



# SUN SHIELD

## Weather Proof, Relative Humidity, Nickel RTD

The ACI Sun Shield is a reliable solution for protecting both the temperature and relative humidity sensors when mounted in a location where an overhang or shade is unavailable. It consists of nine (9) molded, white plastic plates which are used to reduce the thermal effect of the sun and increasing the air flow between the plates. The Sun Shield also provides an added level of protection for the sensors from rain and snow. The Sun Shield is available with our +/-2% RH transmitter, a standard Nickel RTD, and has field selectable outputs of 4-20mA, 0-5VDC and 0-10VDC. Three point NIST Calibration Certificates are available.

**Applications:** Outdoor Humidity and Temperature Monitoring

The ACI RH Nickel RTD Sun Shield 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).

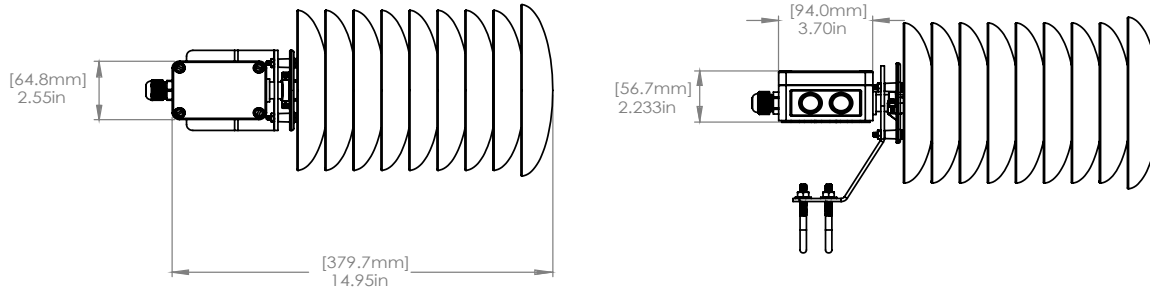
### PRODUCT SPECIFICATIONS

<b>RH Supply Voltage</b>	<b>4-20 mA:</b> 250 Ohm Load: 15 - 40 VDC / 18 - 28 VAC   <b>500 Ohm Load:</b> 18 - 40 VDC / 18 - 28 VAC
<b>(Reverse Polarity Protected):</b>	<b>0-5 VDC:</b> 12 - 40 VDC / 18 - 28 VAC   <b>0-10 VDC:</b> 18 - 40 VDC / 18 - 28 VAC
<b>RH Supply Current (VA):</b>	<b>Voltage Output:</b> 8 mA maximum (0.32 VA)   <b>Current Output:</b> 24 mA maximum (0.83 VA)
<b>RH Output Load Resistance:</b>	<b>4-20 mA:</b> 700 Ohms maximum   <b>0-5 VDC or 0-10 VDC:</b> 4K Ohms Minimum
<b>RH Output Signal:</b>	<b>2-wire:</b> 4 - 20 mA (Factory Default)   <b>3-wire:</b> 0-5 or 0-10 VDC and 4 - 20 mA (Field Selectable)
<b>RH Accuracy @ 77°F (25°C):</b>	+/- 2% 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:</b>	Screw Terminal Blocks (Polarity Sensitive)
<b>Wire Size:</b>	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>1% NIST Test Points:</b> 5 Points within selected 20% Range (ie. 30%-50% are 30, 35, 40, 45 & 50)
<b>Nickel RTD (PTC) Output @ 70°F (21.1°C)</b>	1000 Ohms nominal (1K-Nickel RTD)   Red/Red
<b>(Wire Colors):</b>	
<b>Nickel RTD Sensor Accuracy:</b>	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)
<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>Enclosure Specifications (Material, Flammability, "4X" Enclosure:</b>	Polystyrene Plastic; UL94-V2; -40 to 158°F (-40 to 70°C); NEMA 4X (IP 66)
<b>Temperature, NEMA/IP Rating):</b>	
<b>Sensing Tube Dimensions (Length x Diameter):</b>	6.83" (173.48 mm) x 0.740" (18.80mm)
<b>Product Dimensions (L x W x D):</b>	14.95" (379.7 mm) x 7.50" (190.50 mm)
<b>Product Weight:</b>	4.16 lbs(1.89 kg)
<b>Agency Approvals:</b>	CE, RoHS2, WEEE





**DIMENSIONAL DRAWING**



Side View(s)

**CUSTOM ORDERING**

Model # Example: A/ RH2 1K-NI O-SUN NIST  
A. B. C. D. E. F.

**MODEL #**

<b>A. Sensor Series</b> <i>No Selection Required</i>	A/ _____ →	<b>A/</b>
<b>B. Accuracy</b> <i>No Selection Required</i>	RH2 = +/-2% _____ →	<b>RH2</b>
<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>	O-SUN = Outside Sun Shield (NEMA 4X) _____ →	<b>O-SUN</b>
<b>E. Output Signal</b> <i>Select One (1)</i>	---- = 4 to 20 mA (Default)   0 to 10 VDC (Field Selectable)   0 to 5 VDC (Field Selectable)	
<b>F. NIST (Temperature &amp; RH)</b> <i>Select One (1)</i>	---- = No NIST Certificate   <b>NIST</b> = NIST Certificate (3 Points)	

**Note:** Outputs are field selectable between 4-20 mA, 0-5 VDC & 0-10 VDC

