



# RH WALL PLATE

## Relative Humidity, Wall Plate, Nickel RTD

The ACI Relative Humidity with Nickel RTD Wall Plate Series utilizes a thermoset polymer capacitive sensing element with a factory applied hygroscopic filter to deliver a proportional analog voltage output signal. The hygroscopic filter provides added resistance to moisture, dust, and other chemicals for greater long term reliability. The RH Stainless Plate transmitter features integral DIP switches for field selection of the proper output signal and supply voltage to meet your applications requirements. Each unit also contains 0%, 50%, and 100% test options

to verify that the transmitter is both working and properly installed. Field calibration can be performed by using the increment and decrement calibration DIP switches without the need to replace the sensing element. These enhancements provide increased flexibility and outstanding long-term reliability. All RH Stainless Plate transmitters come standard with an attractive brushed finish stainless steel, single gang wall mounting plate and are designed to mount over a single gang junction box in the wall. The PCBs are conformally coated for added protection from moisture and other contaminants. A temporary plastic sensor cover is included to provide protection for the RH sensor from chemicals used in wash down applications. Three point NIST Calibration Certificates are available.

**Applications:** Pharmaceutical, Hospitals, Operating Rooms, Vivariums, Clean Rooms, Process Control, Wash Down Environments & Stability Chambers

