

# DUCT

## Duct Sensor, Platinum RTD

The ACI Platinum Duct Series features a stainless steel probe with Etched Teflon colored lead wires to differentiate the different sensor types. The three-wire “-3W” option should be ordered when 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 the accuracy of your sensor output. ACI recommends the use of an 18 AWG lead wires to reduce the external lead wire resistance when using a Platinum RTD. The sensors are manufactured using ACI’s proven double encapsulation process to eliminate the effects of moisture on the sensors and to increase response times using our high quality, thermally conductive epoxy. The duct style sensor is a

single point sensor designed to be used in smaller duct applications and includes an insulation pad for sealing the duct and dampening vibration. The sensor length should be determined by the width or diameter of your duct, such that the tip of the probe is in the approximate center of the duct. Standard enclosure options include the “-GD” Galvanized or “-PB” plastic enclosure with hinged cover. On larger ducts, our Rigid or Bendable Copper Averaging sensor may offer better coverage based upon the size of your duct system and sensor location. Optional NEMA/IP rated weather proof enclosures and NIST Certificates are available as referenced in the ordering grid.

**Applications:** Roof Top Units, Air Handlers, Monitoring Supply/Discharge/Return/Mixed Air Temperatures

**The ACI Platinum Duct 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

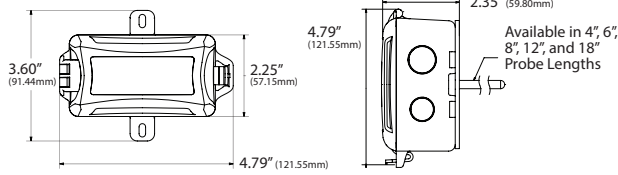
<b>Sensor Type   Sensor Curve:</b>	Platinum RTD   PTC (Positive Temperature Coefficient)
<b>Number Sensing Points:</b>	One
<b>Number Wires:</b>	<b>A/100-2W-D Series and A/1K-2W-D Series:</b> Two (Non-Polarity Sensitive) <b>A/100-3W-D Series and A/1K-3W-D Series:</b> Three (Polarity Sensitive)
<b>Sensor Output @ 0°C (32°F):</b>	<b>A/100-xW-D Series:</b> 100 Ohms nominal   <b>A/1K-xW-D Series:</b> 1000 Ohms nominal +/- 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>Sensor Accuracy @ 0°C (32°F):</b>	<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>115°C (239°F):</b> +/- 0.38°C (+/- 0.69°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>	8 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> 4 mW/°C (Still Air)   3 mA
<b>Enclosure Specifications (Operating Temperature Range, Material, Flammability, NEMA/IP Ratings):</b>	<b>“-GD” Enclosure:</b> -40 to 115°C (-40 to 239°F); Galvanized Steel; NEMA 1 (IP10) <b>“-PB” Enclosure:</b> -30 to 90°C (-22 to 194°F); ABS Plastic; UL94-HB; Plenum Rated <b>“-BB” Enclosure:</b> Aluminum, -40 to 121°C (-40 to 250°F), Plenum Rated, NEMA 3R <b>“-4X” Enclosure:</b> -40 to 70°C (-40 to 158°F); Polystyrene Plastic; UL94-V2; NEMA 4X (IP 66)
<b>Storage Temperature Range:</b>	-40 to 85°C (-40 to 185°F)
<b>Sensor Operation Temperature Range:</b>	-40 to 392°F (-40 to 200°C)
<b>Operating Humidity Range:</b>	10 to 95% RH, non-condensing
<b>Probe Material:</b>	304 Stainless Steel
<b>Fitting Material   Flammability Rating:</b>	Polyamide 66 (High Performance Nylon)   UL94-HB
<b>Foam Pad Material   Flammability Rating:</b>	Neoprene/EPDM/SBR Polymer   UL94-HBF; FMVSS-302; MIL-R-6130C
<b>Lead Length   Conductor Size:</b>	<b>4”, 6” &amp; 8” Sensors:</b> 14” (35.6cm)   <b>12” or 18” Sensors:</b> 24” (61cm)   22 AWG (0.65mm)
<b>Lead Wire Insulation   Wire Rating:</b>	Etched Teflon (PTFE) Colored Leads   Mil Spec 16878/4 Type E)
<b>Conductor Material:</b>	Silver Plated Copper
<b>Product Dimensions   Product Weight:</b>	See table on back of Product Data sheet
<b>Probe Diameter:</b>	0.250” (6.35mm)
<b>Agency Approvals:</b>	CE, RoHS2, WEEE





