



HAZARDOUS Room, Duct & Immersion Transmitters

The ACI Hazardous Transmitter Series features an encapsulated temperature transmitter mounted in an industrial connection head style enclosure. The epoxy coating provides excellent protection of the transmitter from moisture and corrosion when used in harsh environments and improved accuracy due to the thermal conductivity of the epoxy keeping the components at a more stable operating temperature. The sensors are manufactured using ACI's double encapsulation process to eliminate the effects of moisture upon the sensors and to increase response times. For higher accuracies, ACI recommends the use of the A/TTM Series transmitters which includes a secondary calibration process that removes most of the sensor error over the calibrated temperature span of your transmitter and includes a 3 or 5 Point NIST Certificate. The unit includes an O-Ring seal,

ground screw, and weather resistant finish. The "INW" Immersion sensor without thermowell can be used with an existing thermowell or paired with one of our machined thermowells when higher flow rates, temperatures, pressure rating or corrosion resistance is required. 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 Transmitter 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

Transmitter Supply Voltage Supply Current:	+8.5 to 32 VDC (Reverse Polarity Protected) 25 mA minimum
Maximum Load Resistance:	250 Ohm Load: +13.5 to 32 VDC 500 Ohm Load: +18.5 to 32 VDC (Terminal Voltage - 8.5 V) 0.020 A
Output Signals:	Current: 4-20 mA (2-Wire Loop Powered) Voltage: 1-5 VDC or 2-10 VDC (3-Wires)
Calibrated Transmitter Accuracy Linearity:	Temp. Spans < 500°F (260°C): +/- 0.2% Temp. Spans > 500°F (260°C): +/- 0.5%
Temperature Drift:	Temp. Spans < 100°F (38°C): +/- 0.04% Temp. Spans > 100°F (38°C): +/- 0.02%
TTM100/TTM1K Certification Points:	3 Point NIST: 20%, 50% & 80% of span 5 Point NIST: 20%, 35%, 50%, 65%, 80% of span
Protection Level:	Thermally Conductive, Low Moisture, Corrosion Resistant Epoxy / Plastic Cup
Warm Up Time Warm Up Drift:	10 Minutes +/- 0.1%
Operating Storage Temperature Range:	-40 to 185°F (-40 to 85°C)
Operating Humidity Range:	0 to 95%, non-condensing
Calibrated Temperature Spans¹:	Minimum Temp. Span: 50°F (28°C) Maximum Temp. Span: 500°F (260°C)
Connections:	22 AWG (0.654 mm) Colored Leads; Polarity Sensitive 22 to 15 AWG Wire Nuts
Sensor Type Sensor Curve Sensing Points:	Platinum RTD PTC (Positive Temperature Coefficient) One
Number Sensor Wires Wire Colors:	Two A/TT100/TTM100-EXPL: Brown/Brown A/TT1K/TTM1K-EXPL: (Black/Black)
Nominal Sensor Output @ 0°C (32°F):	A/TT100/TTM100-EXPL: 100 Ohms A/TT1K/TTM1K-EXPL: 1000 Ohms
Sensor Tolerance Class Accuracy:	+/- 0.06% Class A (Tolerance Formula: +/- °C = (0.15°C + (0.002 * t))) where t is the absolute value of Temperature above or below 0°C in °C
Din Standard Temperature Coefficient:	DIN EN 60751 (IEC 751) 3850 ppm / °C
Sensor Stability:	+/- 0.03% after 1000 Hours @ 300°C (572°F)
Response Time (63% Step Change):	8 Seconds nominal
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
Enclosure Specifications (Material, Operating Temperature, NEMA Ratings):	"-D" Enclosure: Feraloy® Iron Alloy, -50 to 60°C (-58 to 140°F), NEMA 3, 4, 7ABCD, 9EFG "-I or -INW" Enclosure: Feraloy® Iron Alloy, -50 to 60°C (-58 to 140°F), NEMA 3, 4, 7ABCD, 9EFG "-R" Enclosure: Copper-Free Aluminum, -50 to 60°C (-58 to 140°F), 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 Wet Locations Ratings:	CL. II, Div. 2, Groups F, G CL. III
Enclosure UL CSA Standards:	UL 1203 CSA C22.2 No. 30
Sensor Operating Storage Temperature Ranges:	-40 to 200°C (-40 to 392°F) -40 to 85°C (-40 to 185°F)
Operating Humidity Range:	0 to 95% RH, non-condensing
Enclosure Hubs Hub Size:	Two 1/2" NPT Female Hubs
Probe Material Diameter Sensor Threads:	304 Stainless Steel 0.250" (6.35mm) nominal 1/2" NPT Threads
Thermowell Material Bore Diameter:	304 Stainless Steel 0.260" nominal





