Immersion

Duct

Room

HAZARDOUS
Room, Duct & Immersion Thermistor

The ACI Hazardous Thermistor Series features a ½" NPT Process threaded fitting and ¼" diameter stainless steel probe with two, 22 AWG Etched Teflon colored lead wires to differentiate the different NTC 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 to increase response times using our high quality, thermally conductive epoxy. The Hazardous sensors come standard with a heavy duty Feraloy® Iron or Aluminum Connection Head depending on the configuration ordered. These sensors can be used in Wall Mounted (Room), Duct, and Immersion style configurations and include an O-Ring Seal, Green Ground Screw, and weather resistant finish. The "INW" Immersion sensor without thermowell can be used with an existing thermowell or paired with any of the Machined thermowells (See Accessories) when higher flow rates, temperatures, pressure rating or corrosion resistance is required. NIST Certificates are available as shown in the ordering grid on the back of the product data sheet. This product should be installed by a trained professional with knowledge of local codes and regulations.
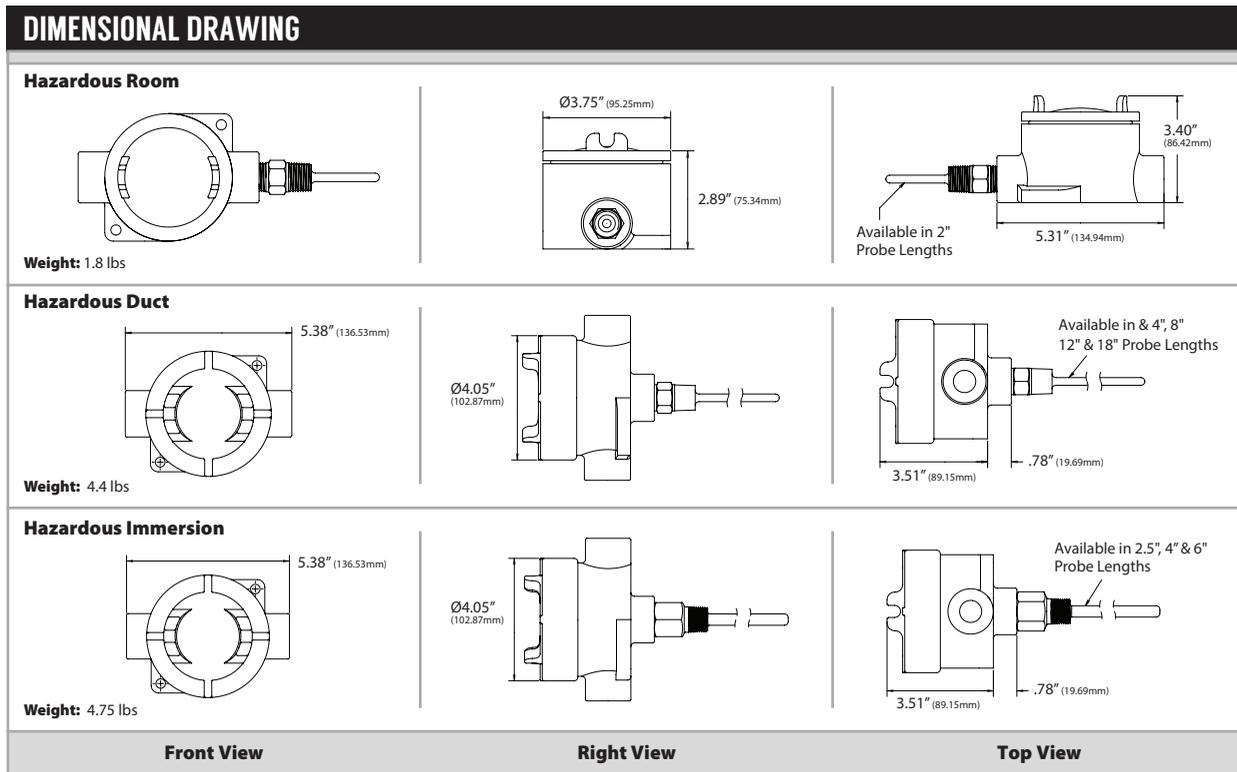
Applications: Hazardous Atmospheres, Industrial Sensor Applications, Process control, Exhaust Systems

