

## 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 website, www.workaci.com.

RH Supply Voltage:	4-20 mA: 250 Ohm Load: 15 - 40 VDC / 18 - 28 VA	AC   <b>500 Ohm Load:</b> 18 - 40 VDC / 18 - 28 VAC
(Reverse Polarity Protected):	<b>0-5 VDC:</b> 12 - 40 VDC / 18 - 28 VAC   <b>0-10 VDC:</b> 18 - 40 VDC / 18 - 28 VAC <b>Voltage Output:</b> 8 mA maximum (0.32 VA)   <b>Current Output:</b> 24 mA maximum (0.83 VA)	
RH Supply Current (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 & 4 - 20 mA (Field Selectable)
RH Accuracy @ 77°F (25°C):	+/- 1% over 20% RH Range between 20 to 90%	+/- 2%, 3%, or 5% from 10 to 95%
RH Measurement Range:	0-100% 0 to 95% RH, non-condensing	
Operating RH Range:		
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 mm²) to 26 AWG (0.129 mm²)	
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	0% Range (ie. 30%-50% are 30, 35, 40, 45 & 50)
Nominal Thermistor Resistive Output @	<b>RHx-1.8K Series:</b> 1.8KΩ (Red/Yellow)	<b>RHx-10KS Series:</b> 10KΩ (White/Blue)
77°F (25°C) (Lead Wire Colors) Non-Linear NTC	<b>RHx-3K Series:</b> 3KΩ (White/Brown)	<b>RHx-10K-E1 Series:</b> 10KΩ (Gray/Orange)
(Negative Temperature Coefficient):	<b>RHx-AN Series (Type III):</b> $10K\Omega$ (White/White)	<b>RHx-20K Series:</b> 20KΩ (Brown/Blue)
	<b>RHx-AN-BC Series:</b> 5.238KΩ (White/Yellow)	RHx-50K Series: 50KΩ nominal (Brown/Yellow
	<b>RHx-CP Series (Type II):</b> $10K\Omega$ (White/Green)	<b>RHx-100KS Series:</b> 100KΩ (Black/Yellow)
	RHx-CSI Series: 10KΩ (Green/Yellow)	
Thermistor Accuracy 32-158°F (0-70°C):	+/- 0.36°F (0.2°C) except 10K-E1 Series: +/- 0.54°F (0.3°C)	
	<b>1.8K Series:</b> +/- 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 Power Dissipation Constant:	3 mW/°C except 1.8K Series: 1 mW/°C; 10K-E1 Series: 2 mW/°C	
Thermistor Sensor Response Time (T63):	10 Seconds nominal	
Temperature Connections   Wire Size:	Screw Terminal Blocks   16 (1.31 mm²) to 26 AWG (0.129 mm²)	
Temperature Terminal Block Torque Rating:	4.43 to 5.31 lb-in (0.5 to 0.6 Nm)	
Enclosure Material (Color):	"-R2" Enclosure: ABS (White)   "-R" Enclosure: ABS (Beige)	
Enclosure Flammability Rating:	UL94-HB	
Product Dimensions (L x W x D):	<b>"-R2" Enclosure:</b> 4.50" (114.3 mm) x 2.75" (69.85 mm) x 1.12" (28.45 mm)	
	<b>"-R" Enclosure:</b> 4.50" (114.3 mm) x 2.75" (69.85	5 mm) x 1.12" (28.45 mm)
Product Weight:	A/RHx-xx-R2 Series: 0.17 lbs. (0.077 kg)   A/RHx-xx-R Series: 0.17 lbs. (0.077 kg)	
Agency Approvals:	CE, RoHS2, WEEE	





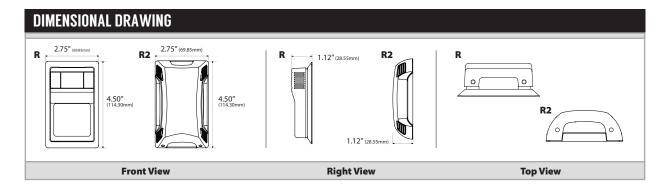






## HUMIDITY | THERMISTORS | RH ROOM





CUSTOM ORDERING	Model#Example: A/ RH2 CP RSO NIST 0 Ohms 1K Ohms DA +to- A. B. C. D. E. F. 1. 2. 3. 4.	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%   RH5 = +/-5%		
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       R2 = Room         RO = Room with Override       R2O = Room with Override         RS = Room with Setpoint       R2S = Room with Setpoint         RSO = Room with Setpoint and Override       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   <b>NIST</b> = NIST Certificate (3 Points)		
Setpoint Configuration Options Sele	ct Options below if RS, RSO, R2S or R2SO was selected as a Configuration (C).		
<b>1. Slidepots</b> 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)	<b>A3</b> = 18-28 DEG C   <b>A4</b> = 20-30 DEG C   <b>B4</b> = 55-85 DEG F   <b>B7</b> = 60-90 DEG F   <b>C5</b> = COOL/WARM <b>C6</b> = COOLER/WARMER   <b>D3</b> = WARM/COOL   <b>G5</b> = 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 BEIGER -OR- 10682			
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)	







