

Differential Pressure Transmitter for Oxygen-Measurement Industries

MDM4901FL



Applications

- Pharmaceutical industry
- Aerospace industry
- Firefighting industry
- Submarine

Features

- Reversed-polarity protection, transient overcurrent and overvoltage protection, conforming EMI protection requirements
- CE, RoHS, CCS approved for ship-use type

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

Specifications

| | |
|-------------------------|---|
| Range | 0mbar ~ 350mbar...35bar |
| Overpressure | positive pressure: ≤ 2 times FS negative pressure is not allowed |
| Maximum Static Pressure | ≤200bar |
| Pressure Type | differential pressure |
| Accuracy | ±0.5%FS (static pressure effect: ±0.05%FS/1bar) |
| Long-term Stability | ±0.5%FS/year (≤2bar) |
| | ±0.2%FS/year (>2bar) |
| Application Temperature | -30°C ~ 80°C (B1 type, B4 type) |
| | -20°C ~ 70°C (B2 type, cable material: PE, PVC) |
| | -20°C ~ 80°C (B2 type, cable material: PUR) |
| Storage Temperature | -40°C ~ 120°C |
| | -20°C ~ 85°C (B2 type) |
| Vibration | 10g, 30Hz ~ 2000Hz |
| Shock | 100g, 11ms |
| Protection Rating | IP65 |
| Weight | ≤400g |

Thermal Drift

| | |
|--------------------|---|
| Zero Thermal Drift | $\pm 0.03\%FS/^{\circ}C$ ($\leq 1\text{bar}$) |
| | $\pm 0.02\%FS/^{\circ}C$ ($> 1\text{bar}$) |
| Span Thermal Drift | $\pm 0.03\%FS/^{\circ}C$ ($\leq 1\text{bar}$) |
| | $\pm 0.02\%FS/^{\circ}C$ ($> 1\text{bar}$) |

Output Signals

| Output Signal | Power Supply | Output Format | Load Resistance |
|-----------------|--------------|---------------|----------------------------|
| 4mA~20mA DC (E) | 15V~28V DC | 2-wire | $\leq (U-15)/0.02(\Omega)$ |
| 0mA~10mA DC (Q) | | | |
| 0mA~20mA DC (U) | | 3-wire | $> 100k\Omega$ |
| 0V~5V DC (J) | | | |
| 1V~5V DC (F) | | | |
| 0V~10V DC (V) | | | |

