

Sun Shield | Humidity | Platinum RTD

Weather Proof, Relative Humidity, Platinum RTD



Automation Components, Inc.
a DwyerOmega brand

The ACI Sun Shield is a reliable solution for protecting 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 $\pm 2\%$ RH transmitter, a 100 or 1K ohm standard Platinum RTD, and has field selectable outputs of 4-20 mA, 0-5 VDC and 0-10 VDC. Three point NIST Calibration Certificates are available.

Applications

Outdoor Humidity and Temperature Monitoring

Warranty

The 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 web site, www.workaci.com.

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): $\pm 2\%$ from 10 to 95 %

RH Measurement Range: 0-100 %

Operating RH Range: 0 to 95 % RH, non-condensing
(conformally coated PCB's)

Operating Temperature Range: -40 to 140 °F (-40 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 Connection: Screw Terminal Blocks (polarity sensitive)

Wire Size: 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

Default Test Points: 3 Points (20 %, 50 %, & 80 %)

Platinum RTD (PTC) | Number Wires (Wire Colors)



RHx-100-2W Series: (Brown/Brown)

RHx-2W-1K Series: (Black/Black)

RHx-100-3W Series: (Brown/Brown/Black)

RHx-3W-1K Series: (Black/Black/White)

Platinum RTD Output @ 32°F (0°C):

RHx-100-xW-O-SUN Series: 100 Ohms nominal

RHx-1K-xW-O-SUN Series: 1000 Ohms nominal (x = # of wires)

Platinum RTD Tolerance Class: $\pm 0.06\%$ Class A

Tolerance Formula: $\pm ^\circ\text{C} = (0.15 ^\circ\text{C} + (0.002 * \text{t}^\circ\text{C}))$

Platinum RTD Din Standard: DIN EN 60751 (IEC 751)

Temperature Coefficient: 3850 ppm/ °C

Platinum RTD Stability: $\pm 0.03\%$ after 1000 Hours @ 572 °F (300 °C)

Lead Wire Length | Conductor Size: 14" (35.6 cm) | 22 AWG (0.65 mm)

Insulation | Rating: Etched Teflon (PTFE) Colored Leads | Mil Spec 16878/4 Type E

Enclosure Specifications (Material, Flammability, Temperature, NEMA/IP Rating)

"-4X" Enclosure: Polystyrene Plastic; UL94-V2; -40 to 158 °F (-40 to 70 °C); NEMA 4X (IP 66)

Sensing Tube Dimensions (Length x Diameter): 4.73" (120.14 mm) x 0.845" (21.46 mm)

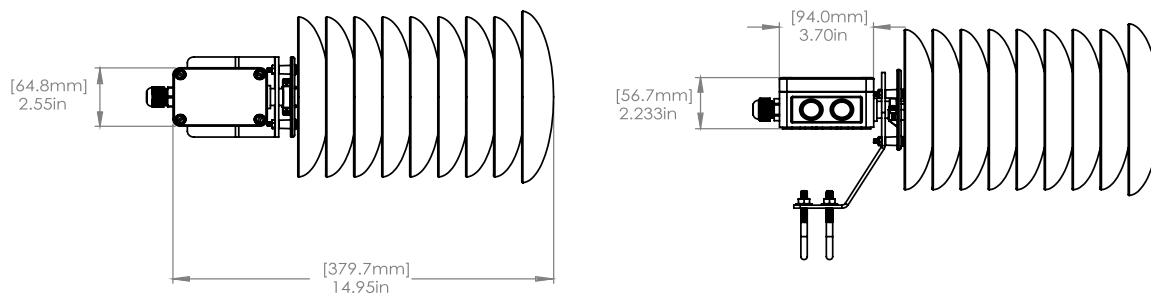
Product Dimensions (L x W x D): 14.95" (379.7 mm) x 7.50" (190.50 mm)

Product Weight: 4.16 lbs (1.89 kg)

Agency Approvals: CE, UKCA, RoHS, WEEE



Dimensions



Side View(s)

Custom Ordering

Options and Descriptions			Model #
A. Sensor Series <i>No Selection Required</i>	A/ —————→		A/
B. Accuracy <i>No Selection Required</i>	RH2 = ±2 % —————→		RH2
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>No Selection Required</i>	O-SUN = Outside Sun Shield (NEMA 4X) —————→		O-SUN
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)		
Model # Example: A/ RH2 1K 2W O-SUN NIST			
A. B. C. D. E. F. G.			

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

