



The model 178 Series are low-range differential pressure transmitters. Each unit features a push-activated ZERO function and an associated LCD display. With a convenient push button switch, the zero calibration is easy. It significantly reduces time and cost for users.

The 178 series has an IP65/NEMA 4 rated aluminum die casting enclosure, good for many indoor and outdoor applications. The pressure ranges from 0.1"WC to 100"WC, unidirectional or bidirectional. The output is 2-wire 4 to 20mA, fully protected against short circuiting and incorrect wiring.

All units are temperature compensated. 0.8%, 0.4% and 0.25% accuracies are available. The patented stainless steel diaphragm sensor provides good corrosion resistance, excellent repeatability and long term stability.

Model 178 Specifications

Performance Data	Standard	Optional	Optional
Accuracy* (at room temp)	± 0.8%FS	± 0.4%FS	± 0.25%FS
Non-Linearity (BFSL)	± 0.77%FS	± 0.37%FS	± 0.24%FS
Hysteresis	± 0.20%FS	± 0.10%FS	± 0.05%FS
Non-Repeatability	± 0.10%FS	± 0.10%FS	± 0.05%FS
Thermal Effects (Per °F)	± 0.025%FS	± 0.020%FS	± 0.015%FS
Compensated Range	35 to 140°F (2 to 60°C)		
Maximum Line Pressure	15PSI(100kPa)		
Overpressure	15PSI(100kPa) Proof Pressure. 30PSI(200kPa) Burst Pressure		
Warm-up Time	5 seconds to meet specifications		
Position Effect	Each unit is calibrated in the vertical position. For best accuracy, press the zero button to tare 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	32 to 140°F (0 to 60°C)
Storage Temperature	-40 to 185°F (-40 to 85°C)
Electrical Termination	Pluggable Terminal Block with PG-9 Strain Relief
Pressure Fittings	3/16", 6.5mm or 8.0mm O.D. Barbed Brass for Push-on Tubing
Output Adjustment	Push button for Zero, Potentiometer for span
Pressure Media	Typically Air or similar non-conducting Gases
Enclosure	Die-cast aluminum, rated NEMA 4/IP65.
Weight	11.5OZ/330g
Installation	There are two 0.165 inch dia. mounting holes inside the enclosure. Two M4 x 12 pan head screws with washers and nuts are included in the box. See Diagram 1 for outline and dimensions. Stainless steel mounting plate with tabs is optional.

Applications:

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

Features

- 3-1/2 Digit LCD Display
- Push Button Zero Calibration
- 15 PSI Over Pressure
- Incorrect Wiring Protection
- Rugged Aluminum Housing Rated NEMA 4/IP65
- RoHS Compliant

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Model 178 Specifications

Electrical Data (Current)

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

* Calibrated with a 250 OHM load and a 24VDC supply voltage

** Zero Setting: Factory set at $\pm 0.08\text{mA}$
 Span Setting: Factory set at $\pm 0.08\text{mA}$

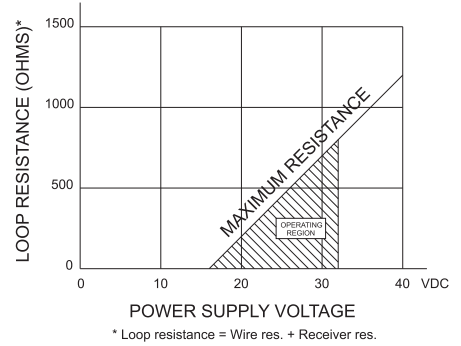


Diagram 2

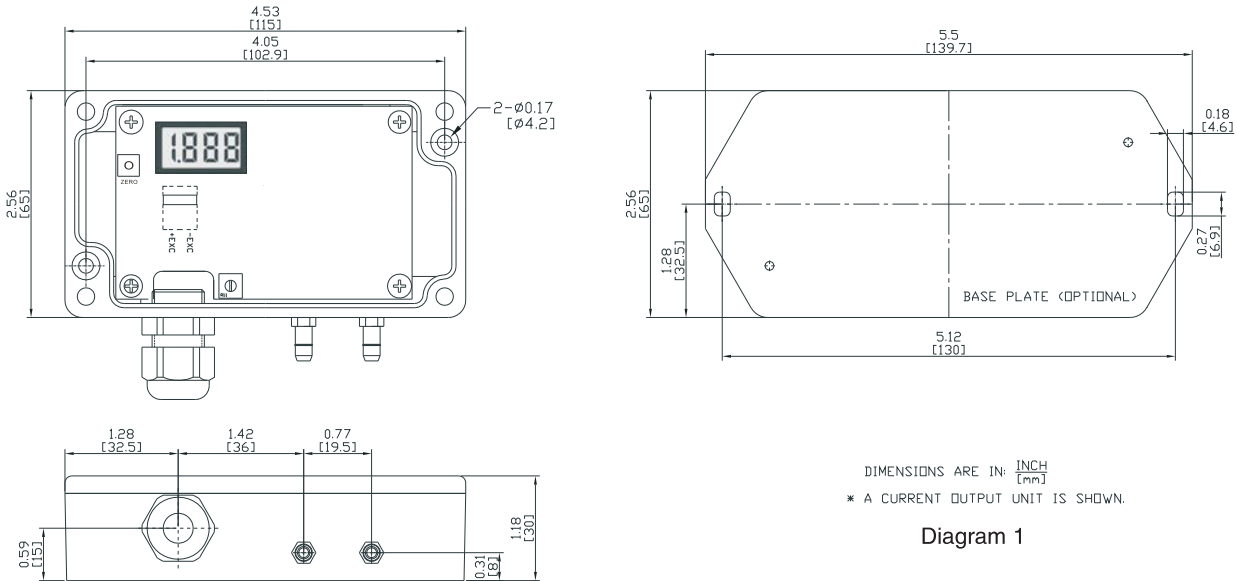


Diagram 1

Ordering Information

Code all blocks in table.

Example: 178W00R1DA8NA for 178 Transmitter, 0~0.1 in. WC Range, Unidirectional, 4–20mA Output, 0.8% Accuracy, No Calibration Certificate, 3/16" Barbed Brass Pressure Fittings.

Model	Unit	Range	Pressure Type	Output	Accuracy	Certificate	Pressure Fitting
178	P: Pascal	NNNN	Differential D: Unidirectional B: Bidirectional	A: 4–20mA	8: 0.8%FS 4: 0.4%FS 2: 0.25%FS	Y (with) N (without)	A: 3/16" B: 8mm E: 6.5mm (Barbed Brass)
Pressure Unit/Range/Type							
Pascal (Unidirectional)		Pascal (Bidirectional)					
P0025D=0~25 Pa		P0010B=0~ ± 10 Pa					
P0050D=0~50 Pa		P0025B=0~ ± 25 Pa					
P0100D=0~100 Pa		P0050B=0~ ± 50 Pa					
P0250D=0~250 Pa		P0100B=0~ ± 100 Pa					
P0500D=0~500 Pa		P0250B=0~ ± 250 Pa					
P1000D=0~1000 Pa		P0500B=0~ ± 500 Pa					
P2500D=0~2500 Pa		P1000B=0~ ± 1000 Pa					
P5000D=0~5000 Pa		P2500B=0~ ± 2500 Pa					
P100CD=0~10000 Pa		P5000B=0~ ± 5000 Pa					
P250CD=0~25000 Pa		P100CB=0~ ± 10000 Pa					

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