High Accuracy Room Series I Thermistor

Wall Mount Enclosures, Thermistor

Automation Components
a DwyerOmega brand

The ACI High Accuracy Thermistor Room Series combines option flexibility with attractive styling in our "-R2" or "-R" style enclosures which both include Four-way air flow design to minimize the amount of self-heating to the sensor. Enclosures are offered in a White "-R2" or Beige "-R" color and are designed to be mounted over a single gang junction box or hole in the wall with the use of drywall anchors. Screw terminal blocks are available for making all connections to the temperature sensor, Set Point, "After Hours" Override, and Communication Jacks for easy access to your building management system (network). An optional 3.175 mm (1/8 in) Black foam pad with pressure sensitive adhesive are available to insulate the sensor from thermal drafts from within the wall or wall surface. The enclosure covers are secured using a 1/16 in Hex driver to secure the cover from being easily removed. An optional company logo is available for an additional charge and must be ordered as a separate line item underneath the Thermistor Room Series model number.

Applications

Space Temperature Sensing, Decorative Wall Applications, Office Buildings, Schools, Colleges, Commercial Buildings, OEM Opportunities

Warranty

The ACI High Accuracy Thermistor Room 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, workaci.com.

Specifications

Sensor Type: Thermistor

Sensor Curve: Non-Linear, NTC (Negative Temperature Coefficient)

Number Temperature Sensing Points: One

Sensor Output at 25 °C (77 °F)
- **A/0.1AN Series (Type III):** 10 kΩ nominal
- **A/0.1CP Series (Type II):** 10 kΩ nominal

Accuracy 0 °C to 70 °C (32 °F to 158 °F)[1]: ±0.1 °C (±0.18 °F)

Interchangeability 0 °C to 70 °C (32 °F to 158 °F)[1]: ±0.1 °C (±0.18 °F)

Stability (5 Years)[2]
- **A/0.1AN Series:** ±0.12 °C (0.216 °F) from 1.5 °C to 50 °C (35 °F to 122 °F)
- **A/0.1CP Series:** ±0.06 °C (0.108 °F) from 1.5 °C to 50 °C (35 °F to 122 °F)

Response Time (63 % Step Change): 10 seconds nominal

Power Dissipation Constant: 2 mW / °C

Set Point Specifications / Set Point Indication: See Ordering Grid options on this product data sheet

Set Point Tolerance: ±10 % of the range

Override Option: Short Thermistor (Default); Field (Jumper) Selectable "Dry Contact" Closure (Separate Input); Short Set Point available upon request

NIST Certification: 3 Point NIST Certificate (not available with Setpoint or Comm Jack options)

Operating Temperature Range[2]: 1.5 °C to 50 °C (35 °F to 122 °F)

Storage Temperature Range[1]: 1.5 °C to 50 °C (35 °F to 122 °F)

Operating Humidity Range: 10 % to 95% RH, non-condensing

Connections: Screw Terminal Blocks (Non-Polarity Sensitive)

Wire Size: 1.31 mm^2 (16 AWG) to 0.129 mm^2 (26 AWG)

Terminal Block Torque Rating: 0.5 Nm (Minimum); 0.6 Nm (Maximum)

Enclosure Material I Color:
- **"-R2" Enclosure:** ABS; White
- **"-R" Enclosure:** ABS; Beige

Enclosure Flammability Rating: UL94-HB

Product Dimensions: See dimension drawing on this product data sheet

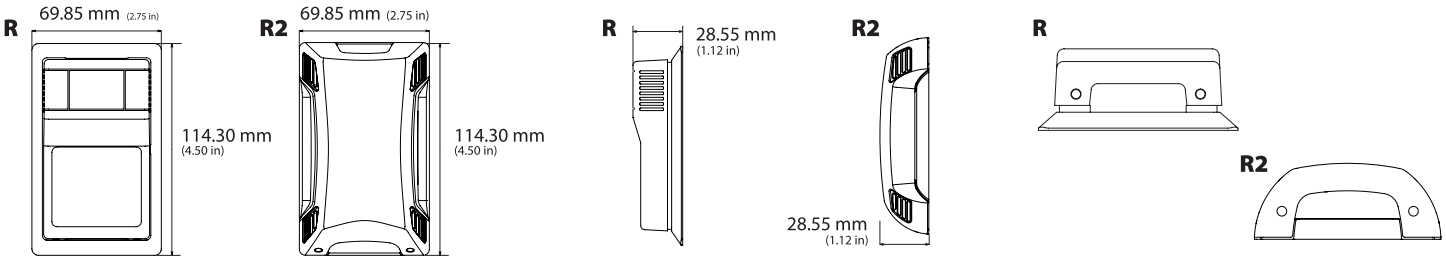
Product Weight:
- **A/XXXX-R/RS/RO Series:** 63.5 g (0.14 lb)
- **A/XXXX-RSO Series:** 81.6 g (0.18 lb)
- **A/XXXX-R2/R2S/R2O Series:** 72.6 g (0.16 lb)
- **A/XXXX-R2SO Series:** 90.7 g (0.20 lb)

