



Model 166 series are low range differential pressure transducers and transmitters. It features a flame retardant plastic enclosure with a metal backing. The unique design makes it can be used at outdoor environment and with easy access to zero and sensitivity adjustments.

The pressure range covers from 0.1"WC to 100"WC, unidirectional or bidirectional. The output can be 3-wire 0 to 5V, 0 to 10V, or 2-wire 4 to 20 mA, fully protected against short circuit and incorrect wiring. In the voltage version, the output can go down to true zero. The units are temperature compensated. The accuracy can be 1.0%, 0.4% or 0.25% at room temperature.

The patented stainless steel sensor provides good corrosion resistance, excellent performance and long term stability.

Our unique production setup can also make special pressure range (e.g. -0.5"WC to +3.5" WC) to meet special applications.

Model 166 Specifications

Performance Data	Standard	Optional	Optional
Accuracy* (at room temp)	± 1.0%FS	± 0.4%FS	± 0.25%FS
Non-Linearity (BFSL)	± 0.97%FS	± 0.33%FS	± 0.20%FS
Hysteresis	± 0.20%FS	± 0.20%FS	± 0.10%FS
Non-Repeatability	± 0.10%FS	± 0.10%FS	± 0.10%FS

Thermal Effects

Compensated Range	0 to 170°F(-18 to 77°C)
Zero/Span Shift	<0.028%FS/°F(<0.05%FS/°C)
Maximum Line Pressure	15PSI(100kPa)
Overpressure	15PSI(100kPa) in Positive or Negative Direction for all ranges.
Warm-up shift	± 0.1%FS
Position Effect	Each unit is calibrated in the vertical position. For best accuracy, adjust zero of the unit if it is mounted in other position. It is not necessary to adjust the sensitivity.

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

Environmental Data and Physical Description

Operating Temperature	0 to 170°F(-18 to 77°C)
Storage Temperature	-65 to 185°F(-54 to 85°C)
Electrical Termination	Screw Terminal Block
Pressure Fittings	3/16" O.D. barbed brass for 1/8" I.D. push-on tubing(standard). 8mm O.D. barbed brass(optional).
Output Adjustment	Accessible under the top slip cover.
Pressure Media	Typically air or similar non-conducting gases
Enclosure	ABS, 94V-0 Rated and Steel
Weight	8.65OZ/245g
Installation	See Diagram 1 for outline and installation.

Applications:

- HVAC and VAV Control
- Clean Room and Fume Hood Control
- Duct Static Pressure Measurement
- Draft Control
- Furnace Air flow Control
- Power Plant Air Flow Monitor and Control

Features

- Up to 15 PSI Overpressure on All Ranges
- Miswiring Full Protection
- Unsymmetrical Bidirectional Pressure Ranges
- True Zero Output for Voltage Unit
- Meets CE Conformance Standards
- Pressure Ranges as Low as 10Pa only!

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978-264-2966

Model 166 Specifications

Electrical Data (Voltage)

Circuit 3-Wire (+EXC, -EXC, OUTPUT), Protected from Miswiring
 Excitation 16-32VDC
 Output* 0-5VDC, 0-10VDC
 Output Impedance ≤ 5.0 OHMS

* Zero output: factory set at ± 25 mV(0-5VDC), ± 50 mV(0-10VDC)
 Span output: factory set at ± 25 mV(0-5VDC), ± 50 mV(0-10VDC)
 Calibrate with a 50K OHM load, operable with a load greater than 5K OHM for 0-5VDC output, greater than 10K OHM for 0-10VDC output.

Electrical Data (Current)

Circuit 2-Wire (+EXC, -EXC), Protected from Miswiring
 Output** 4-20mA
 Bidirectional Output at Zero 12mA as standard
 Excitation 16-32VDC (see diagram 2 for maximum loop resistance)
 External Load 0-800 OHM

** Zero output: factory set at ± 0.08 mA
 Span output: factory set at ± 0.08 mA
 Calibrated with a 250 OHM load and a 24VDC supply voltage.

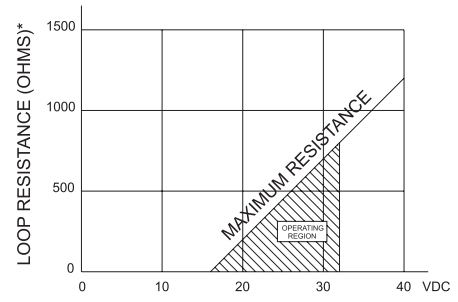


Diagram 2
 * Loop resistance = Wire res. + Receiver res.

