AcuTEMS™ WP Series

Wall Plate Temperature Sensor Installation Guide

CE

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Please read this manual carefully before installation, operation, and maintenance of the AcuTEMS WP Wall Plate Temperature Sensor.

The information contained in this document is believed to be accurate at the time of publication, however, Accuenergy assumes no responsibility for any errors which may appear here and reserves the right to make changes without prior notice as part of continuing improvements. Please ask the local representative for the latest product specifications before ordering.

The following symbols in this manual appear throughout this documentation, in addition to electrical warning of danger or safety risk during the installation and operation of the sensors.

	**Electrical Shock Hazard:** Contains information about procedures which must be followed to prevent the risk of electric shock and danger that can result in personal injury or death.
	**Safety Warning:** Contains information about circumstances which, if not considered, may result in personal injury or death.
NOTE	An advance notice to provide additional information before an action is taken by the user.
ALERT	Indicating the operation may lead to device malfunction or potential data loss.

Installation and maintenance of the AcuTEMS WP Temperature Sensor shall only be performed by qualified, competent professionals who have received training and have experience with high voltage and current devices.

Accuenergy shall not be responsible or liable for any damage caused by improper sensor installation and/or operation.

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Introduction

Overview

The AcuTEMS WP series sensor is designed to be flush mounted on single gang junction box and provide accurate temperature readings in various spaces and applications. The decorative brushed stainless steel wall plate is installed in wash down environments such as a lab, tamper proof applications for a school or hospital, or projects where a low profile non-visible enclosure is preferred. The AcuTEMS WP comes with EVA foam backing that insulates it from temperature infiltration and provides a watertight installation. The sensor has multiple RTD and thermistor output options based on model selection.

Dimensions

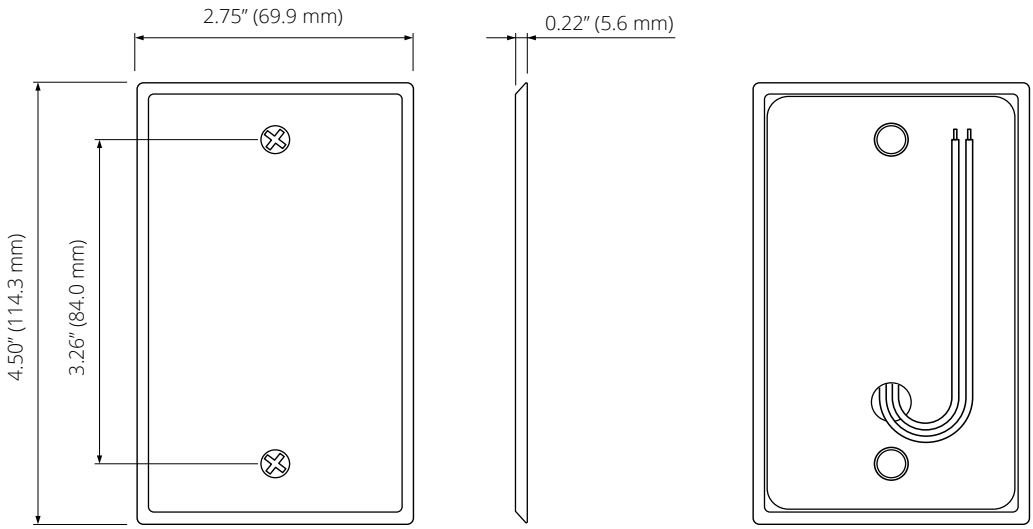

Figure 1 AcuTEMS WP Front and Side Views

Installation

Step 1: Choose the Optimal Mounting Location

The AcuTEMS WP sensor should be on an interior wall or ceiling to North American single gang junction box, typically 1.2-1.8m (4-6ft) above the floor. The exact height requirements will be dictated by local code and regulations.

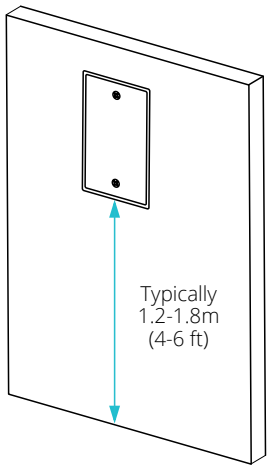

Figure 2 AcuTEMS WP Typical Mounting Location

NOTE: The sensor should be installed on the interior building walls. Do not install on external walls, as outside temperatures may cause temperature output fluctuations.

1. Mount the sensor in an area where air circulation is mixed and not blocked. Ensure there are no obstructions near the mounting location, such as curtains, furniture, doors, or other objects.
2. AcuTEMS WP should be mounted away from any heat sources such as hot water pipes, direct sunlight, space heaters, and electric equipment that generates heat.
3. AcuTEMS WP should be mounted away from any cold sources such as dehumidifiers and fans.
4. AcuTEMS WP should be mounted away from supply heating/cooling registers, air vents, windows, and poorly insulated walls. Infiltration of cold air will affect the temperature reading.

