



# OUTSIDE AIR

## Weatherproof Outside Air, Platinum RTD

The ACI Platinum Outside Air Series features a weather proof European style, plastic enclosure with twist off cover and water tight cord grip. The sensing element contains Etched Teflon colored lead wires to differentiate the different sensor types. The three-wire “-3W” option should be ordered if using with a 3-Wire temperature transmitter or sensor configuration on your building management system or PLC (Programmable Logic Controller). The purpose of the 3rd wire is to compensate for external lead wire resistance that will affect your sensors output signal. ACI recommends the use of 18 AWG lead wires to reduce external lead wire resistance when using a Platinum RTD sensor. The sensors in this series are manufactured using ACI’s proven double encapsulation process to eliminate the effects of moisture on the sensor

and to increase response time using our high quality, thermally conductive epoxy. The outdoor air sensor is a single point sensor designed to be mounted under an eave or on the North side of a building in a shaded location with the sensing tube pointed downward. Optional NEMA 4X “-4X” plastic or NEMA 3R “-BB” weatherproof Aluminum enclosures and NIST Certificates are available as referenced on the back of the product data sheet. For Applications in which the sensor must be mounted in direct sunlight, please see the Sun Shield data sheet which will allow you to order a Temperature or Temperature/Humidity Combination sensor.

**Applications:** Outside Air Temperature Sensing, Cold Storage Facilities, High Dew Point/Condensing Environments

**The ACI Platinum Outside Air Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, [www.workaci.com](http://www.workaci.com).**

### PRODUCT SPECIFICATIONS

<b>Sensor Type   Sensor Curve:</b>	Platinum RTD   PTC (Positive Temperature Coefficient)
<b>Number Sensing Points:</b>	One
<b>Number Wires:</b>	<b>A/100-2W-xx-O Series and A/1K-2W-xx-O Series:</b> Two (Non-Polarity Sensitive) <b>A/100-3W-xx-O Series and A/1K-3W-xx-O Series:</b> Three (Polarity Sensitive)
<b>Sensor Output @ 0°C (32°F):</b>	<b>A/100-xW-xx-O Series:</b> 100 Ohms nominal   <b>A/1K-xW-xx-O Series:</b> 1000 Ohms nominal
<b>Sensor Accuracy @ 0°C (32°F):</b>	+/- 0.06% Class A ( <b>Tolerance Formula:</b> +/- °C = (0.15°C + (0.002 *  t )) where  t  is the absolute value of Temperature above or below 0°C in °C) <b>-40°C (-40°F):</b> +/- 0.23°C (+/- 0.414°F)   <b>0°C (32°F):</b> +/- 0.15°C (+/- 0.27°F) <b>70°C (158°F):</b> +/- 0.29°C (+/- 0.53°F)
<b>Din Standard   Temperature Coefficient:</b>	DIN EN 60751 (IEC 751)   3850 ppm / °C
<b>Sensor Stability:</b>	+/- 0.03% after 1000 Hours @ 300°C (572°F)
<b>Response Time (63% Step Change):</b>	25 Seconds nominal
<b>Self-Heating   Maximum Operating Current:</b>	<b>100 Ohm RTD:</b> 7 mW/°C (Still Air)   5 mA   <b>1K Ohm RTD:</b> 4mW/°C (Still Air)   3 mA
<b>Operating   Storage Temperature Range:</b>	-40 to 70°C (-40 to 158°F)   -40 to 70°C (-40 to 158°F)
<b>Operating Humidity Range:</b>	10 to 100% RH, Condensing
<b>Enclosure Specifications (Temperature, Material, Flammability, NEMA/IP Ratings):</b>	<b>“-EH” Enclosure:</b> PC/ASA Plastic w/ UV Protectant; -40 to 88°C (-40 to 190°F); UL94-V0 <b>“-4X” Enclosure:</b> Polystyrene Plastic, -40 to 70°C (-40 to 158°F), UL94-V2, NEMA 4X (IP 66) <b>“-BB” Enclosure:</b> Aluminum, -40 to 121°C (-40 to 250°F), NEMA 3R
<b>Lead Length   Conductor Size:</b>	14” (35.6cm)   22 AWG (0.65mm)
<b>Lead Wire Insulation   Wire Rating:</b>	Etched (PTFE) Teflon Colored Leads   MIL-W-16878/4 (Type E)
<b>Conductor Material:</b>	Silver Plated Copper
<b>Product Dimensions:</b>	See Drawings on back of Data Sheet
<b>Product Weight:</b>	<b>A/100/1K-xx-O-EH:</b> 0.46 lbs. (0.21kg)   <b>A/100/1K-xx-O-4X:</b> 0.38 lbs. (0.17kg) <b>A/100/1K-xx-O-BB:</b> 0.76 lbs. (0.35kg)
<b>Agency Approvals:</b>	CE, RoHS2, WEEE





