



RH ROOM

Relative Humidity Room, Platinum RTD

The ACI Relative Humidity with Platinum 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 Platinum RTDs 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.

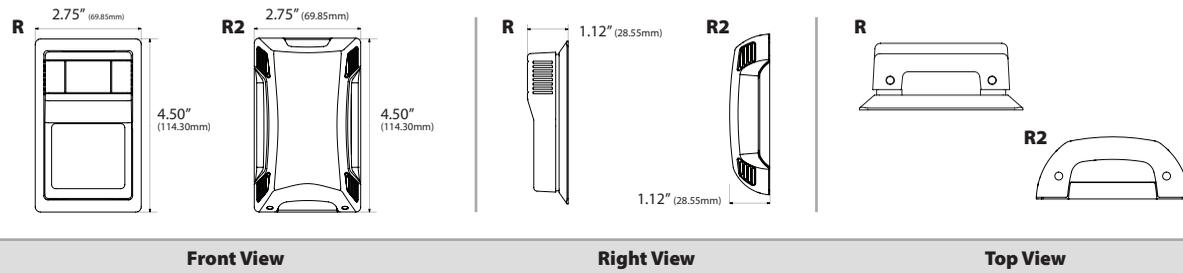
PRODUCT SPECIFICATIONS

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|---|--|
| 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) |
| Platinum RTD Output @ 32°F (0°C): | RHx-100-xW-R2 Series: 100 Ohms nominal RHx-1K-xW-R2 Series: 1000 Ohms nominal |
| Platinum RTD Tolerance Class: | +/-0.06% Class A Tolerance Formula: +/-°C = (0.15°C + (0.002 * t)) |
| Platinum RTD Din Standard: | DIN EN 60751 (IEC 751) |
| Temperature Coefficient: | 3850 ppm/°C |
| Platinum RTD Stability: | +/-0.03% after 1000 Hours @ 572°F (300°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-xx-xW-R2 Series: 0.17 lbs. (0.077 kg) A/RHx-xx-xW-R Series: 0.17 lbs. (0.077 kg) |
| Agency Approvals: | CE, RoHS2, WEEE |





DIMENSIONAL DRAWING



CUSTOM ORDERING

Model # Example: A/ RH2 1K 2W RSO NIST 0 Ohms 1K Ohms DA + to -
A. B. C. D. E. F. G. 1. 2. 3. 4.

MODEL #

| | | |
|---|--|----|
| A. Sensor Series <i>No Selection Required</i> | A/ → | A/ |
| B. Accuracy <i>Select One (1)</i> | RH1 = +/-1% (Specify a 20% Range between 20 to 90% RH) RH2 = +/-2% RH3 = +/-3% RH5 = +/-5% | |
| C. Model Series <i>Select One (1)</i> | 100 = 100 Ohm Platinum RTD 1K = 1K Ohm Platinum RTD | |
| D. Number of Wires <i>Select One (1)</i> | 2W = Two Wires 3W = Three Wires | |
| E. Configuration <i>Select One (1)</i> | 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 | |
| F. Output Signal <i>Select One (1)</i> | ---- = 4 to 20 mA (Default) 0 to 10 VDC (Field Selectable) 0 to 5 VDC (Field Selectable) | |
| G. NIST (Temperature & RH) <i>Select One (1)</i> | ---- = No NIST Certificate NIST = NIST Certificate (3 Points) | |
| Setpoint Configuration Options <i>Select Options below if RS, RSO, R2S or R2SO was selected as a Configuration (C)</i> | | |
| 1. Slidepots <i>Select One (1)</i> | Direct Acting (Range in Ohms) A01 = 0 to 100K A02 = 0 to 20K A03 = 0 to 10K A08 = 1K to 11K A09 = 0 to 2K A10 = 0 to 1K A12 = 0 to 400 A16 = 0 to 5K A28 = 806 to 1206 A32 = 900 to 1300 Reverse Acting (Range in Ohms) A14 = 10K to 0 | |
| 2. Setpoint Stickers <i>Select One (1)</i> | 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 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) |

