

172M Model Low Differential Pressure Transmitter

alpha 阿尔法
微 差压传感器 • From USA



Applications:

- HVAC and VAV Control
- Medical Instruments and Equipments
- Environmental Pollution Control
- Clean and Isolation Rooms
- Power Plant Air Flow Monitor and Control
- Textile Machinery
- Gas Pipe Air Flow Monitor and Control
- Furnace Air Flow Control

Features:

- NEMA4/IP65 Rated Housing
- LCD Display
- Push Button Zero Calibration
- Incorrect Wiring Protection
- RoHS Compliant
- Back Connection Available

The Model 172M series are low-range differential pressure transmitters with capacitive sensors, designed and developed for embedded panel mounting. The patented stainless steel diaphragm sensor provides excellent corrosion resistance, repeatability, and long-term stability.

The series can sense differential or gauge pressure. Multiple output modes are offered for both unidirectional and bidirectional pressure ranges. All the units are temperature compensated from -20°C to 60°C. The thermal effect is less than $\pm 0.05\text{Pa}/^\circ\text{C}$. The highest accuracy is $\pm 0.25\%\text{FS}$ at room temperature.

Each unit features an LCD display and an adjustment button, making immediate data check and zero calibration easy. The series has IP65/NEMA 4 rated enclosures and can be applied in various fields. The powerful enclosure protects the units from damage and contamination on the construction site. It significantly reduces installation costs for users.

Performance Specifications

Parameters	Standard	Optional	Optional
Accuracy*(at room temp)	$\pm 1.0\%\text{FS}$	$\pm 0.40\%\text{FS}$	$\pm 0.25\%\text{FS}$
Non-Linearity(BFSL)	$\pm 0.97\%\text{FS}$	$\pm 0.37\%\text{FS}$	$\pm 0.20\%\text{FS}$
Hysteresis	$\pm 0.20\%\text{FS}$	$\pm 0.10\%\text{FS}$	$\pm 0.10\%\text{FS}$
Non-Repeatability	$\pm 0.10\%\text{FS}$	$\pm 0.10\%\text{FS}$	$\pm 0.10\%\text{FS}$
Compensated Range	-20°C to 60°C		
Overpressure	$\pm 15\text{PSI}$ (100kPa)		
Long Term Stability	<0.5% FS/YR		
Filter Coefficient	50ms, 500ms, 2s or 4s (Consult factory for other possible coefficients)		
Position Effect	Each unit is calibrated in the vertical position. For best accuracy, adjust the zero of the unit if it is mounted in other positions. It is not necessary to adjust the sensitivity.		

* RSS of Non-Linearity, Hysteresis, and Non-Repeatability

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Environmental and Physical Specifications

Operating Temperature	-20°C to 70°C
Storage Temperature	-40°C to 85°C
Pressure Fittings	3/16", 6.5mm or 8.0mm O.D. Barbed Brass
Electrical Connections	Pluggable Terminal Block and PG-9 Cable Gland
Service	Typically Air or Similar Non-conducting Gases
Enclosure	PC+ABS, 94V-0 Rated
Weight	495g
Installation	See Diagram 2 or Diagram 3 for Outline and Dimensions

Electrical Specifications

Voltage Version

Circuit	3-Wire (+EXC, -EXC, OUTPUT), Incorrect Wiring Protection
Excitation	13-30VDC (Other power supplies are optional)
Output Signals	0-5VDC, 0-10VDC/RS485
Output Impedance	≤5.0 OHM

Span Output: Factory setting is ±25mV (0-5VDC), ±50mV (0-10VDC)

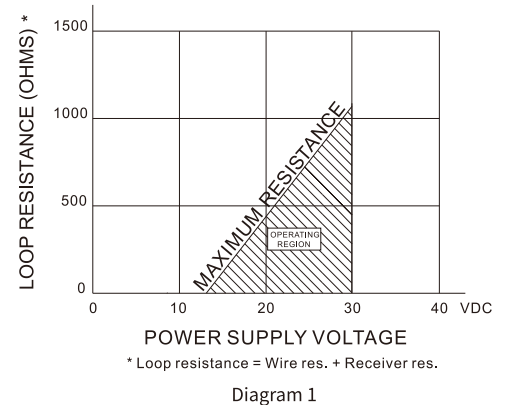
Calibrated with a 50K OHM load. Operable with a load greater than 5K OHM (0-5VDC) or 10K OHM (0-10VDC)

Current Version

Circuit	2-Wire (+EXC, -EXC), Incorrect Wiring Protection
Excitation	13-30VDC (See diagram 1 for maximum loop resistance)
Bidirectional Output at Zero	12mA as Standard
Output Signal	4-20mA
External Load	≤1050 OHM

