



# FLEXIBLE AVERAGING

## Multipoint Averaging Sensor, Thermistor

The ACI Thermistor Flexible Averaging Series features an 18 AWG Plenum Rated cable sensing element with two, 12 inch 22 AWG Etched Teflon colored lead wires to differentiate the different sensor types. The sensors in this series are multi-point. Averaging sensors provide a better overall average temperature of the actual air inside larger ducts when compared to that of a single point sensor. All flexible averaging sensors are limited to being used in applications where operating temperatures are limited and high humidity, chemical resistance, and UV light sources aren't required. Each of the sensing elements is protected using a dual wall adhesive lined heat shrink tubing to provide a basic level of moisture protection. The sensor length should be determined by the size of your duct. Standard enclosure options include a

galvanized junction box "-GD" or plastic duct enclosure with hinged cover "-PB". Each unit includes nylon wire ties and mounts for mounting. Optional copper capillary or universal plastic mounting clips, NEMA/IP Weather proof enclosures and NIST Certificates are available as referenced in the ordering grid 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 Flexible 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

|                                                                                 |                                                                                                                                                                                                                                                      |                                                |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| <b>Sensor Type   Sensor Curve:</b>                                              | Thermistor   Non-Linear, NTC (Negative Temperature Coefficient)                                                                                                                                                                                      |                                                |
| <b>Number Sensing Points   Number Wires:</b>                                    | <b>8' and 12' Lengths:</b> Four   <b>24' and 50' Lengths:</b> Nine   Two (Non-Polarity Sensitive)                                                                                                                                                    |                                                |
| <b>Sensor Output @ 25°C (77°F)</b>                                              | <b>A/1.8K:</b> 1.8KΩ nominal   (Red/Yellow)                                                                                                                                                                                                          | <b>A/10KS:</b> 10KΩ nominal   (White/Blue)     |
| <b>(Lead Wire Colors):</b>                                                      | <b>A/3K:</b> 3KΩ nominal   (White/Brown)                                                                                                                                                                                                             | <b>A/10K-E1:</b> 10KΩ nominal   (Gray/Orange)  |
|                                                                                 | <b>A/AN (Type III):</b> 10KΩ nominal   (White/White)                                                                                                                                                                                                 | <b>A/20K:</b> 20KΩ nominal   (Brown/Blue)      |
|                                                                                 | <b>A/AN-BC:</b> 5.238KΩ nominal   (White/Yellow)                                                                                                                                                                                                     | <b>A/50K:</b> 50KΩ nominal   (Brown/Yellow)    |
|                                                                                 | <b>A/CP (Type II):</b> 10KΩ nominal   (White/Green)                                                                                                                                                                                                  | <b>A/100KS:</b> 100KΩ nominal   (Black/Yellow) |
|                                                                                 | <b>A/CSI:</b> 10KΩ nominal   (Green/Yellow)                                                                                                                                                                                                          |                                                |
| <b>Accuracy 0-70°C (32-158°F):</b>                                              | <b>8' &amp; 12' Lengths:</b> $\pm 0.20^{\circ}\text{C}$ ( $\pm 0.36^{\circ}\text{F}$ ); <b>A/1.8K:</b> $\pm 1.00^{\circ}\text{C}$ ( $\pm 1.80^{\circ}\text{F}$ ); <b>A/10KS:</b> $\pm 0.60^{\circ}\text{C}$ ( $\pm 1.10^{\circ}\text{F}$ )           |                                                |
|                                                                                 | <b>24' &amp; 50' Lengths:</b> $\pm 0.20^{\circ}\text{C}$ ( $\pm 0.36^{\circ}\text{F}$ ); <b>A/1.8K:</b> $\pm 1.00^{\circ}\text{C}$ ( $\pm 1.80^{\circ}\text{F}$ ); <b>A/10KS:</b> $\pm 0.60^{\circ}\text{C}$ ( $\pm 1.10^{\circ}\text{F}$ )          |                                                |
| <b>Power Dissipation Constant:</b>                                              | <b>8' &amp; 12' Lengths:</b> 6 mW/°C except <b>A/AN, A/CP, A/10KE1:</b> 4 mW   <b>A/1.8K:</b> 2 mW                                                                                                                                                   |                                                |
|                                                                                 | <b>24' &amp; 50' Lengths:</b> 9 mW/°C except <b>A/AN, A/CP, A/10KE1:</b> 6 mW   <b>A/1.8K:</b> 3 mW                                                                                                                                                  |                                                |
| <b>Stability:</b>                                                               | Sensor Dependent; Contact ACI for more information on specific sensor                                                                                                                                                                                |                                                |
| <b>Response Time (63% Step Change):</b>                                         | 15 Seconds nominal                                                                                                                                                                                                                                   |                                                |
| <b>Operating   Storage Temperature Range:</b>                                   | 0 to 75°C (32 to 167°F)   -20 to 75°C (-4 to 167°F)                                                                                                                                                                                                  |                                                |
| <b>Operating Humidity Range:</b>                                                | 10 to 90% RH, non-condensing                                                                                                                                                                                                                         |                                                |
| <b>Enclosure Specifications (Material Type, Flammability, NEMA/IP Ratings):</b> | <b>"-GD" Enclosure:</b> Galvanized Steel, NEMA 1 (IP10);<br><b>"-PB" Enclosure:</b> ABS Plastic, UL94-HB, Plenum Rated<br><b>"-BB" Enclosure:</b> Aluminum, NEMA 3R (IP 14)<br><b>"-4X" Enclosure:</b> Polystyrene Plastic, UL94-V2, NEMA 4X (IP 66) |                                                |
| <b>Sensor Jacket Material   Cable Ratings:</b>                                  | Low Smoke PVC   CL2P   CMP Plenum Rated Cable                                                                                                                                                                                                        |                                                |
| <b>Sensor Cable Diameter:</b>                                                   | 0.170" (4.32mm) nominal                                                                                                                                                                                                                              |                                                |
| <b>Lead Length   Conductor Size:</b>                                            | 12" (30.5cm)   22 AWG (0.65mm)                                                                                                                                                                                                                       |                                                |
| <b>Lead Wire Insulation   Wire Rating:</b>                                      | Etched Teflon (PTFE) Colored Leads   MIL-W-16878/4 (Type E)                                                                                                                                                                                          |                                                |
| <b>Lead Wire Conductor Material:</b>                                            | Silver Plated Copper                                                                                                                                                                                                                                 |                                                |
| <b>Product Dimensions   Product Weight:</b>                                     | See table on back of Product Data sheet                                                                                                                                                                                                              |                                                |
| <b>Agency Approvals:</b>                                                        | RoHS2, WEEE                                                                                                                                                                                                                                          |                                                |



