AVTECH's Digital Particulate & Temperature Sensor monitors the concentration of PM2.5 and PM10 up to 1,000 µg/m³. When air flows through the sensor, particulate mass readings are communicated to your Room Alert via a digital sensor port. This "Plug and Play" sensor additionally provides temperature values accurate to +/- 2°C to your Room Alert.

Digital Particulate & Temperature Sensor Package Contents

- One (1) Digital Particulate & Temperature sensor
- One (1) 25' RJ-11 cable
- One (1) AVTECH 5V power adapter
- Two (2) mounting screws

Digital Particulate & Temperature Sensor

Front

Air Outlet   Air Inlets

Left

RJ-11 Port   Power Port

Install Your Particulate & Temperature Sensor

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

Step 1: Mount your Digital Particulate & Temperature Sensor.

Locate the sensor where you wish to measure particulate matter. You may hang it from a nail, screw or hook through the flange hole, secure it with Velcro or simply place it on a flat surface.

Step 2: Connect your Digital Particulate & Temperature Sensor to a power source.

⚠️ Use only the AVTECH 5V power adapter. Others may damage the sensor.

1. Connect the included power adapter to the sensor's power port.

2. Then insert the power adapter plug in to a power source.

When the sensor is plugged in to power, a small fan runs inside it. You may hear it quietly whirring.

Step 3: Connect your Digital Particulate & Temperature Sensor to Room Alert.

1. Run the RJ-11 cable from the sensor to your Room Alert. Try to avoid running it near large electromagnetic devices or fluorescent lights, which produce EMI that can interfere with the sensor's readings.

2. Connect the RJ-11 jack on the sensor cable to a digital sensor port on your Room Alert

Fault Detected Messages

If your Digital Particulate & Temperature Sensor detects a fault, you'll see "Fault Detected" on your Room Alert Status page.

Below the "Fault Detected" message, you'll see one of these three fault codes:

- Fan Warning
- Fan Error
- Laser Error

Fan Warning

"Fan Warning" indicates the speed of the sensor's fan is too fast or too slow. If this fault is constantly detected, it may mean there is a problem with the sensor's power supply.

Fan Error

"Fan Error" typically means that dust or debris has clogged the fan. When this fault is detected, first unplug the sensor's RJ-11 cable and power cable. Clear any visible debris and/or clean the sensor by spraying canned air into its air outlet. Then reconnect the sensor to power and replace its RJ-11 cable. (Note that this fault message will persist until the sensor has been power-cycled.)

Laser Error

"Laser Error" may indicate that the sensor has been exposed to very high temperatures outside its operating range.
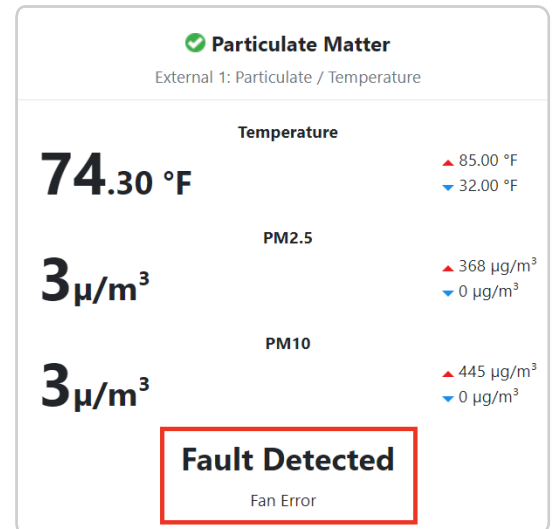
Sensor Features & Specifications

Environment Condition Monitored	Airborne particulate matter & indoor ambient temperature
Particle Size	PM2.5 and PM10
Type Of Sensor	Digital
Power Supply	Powered by Room Alert
Sensor Cable Type	RJ-11 (standard straight-through telephone cord)
Included	Yes
Length	25'
Maximum Extendible Length	100' total
Temperature Range	-40°F to 257°F (-40°C to 125°C)
Accuracy	+/- 2°C
Resolution	0.01°C
Particulate Matter Range	0 to 1,000 µg/m³
PM2.5 Precision	+/- [5 µg/m³ + 5 %] from 0 to 100 µg/m³ +/- 10% from 100 to 1,000 µg/m³
PM10 Precision	+/- 25 µg/m³ from 0 to 100 µg/m³ +/- 25% from 100 to 1,000 µg/m³
Operating Range	
Operating Temperature	14°F to 140°F (-10°C to 60°C)
Operating Humidity	0 to 95% RH, non-condensing
	Exposure to out-of-range conditions for extended periods of time may affect reliability.
Compatible Products	Room Alert 32S, *manufactured in January 2024 or later* Room Alert 12S and 3S, *manufactured in July 2024 or later*

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Configure Your Digital Particulate & Temperature Sensor

Use Room Alert's Built-In Web Interface

Your Room Alert must be on at least the minimum firmware version below to be compatible with the Digital Particulate & Temperature Sensor. You may download the latest firmware from your account at RoomAlert.com.

- Room Alert 32S, 12S and 3S: v1.11.8

Once your Room Alert is on at least the minimum firmware version, navigate to **Settings →
Sensors** in the web interface of your Room Alert. The options you see below will vary depending on the model.

1. Scroll to your external digital sensor(s), the total number of which will vary depending on the Room Alert model.

2. Find the digital sensor interface that matches the port you connected your Digital Particulate & Temperature Sensor to. For example, if you used the first digital port on your Room Alert, look for *Sensor 1 Alarm Configuration*; if you used the second, look for *Sensor 2 Alarm Configuration*, and so on.

3. In *Sensor X Label*, you may leave the default, "Ext Sensor X," or enter something more descriptive. Room Alert "S" models accept up to 30 characters, including letters, numbers, spaces, hyphens (-), underscores (_), periods (.) and special characters, like ampersand (&).

4. *Alarm On* automatically populates with *Temperature* (at the default scale) and *PM2.5*.

   - Refer to your Room Alert *User's Guide & Reference Manual* for information about changing the temperature scale.

   - You may select **PM10** from the drop-down menu if you wish to set thresholds for that reading instead of the PM2.5 reading.

5. In *High* and *Low*, you may enter values for high and low thresholds for the sensor's temperature and particulate readings. Your Room Alert generates alerts based on those thresholds. On Room Alert "S" models, the High & Low fields are disabled by default. You may enable each field individually by selecting its check box.

6. In *Adjust*, you may leave the default, 0, or enter a value to adjust the temperature reading if it differs from a known value at that location. On Room Alert "S" models, you must enable the *Adjust* field by selecting its check box before entering a value.

7. 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.

8. Select **Save Settings** at the top or bottom of the page. Your Room Alert will automatically reboot and commit your changes.