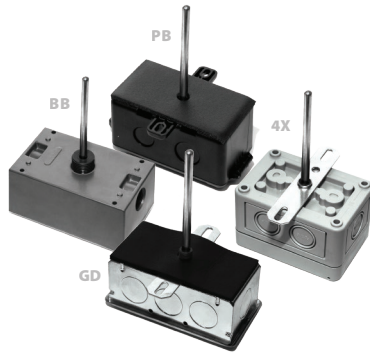# RIGID AVERAGING
Four Point Averaging, Thermistor

The ACI Thermistor Rigid Averaging Series features a ¼" Diameter stainless steel 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 manufactured with 4 sensing points in lengths from 12" to 48". The rigid averaging sensors will provide a better average temperature of the air inside the duct when compared to a single point sensing element. Each of the elements is hermetically sealed to prevent any moisture intrusion and includes an integrated foam pad to properly seal the duct and dampen vibrations when installed. The benefits of using the rigid averaging sensor is that it mounts like a standard single point duct sensor but includes three additional sensing points for better control. The sensor length should be determined by the size of your duct. Our standard enclosures include the galvanized junction box "-GD" or plastic duct enclosure "-PB" with the hinged cover depending on your preference. This series can be ordered with optional NEMA/IP rated weather proof enclosures as referenced in the ordering grid.

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

The ACI Thermistor Rigid 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.
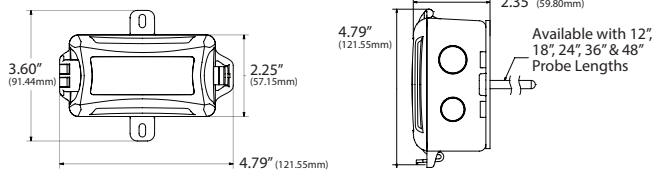
PRODUCT SPECIFICATIONS

**Sensor Type	Sensor Curve:**	Thermistor	Non-Linear, NTC (Negative Temperature Coefficient)
Number Sensing Points:	Four
Number Wires:	Two (Non-Polarity Sensitive)
Sensor Output @ 25ºC (77ºF) **(Lead Wire Colors):**	**A/1.8K:** 1.8KΩ nominal	(Red/Yellow) **A/10KS:** 10KΩ nominal	(White/Blue) **A/3K:** 3KΩ nominal	(White/Brown) **A/10K-E1:** 10KΩ nominal	(Gray/Orange) **A/AN (Type III):** 10KΩ nominal	(White/White) **A/20K:** 20KΩ nominal	(Brown/Blue) **A/AN-BC:** 5.238KΩ nominal	(White/Yellow) **A/50K:** 50KΩ nominal	(Brown/Yellow) **A/CP (Type II):** 10KΩ nominal	(White/Green) **A/100KS:** 100KΩ nominal	(Black/Yellow) **A/CSI:** 10KΩ nominal	(Green/Yellow)
Accuracy 0-70ºC (32-158ºF):	+/-0.20ºC (+/-0.36ºF)
Stability:	Sensor Dependent; Contact ACI for more information on the sensor in question.
Response Time (63% Step Change):	10 Seconds nominal
Power Dissipation Constant:	4 mW/ºC except A/1.8K Series = 2 mW; A/100KS Series: 6 mW
Enclosure Temperature Range:	**"-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 (IP14) **"-4X" Enclosure:** -40 to 70ºC (-40 to 158ºF), Polystyrene Plastic, NEMA 4X (IP66)
Storage Temperature Range:	-40 to 85ºC (-40 to 185ºF)
Operating Humidity Range:	10 to 95% RH, non-condensing
Probe Material:	304 Stainless Steel
Probe Diameter:	0.250" (6.35mm)
**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-W-16878/4 (Type E)
Conductor Material:	Silver Plated Copper
**Product Dimensions	Product Weight:**	See table on back of Product Data sheet
Agency Approvals:	CE, RoHS2, WEEE

DIMENSIONAL DRAWING, WEIGHTS

Plastic Box Enclosure [PB]