Agency Approvals: CE, UKCA, RoHS2, WEEE

Note[1]: For best accuracy and long-term stability the sensor should be used in applications where the operating temperatures remain within the specified temperature range of 0 °C to 70 °C (32 °F to 158 °F)

Note[2]: The sensors will operate over an extended operating temperature range of -40 °C to 150 °C (-40 °F to 302 °F) without damaging the sensors but the accuracy and long-term stability will not meet the specifications above I Contact ACI for more information

Dimensions



Front View | Right View | Top View

Standard Ordering

Model #	Item #	Description
A/0.1AN-R2	146782	High Accuracy 10,000 ohm Thermistor (Type III), Room (R2)
A/0.1AN-R	146793	High Accuracy 10,000 ohm Thermistor (Type III), Room (R)
A/0.1CP-R2	137079	High Accuracy 10,000 ohm Thermistor (Type II), Room (R2)
A/0.1CP-R	127176	High Accuracy 10,000 ohm Thermistor (Type II), Room (R)

Accessories Ordering

Model #	Item #	Description
A/MOUNTING PLATE BEIGE R	106821	Wall Mounting Back Plate, Plastic, Beige ("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	3.175 mm (1/8 in) Foam Insulation Pad with Adhesive, 76.2 mm (3 in) x 50.8 mm (2 in), Black

Custom Ordering

		Options and Descriptions				Model #
A.	**Sensor Series** *No Selection Required*	**A/** →				A/
B.	**Model Series** *Select One (1)*	**0.1 AN**		**0.1CP**		
C.	**Configuration** *Select One (1)*	**R2** = Room (White)	**R2O** = Room w/ Override	**R2S** = Room w/ Set Point	**R2SO** = Room w/ Set Point & Override	
		R = Room (Beige)	**RO** = Room w/ Override	**RS** = Room w/ Set Point	**RSO** = Room w/ Set Point & Override	
D.	**Communication Jack** *Select One (1)*	**----** = **No Jack**				
		RJ4 = 4 Pin 4 Conductor RJ9, RJ10, or RJ22 Style Head Set Modular Connector				
		RJ6 = 6 Pin 6 Conductor RJ12 Modular Phone Connector				
		RS232 = 3.5 mm (1/8 in) Stereo Jack				

Setpoint Configuration Options *Select Options on the next page if RS, RSO, R2S or R2SO was selected as a Configuration (C).*

1.	**Slidepots** *Select One (1)*	**Direct Acting**	**A01** = 0 Ω to 100 kΩ	**A02** = 0 Ω to 20 kΩ	**A03** = 0 Ω to 10 kΩ	**A06** = 4.75 kΩ to 24.75 kΩ
			A07 = 10 Ω to 30 kΩ	**A08** = 1 kΩ to 11 kΩ	**A09** = 0 Ω to 2 kΩ	**A10** = 0 Ω to 1K kΩ
			A11 = 2.05 Ω to 3.05 kΩ	**A12** = 0 Ω to 400 Ω	**A16** = 0 Ω to 5 kΩ	**A18** = 10 Ωto 15 kΩ
			A29 = 7.87 Ω to 27.8 kΩ			
		Reverse Acting	**A04** = 1051.1 Ω to 51.1 Ω	**A14** = 10 kΩ to 0 Ω	**A24** = 9.5 kΩ to 1 kΩ	
2.	**Setpoint Stickers** *Select One (1)*	**A3** = 18 °C to 28 °C	**A4** = 20 °C to 30 °C	**B4** = 55 °F to 85 °F	**B7** = 60 °F to 90 °F	
		C5 = COOL/WARM	**C6** = COOLER/ WARMER	**D3** = WARM/COOL	**G5** = BLUE/RED (R2 Enclosure)	

Model # Example:	A/	0.1CP	R2S		A01	C5
	A.	**B.**	**C.**	**D.**	**1.**	**2.**

Note: Short Sensor is our default but the Dry Contact option is field selectable with terminals included.

Custom Ordering with NIST

		Options and Descriptions		Model #
A.	**Sensor Series** *No Selection Required*	**A/** →		A/
B.	**Model Series** *Select One (1)*	**0.1AN**	**0.1CP**	
C.	**Configuration** *Select One (1)*	**R2** = Room (White)	**R2O** = Room w/ Override	
		R = Room (Beige)	**RO** = Room w/ Override	
D.	**NIST** *Select One (1)*	**---** = No NIST Certificate	**NIST** = NIST Certificate (3 Points)	

Model # Example:	A/	0.1CP	R2O	NIST
	A.	**B.**	**C.**	**D.**