

RH OUTSIDE AIR

Relative Humidity, Outside Air

The ACI Relative Humidity Outside Air utilizes a thermoset polymer capacitive sensing element with factory applied hydrophobic filter to deliver a proportional analog current or voltage output signal. The hydrophobic filter provides added resistance to moisture, dust, and other chemicals for greater long term reliability. The RH Outside Air 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 wired properly. Field calibration also 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. Outside Air configurations feature a weatherproof Euro style enclosure with gasketed cover and conformally coated circuit boards for added moisture and chemical resistance. Three point NIST Calibration Certificates are available.

Applications: Monitoring Outdoor Air Humidity, Economizer Control, Psychrometric calculations such as Enthalpy and Dew point, Wash down Applications

The ACI RH Outside Air 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

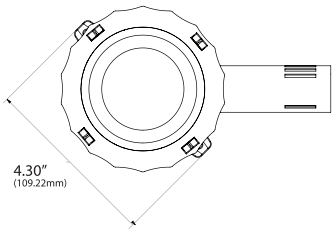
PRODUCT SPECIFICATIONS

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% or 3% 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 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)
Enclosure (Material, Flammability, Temperature, NEMA/IP Rating):	**"-EH" Enclosure:** ABS Plastic; UL94-V0; -40 to 140°F (-40 to 60°C) **"-4X" Enclosure: Polystyrene Plastic;** UL94-V2; -40 to 158°F (-40 to 70°C); NEMA 4X (IP 66)
Sensing Tube Dimensions (Length x Diameter):	**"-EH" Models:** 3.00" (76.20 mm) x 1.125" (28.75 mm) **"-4X" Models:** 4.73" (120.14 mm) x 0.845" (21.46mm)
Product Dimensions (L x W x D):	See drawings on back of data sheet
Product Weight:	**A/RHx-O Series:** 0.59 lbs. (0.27 kg) | **A/RHx-O-4X Series:** 0.45 lbs. (0.204 kg)
Agency Approvals:	CE, UKCA, RoHS, WEEE

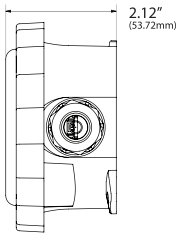
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DIMENSIONAL DRAWING

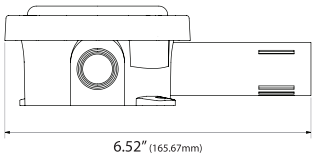
Euro Enclosure [EH]



Front View

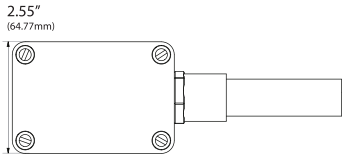


Right View

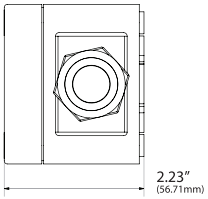


Top View

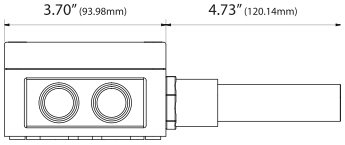
NEMA 4X Enclosure [4X]



Front View



Right View



Top View

STANDARD ORDERING

Model #	Item #	Description
A/RH1-O	122535	RH Outside Air, +/- 1%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable), Euro Enclosure
A/RH1-O-NIST	148185	RH Outside Air, +/- 1%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable), Euro Enclosure, NIST Certificate
A/RH2-O	122701	RH Outside Air, +/- 2%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable), Euro Enclosure
A/RH2-O-4X	122704	RH Outside Air, +/- 2%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable), NEMA 4X Enclosure
A/RH2-O-NIST	148187	RH Outside Air, +/- 2%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable), Euro Enclosure, NIST Certificate
A/RH2-O-4X-NIST	148189	RH Outside Air, +/- 2%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable), NEMA 4X Enclosure, NIST Certificate
A/RH3-O	122936	RH Outside Air, +/- 3%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable), Euro Enclosure
A/RH3-O-4X	122940	RH Outside Air, +/- 3%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable), NEMA 4X Enclosure
A/RH3-O-NIST	148188	RH Outside Air, +/- 3%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable), Euro Enclosure , NIST Certificate
A/RH3-O-4X-NIST	148190	RH Outside Air, +/- 3%, 4-20 mA Output (default), 0-5 VDC or 0-10 VDC (selectable), NEMA 4X Enclosure, NIST Certificate

CUSTOM ORDERING

Model # Example: A/ (A.) | RH1 (B.) | O (C.) | (D.)

		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%	
C. Configuration *Select One (1)*	**O** = Outside Air (Euro Enclosure) | **O-4X** = Outside Air (NEMA 4X Enclosure)	
D. Output Signal *Select One (1)*	**----** = 4 to 20 mA (Default) | 0 to 10 VDC (Field Selectable) | 0 to 5 VDC (Field Selectable)	
E. NIST (Temperature & RH) *Select One (1)*	**----** = No NIST Certificate | **NIST** = NIST Certificate (3 Points)	

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