COPPER AVERAGING

Bendable Copper/Continuous, Platinum RTD

The ACI Platinum Copper Averaging Series features a copper sensing element 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 your sensor output. ACI recommends the use of 18 AWG lead wires to reduce the external lead wire resistance when using a Platinum RTD style sensor. The sensing element includes a continuous sensing element, which covers the entire length of the copper tube. This produces a better average temperature over the entire cross sectional area of your duct or unit when compared to a single point duct sensor or multi-point averaging sensor. These sensors are hermetically sealed to ensure that moisture and other contaminants won't affect the reliability of the sensing element. The copper averaging sensor includes a foam pad to seal the duct and dampen vibrations once installed. The sensor length should be determined by the total cross sectional area of your duct. Standard enclosure options include the "-GD" galvanized or "-PB" plastic enclosure with hinged cover. Optional NEMA/IP rated weather proof enclosures and NIST Certificates are available as referenced in the ordering grid. For higher accuracies, see the A/TTM1K (Matched) Averaging transmitter Product Data Sheet.

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

The ACI Platinum Bendable Copper Averaging 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.

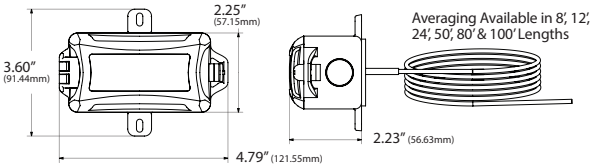
PRODUCT SPECIFICATIONS

Sensor Type | Sensor Curve:	Platinum RTD | PTC (Positive Temperature Coefficient)
Number Sensing Points:	Continuous
Number Wires:	**A/1K-2W-A-xx'-xx Series:** Two (Non-Polarity Sensitive) **A/1K-3W-A-xx'-xx Series:** Three (Polarity Sensitive)
Sensor Output @ 0ºC (32ºF):	1000 Ohms nominal
Sensor Accuracy:	+/- 0.1% @ 0ºC (32ºF) | +/- 0.25% @ 21ºC (70ºF) | +/- 1.0% @ 130ºC (266ºF)
Temperature Coefficient:	3850 ppm / ºC
Response Time (63% Step Change):	15 Seconds nominal
Self-Heating | Maximum Operating Current:	4 mW/ºC (Still Air) | 3 mA
Sensor Operating Temperature Range:	-40 to 135ºC (-40 to 275ºF)
Enclosure Specifications (Temperature Range, Material, Flammability, NEMA/IP Ratings):	**"-GD" Enclosure:** -40 to 115ºC (-40 to 239ºF); Galvanized Steel; NEMA 1 (IP10) **"-PB" Enclosure:** -30 to 90ºC (-22 to 194ºF); ABS Plastic; UL94-HB; Plenum Rated **"-BB" Enclosure:** -40 to 115ºC (-40 to 239ºF); Aluminum; NEMA 3R (IP 14) **"-4X" Enclosure:** -40 to 70ºC (-40 to 158ºF); Polystyrene Plastic; UL94-V2; NEMA 4X (IP 66)
Storage Temperature Range:	-40 to 85ºC (-40 to 185ºF)
Operating Humidity Range:	10 to 95% RH, non-condensing
Sensing Element Material | Sensor Diameter	Copper | 0.210" (5.34mm) nominal
Fitting Material | Flammability Rating:	Polyamide 66 (High Performance Nylon) | UL94-HB
Foam Pad Material | Flammability Rating:	Neoprene/EPDM/SBR Polymer | UL94-HBF; FMVSS-302; MIL-R-6130C
Lead Length | Conductor Size:	12" (30.5cm) | 22 AWG (0.65mm)
Lead Wire Insulation | Wire Rating:	Etched Teflon (PTFE) Colored Leads | Mil Spec 16878/4 Type E)
Conductor Material:	Silver Plated Copper
Product Dimensions | Product Weight:	See table on back of Product Data Sheet
Agency Approvals:	RoHS2, WEEE

DIMENSIONAL DRAWING, WEIGHTS

xx = Sensor Type | **yy** = Insertion Length

Plastic Box Enclosure [PB]

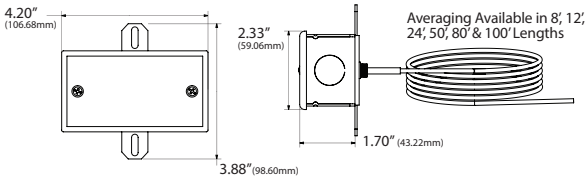


Plastic Box Enclosure [PB] Weights

ACI Model #	8' (Probe Length)	12' (Probe Length)	24' (Probe Length)
A/xx-A-yy-PB	0.72 lbs. (0.327 kg)	0.96 lbs. (0.435 kg)	1.70 lbs. (0.771 kg)

