



RH ROOM

Relative Humidity Room, Thermistor

The ACI Relative Humidity with Thermistor Room Series utilizes a thermoset polymer capacitive sensing element with a factory fitted hydrophobic filter to improve its moisture resistance. The sensing elements multilayer construction also provides excellent resistance in applications where dust, dirt, oils and common environmental chemicals are found. The RH room sensors include on board DIP switches which allow the user to select the desired output signal and can be powered by AC or DC power sources. Single point field calibration can be performed by using the increment and decrement calibration DIP switches to adjust your curve up or down in +/- 0.5% increments with each toggle of the corresponding switches. These enhancements provide increased flexibility and outstanding long-term reliability without the need to replace the sensors in the field. There are two enclosure options in this series which should satisfy most commercial decors. Both enclosures

feature four-way airflow to minimize self-heating. Three point NIST Calibration Certificates are available.

Applications: Humidification, Dehumidification, Monitoring Indoor Space Humidity, Clean Rooms, Hospitals, Process Control, Laboratories, Museums, Schools, Office Buildings, Data Centers, ESD (Anti-Static) Control

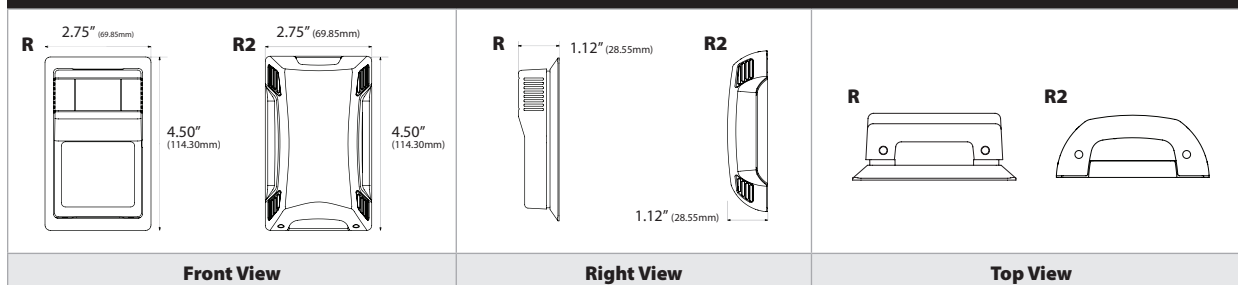
The ACI RH Thermistors Room is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's

