

178A Model Low Differential Pressure Transmitter

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instruments



The Model 178A Series are low range differential pressure transmitters. The 178A series has a SS304 front panel and an IP65NEMA 4 rated aluminum die casting enclosure to withstand environmental effects.

The Model 178A Series are available for full scale pressure range from 0 to 0.1"WC till 0 to 100"WC. Both unidirectional and bidirectional pressure ranges are offered.

The output of Model 178A Pressure Transmitter is 4 to 20 mA. All units are temperature compensated. The accuracy can be 0.6%, 0.4% or 0.25% at room temperature.

The patented variable capacitance pressure sensor is constructed by stainless steel and glass, no glue or other organics. That provides excellent performance, corrosion resistance and long-term stability.

Model 178A Specifications

Performance Data	Standard	Optional	Optional
Accuracy* (at room temp)	±0.60%FS	±0.40%FS	±0.25%FS
Non-Linearity (BFSL)	±0.55%FS	±0.37%FS	±0.20%FS
Hysteresis	±0.20%FS	±0.10%FS	±0.10%FS
Non-Repeatability	±0.10%FS	±0.10%FS	±0.10%FS
Thermal Effects: Zero/Span Shift (°F)	±0.025%FS	±0.02%FS	±0.015%FS
Compensated Range	35 to 140° F(2 to 60°C)		
Maximum Line Pressure	15PSI(100kPa)		
Overpressure	15PSI(100kPa) in Positive or Negative Direction for all Ranges		
Stability	±0.5% FS/YR		
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	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
Zero & Span Adjustment	Push button for Zero, Potentiometer for span
Pressure Media	Typically Air or similar non-conducting Gases
Enclosure	Die-cast aluminum, SS304 front panel, rated NEMA 4/IP65.
Weight	18OZ/508g
Installation	Front Panel Mounting

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
- Incorrect Wiring Protection
- 15 PSI Over Pressure
- SS304 Front Panel Mounting
- Rugged Aluminum Housing Rated NEMA 4/IP65
- RoHS Compliant
- Pressure Ranges as Low as 10Pa Only!

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www.alphainstruments.com

E-mail: sales@alphainstruments.com

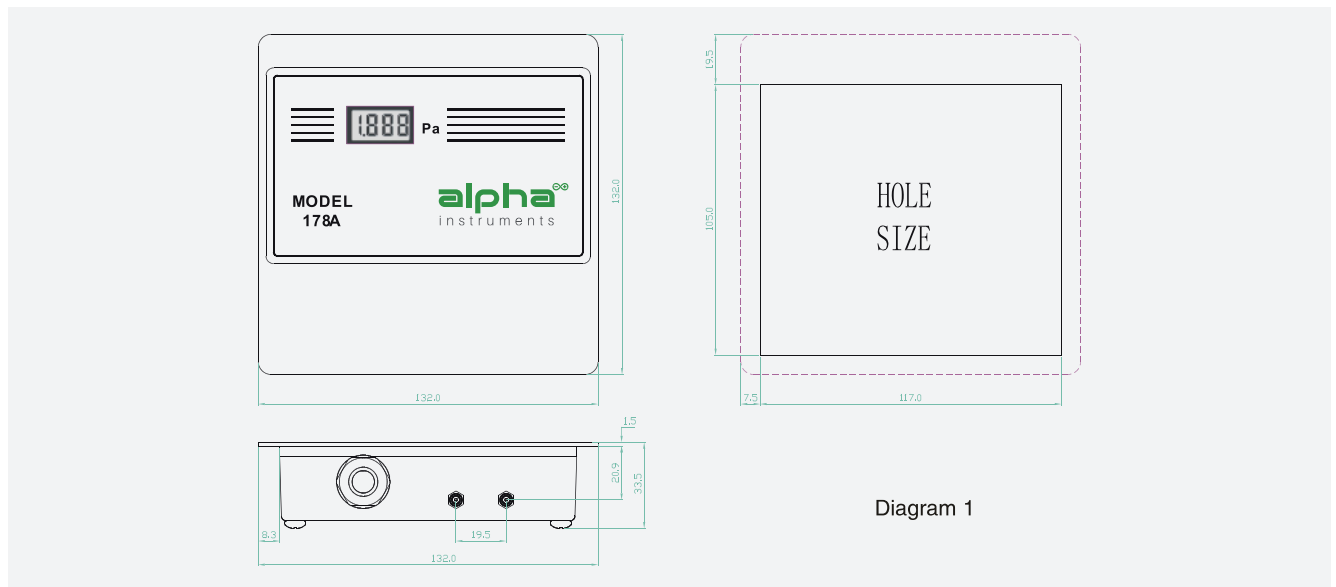
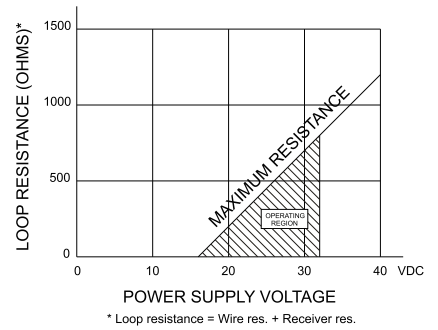
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Electrical Data (Current)

