

# DUCT

## Duct Sensor, Balco RTD

The ACI Balco Duct Series features a 1/4" diameter stainless steel probe with two, 22 AWG Etched Teflon colored lead wires to differentiate the different sensor types. The Balco sensors are manufactured using ACI's proven double encapsulation process to eliminate the effects of moisture on the sensors as well as increased thermal response times from our high quality, thermally conductive epoxy. The duct style sensor is a single point sensor designed to be used in smaller duct applications and includes an insulation pad for sealing the duct and dampening vibration. For best results, the sensor length should be determined by the width or diameter of your duct such that the tip of the probe is in the approximate center of the duct. Our standard enclosure options include the galvanized junction box "-GD" or plastic duct enclosure with the hinged cover

"-PB". On larger ducts, you may want to refer to our Rigid or Bendable Copper Averaging sensor for increased sensing points and better temperature control. This series can be ordered with optional NEMA/IP rated weather proof enclosures and NIST Certificates as referenced in the ordering grid.

**Applications:** Roof Top Units, Air Handlers, Monitoring Supply/Discharge/Return/Mixed Air Temperatures

**The ACI Balco Duct Series 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

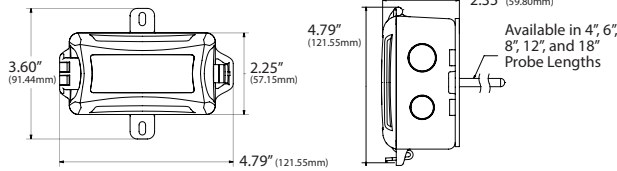
<b>Sensor Type   Sensor Curve:</b>	Balco RTD   PTC (Positive Temperature Coefficient)
<b>Number Sensing Points:</b>	One
<b>Number Wires:</b>	Two (Non-Polarity Sensitive)
<b>Sensor Output @ 70°F (21.1°C)   Lead Wire Colors:</b>	1000 Ohms nominal   Orange/Yellow
<b>Sensor Accuracy:</b>	<b>70°F (21.1°C):</b> +/- 1%
<b>Temperature Coefficient (0-100°C):</b>	4618 ppm/°C
<b>Sensor Stability:</b>	+/- 0.05% after 1000 Hours @ 150°C (302°F)
<b>Response Time (63% Step Change):</b>	8 Seconds nominal
<b>Enclosure Specifications (Operating Temperature Range, Material, Flammability, NEMA/IP Ratings):</b>	<p><b>"-GD" Enclosure:</b> -40 to 115°C (-40 to 239°F); Galvanized Steel; NEMA 1 (IP10)</p> <p><b>"-PB" Enclosure:</b> -30 to 90°C (-22 to 194°F); ABS Plastic; UL94-HB; Plenum Rated</p> <p><b>"-BB" Enclosure:</b> Aluminum, -40 to 121°C (-40 to 250°F), Plenum Rated, NEMA 3R</p> <p><b>"-4X" Enclosure:</b> -40 to 70°C (-40 to 158°F); Polystyrene Plastic; UL94-V2; NEMA 4X (IP 66)</p>
<b>Sensor Operating Temperature Range:</b>	-40 to 115°C (-40 to 239°F)
<b>Storage Temperature Range:</b>	-40 to 85°C (-40 to 185°F)
<b>Operating Humidity Range:</b>	10 to 95% RH, non-condensing
<b>Probe Material   Flange Material:</b>	304 Stainless Steel   Galvanized Steel
<b>Fitting Material   Flammability Rating:</b>	Polyamide 66 (High Performance Nylon)   UL94-HB
<b>Foam Pad Material   Flammability Rating:</b>	Neoprene/EPDM/SBR Polymer   UL94-HBF; FMVSS-302; MIL-R-6130C
<b>Lead Length   Conductor Size:</b>	<b>4", 6" &amp; 8" Probes:</b> 14" (35.6 cm)   <b>12" &amp; 18" Probes:</b> 24" (61 cm)   22 AWG (0.65mm)
<b>Lead Wire Insulation   Wire Rating:</b>	Etched Teflon (PTFE) Colored Leads   MIL-W-16878/4 (Type E)
<b>Conductor Material:</b>	Silver Plated Copper
<b>Probe Diameter:</b>	0.250" (6.35mm)
<b>Product Dimensions   Product Weight:</b>	See table on back of Product Data sheet
<b>Agency Approvals:</b>	CE, RoHS2, WEEE





