Canāree FAQ
3/20/2024

How do I power the device ?
Canāree supports all common 5V USB Power sources including PCs/Laptops, most high-quality USB-A type Power Adapters such as those from Apple or Samsung, USB Batteries Packs and PoE to USB Adapters are supported.

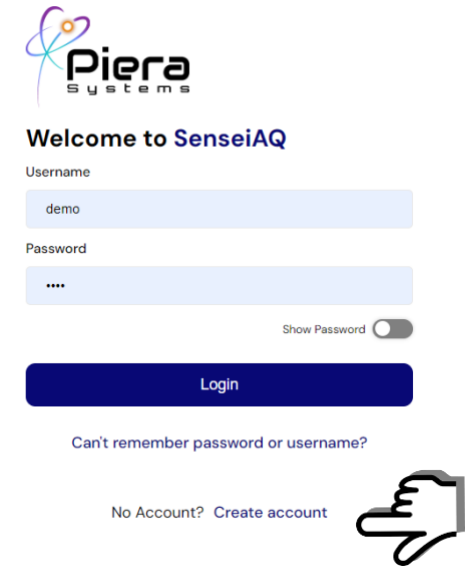
How much power does a Canāree I-Series require?
How long can my Canāree run on a battery?
The canāree operates on 5V USB Power and consumes 500mA @ 5V peak during power on and <200mA @ 5V continuous operation. When operated on a typical 10aH 5V USB Battery pack will run the device up to 32 hours continuously.

What types of Wifi Networks are supported on Canāree I-Series ?
I-Series supports standard 802.11n Wifi on 2.4Ghz Networks only. 5Ghz Wifi is not supported. For authentication we support Open (No Password) SSIDs as well as WPA/PSK using AES or TKIP versions 2 and 3 of WPA Are supported. Hidden SSIDs are also supported. Canāree can also be connected to your Smart phone's hotspot if no other Wifi is available.

Does Piera offer a solution to operate the sensor on Wired Ethernet networks?
The SenseiAQ Software can be used on PCs to log data and report to the cloud using the PCs network connection. For unattended systems we offer the SenseiAQ Agent Software, which allows a Canāree device connected to any PC to use the network connection on the PC rather than Wifi on the device. For more information on these solutions please contact support@pierasystems.com

How do I Connect my new device to Wifi and Register it to my account
For new users we provide this Quick Start Video
<Insert link to new Getting Started video>

Step 1 - Open a browser and go to the SenseiAQ site:
https://sensei.pierasystems.com



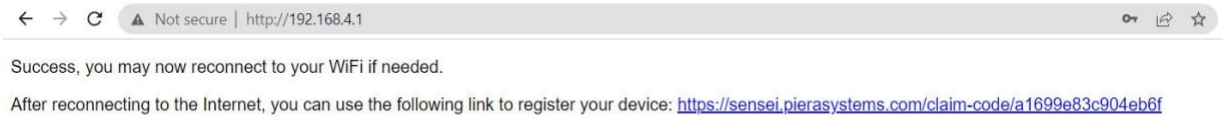
New users should click on the Create Account, and login.
Connect the Canāree sensor directly to an approved 5V USB Power source or adapter*
When powered via USB a new Canāree will initially ***blink Green*** indicating its ready for Setup

From your PC/Mac or iPhone/Android Device you will find a Wireless network named “CNR-IX-XXXXXXXX” to connect to. The initial password will be piera123
(The Serial number of your Canāree device on the back label)

The network will report “No Internet Access” this is normal

Once connected, open http://192.168.4.1 from your web browser and enter the Wifi credentials into the Canāree to configure it initially. Open Wifi networks can use an empty (blank) password.

Press Submit - the Canāree will reboot, and your Phone or PC should connect back to its regular (Default) Wifi network. You will notice the colors will stay solid indicating current air quality.



