



## RH ROOM

## **Relative Humidity Room**

The ACI Relative Humidity 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 and Five-point NIST Calibration Certificates are available and must be ordered separately when placing your order.

**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 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 VAC   500 Ohm Load: 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
RH Supply Current (VA):	Voltage Output: 8 mA maximum (0.32 VA)   Current Output: 24 mA maximum (0.83 VA)
RH Output Load Resistance:	<b>4-20 mA:</b> 700 Ohms maximum   <b>0-5 VDC or 0-10 VDC:</b> 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%, 3%, or 5% 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 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:	<b>Default Test Points:</b> 3 Points (20%, 50% & 80%) or 5 Points (20%, 35%, 50%, 65% & 80%)
	1% NIST Test Points: 5 Points within selected 20% Range (ie. 30%-50% are 30, 35, 40, 45 & 50
Temperature Transmitter Stabilization Time:	Screw Terminal Blocks (Polarity Sensitive)   16 (1.31 mm²) to 26 AWG (0.129 mm²)
Temperature Connections   Wire Size:	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" (6985 mm) x 1.12" (28.45 mm)
	<b>"-R" Enclosure:</b> 4.50" (114.3 mm) x 2.75" (6985 mm) x 1.12" (28.45 mm)
Product Weight:	<b>A/RHx-R2 Series:</b> 0.17 lbs. (0.077 kg)   <b>A/RHx-R Series:</b> 0.17 lbs. (0.077 kg)
Agency Approvals:	CE, RoHS2, WEEE



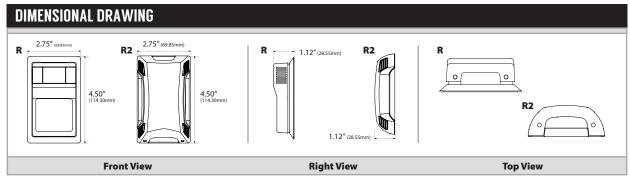






## HUMIDITY | RH ROOM





STANDARD ORDERING  Model # Example: A/RH5-R2 OR- 1305		
Model #	Item #	Description
A/RH2-R	122708	RH Room, +/- 2%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable)
A/RH2-R2	130553	RH Room, +/- 2%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable)
A/RH3-R	122944	RH Room, +/- 3%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable)
A/RH3-R2	130554	RH Room, +/- 3%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable)
A/RH5-R	123099	RH Room, +/- 5%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable)
A/RH5-R2	130555	RH Room, +/- 5%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable)

CUSTOM ORDERING	Model∉Example: A/ RH2 RS 00 hms 1K 0 hms DA + to- A: 8. C. D. 2. 3. 4. 5.	MODEL#	
A. Sensor Series No Selection Required	A/	Α/	
B. Accuracy Select One (1)	<b>RH1</b> = +/-1% (Specify a 20% Range between 20 to 90% RH) <b>RH2</b> = +/-2%   <b>RH3</b> = +/-3%   <b>RH5</b> = +/-5%		
C. 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		
D. Output Signal Select One (1)	= 4 to 20 mA (Default)   0 to 10 VDC (Field Selectable)   0 to 5 VDC (Field Selectable)		
Setpoint Configuration Options Sel	ct Options below if RS, RSO, R2S or R2SO was selected as a Configuration (C).		
1. Offset Resistor Select One (1)	0 Ohms   51.1 Ohms   499 Ohms   750 Ohms   806 Ohms   1K Ohms   2K Ohms 2.49K Ohms   4.75K Ohms   6.19K Ohms   7.87 Ohms   10K Ohms   20K Ohms		
2. Potentiometer Select One (1)	400 Ohm   1K Ohms   2K Ohms   5K Ohms   8.5K Ohms   10K Ohms 20K Ohms   100K Ohms		
3. Setpoint Direction Select One (1)	DA = Direct Acting (Bottom to Top (Smaller to Larger)) RA = Reverse Acting (Bottom to Top (Larger to Smaller))		
4. Setpoint Indication Select One (1)	+ to -   Cool   Warm   55 to 85F   10-30C (R Only) Blue   Red (R2 Only)		

**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)

ACCESSORIES ORDERING [NIST]  Model # Example: MIST RH CERT		
Model #	Description	
NIST RH CERT	RH Calibration Certificate (Specify 3 Point or 5 Point NIST)	

 $\textbf{Note:} \ When \ ordering \ NIST \ certificates, please \ add \ an \ additional \ line \ item \ under \ the \ corresponding \ A/RHx-R/R2 \ Model \ Number \ and \ A/RHx-R/R2 \ Model \ Number \ A/RHx-R/R2 \ Model \ MARHX-RA \ MARX-RA \ MA$ 







