Room Series I Thermistor

Wall Mount Enclosures, Thermistor

Automation Components
a DwyerOmega brand

The ACI Thermistor Room Series combines option flexibility with attractive styling in our "-R2" or "-R" style enclosures which include four-way air flow design to minimize self-heating to the sensor. These enclosures are offered in a White "-R2" or Beige "-R" color depending on the enclosure style. These units are designed to be mounted over a single gang junction box or hole in the wall using drywall anchors. Screw terminal blocks are available for making all connections to your building management system (network). An optional 3.175 mm (1/8 in) Black foam pad with pressure sensitive adhesive is available to insulate the sensor from thermal drafts within the wall or wall surface. A 1/16 in Hex driver is needed to secure the cover from being easily removed. The "LCD" option uses two temperature sensors to monitor the ambient air temperature in the space and is factory calibrated at a single point.



Applications

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

Warranty

The ACI Thermistor Room 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/1.8K Series: 1.8 kΩ nominal
A/CSI Series: 10 kΩ nominal

A/3K Series: 3 kΩ nominal
A/10KS Series: 10 kΩ nominal

A/AN Series (Type III): 10 kΩ nominal
A/10K-E1 Series: 10 kΩ nominal

A/AN-BC Series: 5.238 kΩ nominal
A/50K Series: 50 kΩ nominal I Brown/Yellow)

A/20K Series: 20 kΩ nominal
A/100KS Series: 100 kΩ nominal

A/CP Series (Type II): 10 kΩ nominal

Accuracy 0 °C to 70 °C (32 °F to 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 at 25 °C (77 °F) and ±1.0 °C (±1.8 °F)

Stability: Sensor Dependent; Contact ACI for more information on specific sensor

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

LCD Display Supply Voltage: 9 V dc to 35 V dc / 24 V ac (50 Hz to 60 Hz)

LCD Display Supply Current/VA: < 4 mA / 0.12 V A

LCD Display Accuracy: ±2 °F or ±2 °C at 21.5 °C (71 °F) typical

LCD Display Descriptor: °F (Fahrenheit) or °C (Celsius)

Number of Digits: 3 1/2 Segment Display

LCD Display Life Expectancy: 50,000 hours minimum

Set Point Specifications I Set Point Indication: See Ordering Grid options on back of Product Data Sheet

Set Point Tolerance: ±10 % of range

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

Operating Range: 1.5 °C to 50 °C (35 °F to 122 °F)

Storage Temperature Range

Non-LCD: -40 °C to 65 °C (-40 °F to 149 °F)
LCD Display: -10 °C to 65 °C (14 °F to 149 °F)

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

Connections: Screw Terminal Blocks

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 Plastic, White, UL94-HB
"-R" Enclosure: ABS Plastic, Beige UL94-HB

Product Dimensions: See dimension drawing on this product data sheet

Product Weight:

A/XX-R/RS/RO Series: 63.5g (0.14 lb)
A/XX-RSO Series: 81.6g (0.18 lb)

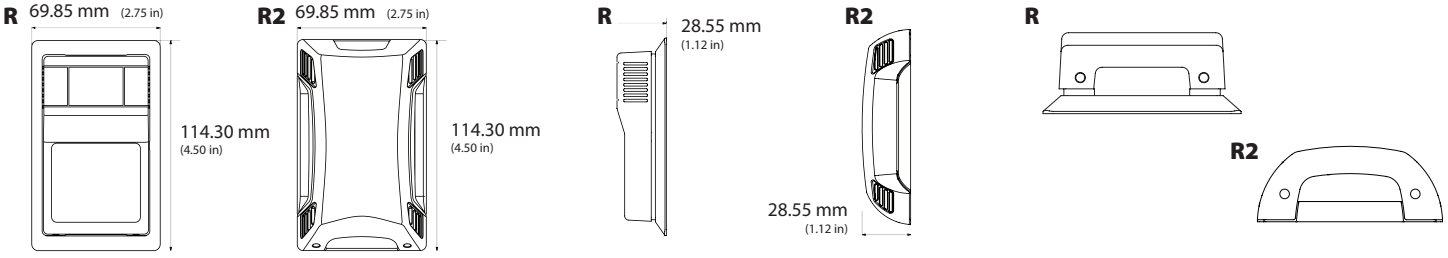
A/XX-R2/R2S/R2O Series: 72.6g (0.16 lb)
A/XX-R2SO Series: 90.7g (0.20 lb)

All LCD Display Units: 81.6g (0.18 lb)

Agency Approvals: CE**, UKCA, RoHS2, WEEE

Note[1]: All LCD Display Units are not CE Compliant, but they are RoHS2 Compliant

Dimensions



Front View | Side View | Top View

Standard Ordering

Model #	Item #	Description
A/CP-R	144212	10 kΩ (Type II), "R" Version, Beige, No Options
A/CP-R2	144213	10 kΩ (Type II), "R2" Version, White, No Options
A/AN-R	144208	10 kΩ (Type III), "R" Version, Beige, No Options
A/AN-R2	144209	10 kΩ (Type III), "R2" Version, White, No Options
A/20K-R	144160	20 kΩ, "R" Version, Beige, No Options
A/20K-R2	144170	20 kΩ, "R2" Version, White, No Options

Custom Ordering

		Options and Descriptions	Model #
A.	**Sensor Series**[1] *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** *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	
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	
		232 = 3.5 mm (1/8 in) Stereo Jack	
E.	**LCD Display**[2] *Select One (1)*	**----** = No LCD Display	
		LCD[2] = With LCD Display (Only Available with "R" Style Enclosure)	
F.	**LCD Display Descriptor** *Select One (1)*	**F** = °F (Fahrenheit); **C** = °C (Celsius)	
G.	**NIST**[3] *Select One (1)*	**----** = No NIST Certificate	
		NIST = NIST Certificate (3-Points)	

Setpoint Configuration Options *Select Options below if RS, RSO, R2S or R2SO was selected as a Configuration (C)*						
1.	**Slidepots**[4] *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 kΩ to 30 kΩ	**A08** = 1 kΩ to 11 kΩ	**A09** = 0 Ω to 2 kΩ	**A10** = 0 Ω to 1 kΩ
			A11 = 2.05 kΩ to 3.05 kΩ	**A12** = 0 Ω to 400 Ω	**A16** = 0 Ω to 5 kΩ	**A18** = 10 kΩ to 15 kΩ
			A20 = 6.19 kΩ to 26.19 kΩ	**A26** = 866 to 1,266	**A29** = 7.87 kΩ 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 Indication** *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)	

Note[1]: *A/ part numbers come without logo. For custom logo, replace A/ with Company abbreviation. Please contact ACI* | ***Note[2]:*** *LCD Display is not compatible with NIST* | ***Note[3]:*** *NIST is available in "R" and "R2" only configurations* | ***Note[4]:*** *Other Setpoint configurations are available. Please contact ACI* | ***Note*:*** *Short Sensor is factory default, but the Dry Contact option is field selectable with jumper shunts included.*

Accessories Ordering

Model #	Item #	Description
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	3.175 mm (1/8 in) Foam Insulation Pad with Adhesive, 76.2 mm (3 in) x 50.8 mm (2 in), Black