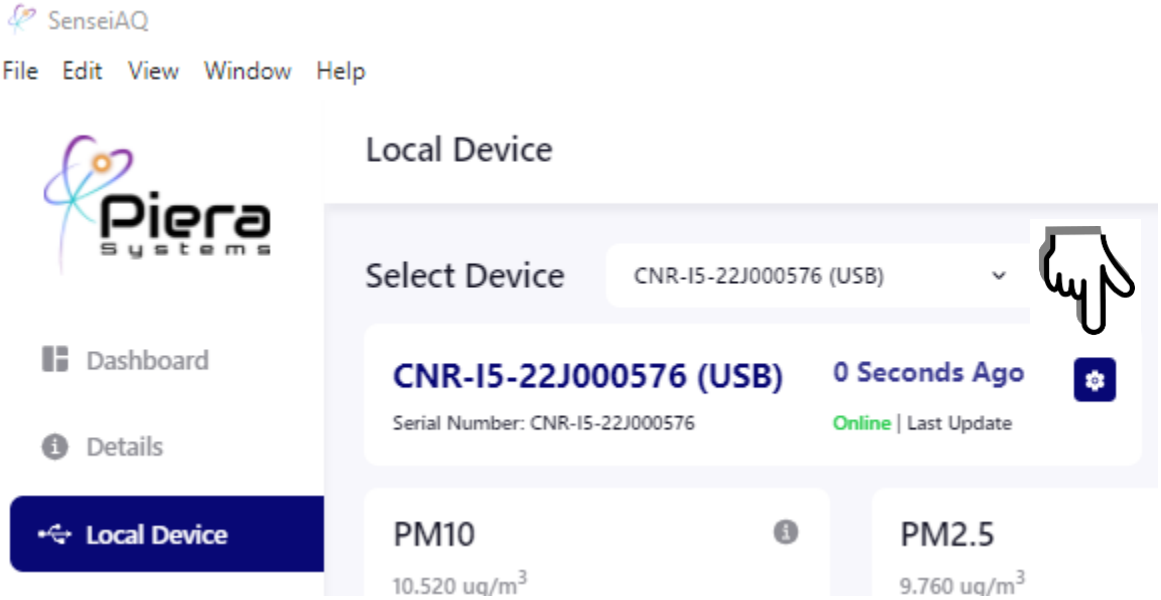
Click on the link provided at the Success page to register your device. Or scan the QR Code on the back of the device to register to your account.

What is the difference between the SenseiAQ App (for Mac/Windows) and the SenseiAQ Website https://sensei.pierasystems.com Is the full Application required ?

While not required for simply provisioning new devices, the SenseiAQ App allows you to monitor data in real-time from your device and displays per-second data updates, which can be logged locally (to CSV Files) The full app is required to (re)configure device settings such as Wifi Configuration, perform manual Firmware Updates or collect Console Log data for troubleshooting Wifi connectivity or other issues. Piera Support may request that you install the App if troubleshooting is required. It can be downloaded here: https://github.com/PieraSystems/SenseiAQ

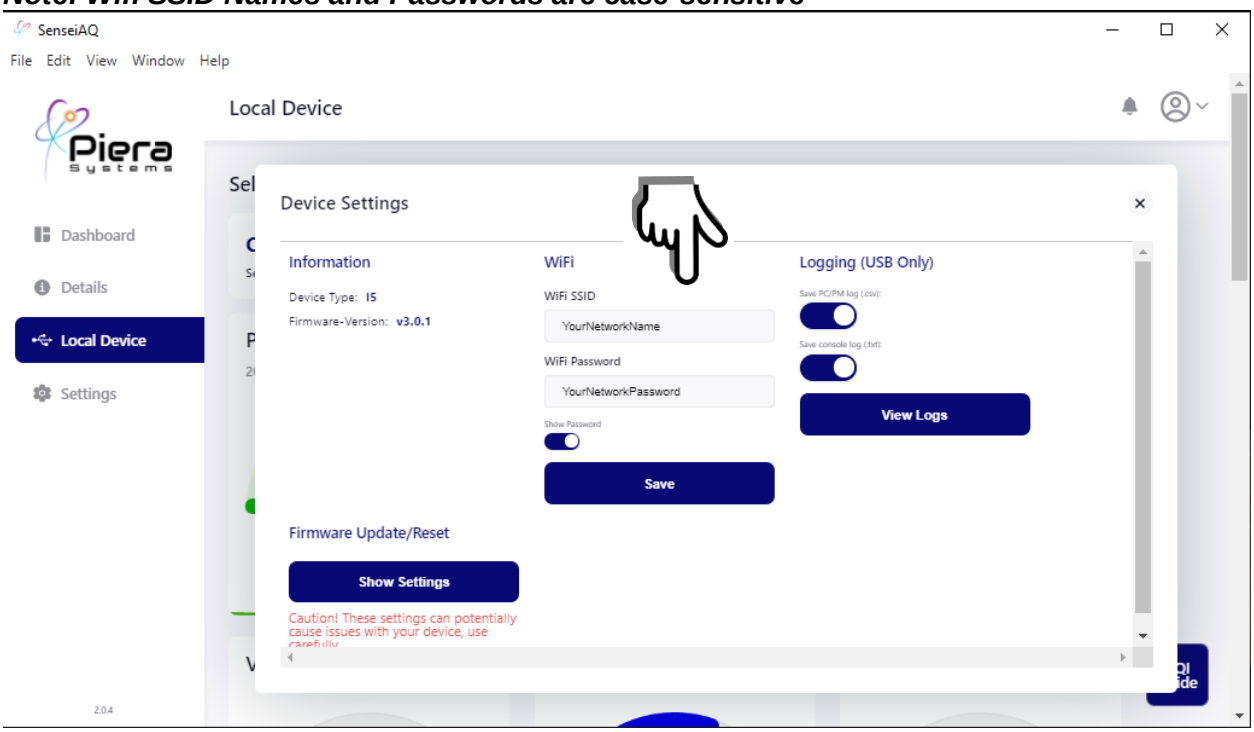
How do I change the Wifi Settings on my device after initial configuration

