



## ROOM

### Wall Mount Enclosures, Transmitter

The ACI Transmitter Room Series features a two-wire, 4 to 20 mA loop powered output with optional 3-Wire voltage output signals available. All transmitters include Zero and Span adjustments for field calibration and are calibrated using NIST Certified Calibration equipment. ACI recommends the use of an 18 to 22 AWG shielded cable for all temperature transmitter installations to reduce the chances of noise being introduced onto the signal lines. The room transmitters are designed to be mounted over a standard single gang junction box or hole in the wall. For best accuracy, ACI recommends the use of the A/TTM Series Matched transmitters with 3 or 5 Point NIST Calibration Certificate, since they include a second calibration step in which the RTD and transmitter are calibrated together as a system. A/TTM series matched transmitters include a foam pad to reduce the effects of self-heating from the transmitter and thermal drafts from within the wall. Optional Set Point, Override and Loop Powered LCD Display.

**Applications:** Space Temperature Sensing, Office Buildings, Schools, Gyms, Manufacturing Plants, Pharmaceutical, Hospitals, Data Centers

**The ACI Transmitter Room transmitters are 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](http://workaci.com).**

## PRODUCT SPECIFICATIONS

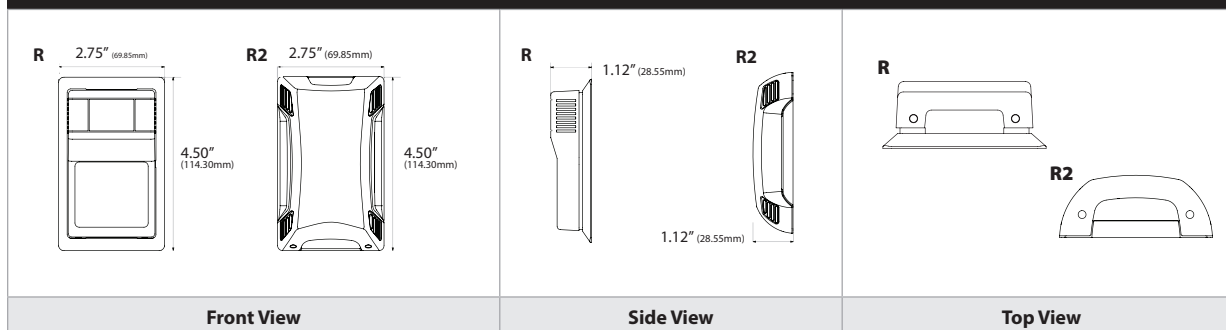
<b>Transmitter Supply Voltage   Supply Current:</b>	+8.5 to 32 VDC (Reverse Polarity Protected)   25 mA minimum <b>250 Ohm Load:</b> +13.5 to 32 VDC   <b>500 Ohm Load:</b> +18.5 to 32 VDC "-LCD" Loop Powered: Add +7 VDC to 250/500 Ohm Load Supply Voltage above
<b>Maximum Load Resistance:</b>	(Terminal Voltage - 8.5 V)   0.020 A
<b>Output Signals:</b>	<b>Current:</b> 4-20 mA (2-Wire Loop Powered)   <b>Voltage:</b> 1-5 VDC or 2-10 VDC (3-Wires)
<b>Calibrated Transmitter Accuracy   Linearity<sup>1</sup>:</b>	<b>Temp. Spans &lt; 500°F (260°C):</b> +/- 0.2%
<b>Temperature Drift<sup>2</sup>:</b>	<b>Temp. Spans &lt; 100°F (38°C):</b> +/- 0.04%/°F   <b>Temp. Spans &gt; 100°F (38°C):</b> +/- 0.02%
<b>TTM100/TTM1K Certification Points:</b>	<b>3 Point NIST:</b> 20%, 50% & 80% of span   <b>5 Point NIST:</b> 20%, 35%, 50%, 65% & 80% of span
<b>Warm Up Time   Warm Up Drift:</b>	10 minutes   +/- 0.1%
<b>Calibration Temperature Spans <sup>1</sup>:</b>	<b>Minimum Temp. Span:</b> 50°F (28°C)   <b>Maximum Temp. Span:</b> 200°F (93°C)
<b>Connections   Wire Size:</b>	Screw Terminal Blocks (Polarity Sensitive)   16 AWG (1.31 mm <sup>2</sup> ) to 26 AWG (0.129 mm <sup>2</sup> )
<b>Terminal Block Torque Rating:</b>	0.37 ft-lb (0.5 N-3m) nominal
