

# DUCT

## Duct Sensor, Thermistor

The ACI Thermistor Duct Series features a stainless steel probe with two, 22 AWG Etched Teflon colored lead wires to differentiate the different sensor types. The sensors in this series are manufactured using ACI's proved double encapsulation process to eliminate the effects of moisture on the sensors and increased response times from our high quality, thermally conductive epoxy. The duct sensor is designed to be used in smaller duct applications and includes an insulation pad for sealing your 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 reaches the approximate center of the duct. Our standard enclosure options are the galvanized enclosure "-GD" or plastic duct enclosure with hinged cover "-PB". On larger ducts, you may

want to refer to our Rigid or Bendable Copper Averaging sensor for increased sensing points and better temperature control. This series can be ordered with optional NEMA/IP rated weather proof enclosures and NIST certificates as referenced on the back of the product data sheet.

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

**The ACI Thermistor 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

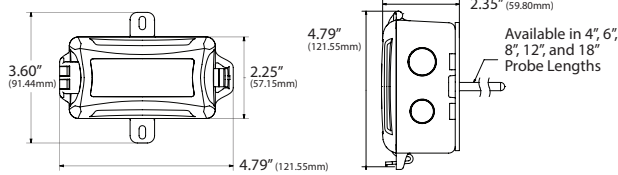
<b>Sensor Type   Sensor Curve:</b>	Thermistor   Non-Linear, NTC (Negative Temperature Coefficient)
<b>Number Sensing Points   Number Wires:</b>	One   Two (Non-Polarity Sensitive)
<b>Sensor Output @ 25°C (77°F)   (Lead Wire Colors):</b>	<b>A/1.8K:</b> 1.8KΩ nominal   (Red/Yellow) <b>A/10KS:</b> 10KΩ nominal   (White/Blue) <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>Sensor Accuracy 0-70°C (32-158°F):</b>	+/-0.2°C (+/-0.36°F) except <b>A/10K-E1 Series:</b> +/-0.3°C (+/-0.54°F)  <b>A/1.8K Series:</b> +/- 0.5°C @ 25°C (77°F) and (+/-1.0°C) (+/-1.8°F)
<b>Power Dissipation Constant:</b>	3 mW/°C except <b>A/1.8K Series:</b> 1 mW/°C   <b>A/10K-E1 Series:</b> 2 mW/°C
<b>Stability:</b>	Sensor Dependent; Contact ACI for more information on specific sensor
<b>Response Time (63% Step Change):</b>	10 Seconds nominal
<b>Sensor Operating Temperature Range:</b>	-40°C (-40°F) to 150°C (302°F)
<b>Enclosure Specifications (Temperature, Material, Flammability, NEMA/IP Ratings):</b>	<b>"-GD" Enclosure:</b> Galvanized Steel, -40 to 115°C (-40 to 239°F), NEMA 1 (IP10) <b>"-PB" Enclosure:</b> ABS Plastic, UL94-HB, -30 to 90°C (-22 to 194°F), Plenum Rated <b>"-BB" Enclosure:</b> Aluminum, -40 to 121°C (-40 to 250°F), Plenum Rated, NEMA 3R <b>"-4X" Enclosure:</b> Polystyrene Plastic, UL94-V2, -40 to 70°C (-40 to 158°F), NEMA 4X (IP 66)
<b>Storage Temperature Range:</b>	-40 to 85°C (-40 to 185°F)
<b>Operating Humidity Range:</b>	10 to 95% RH, non-condensing
<b>Probe Material   Probe Diameter:</b>	304 Stainless Steel   0.250" (6.35mm)
<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>	4", 6" and 8" Probes: 14" (35.6 cm)   12" and 18" Probes: 24" (61 cm)   22 AWG (0.65 mm)
<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>Agency Approvals:</b>	CE, RoHS2, WEEE





**DIMENSIONAL DRAWING, WEIGHTS**

**Plastic Box Enclosure [PB]**

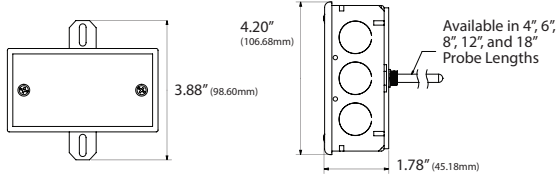


xx = Sensor Type | yy = Insertion Length

**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)	

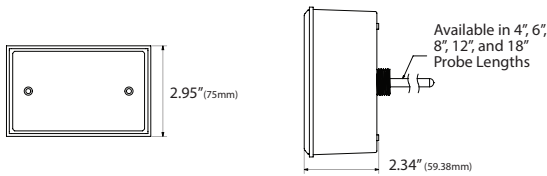
**Galvanized Enclosure [GD]**



**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)	

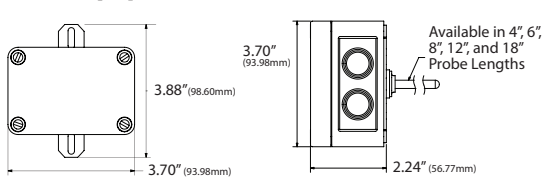
**Bell Box Enclosure [BB]**



**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/ 1.8K D 8" GD NIST  
A. B. C. D. E. F.

<b>A. Sensor Series</b> No Selection Required	A/ _____ →
<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	D = Duct _____ →
<b>D. Probe Length</b> Select One (1)	4" = 4" Probe   6" = 6" Probe   8" = 8" Probe   12" = 12" Probe   18" = 18" Probe
<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)

**MODEL #**

A/
D

