

DUCT WITHOUT BOX

Flange Mounted Duct Sensor, Thermistor

The ACI Thermistor Duct without Box 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 proven double encapsulation process to eliminate the effects of moisture upon the sensors and increased response times using our high quality, thermally conductive epoxy. The duct style sensor is designed to be used in smaller duct applications and includes an insulation pad for sealing your duct as well as to dampen vibration. For best results, the sensor length should be determined by the actual width or diameter of your duct such that the tip of the probe is in the approximate center of the duct. On larger ducts, you may want to refer to our Rigid or Bendable Copper Averaging sensor for increased sensing points and better temperature control. The Duct without Box Series can be ordered with optional plenum rated cables and NIST Certificates.

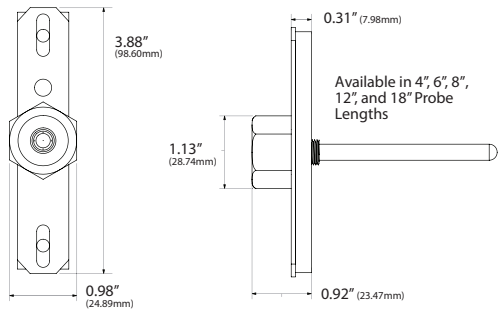
Applications: Roof Top Units, Air Handlers, Monitoring Supply/Discharge/Return/Mixed Air Temperatures

The ACI Thermistor Duct without Box 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 web site, workaci.com**.**

PRODUCT SPECIFICATIONS

Sensor Type | Sensor Curve:		Thermistor | Non-Linear, NTC (Negative Temperature Coefficient)
Number Sensing Points | Number Wires:		One | Two (Non-Polarity Sensitive)
Sensor Output @ 25°C (77°F) | (Lead Wire Colors):		**A/1.8K:** 1.8KΩ nominal | (Red/Yellow) **A/3K:** 3KΩ nominal | (White/Brown) **A/AN (Type III):** 10KΩ nominal | (White/White) **A/AN-BC:** 5.238KΩ nominal | (White/Yellow) **A/CP (Type II):** 10KΩ nominal | (White/Green) **A/CSI:** 10KΩ nominal | (Green/Yellow) **A/10KS:** 10KΩ nominal | (White/Blue) **A/10K-E1:** 10KΩ nominal | (Gray/Orange) **A/20K:** 20KΩ nominal | (Brown/Blue) **A/50K:** 50KΩ nominal | (Brown/Yellow) **A/100KS:** 100KΩ nominal | (Black/Yellow)
Accuracy 0-70°C (32-158°F):		+/-0.2°C (+/-0.36°F) except **A/10K-E1 Series:** +/-0.3°C (+/-0.54°F) **A/1.8K Series:** +/-0.5°C @ 25°C (77°F) and (+/-1.0°C) (+/-1.8°F)
Stability:		Sensor Dependent; Contact ACI for more information on the sensor in question
Response Time (63% Step Change):		10 Seconds nominal
Power Dissipation Constant:		3 mW/°C except **A/1.8K Series:** 1 mW/°C | **A/10K-E1 Series:** 2 mW/°C
Operating | Storage Temperature Range:		-40 to 115°C (-40 to 239°F) | -40 to 85°C (-40 to 185°F)
Operating Humidity Range:		10 to 95% RH, non-condensing
Probe Material | Flange Material:		304 Stainless Steel | Galvanized Steel
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
Product Dimensions | Probe Diameter:		See table on back of Product Data sheet | 0.250" (6.35 mm)
Agency Approvals:		UKCA, CE, RoHS2, WEEE
Standard Wire	**Lead Wire Insulation | Wire Rating:**	Etched Teflon (PTFE) Colored Leads | MIL-W-16878/4 (Type E)
	Temperature Rating:	-55°C (-67°F) to 200°C (392°F)
	Conductor Material:	Silver Plated Copper
	Rated Applications:	Suitable for Indoor and Outdoor (wet) location. Oil, Moisture, Acids, Oils and Moisture Resistant
Plenum Wire	**Lead Wire Insulation | Wire Rating:**	**CL2P:** FEP (Fluorinated Ethylene Propylene) | TYPE CL2P - TYPE CMP 22 AWG (UL), C(UL) FEP/FEP E130356 ROHS, FT-6 **CMP:** Low Smoke PVC (Poly Vinyl Chloride) | NEW Article 800; UL Listed C(UL)US CMP
	Temperature Rating:	**CL2P:** -80°C (-112°F) to 150°C (302°F) **CMP:** 0°C (32°F) to 75°C (167°F)
	Conductor Material:	**CL2P:** Tinned Copper **CMP:** Bare Copper
	Rated Applications:	**CL2P:** Suitable for Indoor and Outdoor (wet) location. Oil, Gas, Sunlight, Abrasion Acid Resistant **CMP:** Suitable for Indoor use only. Not for Outdoor use or UV Light Applications