* Zero Output: Factory setting is ±0.08mA

* The factory calibration is performed with a 24 VDC power supply and a 250 Ω load



Outline and Dimensions (Bottom Connection)

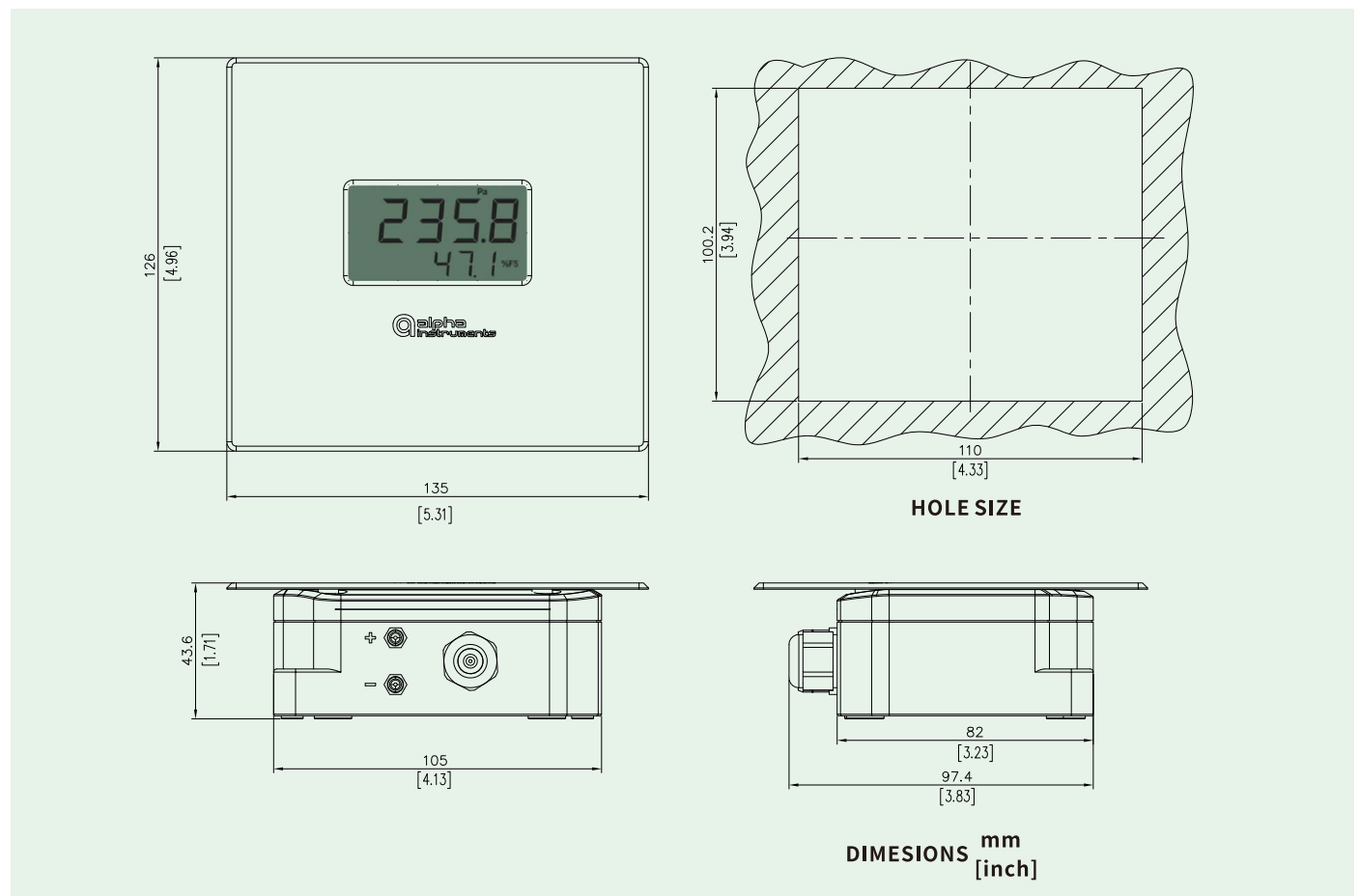


Diagram 2

Outline and Dimensions (Back Connection)

