

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

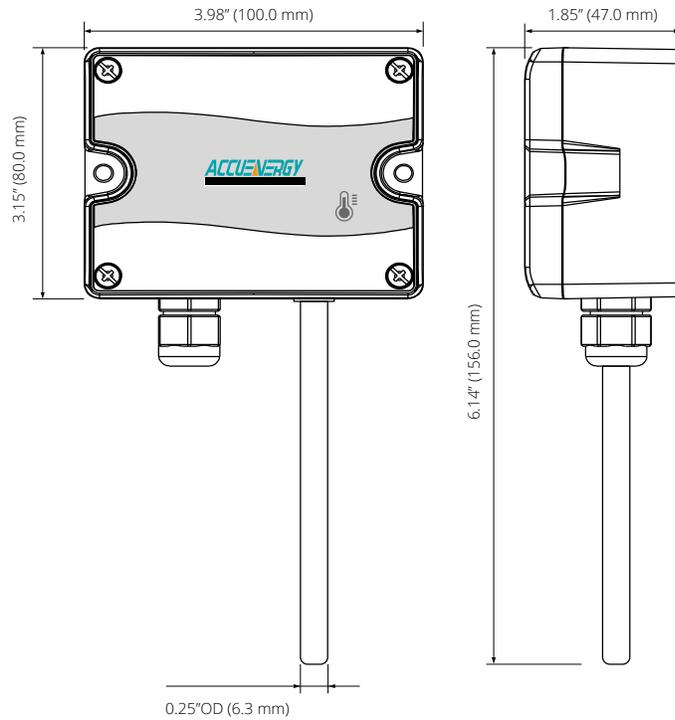
- Push-in button terminal blocks and quick release enclosure screws enable swift and convenient installation.
- IP65 enclosure provides superior protection against dust and moisture ingress.
- 100 Ω Platinum, 1K Ω Platinum/Nickel RTDs, and 10K Ω Type II/Type III, 20K Ω thermistors available for different 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.



Specifications

ELECTRICAL	
Transmitter Voltage Power	19.2~28.8 VAC or VDC
Transmitter Current Power	19.2~28.8 VDC (RL=500 Ω); 8.5~35 VDC (RL=0 Ω)
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 (If Applicable)	$< \pm 0.3^{\circ}\text{C}$ @ 0~70 $^{\circ}\text{C}$ ($< \pm 0.54^{\circ}\text{F}$ @ 32~158 $^{\circ}\text{F}$)
Thermistor Accuracy (If Applicable)	10K Ω , Type III - $\pm 0.3^{\circ}\text{C}$ @ 25 $^{\circ}\text{C}$ ($\pm 0.54^{\circ}\text{F}$ @ 77 $^{\circ}\text{F}$) 10K Ω , Type II - $\pm 0.2^{\circ}\text{C}$ @ 25 $^{\circ}\text{C}$ ($\pm 0.36^{\circ}\text{F}$ @ 77 $^{\circ}\text{F}$) 20K Ω - $\pm 0.2^{\circ}\text{C}$ @ 25 $^{\circ}\text{C}$ ($\pm 0.36^{\circ}\text{F}$ @ 77 $^{\circ}\text{F}$)
RTD Accuracy (If Applicable)	1K Ω Platinum - $\pm 0.2^{\circ}\text{C}$ @ 25 $^{\circ}\text{C}$ ($\pm 0.36^{\circ}\text{F}$ @ 77 $^{\circ}\text{F}$) 100 Ω Platinum - $\pm 0.2^{\circ}\text{C}$ @ 25 $^{\circ}\text{C}$ ($\pm 0.36^{\circ}\text{F}$ @ 77 $^{\circ}\text{F}$) 1K Ω Nickel - $\pm 0.5^{\circ}\text{C}$ @ 25 $^{\circ}\text{C}$ ($\pm 0.9^{\circ}\text{F}$ @ 77 $^{\circ}\text{F}$)
Temperature Transmitter Measurement Range	-40~60 $^{\circ}\text{C}$ (-40~140 $^{\circ}\text{F}$)
Response Time	<10s
ENVIRONMENTAL	
Operating Temperature Range	-40~70 $^{\circ}\text{C}$ (-40~158 $^{\circ}\text{F}$) @ 0~95%RH (Non-Condensing)
Storage Temperature	-30~80 $^{\circ}\text{C}$ (-22~176 $^{\circ}\text{F}$)
MECHANICAL	
Mounting	Screw Surface Mount
Wiring Connection	Push Button Terminal Blocks (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-OA	A: Resistive Output (Thermistor or RTD)	01: 10KΩ, Type III Thermistor	01: NEMA 4 Plastic (IP65)
		02: 10KΩ, Type II Thermistor	
		03: 20KΩ Thermistor	
		04: 1KΩ Platinum RTD	
		05: 100Ω Platinum RTD	
		06: 1KΩ Nickel RTD	
	B: 4-20 mA Transmitter	07: Transmitter, 1KΩ Platinum RTD -30~70°C (-40~140°F)	01: NEMA 4 Plastic (IP65)
	C: 0-10 VDC Transmitter	08: Transmitter, 1KΩ Platinum RTD Special Order †	
Ordering Example: AcuTEMS-OA-A-02-01			

† **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.