

AVTECH's Extreme Temperature Sensors

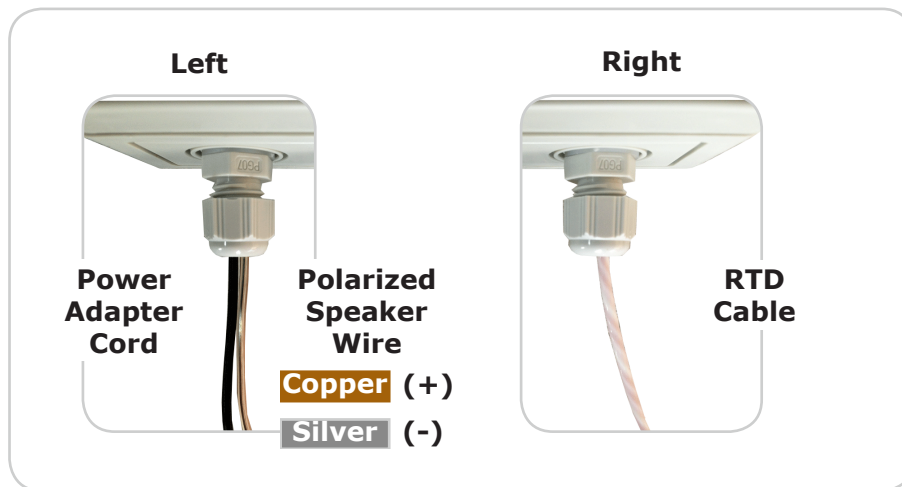
monitor a wide range of low and high temperatures with a rugged RTD (resistance temperature detector) and smart ID box that communicates readings to your Room Alert analog sensor (built-in or external). The standard Extreme Low version has a range of -328° F to 32° F (-200° C to 0° C), while the standard Extreme High version has a range of -40° F to 743° F (-40° C to 395° C). These reliable sensors are perfect for your extreme low or high temperature threshold monitoring.



Extreme Temperature Sensor Package Contents

- One (1) Extreme Temperature Sensor
- One (1) 10' RTD cable w/ 2" RTD probe
- One (1) 18V power adapter
- One (1) 25' speaker wire

Extreme Temperature Sensor



Install Your Extreme Temperature Sensor



Do not use this sensor in hazardous (classified) locations or life safety applications.

Step 1: Mount your Extreme Temperature Sensor.

Your Extreme Temperature Sensor comes with a 10' RTD cable. When you are considering the layout of your components, remember that the sensor housing is not designed to withstand the same temperatures as the RTD probe.

Extreme Temperature Sensors (RMA-ET1-SEN & RMA-ET2-SEN)

Locate the RTD probe where you wish to measure temperature. For accurate readings, this location must be within the minimum and maximum threshold supported by the sensor, which is:



- -328° F to 32° F (-200° C to 0° C) in the standard Extreme Low version.
- -40° F to 743° F (-40° C to 395° C) in the standard Extreme High version.

Place the sensor box in a more temperate zone, as it has an operating range of -40° F to 185° F (-40° C to 85° C). You may mount it on a wall or simply place it on a flat surface.



Step 2: Connect your Extreme Temperature Sensor to Room Alert.



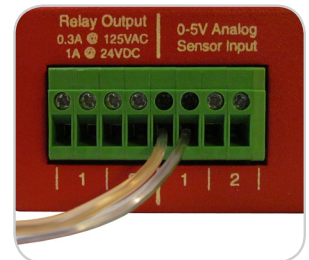
Do not connect the analog inputs on AVTECH products to live circuits of over 5 VDC.
Use only low-voltage 2-wire cable to connect analog inputs.

Your sensor comes with one end of the 25' speaker wire already attached. Note that the wire is polarized and color-coded as shown below:

Copper	Positive (+)
Silver	Negative (-)

Follow these steps to attach the other end of the 25' speaker wire to the input ports on your built-in or external Room Alert Analog Sensor Input port:

1. Separate and strip the free ends of the speaker wire. Expose about ¼" of wire.
2. Insert the silver (-) wire into the RIGHT (-) contact of the Analog Sensor Input port.
3. Insert the copper (+) wire into the LEFT (+) contact of the Analog Sensor Input port.