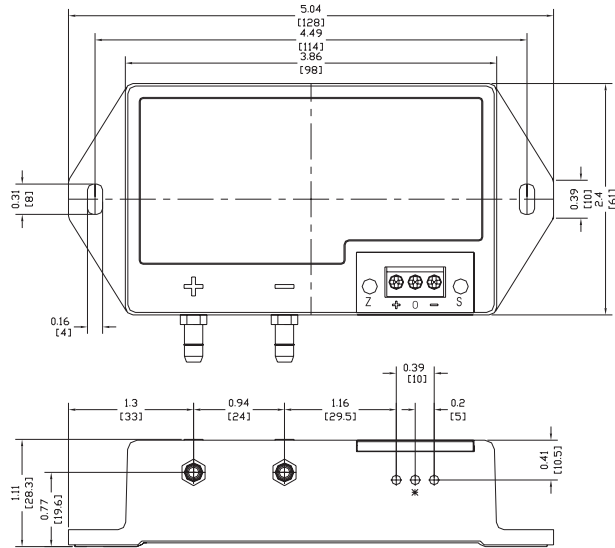


Diagram 1

DIMENSIONS ARE IN: $\frac{\text{INCH}}{\text{mm}}$
 * A VOLTAGE OUTPUT UNIT IS SHOWN.

Ordering Information

Code all blocks in table.

Example: 166W00R1DA1NA for 166 Transmitter, 0-0.1 in. WC Range, Unidirectional, 4-20mA Output, 1% accuracy, No Calibration Certificate, 3/16" Barbed Brass Pressure Fittings.

Model	Unit	Range	Pressure Type	Output	Accuracy	Certificate	Pressure Fitting
1 6 6	P: Pascal W: in. W.C.	NNNN	D: Unidirectional B: Bidirectional	A: 4-20mA B: 0-5VDC C: 0-10VDC	1: 1%FS 4: 0.4%FS 2: 0.25%FS	Y (with) N (without)	A: 3/16" B: 8mm (Barbed Brass)
Pressure Unit/Range/Type							
in. W.C. (Unidirectional)		in. W.C. (Bidirectional)		Pascal (Unidirectional)		Pascal (Bidirectional)	
W00R1D=0 to 0.1 in. W.C.		W0R05B=0 to ± 0.05 in. W.C.		P0025D=0 to 25 Pa		P0010B=0 to ± 10 Pa	
W0R25D=0 to 0.25 in. W.C.		W00R1B=0 to ± 0.1 in. W.C.		P0050D=0 to 50 Pa		P0025B=0 to ± 25 Pa	
W00R5D=0 to 0.5 in. W.C.		W0R25B=0 to ± 0.25 in. W.C.		P0100D=0 to 100 Pa		P0050B=0 to ± 50 Pa	
W0001D=0 to 1 in. W.C.		W00R5B=0 to ± 0.5 in. W.C.		P0250D=0 to 250 Pa		P0100B=0 to ± 100 Pa	
W02R5D=0 to 2.5 in. W.C.		W0001B=0 to ± 1 in. W.C.		P0500D=0 to 500 Pa		P0250B=0 to ± 250 Pa	
W0005D=0 to 5 in. W.C.		W02R5B=0 to ± 2.5 in. W.C.		P1000D=0 to 1000 Pa		P0500B=0 to ± 500 Pa	
W0010D=0 to 10 in. W.C.		W0005B=0 to ± 5 in. W.C.		P1500D=0 to 1500 Pa		P1000B=0 to ± 1000 Pa	
W0025D=0 to 25 in. W.C.		W0010B=0 to ± 10 in. W.C.		P2500D=0 to 2500 Pa		P1250B=0 to ± 1250 Pa	
W0050D=0 to 50 in. W.C.		W0025B=0 to ± 25 in. W.C.		P5000D=0 to 5000 Pa		P2000B=0 to ± 2000 Pa	
W0100D=0 to 100 in. W.C.		W0050B=0 to ± 50 in. W.C.		P100CD=0 to 10000 Pa		P5000B=0 to ± 5000 Pa	
				P250CD=0 to 25000 Pa		P100CB=0 to ± 10000 Pa	

* Specifications subject to change without notice. If you don't see what you need here, please contact us.