Step 2: Electrical Wiring

ALERT: When using RTD or Thermistor for temperature, it is recommended to separate the signal wiring from 24/120/230 VAC line voltages. Failure to do so will result in unstable reading.

ALERT: If using shielded cable, ground the shield only at the controller end. Grounding both ends can cause a ground loop.

NOTE: Accuenergy recommends 16 to 24 AWG twisted pair wires or shielded cable for signal connections.

Failure to follow these instructions may damage the product and void the warranty.

The AcuTEMS WP is supplied with two 200mm (7.87") flying leads for output connection.

1. Pull approximately 150mm (6") signal wire through the wall and out of the junction box.
2. The temperature signal is 2 wire RTD or thermistor non-polarity sensitive resistive output.
3. Connect flying leads of AcuTEMS WP to controller signal wires using wire nuts, terminal blocks, or crimp style connectors.

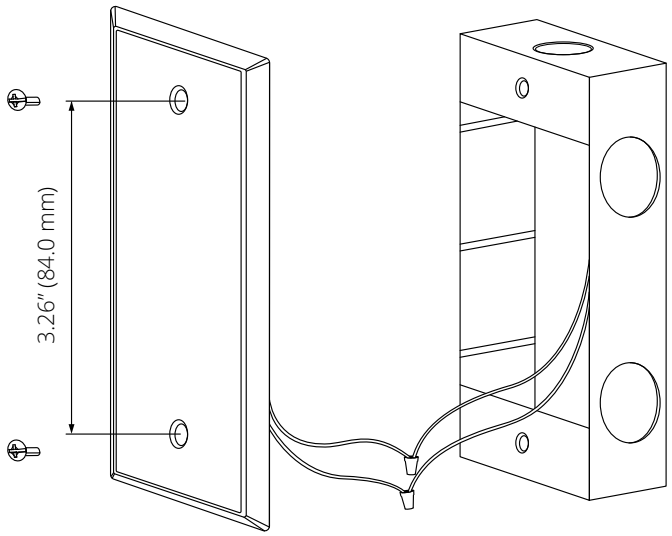

Figure 3 AcuTEMS WP Flying Lead Connection

Step 3: Mount Wall Plate Sensor

1. Review the wiring installation, and make sure all terminals are connected properly.
2. Secure the plate to the box using the #6-32 x 1/2" mounting screws provided with sensor.
3. Tighten screws until the foam gasket on the back plate is compressed.

NOTE: Over-tightening screws may cause damage to wall plate so use caution when fastening.

NOTE: Adding paint on top of the wall plate will affect the sensor's responsiveness since paint acts as an insulator. If the wall plate must be painted, apply a very thin layer compatible with 304SS.

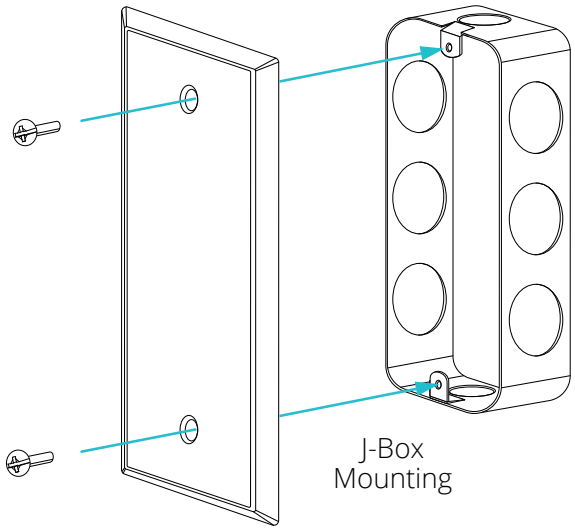

Figure 5 AcuTEMS WP Junction Box Mounting

Technical Specifications

Temperature Performance	
Temperature Sensor Type	RTD or Thermistor, See Ordering Information
Thermistor Accuracy (If Applicable)	10K Ω, Type III - ±0.3°C @ 25°C (0.54°F @ 77°F) 10K Ω, Type II - ±0.2°C @ 25°C (0.36°F @ 77°F) 20K Ω - ±0.2°C @ 25°C (0.36°F @ 77°F)
RTD Accuracy (If Applicable)	1K Ω Platinum - ±0.2°C @ 25°C (0.36°F @ 77°F) 100 Ω Platinum - ±0.2°C @ 25°C (0.36°F @ 77°F) 1KΩ Nickel - ±0.5°C @ 25°C (0.9°F @ 77°F)
Response Time (63)	150~350 Seconds
Environmental	
Operating Temperature Range	-30~70°C (-22~158°F) @ 0~95%RH (Non-Condensing)
Storage Temperature	-30~70°C (-22~158°F)
Mechanical	
Mounting	Single Gang Junction Box or Surface Mount
Wiring Connection	200mm (7.87") Flying Leads
Weight	85g (0.19lbs)
Certifications/Warranty	
Enclosure Material	304 Stainless Steel
Protection	IP30
Agency Approvals	CE
Warranty	5 Years

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Specs Subject To Change Without Notice.