ACI Model #	50' (Probe Length)	80' (Probe Length)	100' (Probe Length)
A/xx-A-yy-PB	3.28 lbs. (1.488 kg)	4.54 lbs. (2.059 kg)	5.62 lbs. (2.549 kg)

Galvanized Enclosure [GD]

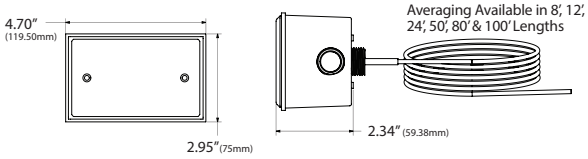


Galvanized Enclosure [GD] Weights

ACI Model #	8' (Probe Length)	12' (Probe Length)	24' (Probe Length)
A/xx-A-yy-GD	1.16 lbs. (0.526 kg)	1.40 lbs. (0.635 kg)	2.20 lbs. (0.998 kg)

ACI Model #	50' (Probe Length)	80' (Probe Length)	100' (Probe Length)
A/xx-A-yy-GD	3.78 lbs. (1.715 kg)	5.08 lbs. (2.304 kg)	6.16 lbs. (2.794 kg)

Bell Box Enclosure [BB]

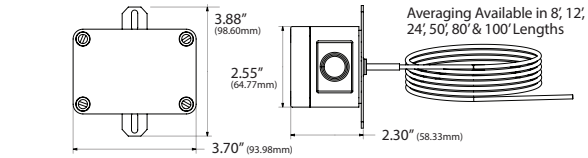


Bell Box Enclosure [BB] Weights

ACI Model #	8' (Probe Length)	12' (Probe Length)	24' (Probe Length)
A/xx-A-yy-BB	1.22 lbs. (0.553 kg)	1.44 lbs. (0.653 kg)	2.18 lbs. (0.989 kg)

ACI Model #	50' (Probe Length)	80' (Probe Length)	100' (Probe Length)
A/xx-A-yy-BB	3.74 lbs. (1.696 kg)	5.04 lbs. (2.286 kg)	6.12 lbs. (2.776 kg)

NEMA 4X Enclosure [4X]



NEMA 4X Enclosure [4X] Weights

ACI Model #	8' (Probe Length)	12' (Probe Length)	24' (Probe Length)
A/xx-A-yy-4X	0.84 lbs. (0.381 kg)	1.06 lbs. (0.481 kg)	1.80 lbs. (0.816 kg)

ACI Model #	50' (Probe Length)	80' (Probe Length)	100' (Probe Length)
A/xx-A-yy-4X	3.36 lbs. (1.524 kg)	4.66 lbs. (2.114 kg)	5.74 lbs. (2.604 kg)

Standard Views | **Product Weights**

CUSTOM ORDERING

Model # Example: A/ (A.) 1K (B.) 2W (C.) A (D.) 80' (E.) GD (F.) NIST (G.)

		MODEL #
A. Sensor Series *No Selection Required*	**A/** →	A/
B. Model Series *No Selection Required*	**1K** = 1K Ohm Platinum RTD →	1K
C. Number of Wires *Select One (1)*	**2W** = Two Wires | **3W** = Three Wires	
D. Configuration *No Selection Required*	**A** = Bendable Copper Averaging Sensors →	A
E. Sensor Length *Select One (1)*	**8'** = 8' (2.44m) | **12'**= 12'(3.66m) | **24'** = 24' (7.31m) | **50'** = 50' (15.24m) **80'** = 80' (24.39m) Length | **100'** = 100' (30.48m) Length	
F. Enclosure *Select One (1)*	**GD** = Galvanized | **PB** = Plastic | **BB** = Aluminum, NEMA 3R | **4X** = NEMA 4X	
G. NIST *Select One (1)*	**----** = No NIST Certificate | **NIST** = NIST Certificate (3 Points)	

ACCESSORIES ORDERING

Model # Example: A/CAPILLARY CLIP QTY:1 -OR- 130525

Model #	Item #	Description
A/CAPILLARY CLIP QTY: 1	130525	Capillary Mounting Clip, Copper, Quantity: 1
UNIVERSAL CLIP 50	145430	Capillary Mounting Clip, Plastic, Quantity: 50/Bag
UNIVERSAL CLIP 6	145421	Universal Mounting Clip, Plastic, Quantity: 6/Bag