Early versions of the Room Alert 12E have this polarity reversed: LEFT = negative (-), and RIGHT = positive (+). If you observe your voltage value flipping back and forth from "0" to "5," it's likely that the speaker wires simply need to be inserted in the opposite contact.

Room Alert models 32E and 12E have built-in analog input ports; Room Alert models 32E, 24E, 12E, 4E & 3E can interface with analog sensors through AVTECH's Temperature & Analog Sensor, which connects to Room Alert's Digital Port. For more information about AVTECH's Temperature & Analog Sensor, please see its Installation Note, visit AVTECH.com or contact a Product Specialist.

Extreme Temperature Sensors (RMA-ET1-SEN & RMA-ET2-SEN)

Step 3: Connect to a power source.

Your Extreme Temperature Sensor comes with an 18V power adapter (100 – 240 VAC) already attached. Plug the adapter into a power source.

Sensor Features & Specifications

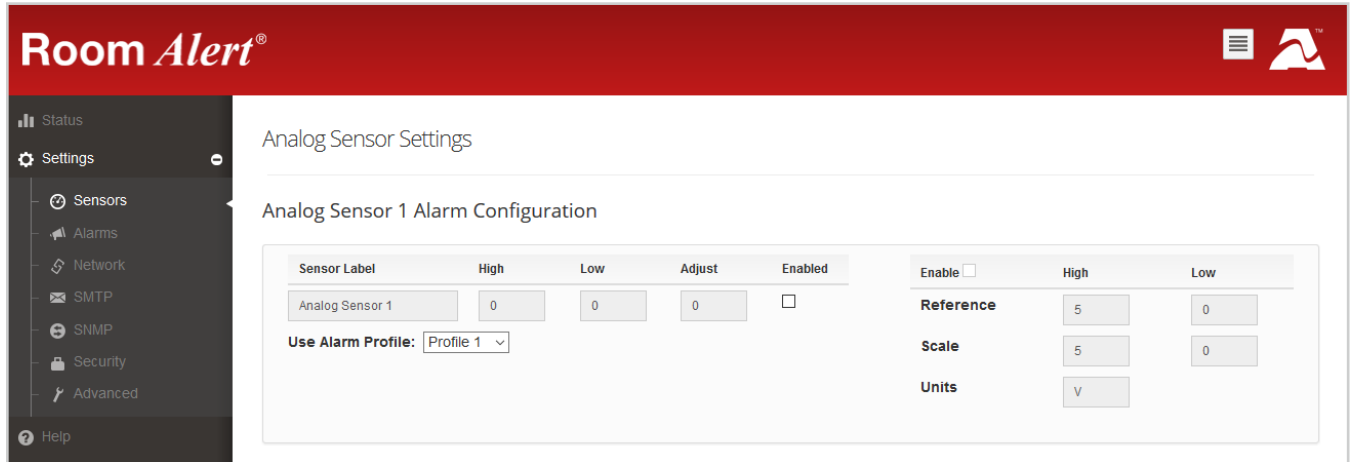
Environment Condition Monitored	Extreme low or high ambient temperatures
Type Of Sensor	Analog
Power Supply	18V power adapter
Included	Yes
RTD	
Included	Yes
Length	10'
Standard Low Temp Operating Range	-328° F to 32° F (-200° C to 0° C)
Standard High Temp Operating Range	-40° F to 743° F (-40° C to 395° C)
Custom Operating Range	Available from -328° F to 743° F (-200° C to 395° C)
Steps Between Temperature Readings	Standard Version: Approximately 2.37° F (1.32° C)
Sensor Cable Type	Low-voltage 2-wire speaker cable
Included	Yes
Length	25'
Maximum Extendible Length	100'
Sensor Box Operating Temperature	-40° F to 185° F (-40° C to 85° C)
Compatible Products	Room Alert 32E/W, 32E & 12E <i>Through the built-in Analog Input Port(s),</i> Room Alert 32E/W, 32E, 24E, 12E, 4E & 3E <i>With a Temperature & Analog Sensor</i>

AVT-171211-2.1.0

Configure Your Analog Sensor

Use Room Alert's Built-In Web Interface

Navigate to **Settings** → **Sensors** in the web interface of your Room Alert. The options you see below will vary depending on the model.