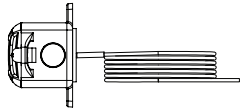
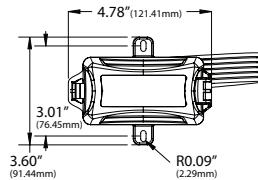
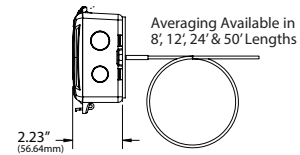
RoHS



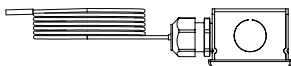
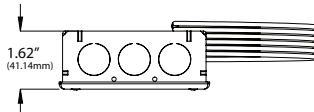
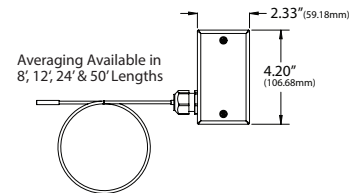


## DIMENSIONAL DRAWING

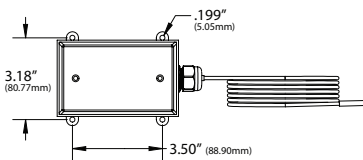
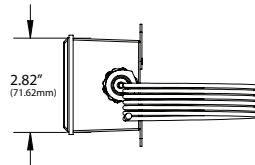
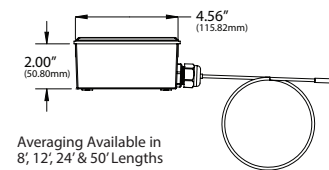
## Plastic Box Enclosure [PB]



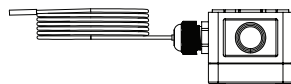
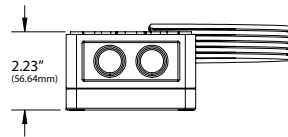
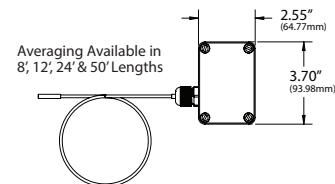
## Galvanized Enclosure [GD]



## Bell Box Enclosure [BB]



## NEMA 4X Enclosure [4X]



Front View

Right View

Top View

## CUSTOM ORDERING

Model # Example:

A/ 1.8K FA 24' GD NIST

MODEL #

|                                               |                                                                         |           |
|-----------------------------------------------|-------------------------------------------------------------------------|-----------|
| <b>A. Sensor Series</b> No Selection Required | A/                                                                      | <b>A/</b> |
| <b>B. Model Series</b> Select One (1)         | 1.8K   3K   AN   AN-BC   CP   CSI   10KS   10K-E1   20K   50K   100KS   |           |
| <b>C. Configuration</b> No Selection Required | FA = Flexible Plenum Rated Cable Averaging Sensor                       | <b>FA</b> |
| <b>D. Probe Length</b> Select One (1)         | 8' = 8' Sensor   12' = 12' Sensor   24' = 24' Sensor   50' = 50' Sensor |           |
| <b>E. Enclosure</b> Select One (1)            | GD = Galvanized   PB = Plastic   BB = Aluminum, NEMA 3R   4X = NEMA 4X  |           |
| <b>F. NIST</b> 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  |