**DIMENSIONAL DRAWING, WEIGHTS**

**Plastic Box Enclosure [PB]**

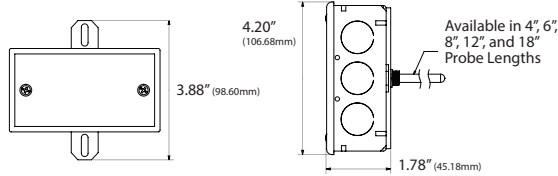


xx = Sensor Type | yy = Insertion Length

**Plastic Box Enclosure [PB] Weights**

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-PB	0.24 lbs. (0.109 kg)	0.25 lbs. (0.113 kg)	0.26 lbs. (0.117 kg)
ACI Model #	12" (Probe Length)	18" (Probe Length)	
A/xx-D-yy-PB	0.28 lbs. (0.127 kg)	0.30 lbs. (0.136 kg)	

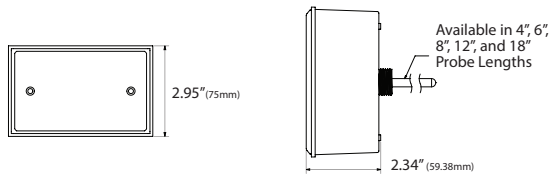
**Galvanized Enclosure [GD]**



**Galvanized Enclosure [GD] Weights**

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-GD	0.66 lbs. (0.299 kg)	0.67 lbs. (0.303 kg)	0.68 lbs. (0.308 kg)
ACI Model #	12" (Probe Length)	18" (Probe Length)	
A/xx-D-yy-GD	0.70 lbs. (0.317 kg)	0.74 lbs. (0.336 kg)	

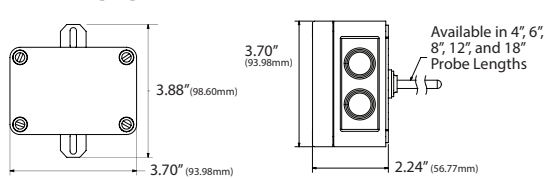
**Bell Box Enclosure [BB]**



**Bell Box Enclosure [BB] Weights**

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-BB	0.70 lbs. (0.317 kg)	0.71 lbs. (0.322 kg)	0.72 lbs. (0.326 kg)
ACI Model #	12" (Probe Length)	18" (Probe Length)	
A/xx-D-yy-BB	0.74 lbs. (0.336 kg)	0.78 lbs. (0.354 kg)	

**NEMA 4X Enclosure [4X]**



**NEMA 4X Enclosure [4X] Weights**

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-4X	0.34 lbs. (0.154 kg)	0.35 lbs. (0.159 kg)	0.36 lbs. (0.163 kg)
ACI Model #	12" (Probe Length)	18" (Probe Length)	
A/xx-D-yy-4X	0.38 lbs. (0.172 kg)	0.40 lbs. (0.181 kg)	

Standard Views

Product Weights

**CUSTOM ORDERING**

Model # Example: A/ 100 2W D 8" GD NIST

<b>A. Sensor Series</b> No Selection Required	A/ _____ →
<b>B. Model Series</b> Select One (1)	100 = 100 Ohm   1K = 1K Ohm
<b>C. Number of Wires</b> Select One (1)	2W = Two Wires   3W = Three Wires
<b>D. Configuration</b> No Selection Required	D = Duct _____ →
<b>E. Probe Length</b> Select One (1)	4" = 4" Probe   6" = 6" Probe   8" = 8" Probe   12" = 12" Probe   18" = 18" Probe
<b>F. Enclosure</b> Select One (1)	GD = Galvanized   PB = Plastic   BB = Aluminum, NEMA 3R   4X = NEMA 4X
<b>G. NIST</b> Select One (1)	---- = No NIST Certificate   NIST = NIST Certificate (Must Specify 1, 3 or 5 Points)

**MODEL #**

A/
D