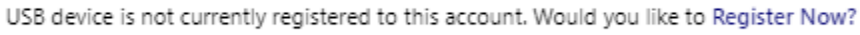
The SenseiAQ Software for MacOS/PC is required to Change or Clear Wifi Settings on a device. Connect the device to a USB Port on your PC and launch the SenseiAQ Software, a Local Device will appear.



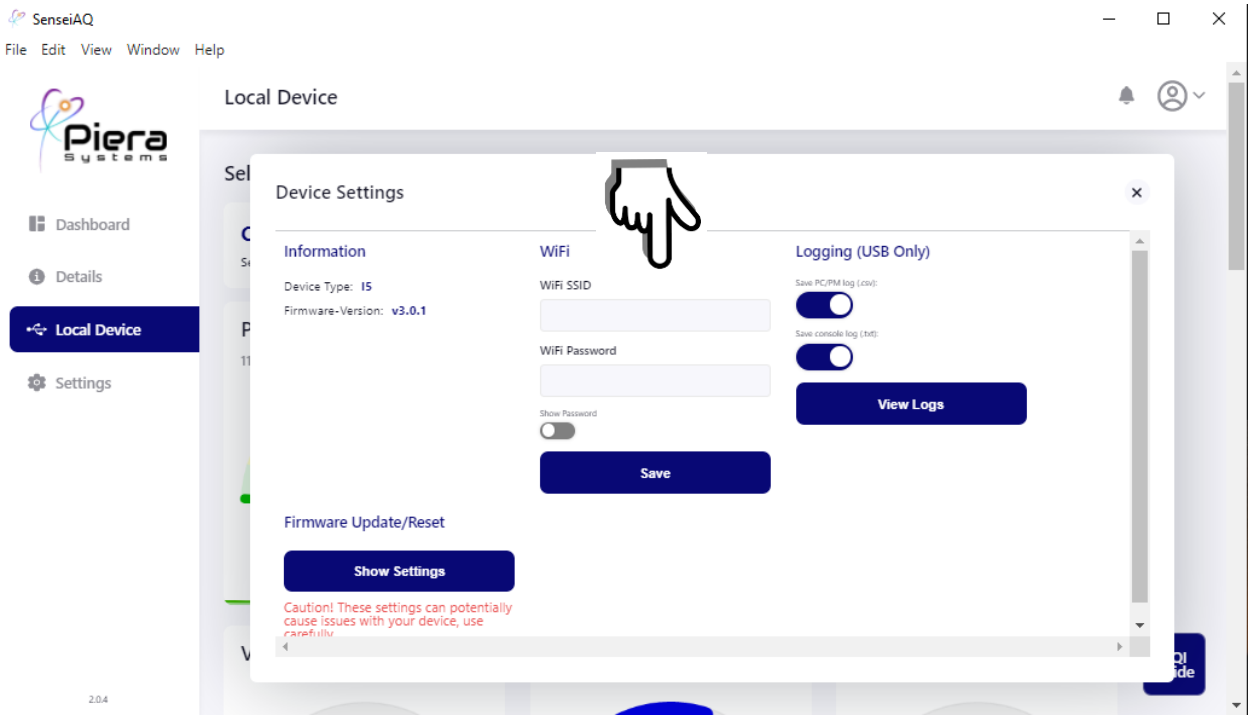
Click on the Device Settings (gear icon) as indicated. A window will appear showing the current Wifi SSID and Password configured on the device. To change this simply input the values and press the Save Button. The device will reboot and attempt to connect to the network configured.