Materials**Wetted Parts**

Isolated Diaphragm: SS 316L

Pressure Port: SS 304/SS 316L

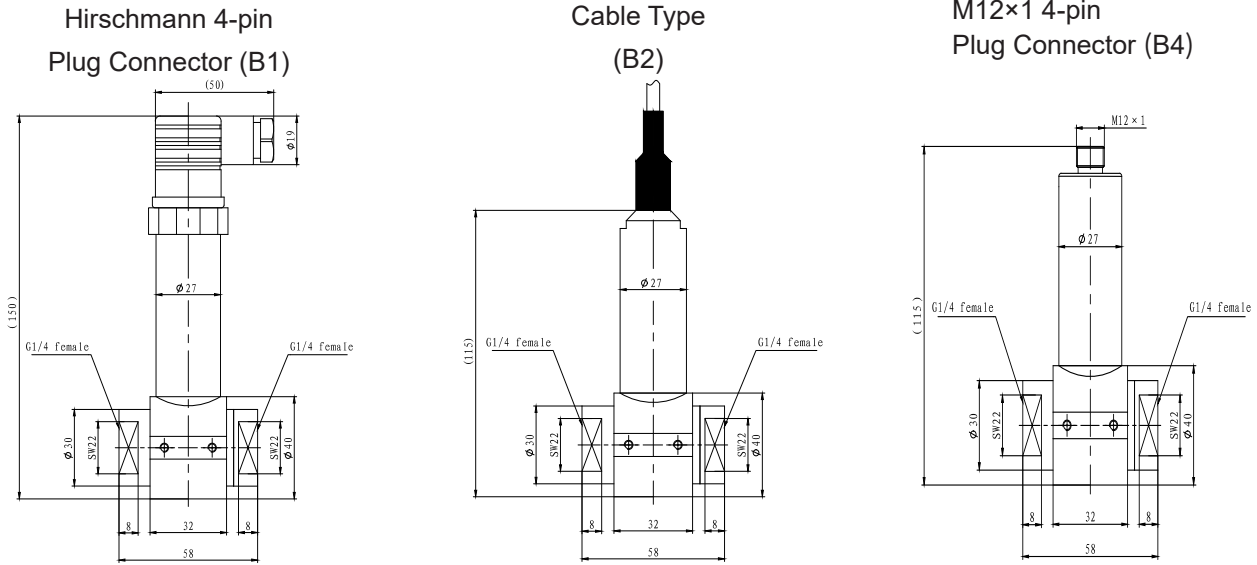
Non-wetted Parts

Housing: SS 304/SS 316L

Cable: PE/PUR/PVC

Outline Dimensions

unit: mm



Electrical Connection

| | Hirschmann 4-pin Plug Connector (B1) | | Cable (B2) | | M12x1 4-pin Plug Connector (B4) | |
|------------|--------------------------------------|-------------------|-------------------|-------------------|---------------------------------|-------------------|
| Definition | | | | | | |
| | current 2-wire | voltage 3-wire | current 2-wire | voltage 3-wire | current 2-wire | voltage 3-wire |
| +V | 1 | 1 | red | red | 1 | 1 |
| +OUT | 2 | 3 | black | white | 3 | 3 |
| GND | null | 2 | null | black | null | 2 |

Ordering Guide

| | | | | | | | |
|----------------------|---|---|---------|----|----|----|-----------------------------|
| MDM4901FL | | Differential Pressure Transmitter | | | | | |
| Range | | Measurement Range 0mbar ~ 350mbar...35bar | | | | | |
| [0 ~ X]mbarL or barL | | X: actual measured range, L means cable length when electrical connection is B2 | | | | | |
| Code | Output Signal | | | | | | |
| E | 4mA~20mA DC | | | | | | |
| Q | 0mA~10mA DC | | | | | | |
| U | 0mA~20mA DC | | | | | | |
| J | 0V~5V DC | | | | | | |
| F | 1V~5V DC | | | | | | |
| V | 0V~10V DC | | | | | | |
| Code | Material | | | | | | |
| | Isolated Diaphragm | Pressure Port | Housing | | | | |
| | 22 | SS 316L | SS 304 | | | | |
| 24 | SS 316L | SS 316L | SS 316L | | | | |
| Code | Process Connection | | | | | | |
| C4 | G1/4 female | | | | | | |
| C8 | NPT1/4 female | | | | | | |
| Code | Electrical Connection ^① | | | | | | |
| B1 | 4-pin plug connector | | | | | | |
| B2 | cable connection | | | | | | |
| B4 | M12×1 4-pin Plug Connector | | | | | | |
| Code | Accessory | | | | | | |
| null | no accessory | | | | | | |
| M6 | 4 digits LED digital indicator (only for 4mA ~ 20mA DC output products with B1 electrical connection) | | | | | | |
| M7 | 4 digits LCD digital indicator (only for 4mA ~ 20mA DC output products with B1 electrical connection) | | | | | | |
| MDM4901FL | [0 ~ 16]bar | E | 22 | C4 | B1 | M6 | Complete Type Specification |

Ordering Notes

1. "①" for B1 or B4 electrical connection, please specify us in the order if cable is needed.
2. The cable length is 1.5m by default, cable material is available for 3 types, PE cable is provided as default. if other material is needed, please specify in the order.
3. When ordering the transmitter with M6 or M7 indicator, power supply should $\geq 20V$ DC.
4. Environmental temperature should be $-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$ when ordering the transmitter with M6 indicator, environmental temperature should be $-10^{\circ}\text{C} \sim 60^{\circ}\text{C}$ when ordering the transmitter with M7 indicator, indicator setting can refer to our indicator lectotype, which can be found on our company's website.
5. In order to ensure the safe and reliable operation of the transmitter, it is recommended to install a three-valve group between the measured point and the transmitter to ensure that the medium under test is slowly and uniformly added to the positive and negative pressure chambers of the differential pressure transmitter.
6. Please notice the static pressure of the measured pressure point does not exceed 200bar when ordering, and the overpressure of the positive and negative pressure chambers of the transmitter cannot exceed the specified value of the product.
7. If there are other requirements, please contact us and specify it in the order.