The ACI Hazardous Thermistor 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)
**Sensing Points	Number Wires:**	One	Two (Non-Polarity Sensitive)
**Sensor Output @ 25ºC (77ºF)	Lead Wire Colors:**	**A/AN (Type III):** 10KΩ nominal	White/White **A/1.8K:** 1.8KΩ nominal	Red/Yellow **A/CP (Type II):** 10KΩ nominal	White/Green **A/3K:** 3KΩ nominal	White/Brown **A/CP-HT (Type II):** 10KΩ nominal	White/Green **A/20K:** 20KΩ nominal	Brown/Blue **A/10K-E1:** 10KΩ nominal	Gray/Orange
Accuracy 0-70ºC (32-158ºF):	+/-0.2ºC (+/-0.36ºF) except **A/10K-E1 Series:** +/- 0.3ºC (+/-0.54ºF) **A/1.8K Series:** +/-0.5ºC @ 25ºC (77ºF) and (+/-1.0ºC) (+/-1.8ºF)
Accuracy 25ºC (77ºF):	**A/CP-HT:** +/- 1%
Stability:	Sensor Dependent; Contact ACI for more information on specific sensor
Response Time (63% Step Change):	10 Seconds nominal
Power Dissipation Constant:	3 mW/ºC except **A/1.8K Series:** 1 mW/ºC	**A/10K-E1** and **A/CP-HT Series:** 2 mW/ºC
Enclosure Specifications (Temperature, NEMA Ratings):	**"-D" Enclosure:** Feraloy® Iron Alloy, -50 to 60ºC (-58 to 140ºF), NEMA 3, 4, 7ABCD, 9EFG **"-I or -INW" Enclosure:** Feraloy® Iron Alloy, -50 to 60ºC (-58 to 140ºF), NEMA 3, 4, 7ABCD, 9EFG **"-R" Enclosure:** Copper-Free Aluminum, -50 to 60ºC (-58 to 140ºF), NEMA 3, 4, 7ABCD, 9EFG
Enclosure Explosion Proof Rating:	CL. I, Div. 1 & 2, Groups A, B, C, D
Enclosure Dust-Ignition Proof Rating:	CL. II, Div. 1, Groups E, F, G
Enclosure Raintight Rating:	CL. II, Div. 2, Groups F, G
Enclosure Wet Locations Rating:	CL. III
**Enclosure UL	CSA Standards:**	UL 1203	CSA C22.2 No. 30
Sensor Operating Temperature Range:	-40 to 150ºC (-40 to 302ºF)	**A/CP-HT:** -40 to 200ºC (-40 to 392ºF)
Storage Temperature Range:	-40 to 85ºC (-40 to 185ºF)
Operating Humidity Range:	10 to 95% RH, non-condensing
**Enclosure Hubs	Hub Size:**	Two	1/2" NPT Female Hubs
**Probe Diameter	Sensor Threads:**	0.250" (6.35mm)	½" NPT (National Pipe Tapered) Thread
Probe Material:	304 Stainless Steel
**Thermowell Material	Bore Diameter:**	304 Stainless Steel	0.260"
**Thermowell Instrument Thread	Process Thread:**	½" NPS (National Pipe Straight) Female Thread	½" NPT (National Pipe Tapered) Male Thread
**Lead Length	Conductor Size:**	14" (35.6 cm) or 24" (61 cm)	22 AWG (0.65mm)
**Lead Wire Insulation	Wire Rating:**	Etched Teflon (PTFE) Colored Leads	Mil Spec 16878/4 Type E)
Conductor Material:	Silver Plated Copper
**Product Dimensions	Product Weight:**	See back of Product Data sheet	**Room:** 1.8 lbs, **Duct:** 4.4 lbs, **Immersion:** 4.75 lbs
Agency Approvals:	CE, RoHS2, WEEE

RoHS COMPLIANT 2002/95/EC

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DIMENSIONAL DRAWING

Hazardous Room

Ø3.75" (95.25mm)

2.89" (75.34mm)

3.40" (86.42mm)

Available in 2" Probe Lengths

5.31" (134.94mm)

Weight: 1.8 lbs

Hazardous Duct

5.38" (136.53mm)

Ø4.05" (102.87mm)

Available in & 4", 8" 12" & 18" Probe Lengths

3.51" (89.15mm)   .78" (19.69mm)

Weight: 4.4 lbs

Hazardous Immersion

5.38" (136.53mm)

Ø4.05" (102.87mm)

Available in 2.5", 4" & 6" Probe Lengths

3.51" (89.15mm)   .78" (19.69mm)

Weight: 4.75 lbs

Front View	Right View	Top View

HAZARDOUS ROOM ORDERING

Model # Example:

A/	1.8K	R	EXPL	NIST
A.	B.	C.	D.	E.

MODEL #

		MODEL #
A. Sensor Series *No Selection Required*	A/ ➔	A/
B. Model Series *Select One (1)*	**1.8K** | **3K** | **AN** | **CP** | **CP-HT** | **10K-E1** | **20K**	
C. Configuration *No Selection Required*	**R** = Room ➔	R
D. Sensor Model *No Selection Required*	**EXPL** = Hazardous Sensor ➔	EXPL
E. NIST *Select One (1)*	**----** = No NIST Certificate | **NIST** = NIST Certificate (Must Specify 1, 3 or 5 Points)	

HAZARDOUS DUCT ORDERING

Model # Example:

A/	1.8K	D	4"	EXPL	NIST
A.	B.	C.	D.	E.	F.

MODEL #

		MODEL #
A. Sensor Series *No Selection Required*	A/ ➔	A/
B. Model Series *Select One (1)*	**1.8K** | **3K** | **AN** | **CP** | **CP-HT** | **10K-E1** | **20K**	
C. Configuration *No Selection Required*	**D** = Duct ➔	D
D. Duct Probe Length *Select One (1)*	**4"** = Duct 4" | **8"** = Duct 8" | **12"** = Duct 12" | **18"** = Duct 18"	
E. Sensor Model *No Selection Required*	**EXPL** = Hazardous Sensor ➔	EXPL
F. NIST *Select One (1)*	**----** = No NIST Certificate | **NIST** = NIST Certificate (Must Specify 1, 3 or 5 Points)	

HAZARDOUS IMMERSION ORDERING

Model # Example:

A/	3K	I	4"	EXPL	NIST
A.	B.	C.	D.	E.	F.

MODEL #

		MODEL #
A. Sensor Series *No Selection Required*	A/ ➔	A/
B. Model Series *Select One (1)*	**1.8K** | **3K** | **AN** | **CP** | **CP-HT** | **10K-E1** | **20K**	
C. Configuration *Select One (1)*	**I** = Immersion with Welded Thermowell | **INW** = Immersion without Welded Thermowell	
D. Immersion Probe Length *Select One (1)*	**2.5"** = Immersion 2.5" | **4"** = Immersion 4" | **6"** = Immersion 6"	
E. Sensor Model *No Selection Required*	**EXPL** = Hazardous Sensor ➔	EXPL
F. NIST *Select One (1)*	**----** = No NIST Certificate | **NIST** = NIST Certificate (Must Specify 1, 3 or 5 Points)	