electric connection: 100mm silicon rubber flexible wire
Common Mode Voltage Output: 50% input (typ.)
Input impedance: 2kΩ～8kΩ
Output impedance: 3.5kΩ～6kΩ
Insulation Resistor:100MΩ,100VDC
Overpressure: refer to datasheet
Max static pressure: 20MPa
Zero drift/ Static pressure: ≤0.5mV/MPa

Construction

Diaphragm material: stainless steel 316L
Housing: stainless steel 316L

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Leading wire: silicon rubber flexible wire
Net weight: 300g

Environment Condition

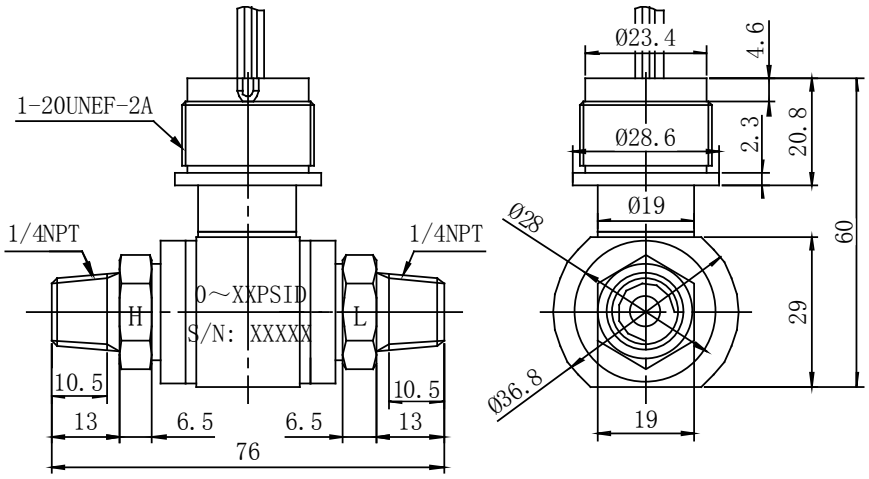
Position Effect: deviate 90°from any orientation, zero change ≤0.2%FS
Shock: No change at 10gRMS，(20～2000) Hz
Impact: 100g, 10ms
Media Compatibility: gas or liquid that is compatible with stainless steel

Calibration

Media temperature: （25±1）℃
Environmemt temperature: （25±1）℃
Shock: 0.1g(1m/s/s) Max
Humidity:（50%±10%）RH
Local Air Pressure:（86～106）kPa
Power supply: (0.5±0.0015) mADC

Outline Construction

(Unit：mm)



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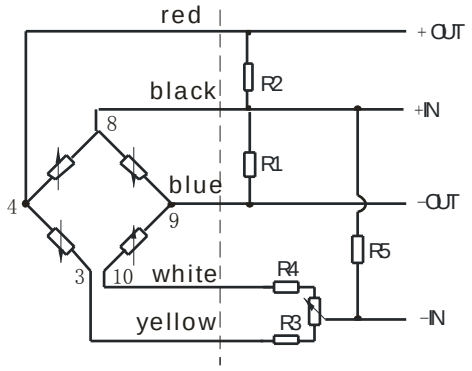
Electric Connection



Leading wire color	Electric connection
red	+OUT
black	+IN
Yellow(white)	-IN
blue	-OUT

Note: Resistance Bridge on the left of broken line is the electric circuit of the sensor.

Basic Specification

Specification	Min.	Typ.	Max.	Unit
Non-Linearity			±0.20	%FS,BFSL
Repeatability		±0.05	±0.075	%FS
Hysteresis		±0.05	±0.075	%FS
Zero Output			±2	mVDC
Full Span Output	20			mVDC
Zero Thermal Error		±0.5	±0.5	%FS,refer to midst temperature
FS Thermal Error		±0.5	±0.5	%FS,refer to midst temperature
Compensated Temp.		-20 ~ 50		℃
Working temp. range		-40 ~ 120		℃
Storage Temp.range		-40 ~ 120		℃
Long term Stability		±0.3	±0.5	%FS/year
**Testing at basic condition				
**Code 0A :Max. Zero and FS thermal Error: ±1%FS(refer to midst temperature)				

Oder Guide

MDM291	Piezoresistive OEM Differential Pressure Sensor			
	Range Code	Pressure range	Positive Overpressure	Negative Overpressure
	0A	0 ~ 35kPa	70kPa	35kPa
	02	0 ~ 70kPa	150kPa	70kPa
	03	0 ~ 100kPa	200kPa	100kPa
	07	0 ~ 200kPa	400kPa	200kPa
	08	0 ~ 350kPa	700kPa	350kPa

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	09	0 ~ 700kPa	1400kPa	700kPa
	10	0 ~ 1MPa	2.0MPa	1.0MPa
	12	0 ~ 2MPa	4.0MPa	1.0MPa
		Code	Temperature Compensation Mode	
		L	Laser Trimming	
			Code	Electric Connection
			2	4 colors silicon rubber flexible wires
MDM291	12	L	2	whole spec.

Notice

1.Actual Measured differential pressure should not be exceeding 80% of the full range.
2. High pressure side and Low pressure side are marked "H" and "L" on the body.
3. In the course of application, the pressure on the high side should not be lower than the low side.
4. Please protect the diaphragm to prevent any damage.
5. Please do not pull the 6 leading wires.
6. If the working pressure exceed the Max. Static pressure in your application, please contact us.

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