

# AcuTEMS™ OA Series

Outside Air Temperature Sensor Datasheet



The AcuTEMS OA series sensor measures outdoor ambient air temperature with up to  $\pm 0.2^\circ\text{C}$  accuracy. Designed to be mounted on a vertical surface outdoors in a shaded location, the sensor comes with an IP65 enclosure for protection against outdoor elements. The AcuTEMS OA features multiple RTD, thermistor, and transmitter output options, and it is ideal for HVAC systems to maintain comfort and ensure efficient equipment operation. For applications under direct sunlight, install the AcuHUM OAW instead, which comes with a six-layered weather shield for extra UV protection, boosted ventilation and improved accuracy.

## Features

- Push-in button terminal blocks and quick release enclosure screws enable swift and convenient installation.
- IP65 enclosure provides superior protection against dust and moisture ingress.
- 100Ω Platinum, 1KΩ Platinum/Nickel RTDs, and 10KΩ Type II/Type III, 20KΩ thermistors available for different BAS controller requirements.
- Three wire terminals provide flexibility for 2-wire or 3-wire installation.
- 4-20mA and 0-10VDC output options for different BAS controllers and applications.

**ACCUENERGY**

## Specifications

### ELECTRICAL

|                           |   |
|---------------------------|---|
| Transmitter Voltage Power | 19.2~28.8 VAC or VDC                                  |
| Transmitter Current Power | 19.2~28.8 VDC (RL=500Ω);<br>8.5~35 VDC (RL=0Ω)        |
| Transmitter Output        | 4~20mA (2 Wires) or 0~10VDC (3 Wires)                 |
| Output Load               | $\leq 500\Omega$ (Current), $\geq 2K\Omega$ (Voltage) |

### TEMPERATURE PERFORMANCE

|  |  |
|--|--|
| Temperature Sensor Type                      | RTD or Thermistor, See Ordering Information  |
| Transmitter Accuracy<br>(If Applicable)      | $<\pm 0.3^\circ\text{C}$ @ 0~70°C ( $<\pm 0.54^\circ\text{F}$ @ 32~158°F)  |
| Thermistor Accuracy<br>(If Applicable)       | 10KΩ, Type III - $\pm 0.3^\circ\text{C}$ @ 25°C ( $\pm 0.54^\circ\text{F}$ @ 77°F)<br>10KΩ, Type II - $\pm 0.2^\circ\text{C}$ @ 25°C ( $\pm 0.36^\circ\text{F}$ @ 77°F)<br>20KΩ - $\pm 0.2^\circ\text{C}$ @ 25°C ( $\pm 0.36^\circ\text{F}$ @ 77°F)    |
| RTD Accuracy<br>(If Applicable)              | 1KΩ Platinum - $\pm 0.2^\circ\text{C}$ @ 25°C ( $\pm 0.36^\circ\text{F}$ @ 77°F)<br>100Ω Platinum - $\pm 0.2^\circ\text{C}$ @ 25°C ( $\pm 0.36^\circ\text{F}$ @ 77°F)<br>1KΩ Nickel - $\pm 0.5^\circ\text{C}$ @ 25°C ( $\pm 0.9^\circ\text{F}$ @ 77°F) |
| Temperature Transmitter<br>Measurement Range | -40~60°C (-40~140°F)   |
| Response Time                                | <10s   |

### ENVIRONMENTAL

|                                |  |
|--------------------------------|--|
| Operating Temperature<br>Range | -40~70°C (-40~158°F) @ 0~95%RH<br>(Non-Condensing) |
| Storage Temperature            | -30~80°C (-22~176°F)                               |

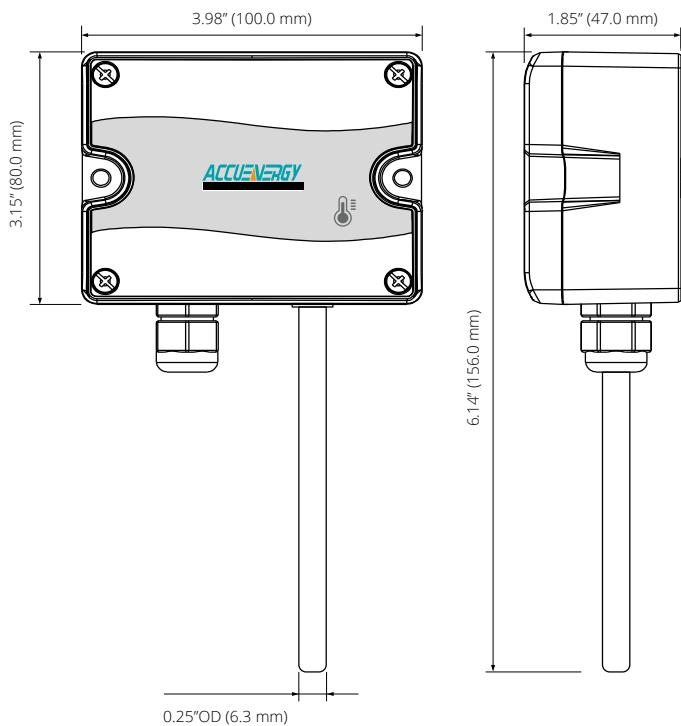
### MECHANICAL

|                   |   |
|-------------------|---|
| Mounting          | Screw Surface Mount                               |
| Wiring Connection | Push Button Terminal Blocks<br>(2 Wire or 3 Wire) |
| Weight            | 240g (0.53lbs)                                    |

### CERTIFICATIONS/WARRANTY

|                    |  |
|--------------------|--|
| Enclosure Material | Fire Retardant Polycarbonate (UL94V-0) |
| Protection         | IP65                                   |
| Agency Approvals   | CE                                     |
| Warranty           | 5 Years                                |

## Dimensions



## Ordering Information

| + Model    | - Temperature Output                       | - Temperature Sensor  | - Enclosure               |
|------------|--|---|---------------------------|
| AcuTEMS-0A | A: Resistive Output<br>(Thermistor or RTD) | 01: 10KΩ, Type III Thermistor<br>02: 10KΩ, Type II Thermistor<br>03: 20KΩ Thermistor<br>04: 1KΩ Platinum RTD<br>05: 100Ω Platinum RTD<br>06: 1KΩ Nickel RTD | 01: NEMA 4 Plastic (IP65) |
|            | B: 4-20 mA Transmitter                     | 07: Transmitter, 1KΩ Platinum RTD<br>-30~70°C (-40~140°F)   | 01: NEMA 4 Plastic (IP65) |
|            | C: 0-10 VDC Transmitter                    | 08: Transmitter, 1KΩ Platinum RTD Special Order <sup>†</sup>  |                           |

Ordering Example: AcuTEMS-0A-A-02-01

<sup>†</sup>Important: Special Order Span will increase lead times and may be subject to minimum order requirements.

Note: Selecting the "08 Transmitter, 1KΩ Platinum RTD Other Span" option allows the transmitter to be calibrated within a -40°C to +100°C (-40°F to 212°F) measurement range. The custom range must be specified at the time of ordering.