DIMENSIONAL DRAWING



Standard View

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

Duct Without Box [DO] Weights

ACI Model #	4″ (Probe Length)	6″ (Probe Length)	8″ (Insertion Length)
A/xx-DO-yy	0.10 lbs. (0.045 kg)	0.11 lbs. (0.050 kg)	0.12 lbs. (0.054 kg)
A/xx-DO-yy-6′-CL2P	0.15 lbs. (0.068 kg)	0.16 lbs. (0.073 kg)	0.17 lbs. (0.077 kg)
A/xx-DO-yy-10′-CL2P	0.20 lbs. (0.091 kg)	0.21 lbs. (0.095 kg)	0.22 lbs. (0.100 kg)
A/xx-DO-yy-20′-CL2P	0.27 lbs. (0.122 kg)	0.28 lbs. (0.127 kg)	0.29 lbs. (0.132 kg)

ACI Model #	12″ (Insertion Length)	18″ (Insertion Length)
A/xx-DO-yy	0.14 lbs. (0.064 kg)	0.16 lbs. (0.073 kg)
A/xx-DO-yy-6′-CL2P	0.20 lbs. (0.091 kg)	0.22 lbs. (0.100 kg)
A/xx-DO-yy-10′-CL2P	0.24 lbs. (0.108 kg)	0.27 lbs. (0.122 kg)
A/xx-DO-yy-20′-CL2P	0.31 lbs. (0.141 kg)	0.34 lbs. (0.154 kg)

Product Weight

CUSTOM ORDERING

Model # Example: A/ (A.) | 1.8K (B.) | DO (C.) | 4″ (D.) | (E.) | NIST (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*	**DO =** Duct without Box (Mounting Flange Only) ⟶	**DO**
D. Probe Length *Select One (1)*	**4"** = 4" Probe | **6"** = 6" Probe | **8"** = 8" Probe | **12"** = 12" Probe | **18"** = 18" Probe	
E. Lead Wire Options *Select One (1)*	**----** = Standard 14 or 24" Etched PTFE Colored Leads **6′CL2P** = 6 ft (1.83m), 2 Conductor Plenum Rated Cable **10′CL2P** = 10 ft (3.05m), 2 Conductor Plenum Rated Cable **20′CL2P** = 20 ft (6.10m), 2 Conductor Plenum Rated Cable **6′CMP** = 6 ft (1.83m), 2 Conductor Plenum Rated Cable *(Not for Outdoor use or UV Light Application)* **10′CMP** = 10 ft (3.05m), 2 Conductor Plenum Rated Cable *(Not for Outdoor use or UV Light Application)* **20′CMP** = 20 ft (6.10m), 2 Conductor Plenum Rated Cable *(Not for Outdoor use or UV Light Application)*	
F. NIST *Select One (1)*	**----** = No NIST Certificate | **NIST** = NIST Certificate (Must Specify 3 Points)	