You can use the show password slider to validate the correct Password.
Note: Wifi SSID Names and Passwords are case-sensitive





How do I Clear or “Wipe” the Wifi Settings from my device ?
The Wifi SSID and Password can be wiped on a device using the SenseiAQ App. Simply erase the SSID and or Password and press the Save button. The device will reboot with the Wifi settings erased.



How can I validate that my sensor is working properly?
We recommend using SenseiAQ Software on Windows 10 or MacOS 10.15+ Platforms using the Canāree connected via USB. SenseiAQ will factory-reset your sensor and validate proper and PM readings from all PM Size bins. SenseiAQ can be downloaded here https://github.com/PieraSystems/SenseiAQ

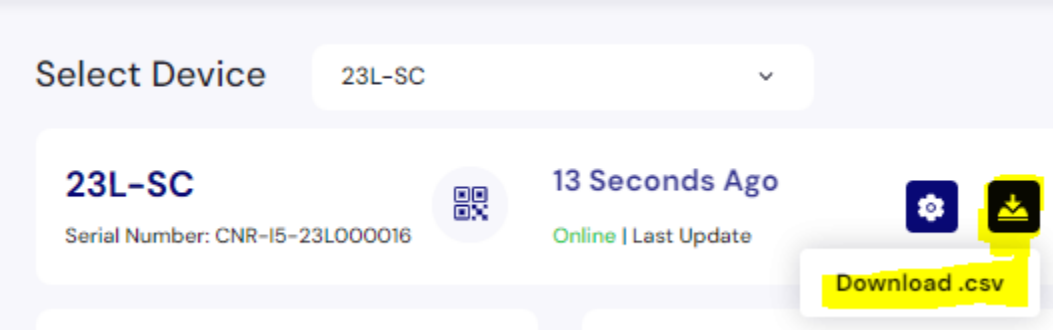
Is there a warm-up time required to get accurate PC/PM Readings?
No specific warm-up time; however, it takes about 6 seconds to sensor bootup and full fan speed to occur. If dust has concentrated in the airstream from prior operation - we recommend ignoring values for the first minute while the fan blows-thru any particles that may have settled. The device ignores the first 30 seconds of data after a reboot before reporting to the Cloud.

Does Piera offer an API to poll data from SenseiAQ Cloud Directly ?
Yes - any device that is reporting to the Cloud via Wifi or SenseiAQ App can be polled using our OpenAPI. More information on the API including examples can be found here: https://github.com/PieraSystems/senseiaq-api