If you connected your sensor directly to your Room Alert 32E or 12E via its built-in analog port:

1. Scroll to *Analog Sensor Settings*.
2. Enable the sensor by selecting **Enabled** next to the *High/Low/Adjust* fields. The built-in analog sensor will not appear in the Room Alert web interface, Device Manager, your RoomAlert.com account or SNMP program unless it is enabled.
3. Then, configure the *Reference/Scale* and *Units* fields, shown below at their defaults, to calculate your analog sensor's output signal to scale.

If you connected your sensor to your Room Alert via a Temperature & Analog Sensor:

1. Scroll to your external digital sensor(s) and find the digital sensor you connected your Temperature & Analog Sensor to.
2. Select **Temp/Analog** from the *Sensor Type* drop-down menu. The analog sensor fields will then appear.

Enable <input type="checkbox"/>	High	Low
Reference	<input type="text" value="5"/>	<input type="text" value="0"/>
Scale	<input type="text" value="5"/>	<input type="text" value="0"/>
Units	<input type="text" value="V"/>	

- Click **Enable** to turn on the *Reference*, *Scale* and *Units* fields.

Configure Your Analog Sensor

- In *Reference*, enter the highest and lowest points of the analog sensor's output signal range. (See [Reference/Scale/Unit Settings For AVTECH Analog Sensors](#) in this document for the correct settings.)
- In *Scale*, enter the highest and lowest points of your analog sensor's scale. (See [Reference/Scale/Unit Settings For AVTECH Analog Sensors](#) in this document for the correct settings.)
- In *Units*, enter a 1 to 3-character label for the unit type that your readings will be measured in—"A" or "Amp" for amperage or "F" for Fahrenheit, for example. Note that this field is merely a label and does not affect any of the calculations.

4. Next, fill in the *High/Low* threshold fields, shown below at their defaults.

Sensor Label	High	Low	Adjust	Enabled
Analog Sensor 1	0	0	0	<input type="checkbox"/>
Use Alarm Profile:	Profile 1 ▾			

- In *Sensor Label*, you may leave the default, "Analog Sensor X," or enter something more descriptive of up to 15 characters. You may use the following characters in sensor labels: letters, numbers, spaces, hyphens (-), underscores (_) and periods (.).
 - In *High* and *Low*, you may leave the default, 0—which means no alarm is configured—or enter values for high and low thresholds. These values must be within the range you entered in *Scale*, and cannot contain decimal points. Your Room Alert generates alerts based on these thresholds.
 - In *Adjust*, you may leave the default, 0, or enter a value to adjust the analog reading if it differs from a known value at that location.
 - In *Use Alarm Profile*, which controls light towers and relays on your Room Alert, you may leave the default, **Profile 1**, or choose another profile from the drop-down menu.
4. Select **Save Settings** at the top or bottom of the page. Your Room Alert will automatically reboot and commit your changes

Reference/Scale/Unit Settings For AVTECH Analog Sensors

AVTECH's Current Loops

Current Loop 1

	High	Low
Reference	5	0
Scale		
<i>With the jumper on</i>		
High (0 to 50 A)	50	0
Middle (0 to 20 A)	20	0
Low (0 to 10 A)	10	0
Units	A (or Amp)	

Current Loop 2

	High	Low
Reference	5	0
Scale		
<i>With the jumper on</i>		
High (0 to 250 A)	250	0
Middle (0 to 200 A)	200	0
Low (0 to 100 A)	100	0
Units	A (or Amp)	

AVTECH's Standard Extreme Temperature Sensors

The values below apply to our standard Extreme Temperature Sensors. If you ordered a customized version, please use your custom *Reference* and *Scale* instead of these values.

Standard Extreme Low Temperature Sensor

Conversion To Fahrenheit

	High	Low
Reference	5	1
Scale	32	-328
Units	F	

Conversion To Celsius

	High	Low
Reference	5	1
Scale	0	-200
Units	C	

Standard Extreme High Temperature Sensor

Conversion To Fahrenheit

	High	Low
Reference	5	1
Scale	743	-40
Units	F	

Conversion To Celsius

	High	Low
Reference	5	1
Scale	395	-40
Units	C	

AVTECH's Analog Rescaling Module (ARM)

	High	Low
Reference	5	1
Scale*	See note below.	
Units*	See note below.	

*Scale and Units depend on the output of the analog sensor you've connected to ARM.