



RH OUTSIDE AIR

Relative Humidity, Outside Air, Balco RTD

The ACI Relative Humidity with Balco RTD Outside Air Series utilizes a thermoset polymer capacitive sensing element with factory applied hygroscopic filter to deliver a proportional analog current or voltage output signal. The hygroscopic 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: Monitor Outdoor Air Humidity, Economizer Control, Psychrometric calculations such as Enthalpy and Dew point, Wash down Applications

The ACI RH Balco RTD 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 website, www.workaci.com.

PRODUCT SPECIFICATIONS

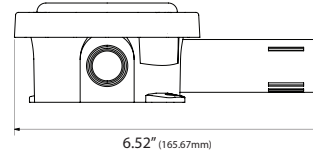
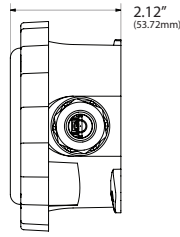
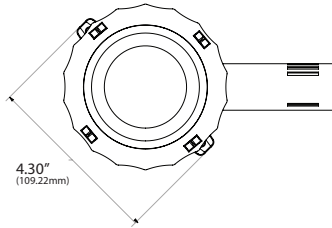
RH Supply Voltage (Reverse Polarity Protected):	4-20 mA: 250 Ohm Load: 15 - 40 VDC / 18 - 28 VAC 500 Ohm Load: 18 - 40 VDC / 18 - 28 VAC
RH Supply Current (VA):	0-5 VDC: 12 - 40 VDC / 18 - 28 VAC 0-10 VDC: 18 - 40 VDC / 18 - 28 VAC
RH Output Load Resistance:	Voltage Output: 8 mA maximum (0.32 VA) Current Output: 24 mA maximum (0.83 VA)
RH Output Signal:	4-20 mA: 700 Ohms maximum 0-5 VDC or 0-10 VDC: 4K Ohms Minimum
RH Accuracy @ 77°F (25°C):	2-wire: 4 - 20 mA (Factory Default) 3-wire: 0-5 or 0-10 VDC and 4 - 20 mA (Field Selectable)
RH Measurement Range:	+/- 1% over 20% RH Range between 20 to 90% +/- 2%, 3%, or 5% from 10 to 95%
Operating RH Range:	0 to 100%
Operating Temperature Range:	0 to 95% RH, non-condensing (Conformally Coated PCB's)
Storage Temperature Range:	-40 to 140°F (-40 to 60°C)
RH Stability Repeatability Sensitivity:	-40 to 149°F (-40 to 65°C)
RH Response Time (T63):	Less than 2% drift / 5 years 0.5% RH 0.1% RH
RH Sensor Type:	20 Seconds Typical
Humidity Transmitter Stabilization Time:	Capacitive with Hydrophobic Filter
Humidity Connections Wire Size:	30 Minutes (Recommended time before doing accuracy verification)
Humidity Terminal Block Torque Rating:	Screw Terminal Blocks (Polarity Sensitive) 16 (1.31 mm ²) to 26 AWG (0.129 mm ²)
Humidity NIST Test Points:	4.43 to 5.31 lb-in (0.5 to 0.6 Nm)
Balco RTD Output @ 70°F (21.1°C) (Wire Colors):	Default Test Points: 3 Points (20%, 50% & 80%)
Balco RTD Sensor Accuracy 70°F (21.1°C):	1% NIST Test Points: 5 Points within selected 20% Range (ie. 30%-50% are 30, 35, 40, 45 & 50)
Balco RTD Temperature Coefficient (0-100°C):	RHx-BALCO-O Series: 1000 Ohms nominal (Balco RTD) Orange/Yellow
Balco RTD Stability:	+/- 1.0%
Temperature Sensor Response Time (T63):	4618 ppm/°C
Lead Wire Length Conductor Size:	+/-0.05% after 1000 Hours @ 302°F (150°C)
Insulation Rating:	10 Seconds nominal
Enclosure Specifications (Material, Flammability, Temperature, NEMA/IP Rating):	14" (35.6 cm) 22 AWG (0.65 mm)
Sensing Tube Dimensions (Length x Diameter):	Etched Teflon (PTFE) Colored Leads Mil Spec 16878/4 Type E
Product Dimensions (L x W x D):	"-EH" Enclosure: ABS Plastic; UL94-V0; -40 to 140°F (-40 to 60°C)
Product Weight:	"-4X" Enclosure: Polystyrene Plastic; UL94-V2; -40 to 158°F (-40 to 70°C); NEMA 4X (IP 66)
Agency Approvals:	"-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)
	See drawings on back of data sheet
	A/RHx-BALCO-O Series: 0.59 lbs. (0.27 kg) A/RHx-BALCO-O-4X Series: 0.45 lbs. (0.204 kg)
	CE, RoHS2, WEEE



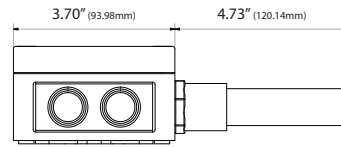
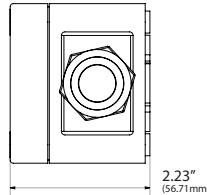
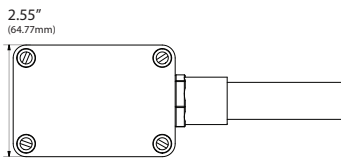


DIMENSIONAL DRAWING

Euro Enclosure [EH]



NEMA 4X Enclosure [4X]



Front View

Right View

Top View

CUSTOM ORDERING

Model # Example: **A/** **RH2** **BALCO** **O** **NIST**

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. Temperature Sensor <i>No Selection Required</i>	BALCO _____ →	BALCO
D. Configuration <i>Select One (1)</i>	O = Outside Air (Euro Enclosure) O-4X = Outside Air (NEMA 4X Enclosure)	
E. Output Signal <i>Select One (1)</i>	---- = 4 to 20 mA (Default) 0 to 10 VDC (Field Selectable) 0 to 5 VDC (Field Selectable)	
F. NIST (Temperature & RH) <i>Select One (1)</i>	---- = No NIST Certificate NIST = NIST Certificate (3 Points)	

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