<b>Override Contact Type   Contact Ratings:</b>	Dry Contact "N/O" Contact   <b>Minimum:</b> 10 uA @ 1 VDC   <b>Maximum:</b> 50 mA @ 24 VDC +/- 10%   <b>4-20 mA:</b> 4 mA (Far Left) / 20 mA (Far Right)(DA-Direct Acting (Default)) 20 mA (Far Left) / 4 mA (Far Right)(RA-Reverse Acting (Optional))
<b>Set Point Accuracy:</b>	
<b>Sensor Type   Sensor Curve   Sensing Points:</b>	Platinum RTD   PTC (Positive Temperature Coefficient)   One
<b>Number Wires   Wire Colors (TTM Series only):</b>	Two   <b>A/TTM100-R/R2:</b> Brown/Brown   <b>A/TTM1K-R/R2:</b> Black/Black
<b>Nominal Sensor Output @ 0°C (32°F):</b>	<b>A/TT100/TTM100-R/R2:</b> 100 Ohms   <b>A/TT1K/TTM1K-R/R2:</b> 1000 Ohms
<b>RTD Tolerance Class   Sensor Accuracy:</b>	+/- 0.06% Class A   ( <b>Tolerance Formula:</b> +/- °C = (0.002 *  t )) where  t  is the absolute value of temperature above or below 0°C in °C
<b>Din Standard   Temperature Coefficient:</b>	DIN EN 60751 (IEC 751)   3850 ppm / °C
<b>Sensor Stability:</b>	+/- 0.03% after 1000 hours @ 300°C (572°F)
<b>LCD Display Input Signal:</b>	4 to 20 mA Only (2-Wire Loop Powered)
<b>LCD Display Accuracy:</b>	+/- 1.0% of Calibrated Temperature Span or +/- Whichever is Greater
<b>LCD Display Descriptor   Number of Digits:</b>	°F (Fahrenheit) or °C (Celsius)   3 1/2 Segment Display
<b>LCD Display Life Expectancy:</b>	50,000 Hours Minimum
<b>Operating Temperature Range<sup>3</sup>:</b>	35 to 122°F (1.5 to 50°C)
<b>Storage Temperature Range<sup>3</sup>:</b>	<b>Non-LCD:</b> -40 to 65°C (-40 to 149°F)   <b>LCD Display:</b> -10 to 65°C (14 to 149°F)
<b>Operating Humidity Range:</b>	5 to 95% RH non-condensing
<b>Enclosure Specifications (Material Type, Color, UL Flammability Range):</b>	<b>"-R2" Enclosure:</b> ABS Plastic   White   UL94-HB <b>"-R" Enclosure:</b> ABS Plastic   Beige   UL94-HB
<b>Foam Pad Material   Flammability Rating (TTM Only):</b>	Neoprene/EPDM/SBR Polymer   UL94-HBD; FMVSS-302; MIL-R-6130C
<b>Product Dimentions (L x W x H):</b>	4.50" (114.3 mm) x 2.78" (70.6 mm) x 1.00" (25.4 mm) <b>"-R/RS/RO" Series:</b> 0.17 lbs. (0.375 kg)   <b>"-RSO" Series:</b> 0.21 lbs. (0.46 kg) <b>"-R2/R2S/R2O" Series:</b> 0.19 lbs. (0.42 kg)   <b>"-R2SO" Series:</b> 0.23 lbs. (0.51 kg) <b>All LCD Display Units:</b> 0.174 lbs (0.079 kg)
<b>Product Weight:</b>	
<b>Agency Approvals:</b>	RoHS2, WEEE

**Note<sup>1</sup>:** Transmitter's calibrated at 71°F (22°C) nominal | **Note<sup>2</sup>:** Temperature Drift is referenced to 71°F (22°C) nominal calibration temperature | **Note<sup>3</sup>:** Temperature spans may go outside of the operating temperature range but the unit must be used within the operating temperature limit