**DIMENSIONAL DRAWING, WEIGHTS**

**Plastic Box Enclosure [PB]**

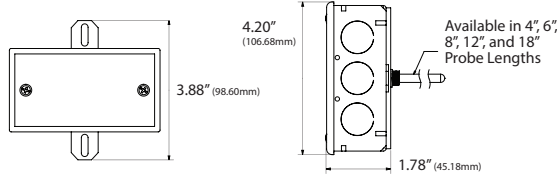


xx = Sensor Type | yy = Insertion Length

**Plastic Box Enclosure [PB] Weights**

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-PB	0.24 lbs. (0.109 kg)	0.25 lbs. (0.113 kg)	0.26 lbs. (0.117 kg)
ACI Model #	12" (Probe Length)	18" (Probe Length)	
A/xx-D-yy-PB	0.28 lbs. (0.127 kg)	0.30 lbs. (0.136 kg)	

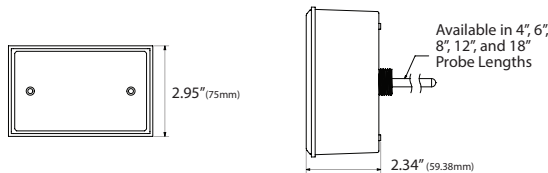
**Galvanized Enclosure [GD]**



**Galvanized Enclosure [GD] Weights**

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-GD	0.66 lbs. (0.299 kg)	0.67 lbs. (0.303 kg)	0.68 lbs. (0.308 kg)
ACI Model #	12" (Probe Length)	18" (Probe Length)	
A/xx-D-yy-GD	0.70 lbs. (0.317 kg)	0.74 lbs. (0.336 kg)	

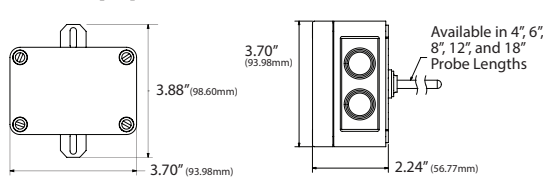
**Bell Box Enclosure [BB]**



**Bell Box Enclosure [BB] Weights**

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-BB	0.70 lbs. (0.317 kg)	0.71 lbs. (0.322 kg)	0.72 lbs. (0.326 kg)
ACI Model #	12" (Probe Length)	18" (Probe Length)	
A/xx-D-yy-BB	0.74 lbs. (0.336 kg)	0.78 lbs. (0.354 kg)	

**NEMA 4X Enclosure [4X]**



**NEMA 4X Enclosure [4X] Weights**

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-4X	0.34 lbs. (0.154 kg)	0.35 lbs. (0.159 kg)	0.36 lbs. (0.163 kg)
ACI Model #	12" (Probe Length)	18" (Probe Length)	
A/xx-D-yy-4X	0.38 lbs. (0.172 kg)	0.40 lbs. (0.181 kg)	

Standard Views

Product Weights

**CUSTOM ORDERING**

Model # Example: A/ BALCO D 8" GD NIST

**MODEL #**

<b>A. Sensor Series</b> No Selection Required	A/ _____ →	<b>A/</b>
<b>B. Model Series</b> No Selection Required	BALCO _____ →	<b>BALCO</b>
<b>C. Configuration</b> No Selection Required	D = Duct _____ →	<b>D</b>
<b>D. Probe Length</b> Select One (1)	4" = 4" Probe   6" = 6" Probe   8" = 8" Probe   12" = 12" Probe   18" = 18" Probe	
<b>E. Enclosure</b> Select One (1)	GD = Galvanized   PB = Plastic   BB = Aluminum, NEMA 3R   4X = NEMA 4X	
<b>F. NIST</b> Select One (1)	---- = No NIST Certificate   NIST = NIST Certificate (3 Points)	