PRODUCT SPECIFICATIONS

Thermowell Instrument Thread Process Thread:	½" NPS (National Pipe Straight) Female Thread ½" NPT (National Pipe Tapered) Male Thread
Product Dimensions Product Weight:	See back of Product Data sheet Room: 1.9 lbs, Duct: 4.5 lbs, Immersion: 4.85 lbs
Agency Approvals:	RoHS2, WEEE

Note¹: Transmitter's calibrated at 71°F (22°C) nominal | **Note**²: Temperature Drift is referenced to 71°F nominal calibration temperature

DIMENSIONAL DRAWING

<p>Hazardous Room</p> <p>Weight: 1.9 lbs</p>	<p>Ø3.75" (95.25mm) 2.89" (75.34mm)</p>	<p>Available in 2" Probe Lengths 3.40" (86.42mm) 5.31" (134.94mm)</p>
<p>Hazardous Duct</p> <p>Weight: 4.5 lbs</p> <p>5.38" (136.53mm)</p>	<p>Ø4.05" (102.87mm)</p>	<p>Available in 4", 8", 12" & 18" Probe Lengths 3.51" (89.15mm) .78" (19.69mm)</p>
<p>Hazardous Immersion</p> <p>Weight: 4.85 lbs</p> <p>5.38" (136.53mm)</p>	<p>Ø4.05" (102.87mm)</p>	<p>Available in 2.5", 4" & 6" Probe Lengths 3.51" (89.15mm) .78" (19.69mm)</p>
Front View	Side View	Top View

HAZARDOUS ROOM ORDERING		Model # Example: A/ TT100 R 2 EXPL	MODEL #
		A. B. C. D. E. F.	
A. Sensor Series <i>No Selection Required</i>	A/ <input type="text"/>		A/
B. Model Series <i>Select One (1)</i>	TT100=100Ω TTM100=Matched 100Ω * TT1K=1KΩ TTM1K=Matched 1KΩ *		
C. Configuration <i>No Selection Required</i>	R = Room with 2" Stainless Steel Sensing Tube <input type="text"/>		R
D. Analog Output <i>Select One (1)</i>	1 = 1 to 5 VDC 2 = 2 to 10 VDC 4 = 4 to 20 mA		
E. Sensor Model <i>No Selection Required</i>	EXPL = Hazardous Sensor <input type="text"/>		EXPL
F. Calibration Span	Specify Span in °F or °C (Best Accuracy in 100°F Increments)		

Note*: For TTM100 or TTM1K part numbers, the default NIST is 3 points | 5 points may be specified by using "-5PTNIST" at the end of any TTM part number.

HAZARDOUS DUCT ORDERING		Model # Example: A/ TT1K D 8" 1 EXPL	MODEL #
		A. B. C. D. E. F. G.	
A. Sensor Series <i>No Selection Required</i>	A/ <input type="text"/>		A/
B. Model Series <i>Select One (1)</i>	TT100=100Ω TTM100=Matched 100Ω * TT1K=1KΩ TTM1K=Matched 1KΩ *		
C. Configuration <i>No Selection Required</i>	D = Duct <input type="text"/>		D
D. Duct Probe Length <i>Select One (1)</i>	4" = Duct 4" 8" = Duct 8" 12" = Duct 12" 18" = Duct 18"		
E. Analog Output <i>Select One (1)</i>	1 = 1 to 5 VDC 2 = 2 to 10 VDC 4 = 4 to 20 mA		
F. Sensor Model <i>No Selection Required</i>	EXPL = Hazardous Sensor <input type="text"/>		EXPL
G. Calibration Span	Specify Span in °F or °C (Best Accuracy in 100°F Increments)		

Note*: For TTM100 or TTM1K part numbers, the default NIST is 3 points | 5 points may be specified by using "-5PTNIST" at the end of any TTM part number.





HAZARDOUS IMMERSION ORDERING		Model # Example: A/ TT100 I 4" 2 EXPL G.	MODEL #
A. Sensor Series <i>No Selection Required</i>	A/		A/
B. Model Series <i>Select One (1)</i>	TT100=100Ω TTM100=Matched 100Ω * TT1K=1KΩ TTM1K=Matched 1KΩ *		
C. Configuration <i>Select One (1)</i>	I = Immersion with Welded Thermowell INW = Immersion without Welded Thermowell		
D. Immersion Length <i>Select One (1)</i>	2.5" = Immersion 2.5" 4" = Immersion 4" 6" = Immersion 6"		
E. Analog Output <i>Select One (1)</i>	1 = 1 to 5 VDC 2 = 2 to 10 VDC 4 = 4 to 20 mA		
F. Sensor Model <i>No Selection Required</i>	EXPL = Hazardous Sensor		EXPL
G. Calibration Span	Specify Span in °F or °C (Best Accuracy in 100°F Increments)		

Note*: For TTM100 or TTM1K part numbers, the default NIST is 3 points | 5 points may be specified by using "-5PTNIST" at the end of any TTM part number.

ACCESSORIES ORDERING (NIST)	
Model #	Description
-5PTNIST	5 Point Calibration & Certificate for TTM parts