Circuit	2-Wire (+EXC, -EXC) , Protected against incorrect wiring
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
Span Factory Setting: $\pm 0.5\%$ FS



Ordering Information Code all blocks in table.

Example: 178AP0100DA6NA for 178A Transmitter, 0~100Pa Range, Unidirectional, 4-20mA Output, 0.6% Accuracy, No Calibration Certificate, 3/16" Barbed Brass Pressure Fittings, Panel Mount.

<div>178A</div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
<div>Model</div> <div>178A</div>	<div>Unit</div> <div>P: Pascal</div> <div>W: in. W.C.</div>	<div>Range</div> <div>NNNN</div>	<div>Pressure Type</div> <div>Differential</div> <div>D: Unidirectional</div> <div>B: Bidirectional</div>	<div>Output</div> <div>A: 4-20mA</div>	<div>Accuracy</div> <div>6: 0.6%FS</div> <div>4: 0.4%FS</div> <div>2: 0.25%FS</div>	<div>Certificate</div> <div>Y: (with)</div> <div>N: (without)</div>	<div>Pressure Fitting</div> <div>A: 3/16"</div> <div>B: 8mm</div> <div>E: 6.5mm</div> <div>(Barbed Brass)</div>
<div>Pressure Unit/Range/Type</div>							
<div>in. W.C. (Unidirectional)</div>		<div>in. W.C. (Bidirectional)</div>		<div>Pascal (Unidirectional)</div>		<div>Pascal (Bidirectional)</div>	
<div>W00R1D=0 to 0.1 in. WC</div>		<div>W0R05B=-0.05 to 0.05 in. WC</div>		<div>P0025D=0 to 25 Pa</div>		<div>P0010B=-10 to 10 Pa</div>	
<div>W0R25D=0 to 0.25 in. WC</div>		<div>W00R1B=-0.1 to 0.1 in. WC</div>		<div>P0050D=0 to 50 Pa</div>		<div>P0025B=-25 to 25 Pa</div>	
<div>W00R5D=0 to 0.5 in. WC</div>		<div>W0R25B=-0.25 to 0.25 in. WC</div>		<div>P0100D=0 to 100 Pa</div>		<div>P0050B=-50 to 50 Pa</div>	
<div>W0001D=0 to 1 in. WC</div>		<div>W00R5B=-0.5 to 0.5 in. WC</div>		<div>P0250D=0 to 250 Pa</div>		<div>P0100B=-100 to 100 Pa</div>	
<div>W02R5D=0 to 2.5 in. WC</div>		<div>W0001B=-0.1 to 1 in. WC</div>		<div>P0500D=0 to 500 Pa</div>		<div>P0250B=-250 to 250 Pa</div>	
<div>W0005D=0 to 5 in. WC</div>		<div>W02R5B=-2.5 to 2.5 in. WC</div>		<div>P1000D=0 to 1000 Pa</div>		<div>P0500B=-500 to 500 Pa</div>	
<div>W0010D=0 to 10 in. WC</div>		<div>W0005B=-5 to 5 in. WC</div>		<div>P2500D=0 to 2500 Pa</div>		<div>P1000B=-1000 to 1000 Pa</div>	
<div>W0025D=0 to 25 in. WC</div>		<div>W0010B=-10 to 10 in. WC</div>		<div>P5000D=0 to 5000 Pa</div>		<div>P1250B=-1250 to 1250 Pa</div>	
<div>W0050D=0 to 50 in. WC</div>		<div>W0025B=-25 to 25 in. WC</div>		<div>P100CD=0 to 10000 Pa</div>		<div>P2000B=-2000 to 2000 Pa</div>	
<div>W0100D=0 to 100 in. WC</div>		<div>W0050B=-50 to 50 in. WC</div>		<div>P250CD=0 to 25000 Pa</div>		<div>P5000B=-5000 to 5000 Pa</div>	
						<div>P100CB=-10000 to 10000 Pa</div>	

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