



# DUCT WITHOUT BOX

## Flange Mounted Duct Sensor, Balco RTD

The ACI Balco Duct without Box series features a 1/4" diameter stainless steel probe with etched teflon lead wires. The sensors in this series are manufactured using ACI's proven double encapsulation process to eliminate the effects of moisture upon the sensors as well as increased thermal response times using 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 properly sealing your duct as well as to dampen vibration. For best results, the sensor length should be determined by the actual width or diameter of your duct such that the tip of the probe is in the approximate center of the duct. 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 NIST Certificates and plenum rated cable in 6', 10' and 20' lead lengths.

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

ACI's Balco Duct Without Box 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).

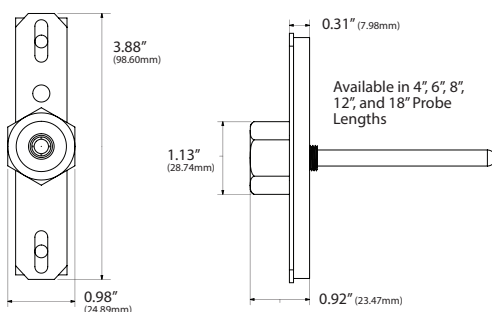
### PRODUCT SPECIFICATIONS

|                                                          |                                                                                                          |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <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>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" (61cm)   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



**xx** = Sensor Type | **yy** = Insertion Length

### Duct Without Box [DO] Weights

| <b>ACI Model #</b>  | <b>4" (Probe Length)</b> | <b>6" (Probe Length)</b> | <b>8" (Insertion Length)</b> |
|---------------------|--------------------------|--------------------------|------------------------------|
| A/xx-DO-yy          | 0.10 lbs. (0.045 kg)     | 0.11 lbs. (0.050 kg)     | 0.12 lbs. (0.054 kg)         |
| A/xx-DO-yy-6'-CL2P  | 0.15 lbs. (0.068 kg)     | 0.16 lbs. (0.073 kg)     | 0.17 lbs. (0.077 kg)         |
| A/xx-DO-yy-10'-CL2P | 0.20 lbs. (0.091 kg)     | 0.21 lbs. (0.095 kg)     | 0.22 lbs. (0.100 kg)         |
| A/xx-DO-yy-20'-CL2P | 0.27 lbs. (0.122 kg)     | 0.28 lbs. (0.127 kg)     | 0.29 lbs. (0.132 kg)         |

| ACI Model #         | 12" (Insertion Length) | 18" (Insertion Length) |
|---------------------|------------------------|------------------------|
| A/xx-DO-yy          | 0.14 lbs. (0.064 kg)   | 0.16 lbs. (0.073 kg)   |
| A/xx-DO-yy-6'-CL2P  | 0.20 lbs. (0.091 kg)   | 0.22 lbs. (0.100 kg)   |
| A/xx-DO-yy-10'-CL2P | 0.24 lbs. (0.108 kg)   | 0.27 lbs. (0.122 kg)   |
| A/xx-DO-yy-20'-CL2P | 0.31 lbs. (0.141 kg)   | 0.34 lbs. (0.154 kg)   |

## Standard Views

### Product Weights

## STANDARD ORDERING

**Model # Example:**    **A/BALCO-DO-4"**    **-OR-**    **121876**

| Model #               | Item # | Description                                         |
|-----------------------|--------|-----------------------------------------------------|
| <b>A/BALCO-DO-4"</b>  | 121876 | Balco, Duct 4" without Box, Flange Only, 14" Leads  |
| <b>A/BALCO-DO-6"</b>  | 133340 | Balco, Duct 6" without Box, Flange Only, 14" Leads  |
| <b>A/BALCO-DO-8"</b>  | 121877 | Balco, Duct 8" without Box, Flange Only, 14" Leads  |
| <b>A/BALCO-DO-12"</b> | 142001 | Balco, Duct 12" without Box, Flange Only, 24" Leads |
| <b>A/BALCO-DO-18"</b> | 121875 | Balco, Duct 18" without Box, Flange Only, 24" Leads |

## CUSTOM ORDERING

**Model # Example:** A/ BALCO DO 6" 6'CL2P NIST

|                                                      |                                                                                                                                                                                                                                                                |              |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| <b>A. Sensor Series</b> <i>No Selection Required</i> | <b>A/</b> _____ →                                                                                                                                                                                                                                              | <b>A/</b>    |
| <b>B. Model Series</b> <i>No Selection Required</i>  | <b>BALCO</b> _____ →                                                                                                                                                                                                                                           | <b>BALCO</b> |
| <b>C. Configuration</b> <i>No Selection Required</i> | <b>DO</b> = Duct without Box (Mounting Flange Only) _____ →                                                                                                                                                                                                    | <b>DO</b>    |
| <b>D. Probe Length</b> <i>Select One (1)</i>         | <b>4" = 4" Probe   6" = 6" Probe   8" = 8" Probe   12" = 12" Probe   18" = 18" Probe</b>                                                                                                                                                                       |              |
| <b>E. Lead Wire Options</b> <i>Select One (1)</i>    | <b>----</b> = Standard 14 or 24" Etched PTFE Colored Leads<br><b>6'CL2P</b> = 6 ft (1.83m), 2 Conductor Plenum Rated Cable<br><b>10'CL2P</b> = 10 ft (3.05m), 2 Conductor Plenum Rated Cable<br><b>20'CL2P</b> = 20 ft (6.10m), 2 Conductor Plenum Rated Cable |              |
| <b>F. NIST</b> <i>Select One (1)</i>                 | <b>----</b> = No NIST Certificate   <b>NIST</b> = NIST Certificate (3 Points)                                                                                                                                                                                  |              |