



COPPER AVERAGING

Bendable Multipoint Copper, Thermistor

The ACI Thermistor Copper Averaging Series features a copper sensing element with AWG Etched Teflon colored lead wires to differentiate the different sensor types. Each sensor is manufactured with 4 or 9 sensing points determined by the length of the sensing element. The averaging sensors provide a better average temperature of the air inside the duct when compared to a single point duct sensor. Each of the elements is sealed to prevent moisture intrusion and includes a foam pad to seal the duct and dampen vibrations. The benefits of using a copper sensing element is that it has improved thermal conductivity and higher corrosion resistance than similar aluminum style averaging sensors. Additionally, copper has been proven to have an antibacterial effect to many of the airborne contaminants, mold and bacteria found in duct systems. Our standard enclosures include the galvanized “-GD” or plastic duct enclosure with hinged cover “-PB”. Each unit includes nylon wire ties and mounts with

optional copper capillary and universal plastic mounting clips, NEMA/IP Rated Weather Proof enclosures and NIST certificates as referenced on the back of the product data sheet.

Applications: Air Handlers, Roof Top Units, Mixed Air/Discharge/Supply Air Temperature Monitoring, Data Centers, Hospitals

The ACI Thermistor 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, www.workaci.com.

PRODUCT SPECIFICATIONS

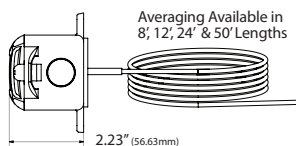
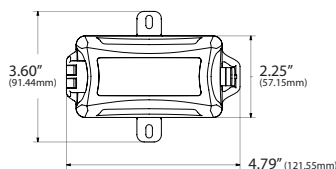
Sensor Type Sensor Curve:	Thermistor Non-Linear, NTC (Negative Temperature Coefficient)
Number Sensing Points Number Wires:	8' and 12' Lengths: Four 24' and 50' Lengths: Nine Two (Non-Polarity Sensitive)
Sensor Series Output @ 25°C (77°F)	A/1.8K: 1.8K Ω nominal (Red/Yellow) A/CSI: 10K Ω nominal (Green/Yellow)
(Lead Wire Colors):	A/3K: 3K Ω nominal (White/Brown) A/10KS: 10K Ω nominal (White/Blue)
	A/AN (Type III): 10K Ω nominal (White/White) A/10K-E1: 10K Ω nominal (Gray/Orange)
	A/AN-BC: 5.238K Ω nominal (White/Yellow) A/20K: 20K Ω nominal (Brown/Blue)
	A/CP (Type II): 10K Ω nominal (White/Green) A/100KS: 100K Ω nominal (Black/Yellow)
Accuracy 0-70°C (32-158°F):	8' & 12' Lengths: $\pm 0.20^{\circ}\text{C}$ ($\pm 0.36^{\circ}\text{F}$); A/1.8K: $\pm 1.00^{\circ}\text{C}$ ($\pm 1.80^{\circ}\text{F}$); A/10KS: $\pm 0.60^{\circ}\text{C}$ ($\pm 1.10^{\circ}\text{F}$)
	24' & 50' Lengths: $\pm 0.20^{\circ}\text{C}$ ($\pm 0.36^{\circ}\text{F}$); A/1.8K: $\pm 1.00^{\circ}\text{C}$ ($\pm 1.80^{\circ}\text{F}$); A/10KS: $\pm 0.60^{\circ}\text{C}$ ($\pm 1.10^{\circ}\text{F}$)
Stability:	Sensor Dependent; Contact ACI for more information on specific sensor
Response Time (63% Step Change):	15 Seconds nominal
Power Dissipation Constant:	8' and 12' Lengths: 4 mW/ $^{\circ}\text{C}$ except A/1.8K Series = 2 mW/ $^{\circ}\text{C}$ A/100KS Series: 6 mW/ $^{\circ}\text{C}$
	24' & 50' Lengths: 6 mW/ $^{\circ}\text{C}$ except A/1.8K Series = 3 mW/ $^{\circ}\text{C}$ A/100KS Series: 9 mW/ $^{\circ}\text{C}$
Enclosure Specifications (Temperature, Flammability, NEMA/IP Ratings):	“-GD” Enclosure: Galvanized Steel, -40 to 115°C (-40 to 239°F), NEMA 1 (IP10)
	“-PB” Enclosure: ABS Plastic, -30 to 90°C (-22 to 194°F), UL94-HB, Plenum Rated
	“-BB” Enclosure: Aluminum, -40 to 115°C (-40 to 239°F), NEMA 3R (IP 14);
	“-4X” Enclosure: Polystyrene Plastic, -40 to 70°C (-40 to 158°F), UL94-V2, NEMA 4X (IP 66)
Storage Temperature Range:	-40 to 85°C (-40 to 185°F)
Operating Humidity Range:	10 to 95% RH, non-condensing
Sensor Material Sensor Diameter:	Copper 0.210" (5.34mm) nominal
Fitting Material Flammability Rating:	Polyamide 66 (High Performance Nylon) UL94-HB
Foam Pad Material/Flammability Ratings:	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 Ratings:	Etched Teflon (PTFE) Colored Leads MIL-W-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