PRODUCT SPECIFICATIONS

RH Supply Voltage (Reverse Polarity Protected):	4-20 mA: 250 Ohm Load: 15 - 40 VDC / 18 - 28 VAC 500 Ohm Load: 18 - 40 VDC / 18 - 28 VAC 0-5 VDC: 12 - 40 VDC / 18 - 28 VAC 0-10 VDC: 18 - 40 VDC / 18 - 28 VAC	
RH Supply Current (VA):	Voltage Output: 8 mA maximum (0.32 VA) Current Output: 24 mA maximum (0.83 VA)	
RH Output Load Resistance:	4-20 mA: 700 Ohms maximum 0-5 VDC or 0-10 VDC: 4K Ohms Minimum	
RH Output Signal:	2-wire: 4 - 20 mA (Factory Default) 3-wire: 0-5 or 0-10 VDC and 4 - 20 mA (Field Selectable)	
RH Accuracy @ 77°F (25°C):	+/- 1% over 20% RH Range between 20 to 90% +/- 2%, or 3% from 10 to 95%	
RH Measurement Range:	0-100%	
Operating RH Range:	0 to 95% RH, non-condensing	
Operating Temperature Range:	35 to 122°F (1.5 to 60°C)	
Storage Temperature Range:	-40 to 149°F (-40 to 65°C)	
RH Stability Repeatability Sensitivity:	Less than 2% drift / 5 years 0.5% RH 0.1% RH	
RH Response Time (T63):	20 Seconds Typical	
RH Sensor Type:	Capacitive with Hydrophobic Filter	
RH Transmitter Stabilization Time:	30 Minutes (Recommended time before doing accuracy verification)	
RH Connections Wire Size:	Screw Terminal Blocks (Polarity Sensitive) 16 (1.31 mm ²) to 26 AWG (0.129 mm ²)	
RH Terminal Block Torque Rating:	4.43 to 5.31 lb-in (0.5 to 0.6 Nm)	
RH NIST Test Points:	Default Test Points: 3 Points (20%, 50% & 80%) 1% NIST Test Points: 5 Points within selected 20% Range (ie. 30%-50% are 30, 35, 40, 45 & 50)	
Nominal Thermistor Resistive Output @ 77°F (25°C) (Lead Wire Colors) Non-Linear NTC (Negative Temperature Coefficient):	RHx-1.8K Series: 1.8KΩ (Red/Yellow)	RHx-10KS Series: 10KΩ (White/Blue)
	RHx-3K Series: 3KΩ (White/Brown)	RHx-10K-E1 Series: 10KΩ (Gray/Orange)
	RHx-AN Series (Type III): 10KΩ (White/White)	RHx-20K Series: 20KΩ (Brown/Blue)
	RHx-AN-BC Series: 5.238KΩ (White/Yellow)	RHx-50K Series: 50KΩ (Brown/Yellow)
	RHx-CP Series (Type II): 10KΩ (White/Green)	RHx-100KS Series: 100KΩ (Black/Yellow)
Thermistor Accuracy 32-158°F (0-70°C):	RHx-CSI Series: 10KΩ (Green/Yellow)	
	+/- 0.36°F (0.2°C) except 10K-E1 Series: +/- 0.54°F (0.3°C)	
Thermistor Power Dissipation Constant:	1.8K Series: +/- 0.9°F (0.5°C) @ 77°F (25°C) & +/- 1.8°F (1.0°C) from 32 to 158°F (0 to 70°C)	
Thermistor Sensor Response Time (T63):	3 mW/°C except 1.8K Series: 1 mW/°C; 10K-E1 Series: 2 mW/°C	
Temperature Connections Wire Size:	10 Seconds nominal	
Temperature Terminal Block Torque Rating:	Screw Terminal Blocks 16 (1.31 mm ²) to 26 AWG (0.129 mm ²)	
Enclosure Material (Color):	4.43 to 5.31 lb-in (0.5 to 0.6 Nm)	
Enclosure Flammability Rating:	"-R2" Enclosure: ABS (White) "-R" Enclosure: ABS (Beige)	
Product Dimensions (L x W x D):	UL94-HB	
Product Weight:	"-R2" Enclosure: 4.50" (114.3 mm) x 2.75" (69.85 mm) x 1.12" (28.45 mm)	
Agency Approvals:	"-R" Enclosure: 4.50" (114.3 mm) x 2.75" (69.85 mm) x 1.12" (28.45 mm)	
	A/RHx-xx-R2 Series: 0.17 lbs. (0.077 kg) A/RHx-xx-R Series: 0.17 lbs. (0.077 kg)	
	CE, UKCA, RoHS, WEEE	



DIMENSIONAL DRAWING



CUSTOM ORDERING		Model # Example: A/ RH2 1.8K SP 010 NIST 0 Ohms 1K Ohms DA +to-												MODEL #
A. Sensor Series No Selection Required	A/ 													A/
B. Accuracy Select One (1)	RH1 = +/-1% (Specify a 20% Range between 20 to 90% RH) RH2 = +/-2% RH3 = +/-3%													
C. Temperature Sensor Select One (1)	1.8K 3K 10KS AN (Type III) AN-BC CP (Type II) CSI 10K-E1 20K 50K 100KS													
D. Configuration Select One (1)	R = Room RO = Room with Override RS = Room with Setpoint RSO = Room with Setpoint and Override R2 = Room R2O = Room with Override R2S = Room with Setpoint R2SO = Room with Setpoint and Override													
E. Output Signal Select One (1)	---- = 4 to 20 mA (Default) 0 to 10 VDC (Field Selectable) 0 to 5 VDC (Field Selectable)													
F. NIST (Temperature & RH) 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 (D).														
1. Slidepots Select One (1)	Direct Acting (Range in Ohms) A01 = 0 to 100K A02 = 0 to 20K A03 = 0 to 10K A06 = 4.75K to 24.75K A07 = 10K to 30K A08 = 1K to 11K A09 = 0 to 2K A10 = 0 to 1K A11 = 2.05K to 3.05K A12 = 0 to 400 A16 = 0 to 5K A18 = 10K to 15K A26 = 866 to 1,266 A29 = 7.87K to 27.8K Reverse Acting (Range in Ohms) A04 = 1051.1 to 51.1 A14 = 10K to 0 A24 = 9.5K to 1K													
2. Setpoint Stickers 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*: Outputs are field selectable between 4-20 mA, 0-5 VDC & 0-10 VDC

ACCESSORIES ORDERING

Model # Example: A/MOUNTING PLATE BEIGE -OR- 106821

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	1/8" Foam Insulation Pad with Adhesive (3"x 2", Black)