



Operation Description for Sensio Air V3

The user begins by selecting a location for the Sensio Air device. The device is powered by connecting it to the mains using the included USB cable and the 5V USB switching power supply.

Upon initial activation, the device enters WiFi AP mode, waiting for the user to connect to its open network. Once the user logs into this network, they can select the preferred 2.4Ghz WiFi network to which they want the device connected. Upon entering the correct credentials, the device reboots and initiates normal operation.

On startup, the device executes a self-check before looking for WiFi credentials stored in its non-volatile memory. If it locates these credentials, it attempts to connect to the corresponding network.

Successful network connection enables the device to utilize unique credentials saved on a Hardware Security Module (HSM). This facilitates a secure connection to cloud services.

Once connected, the device operates in a loop, executing the following actions at user-defined intervals:

- Capturing readings from environmental sensors.
- Capturing and analyzing data from the particle sensor.
- Uploading and synchronizing the values with the cloud services.

Users can also interact with the device. They can initiate particle analysis by pressing the device's capture button. The device will resume normal automated processes after this. To clear the saved WiFi credentials, users can press the reset button for 30 seconds. Operation status can be viewed via the device's indicating LEDs, or by checking values on the Sensio Air mobile app or webpage.

The successful operation of the device is monitored by several watchdogs, enabling it to function autonomously without requiring interaction from the user beyond the initial setup. The device's successful operation and any error messages can be viewed remotely. The device's firmware can be updated using the Over The Air process.