### DIMENSIONAL DRAWING, WEIGHTS

xx = Sensor Type

Bell Box Enclosure [BB]		Bell Box Enclosure [BB] Weight				
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ACI Model #</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>A/xx-O-BB</td> <td>0.76 lbs. (0.172 kg)</td> </tr> </tbody> </table>	ACI Model #	Weight	A/xx-O-BB	0.76 lbs. (0.172 kg)
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<b>Front &amp; Right Views</b>	<b>Top View</b>	<b>Product Weight</b>				

### STANDARD ORDERING

Model # Example: **A/100-2W-O-EH -OR- 125166**

Model #	Item #	Description
<b>A/100-2W-O-EH</b>	125166	100 Ohm RTD, 2-Wire, Outside Air Sensor, Euro Enclosure, 14" Brown/Brown Leads
<b>A/100-2W-O-BB</b>	119961	100 Ohm RTD, 2-Wire, Outside Air Sensor, Aluminum Weather Proof Enclosure, 14" Brown/Brown Leads
<b>A/100-2W-O-4X</b>	135278	100 Ohm RTD, 2-Wire, Outside Air Sensor, NEMA 4X Weather Proof Enclosure, 14" Brown/Brown Leads
<b>A/100-3W-O-EH</b>	125178	100 Ohm RTD, 3-Wire, Outside Air Sensor, Euro Enclosure, 14" Brown/Brown/Black Leads
<b>A/100-3W-O-BB</b>	120044	100 Ohm RTD, 3-Wire, Outside Air Sensor, Aluminum Weather Proof Enclosure, 14" Brown/Brown/Black Leads
<b>A/100-3W-O-4X</b>	120043	100 Ohm RTD, 3-Wire, Outside Air Sensor, NEMA 4X Weather Proof Enclosure, 14" Brown/Brown/Black Leads
<b>A/1K-2W-O-EH</b>	125211	1K Ohm RTD, 2-Wire, Outside Air Sensor, Euro Enclosure, 14" Black/Black Leads
<b>A/1K-2W-O-BB</b>	120315	1K Ohm RTD, 2-Wire, Outside Air Sensor, Aluminum Weather Proof Enclosure, 14" Black/Black Leads
<b>A/1K-2W-O-4X</b>	119398	1K Ohm RTD, 2-Wire, Outside Air Sensor, NEMA 4X Weather Proof Enclosure, 14" Black/Black Leads
<b>A/1K-3W-O-EH</b>	125216	1K Ohm RTD, 3-Wire, Outside Air Sensor, Euro Enclosure, 14" Black/Black/White Leads
<b>A/1K-3W-O-BB</b>	142485	1K Ohm RTD, 3-Wire, Outside Air Sensor, Aluminum Weather Proof Enclosure, 14" Black/Black/White Leads
<b>A/1K-3W-O-4X</b>	131776	1K Ohm RTD, 3-Wire, Outside Air Sensor, NEMA 4X Weather Proof Enclosure, 14" Black/Black/White Leads

### CUSTOM ORDERING

Model # Example: **A/ 100 2W O-EH NIST**  
A. B. C. D. E.

A. Sensor Series <i>No Selection Required</i>	A/	MODEL #
<b>B. Model Series</b> <i>Select One (1)</i>	<b>100</b> = 100 Ohm Platinum RTD   <b>1K</b> = 1K Ohm Platinum RTD	A/
<b>C. Number of Wires</b> <i>Select One (1)</i>	<b>2W</b> = Two Wires   <b>3W</b> = Three Wires	
<b>D. Enclosure</b> <i>Select One (1)</i>	<b>O-EH</b> = Euro Enclosure   <b>O-BB</b> = Aluminum Enclosure   <b>O-4X</b> = NEMA 4X Enclosure	
<b>E. NIST</b> <i>Select One (1)</i>	<b>----</b> = No NIST Certificate   <b>NIST</b> = NIST Certificate (Must Specify 1, 3 or 5 Points)	