## DIMENSIONAL DRAWING



CUSTOM ORDERING   STANDARD ACCURACY		MODEL #
<b>A. Sensor Series<sup>1</sup></b> No Selection Required	A/	A/
<b>B. Model Series</b> Select One (1)	TT100 = 100 Ohm Platinum RTD   TT1K = 1K Ohm Platinum RTD	
<b>C. Configuration</b> Select One (1)	R = Room   RO = Room with Override   RS = Room with Set Point   RSO = Room with Setpoint and Override   R2 = Room   R2O = Room with Override   R2S = Room with Set Point   R2SO = Room with Set Point and Override	
<b>D. Output Signal</b> Select One (1)	1 = 1 to 5 VDC   2 = 2 to 10 VDC   4 = 4 to 20 mA	
<b>E. LCD Display<sup>2</sup></b> Select One (1)	---- = No LCD Display   LCD <sup>2</sup> = With LCD Display (Only Available with "R" Style Enclosure)	
<b>F. Calibrated Span</b>	Specify Span in °F or °C (Best Accuracy in 100°F Increments <sup>3</sup> )	
Setpoint Configuration Options Select Options below if RS, RSO, R2S or R2SO was selected as a Configuration (C)		
<b>1. Potentiometer</b> Select One (1)	4-20 mA	
<b>2. Setpoint Indication</b> Select One (1)	A3 = 18-28 DEG C   A4 = 20-30 DEG C   B4 = 55-85 DEG F   B7 = 60-90 DEG F   C5 = COOL/WARM   C6 = COOLER/WARMER   D3 = WARM/COOL   G5 = BLUE/RED (R2 Enclosure)	

**Note<sup>1</sup>:** A/ part numbers come without logo. For custom logo, replace A/ with Company abbreviation. Please contact ACI | **Note<sup>2</sup>:** LCD Display is not compatible with NIST | **Note<sup>3</sup>:** Best transmitter accuracy with spans in 100°F Increments (ie. 0 to 100°F or 1.5 to 40°C)

CUSTOM ORDERING   HIGHER ACCURACY		MODEL #
<b>A. Sensor Series<sup>1</sup></b> No Selection Required	A/	A/
<b>B. Model Series</b> Select One (1)	TTM100 = Matched 100Ω Platinum RTD   TTM1K = Matched 1KΩ Platinum RTD <sup>2</sup>	
<b>C. Configuration</b> Select One (1)	R = Room   R2 = Room	
<b>D. Output Signal</b> Select One (1)	1 = 1 to 5 VDC   2 = 2 to 10 VDC   4 = 4 to 20 mA	
<b>E. Calibrated Span</b>	Specify Span in °F or °C (Best Accuracy in 100°F Increments <sup>3</sup> )	

**Note<sup>1</sup>:** A/ part numbers come without logo. For custom logo, replace A/ with Company abbreviation. Please contact ACI | **Note<sup>2</sup>:** For TTM100 or TTM1K part numbers, the default NIST is 3 points / 5 points may be requested by adding the part number listed in the Accessories Ordering table below (NIST TTM CERT - 5PT). There is a surcharge of \$25 to upgrade to 5 point calibration | **Note<sup>3</sup>:** Best transmitter accuracy with spans in 100°F Increments (ie. 0 to 100°F or 1.5 to 40°C)

## ACCESSORIES ORDERING

Model #	Item #	Description
NIST TTM CERT - 5 PT	129743	5 Point Calibration & Certificate
A/MOUNTING PLATE BEIGE R	106821	Wall Mounting Back Plate, Plastic, Beige ("R")
A/MOUNTING PLATE WHITE R	126386	Wall Mounting Back Plate, Plastic, White ("R")
A/MOUNTING PLATE WHITE R2	143369	Wall Mounting Back Plate, Plastic, White ("R2")
LOCKING COVER	107370	Clear Thermostat Guard, Locking Cover, Low Profile
A/ROOM-FOAM-PAD	125690	1/8" Foam Insulation Pad with Adhesive (3" x 2", Black)
249.1% OHM 1/4	100306	249 Ohm, 1/4W, +/- 0.1% Tolerance, 50 PPM Resistor
499 OHM 1W	100469	499 Ohm, 1W, +/- 1% Tolerance, 50 PPM Resistor