Plastic Box Enclosure [PB]



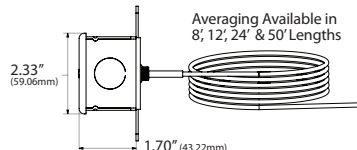
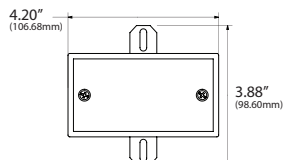
Averaging Available in 8', 12', 24' & 50' Lengths

xx = Sensor Type | yy = Insertion Length

Plastic Box Enclosure [PB] Weights

ACI Model #	8' (Probe Length)	12' (Probe Length)
A/xx-A-yy-PB	0.72 lbs. (0.327 kg)	0.96 lbs. (0.435 kg)
ACI Model #	24' (Probe Length)	50' (Probe Length)
A/xx-A-yy-PB	1.70 lbs. (0.771 kg)	3.28 lbs. (1.488 kg)

Galvanized Enclosure [GD]

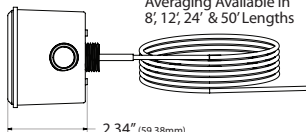
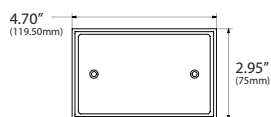


Averaging Available in 8', 12', 24' & 50' Lengths

Galvanized Enclosure [GD] Weights

ACI Model #	8' (Probe Length)	12' (Probe Length)
A/xx-A-yy-GD	1.16 lbs. (0.526 kg)	1.40 lbs. (0.635 kg)
ACI Model #	24' (Probe Length)	50' (Probe Length)
A/xx-A-yy-GD	2.20 lbs. (0.998 kg)	3.78 lbs. (1.715 kg)

Bell Box Enclosure [BB]

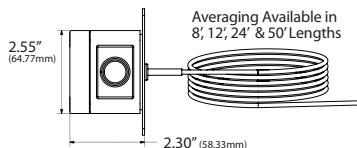
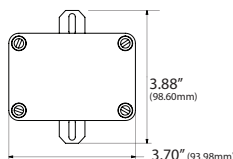


Averaging Available in 8', 12', 24' & 50' Lengths

Bell Box Enclosure [BB] Weights

ACI Model #	8' (Probe Length)	12' (Probe Length)
A/xx-A-yy-BB	1.22 lbs. (0.553 kg)	1.44 lbs. (0.653 kg)
ACI Model #	24' (Probe Length)	50' (Probe Length)
A/xx-A-yy-BB	2.18 lbs. (0.988 kg)	3.74 lbs. (1.696 kg)

NEMA 4X Enclosure [4X]



Averaging Available in 8', 12', 24' & 50' Lengths

NEMA 4X Enclosure [4X] Weights

ACI Model #	8' (Probe Length)	12' (Probe Length)
A/xx-A-yy-4X	0.84 lbs. (0.381 kg)	1.06 lbs. (0.481 kg)
ACI Model #	24' (Probe Length)	50' (Probe Length)
A/xx-A-yy-4X	1.80 lbs. (0.816 kg)	3.36 lbs. (1.696 kg)

Standard Views

Product Weights

CUSTOM ORDERING

Model # Example: A/ 1.8K A 12' GD NIST

A. Sensor Series No Selection Required	A/
B. Model Series Select One (1)	1.8K 3K AN AN-BC CP CSI 10KS 10K-E1 20K 100KS
C. Configuration No Selection Required	A = Bendable Copper Averaging
D. Probe Length Select One (1)	8' = 8' Sensor 12' = 12' Sensor 24' = 24' Sensor 50' = 50' Sensor
E. Enclosure Select One (1)	GD = Galvanized PB = Plastic BB = Aluminum, NEMA 3R 4X = NEMA 4X
F. NIST Select One (1)	---- = No NIST Certificate NIST = NIST Certificate (Must Specify 1, 3 or 5 Points)

MODEL

A/
A

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
A/CAPILLARY CLIP QTY: 50/BAG	142410	Capillary Mounting Clip, Copper, Quantity: 50/Bag
UNIVERSAL CLIP	128248	Universal Mounting Clip, Plastic, Quantity: 50/Bag