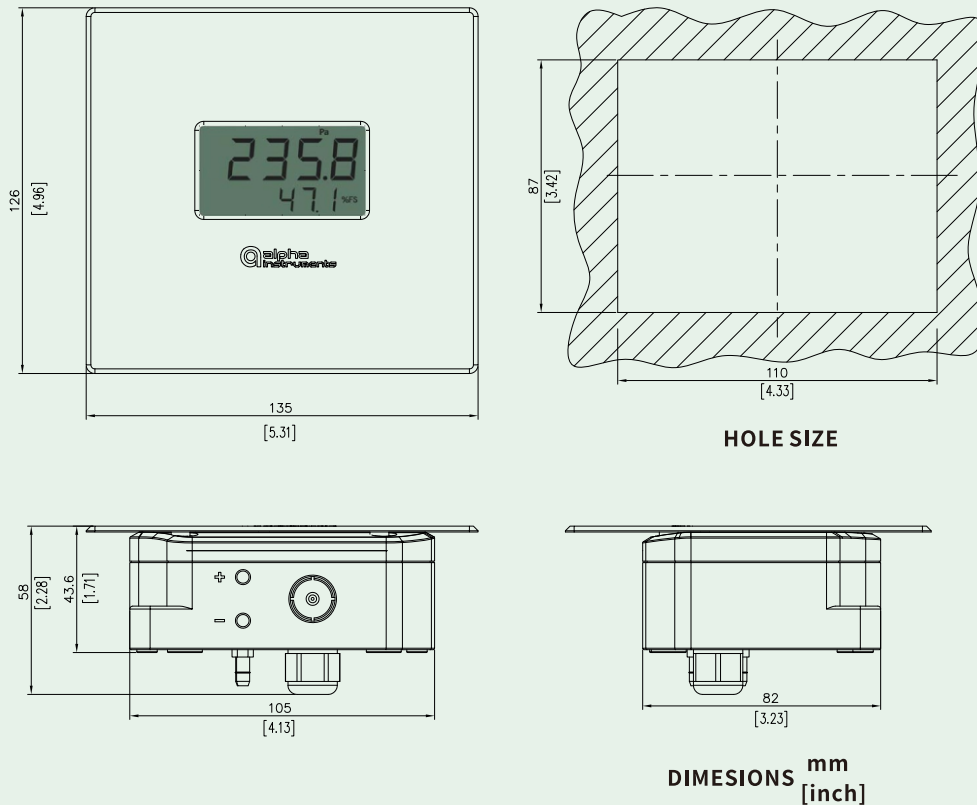


Diagram 3

Ordering Information

Example: 172MW00R4DA1YA 2 for 172M Transmitter, 0 to 0.4 in. WC Range, Unidirectional, 4-20mA Output, 1.0%FS Accuracy, With Calibration Certificate, With LCD Display, 3/16" Barbed Brass Pressure Fittings, Back Connection

Model	Unit	Range	Pressure Type	Output	Accuracy	Certificate	Pressure Fitting	Connection Mode
1 7 2 M	P: Pascal W: in. WC	NNNN	D: Unidirectional B: Bidirectional	A: 4-20mA B: 0-5V C: 0-10V D: RS485 I: I ² C N: None S: Special	1: 1.0%FS 4: 0.4%FS 2: 0.25%FS	Y: With N: Without	A: 3/16" B: φ8 C: φ6.5 (Barbed Brass)	1: Bottom Connection 2: Back Connection

Pressure Unit/Range/Type

In. W.C. (Unidirectional)

W00R1D=0 to 0.1 in. WC
W0R25D=0 to 0.25 in. WC
W00R5D=0 to 0.5 in. WC
W0001D=0 to 1 in. WC
W02R5D=0 to 2.5 in. WC
W0005D=0 to 5 in. WC
W0010D=0 to 10 in. WC
W0025D=0 to 25 in. WC
W0050D=0 to 50 in. WC
W0100D=0 to 100 in. WC

in. W.C. (Bidirectional)

W0R05B=-0.05 to 0.05 in. WC
W00R1B=-0.1 to 0.1 in. WC
W0R25B=-0.25 to 0.25 in. WC
W00R5B=-0.5 to 0.5 in. WC
W0001B=-1.0 to 1.0 in. WC
W02R5B=-2.5 to 2.5 in. WC
W0005B=-5 to 5 in. WC
W0010B=-10 to 10 in. WC
W0025B=-25 to 25 in. WC
W0050B=-50 to 50 in. WC

Pascal (Unidirectional)

P0025D=0 to 25 Pa
P0050D=0 to 50 Pa
P0100D=0 to 100 Pa
P0250D=0 to 250 Pa
P0500D=0 to 500 Pa
P1000D=0 to 1000 Pa
P2500D=0 to 2500 Pa
P5000D=0 to 5000 Pa
P100CD=0 to 10000 Pa
P250CD=0 to 25000 Pa

Pascal (Bidirectional)

P0010B=-10 to 10 Pa
P0025B=-25 to 25 Pa
P0050B=-50 to 50 Pa
P0100B=-100 to 100 Pa
P0250B=-250 to 250 Pa
P0500B=-500 to 500 Pa
P1000B=-1000 to 1000 Pa
P1250B=-1250 to 1250 Pa
P2000B=-2000 to 2000 Pa
P5000B=-5000 to 5000 Pa
P100CB=-10000 to 10000 Pa