3.60" (91.44mm)
2.25" (57.15mm)
4.79" (121.55mm)
4.79" (121.55mm)
2.35" (59.80mm)
Available with 12", 18", 24", 36" & 48" Probe Lengths
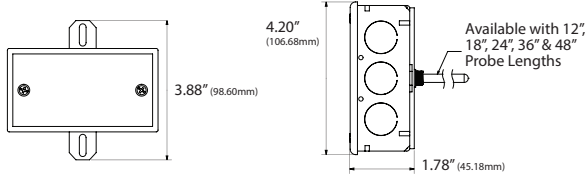
xx = Sensor Type | yy = Insertion Length

Plastic Box Enclosure [PB] Weights

ACI Model #	12" (Probe Length)	18" (Probe Length)
A/xx-RA-yy-PB	0.28 lbs. (0.127 kg)	0.30 lbs. (0.136 kg)

ACI Model #	24" (Probe Length)	36" (Probe Length)
A/xx-RA-yy-PB	0.32 lbs. (0.145 kg)	0.36 lbs. (0.163 kg)

Galvanized Enclosure [GD]

3.88" (98.60mm)
4.20" (106.68mm)
1.78" (45.18mm)
Available with 12", 18", 24", 36" & 48" Probe Lengths

Galvanized Enclosure [GD] Weights

ACI Model #	12" (Probe Length)	18" (Probe Length)
A/xx-RA-yy-GD	0.70 lbs. (0.317 kg)	0.74 lbs. (0.336 kg)

ACI Model #	24" (Probe Length)	36" (Probe Length)
A/xx-RA-yy-GD	0.78 lbs. (0.354 kg)	0.82 lbs. (0.372 kg)

Bell Box Enclosure [BB]

2.95" (75mm)
2.34" (59.38mm)
Available with 12", 18", 24", 36" & 48" Probe Lengths
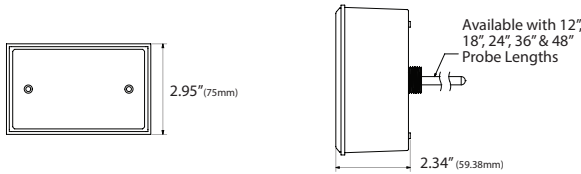
Bell Box Enclosure [BB] Weights

ACI Model #	12" (Probe Length)	18" (Probe Length)
A/xx-RA-yy-BB	0.74 lbs. (0.336 kg)	0.78 lbs. (0.354 kg)

ACI Model #	24" (Probe Length)	36" (Probe Length)
A/xx-RA-yy-BB	0.78 lbs. (0.354 kg)	0.84 lbs. (0.381 kg)

NEMA 4X Enclosure [4X]

3.88" (98.60mm)
3.70" (93.98mm)
3.70" (93.98mm)
2.24" (56.77mm)
Available with 12", 18", 24", 36" & 48" Probe Lengths
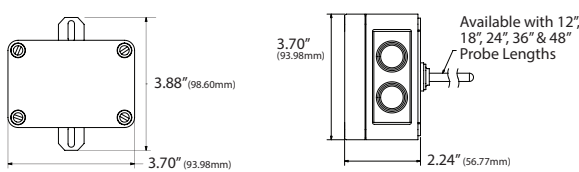
NEMA 4X Enclosure [PB] Weights

ACI Model #	12" (Probe Length)	18" (Probe Length)
A/xx-RA-yy-4X	0.38 lbs. (0.172 kg)	0.40 lbs. (0.181 kg)

ACI Model #	24" (Probe Length)	36" (Probe Length)
A/xx-RA-yy-4X	0.44 lbs. (0.200 kg)	0.50 lbs. (0.227 kg)

Standard Views   **Product Weights**

CUSTOM ORDERING

Model # Example:

A/	1.8K	RA	18"	GD	NIST
A.	B.	C.	D.	E.	F.

		MODEL #
A. Sensor Series *No Selection Required*	A/ ⟶	**A/**
B. Model Series *Select One (1)*	**1.8K** | **3K** | **AN** | **AN-BC** | **CP** | **CSI** | **10KS** | **10K-E1** | **20K** | **50K** | **100KS**	
C. Configuration *No Selection Required*	**RA** = Rigid Averaging ⟶	**RA**
D. Probe Length *Select One (1)*	**12"** = 12" Probe | **18"** = 18" Probe | **24"** = 24" Probe | **36"** = 36" Probe | **48"** = 48" Probe	
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 (3 Points)	

RoHS COMPLIANT 2002/95/EC