**The ACI RH Nickel RTD Wall Plate 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](http://www.workaci.com).**

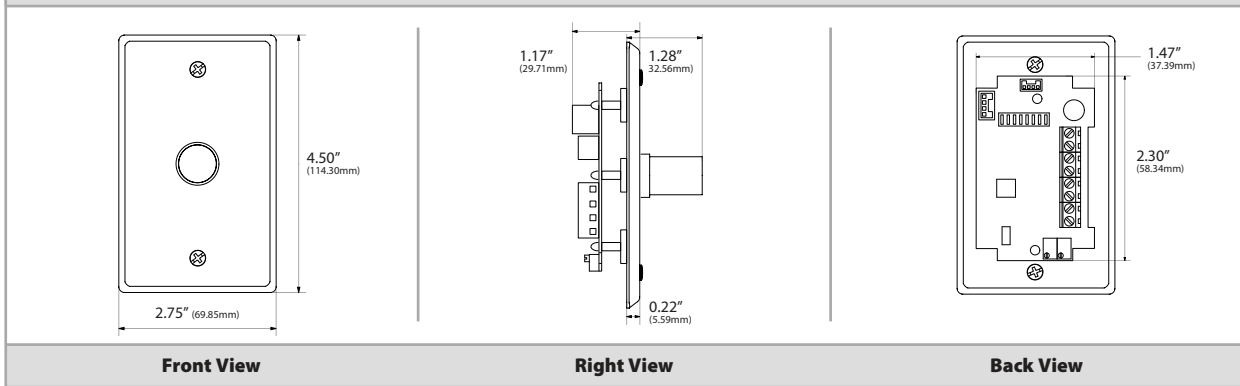
### PRODUCT SPECIFICATIONS

|  |   |
|--|---|
| <b>RH Supply Voltage</b>                           | <b>0-5 VDC:</b> 12 - 40 VDC / 18 - 28 VAC   |
| <b>(Reverse Polarity Protected):</b>               | <b>0-10 VDC:</b> 18 - 40 VDC / 18 - 28 VAC  |
| <b>RH Supply Current (VA):</b>                     | 8 mA maximum (0.32 VA)  |
| <b>RH Output Load Resistance:</b>                  | 4K Ohms Minimum   |
| <b>RH Output Signal:</b>                           | <b>3-wire:</b> 0-5 or 0-10 VDC  |
| <b>RH Accuracy @ 77°F (25°C):</b>                  | +/- 2%, 3%, or 5% from 10 to 95%  |
| <b>RH Measurement Range:</b>                       | 0-100%  |
| <b>Operating RH Range:</b>                         | 0 to 95% RH, non-condensing (Conformally Coated PCB's)  |
| <b>Operating Temperature Range:</b>                | -40 to 140°F (-40 to 60°C)  |
| <b>Storage Temperature Range:</b>                  | -40 to 149°F (-40 to 65°C)  |
| <b>RH Stability   Repeatability   Sensitivity:</b> | Less than 2% drift / 5 years   0.5% RH   0.1% RH  |
| <b>RH Response Time (T63):</b>                     | 20 Seconds Typical  |
| <b>RH Sensor Type:</b>                             | Capacitive with Hydrophobic Filter  |
| <b>RH Transmitter Stabilization Time:</b>          | 30 Minutes (Recommended time before doing accuracy verification)  |
| <b>RH Connections   Wire Size:</b>                 | Screw Terminal Blocks (Polarity Sensitive)   16 (1.31 mm <sup>2</sup> ) to 26 AWG (0.129 mm <sup>2</sup> )                  |
| <b>RH Terminal Block Torque Rating:</b>            | 4.43 to 5.31 lb-in (0.5 to 0.6 Nm)  |
| <b>RH NIST Test Points:</b>                        | <b>Default Test Points:</b> 3 Points (20%, 50% & 80%)   |
| <b>Nickel RTD (PTC) Output @ 70°F (21.1°C)</b>     | <b>RHx-1K-NI-SP Series:</b> 1000 Ohms nominal (1K-Nickel RTD)   Red/Red   |
| <b>(Wire Colors):</b>                              |   |
| <b>Nickel RTD Sensor Accuracy:</b>                 | <b>32°F (0°C):</b> +/-0.72°F (0.4°F)   <b>70°F (21.1°C):</b> +/-0.34°F (0.17°C)   <b>130°F (54.4°C):</b> +/-1.00°F (0.56°C) |
| <b>Nickel Din Standard:</b>                        | Din 43760   |
| <b>Temperature Coefficient (0-100°C):</b>          | 6370 ppm/°C   |
| <b>Nickel RTD Stability:</b>                       | +/-0.05% after 1000 Hours @ 302°F (150°C)   |
| <b>Lead Wire Length   Conductor Size:</b>          | 14" (35.6 cm)   22 AWG (0.65 mm)  |
| <b>Insulation   Rating:</b>                        | Etched Teflon (PTFE) Colored Leads   Mil Spec 16878/4 Type E  |
| <b>Wall Plate Material:</b>                        | 430 Stainless Steel (Brushed Stainless Steel Finish)  |
| <b>Foam Material   Foam Thickness:</b>             | Cross-linked LPDE (White)   0.25" (6.35 mm)   |
| <b>Foam Flammability Rating:</b>                   | FMVSS-302   |
| <b>Sintered Filter Material:</b>                   | 304 Series Stainless Steel  |
| <b>Product Dimensions (L x W x D):</b>             | 4.51" (114.56 mm) x 2.76" (70.10 mm) x 1.25" (31.75 mm)   |
| <b>Product Weight:</b>                             | 0.235 lbs. (0.107 kg)   |
| <b>Agency Approvals:</b>                           | CE, RoHS2, WEEE   |





**DIMENSIONAL DRAWING**



**CUSTOM ORDERING**

Model # Example: **A/** **RH2** **1K-NI** **SP** **05** **NIST**

**MODEL #**

|   |   |              |
|---|---|--------------|
| <b>A. Sensor Series</b> <i>No Selection Required</i>        | A/  | <b>A/</b>    |
| <b>B. Accuracy</b> <i>Select One (1)</i>                    | RH2 = +/-2%   RH3 = +/-3%   RH5 = +/-5%                         |              |
| <b>C. Temperature Sensor</b> <i>No Selection Required</i>   | 1K-NI   | <b>1K-NI</b> |
| <b>D. Configuration</b> <i>No Selection Required</i>        | SP Stainless Wall Plate   | <b>SP</b>    |
| <b>E. Output Signal</b> <i>Select One (1)</i>               | 010 = 0 to 10 VDC   05 = 0 to 5 VDC                             |              |
| <b>F. NIST (Temperature &amp; RH)</b> <i>Select One (1)</i> | ---- = No NIST Certificate   NIST = NIST Certificate (3 Points) |              |

**Note:** Outputs are field selectable between 0-5 VDC & 0-10 VDC

**ACCESSORIES ORDERING**

Model # Example: **A/SINTERED FILTER** -OR- **143433**

| Model #                    | Item # | Description  |
|----------------------------|--------|--|
| <b>A/SINTERED FILTER</b>   | 143433 | 3/8" Sintered Filter for RH Duct/Stainless Plate/Remote Probes   |
| <b>A/1" VINYL PULL CAP</b> | 143462 | 1" EZ Vinyl Filter Cover for RH Stainless Plates & Remote Probes |

