RH ROOM

Relative Humidity Room, Nickel RTD

The ACI Relative Humidity with Nickel RTD 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.

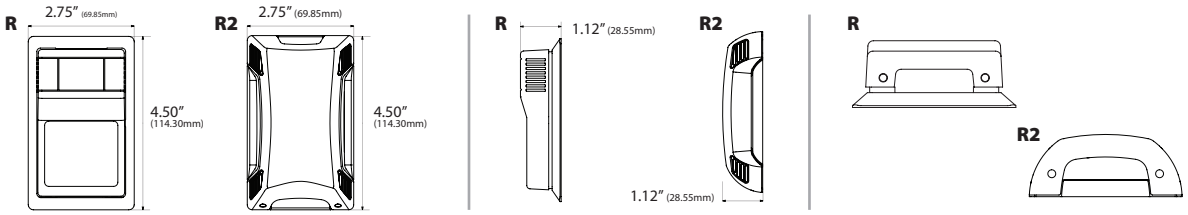
Applications: Humidification, Dehumidification, Monitoring Indoor Space Humidity, Clean Rooms, Hospitals, Process Control, Laboratories, Museums, Schools, Office Buildings, Data Centers, ESD (Anti-Static) Control

The ACI RH Nickel RTD 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.

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%, 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 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)
Nickel RTD (PTC) Output @ 70°F (21.1°C)	**RHx-1K-NI-R2 Series:** 1000 Ohms nominal (1K-Nickel RTD)
Nickel RTD Sensor Accuracy:	32°F (0°C): +/-0.72°F (0.4°F); 70°F (21.1°C): +/-0.34°F (0.17°C); 130°F (54.4°C): +/-1.00°F (0.56°C)
Nickel Din Standard	Din 43760
Temperature Coefficient (0-100°C):	6370 ppm/°C
Nickel RTD Stability:	+/-0.05% after 1000 Hours @ 302°F (150°C)
Temperature Connections | Wire Size:	Screw Terminal Blocks | 16 (1.31 mm^2) to 26 AWG (0.129 mm^2)
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):	**"-R2" Enclosure:** 4.50" (114.3 mm) x 2.75" (69.85 mm) x 1.12" (28.45 mm) **"-R" Enclosure:** 4.50" (114.3 mm) x 2.75" (69.85 mm) x 1.12" (28.45 mm)
Product Weight:	**A/RHx-1K-NI-R2 Series:** 0.17 lbs. (0.077 kg) | **A/RHx-1K-NI-R Series:** 0.17 lbs. (0.077 kg)
Agency Approvals:	CE, RoHS2, WEEE

DIMENSIONAL DRAWING



Front View | **Right View** | **Top View**

CUSTOM ORDERING

Model # Example: A/ (A.) | RH2 (B.) | 1K-NI (C.) | RSO (D.) | (E.) | NIST (F.) | 0 Ohms (1.) | 20K Ohms (2.) | DA (3.) | + to - (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 *No Selection Required*	**1K-NI** →	**1K-NI**
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 (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 BEIGE R -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)