

MDM4901FL Piezoresistive Differential Pressure Transmitter

Introduction

MDM4901FL Differential Pressure Transmitter is dedicated to oxygen pressure measurement, filled with Fluorinated® oil, which has high precision, high stability and high safety level. It is widely used in the medical and pharmaceutical industries, specializing in gas pressure measurement in medical oxygen production equipment and oxygen storage tanks.



Electric Performance

- Power supply: 15V~28V DC
- Output signal: 2-wire 4mA~20mA DC; 3-wire 0V~5V DC
- Electrical connection: plug connection or $\Phi 7.2$ mm 7-pin cable
- Response time(10%~90%): ≤ 1 ms
- Insulation resistor: 100M Ω ,500V DC

Construction Performance

- Housing: stainless steel 304
- Diaphragm: stainless steel 316L
- O-ring: EPDM
- Filled liquid: Fluorinated® oil
- Pressure port: G1/4 female

Features

- Full stainless steel construction, compact size, easy installation
- Laser welding, full-sealed construction; protection IP65
- Using piezoresistive differential pressure sensor, 316L isolated diaphragm
- Temperature compensation and aging, stable performance
- Zero and span adjustable outside
- Ex-proof version MDM4901FL conforms to GB3836.4 Exia II CT6 Ga standard; ex-proof certificate is approved
- CE and ROHS certificates

Environment Condition

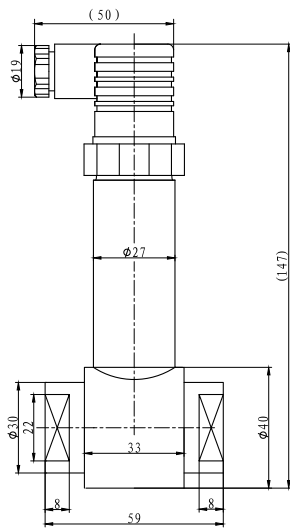
- Shock effect: $\leq 1\%$ at 3gRMS, 30Hz~2000Hz
- Impact: $\leq 1\%$ at 100g, 10ms
- Lifetime: 1×10^8 pressure cycles
- Media: liquid or gas which is compatible with construction material

Specification

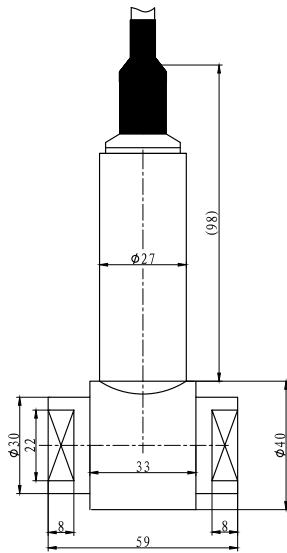
Range code	0A	02	03	07	08	09	10	12	13
Unit	bar								
Measure range	0~0.35	0~0.7	0~1	0~2	0~3.5	0~7	0~10	0~20	0~35
+overpressure	0.7	1.5	2	4	7	14	20	40	70
-overpressure	0.35	0.7	1	2	3.5	7	10	10	10
Max.static pressure	$\leq 200\text{bar}$								

Item	Min.	Typ.	Max.	Unit
Accuracy	0bar ~ 1bar	0.5		%FS
	2bar ~ 35bar	0.25	0.5	
Zero Thermal error	0bar ~ 1bar	0.75	1.25	$\pm\%FS, @25^\circ\text{C}$
	2bar ~ 35bar	0.5	0.75	
FS Thermal error	0bar ~ 1bar	0.75	1.25	
	2bar ~ 35bar	0.5	0.75	
Stability	$\leq 2\text{bar}$	0.5		%FS/year
	$\leq 35\text{bar}$	0.2		
Static pressure effect		0.05		$\pm\%FS, \text{ each } 1\text{bar}$
Compensation temp.		0~50		°C
Operation temp.		-30~80 ; -10~70(Cable)		
Storage temp.		-40~120; -20~85(Cable)		

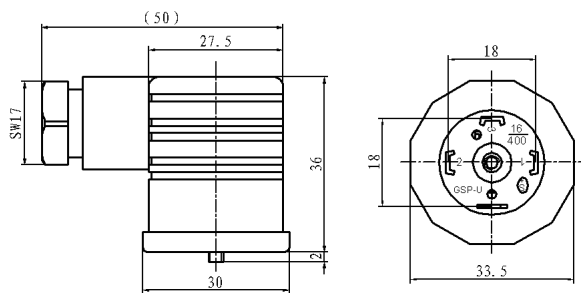
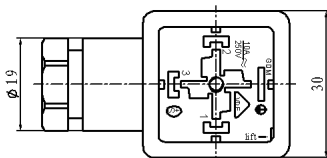
Outline Construction (Unit: mm)



Plug Connection type



Cable Connection



Plug Outline and Pin Arrangement

Electrical Connection

Plug Connection:

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

Cable Connection:

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

Order Guide

MDM4901FL		Piezoresistive Differential Pressure Transmitter							
	Code	Pressure range: bar							
	X[0~X] bar	Code	Pressure range bar	Overpressure (bar)		Code	Pressure Range bar	Overpressure (bar)	
				+	-			+	-
		0A	0~0.35	0.7	0.35	09	0~7	14	7
		02	0~0.7	1.5	0.7	10	0~10	20	10
		03	0~1	2	1	12	0~20	40	10
		07	0~2	4	2	13	0~35	70	10
	08	0~3.5	7	3.5					
	Code	Output signal							
	E	4mA~20mA DC							
	J	0V~5V DC							
		code	Construction material						
			Diaphragm	Pressure port		Housing			
		22	SS 316L	SS		SS			
		Code	Others						
	C ₄	G1/4 female							
	B ₁	Plug connection							
	B ₂	Cable connection Default length: 1.5m							
	M ₆	4LED digital indicator (only 4mA~20mA DC)							
	M ₇	4LCD digital indicator (only 4mA~20mA DC)							
	i	Intrinsic safe version Exia II CT6Ga							
	T	Ship-use							
MDM4901FL	[0~1]bar	E	22	C ₄ B ₂	the whole spec.				

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 200bar, transmitter positive and negative cavity should be in the rating pressure range;
4. Please note ex-proof, M₆ or M₇ options in the order if the user needs ;
5. Digital indicator information, please refer to MPM4901FL datasheet;
6. If the user has special requirement, please feel free to contact our company.