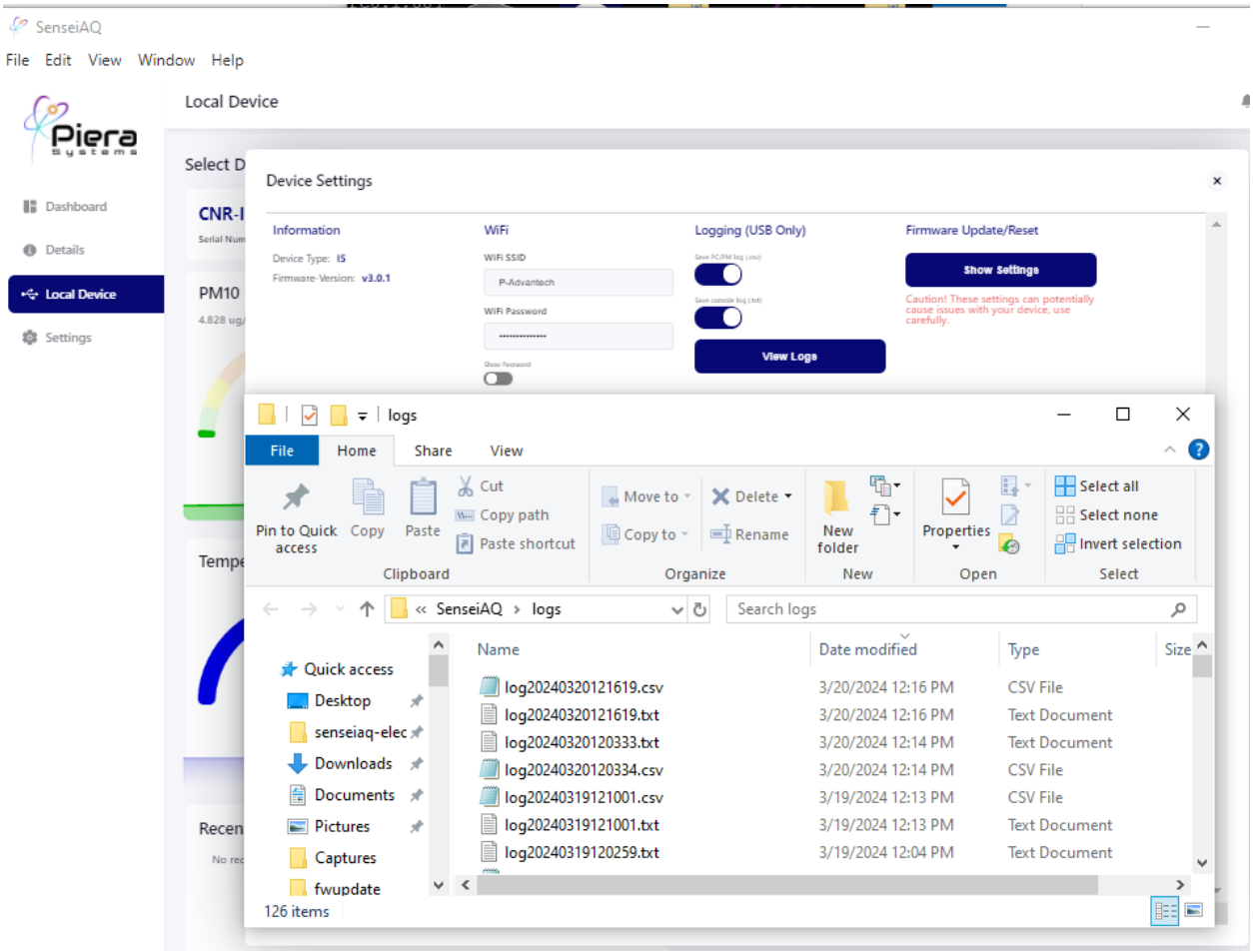
How often is data updated to the Cloud?
60 Second averages of data are reported to the cloud as “Minute Averages” when operating the device on Wifi. Real-time per second data can be seen using the SenseiAQ App with your device connected locally.

How do I log data locally using SenseiAQ

Data can be downloaded from SenseiAQ Cloud using the Download to CSV button as indicated below. Select a timeframe option you wish to download using the time picker.



Data can also be logged locally using the SenseiAQ App by enabling Logging options under device settings. Enable Save PC/PM Log CSV and use the View Logs option to open the log folder. This option is recommended for those who wish to log data while offline, or collect per-second logs of real-time air quality for analysis



Does SenseiAQ Support multiple Piera sensors simultaneously?

On most systems you can start multiple instances of the SenseiAQ App and connect multiple devices to your computer via USB. Piera also offers a Python-serial based tool to read data from multiple sensors for data collection. For more information contact support@pierasystems.com

Does your sensor auto-clean? What about the high fan-speed setting?
The factory setting is to initiate the auto-cleaning cycle for 10 seconds every week. During this time the fan runs about twice as fast during the cleaning cycle, and you may notice additional noise, this is normal.

Where should Canāree be located?
Areas where AP's are already located that have high activity or foot traffic, entrances (lobbies), meeting rooms, bathrooms, cafeteria's, labs, or industrial machinery in operation. In short, anywhere air quality can be impacted by people, machinery, or ingress from outdoors. Canāree can be moved at any time so you can reconfigure as needed.

Can Canāree be used outdoors?
It's not designed for outdoor use. If the conditions warrant, you could plug it into a sheltered patio or other space where it's protected from the elements however, we don't recommend leaving it for extended periods.

How much Bandwidth does each Piera Sensor take up when communicating to the Piera Cloud?
Very little data is sent to the cloud. <1Kbps per sensor per on average including overhead. 100 Devices sending data would consume 100Kbps of network bandwidth, less than a typical audio stream.

I believe my device is defective, how do I return it?
Contact us at support@pierasystems.com to request an RMA and/or refund.

How do I activate the Vape/Smoke AI Model
AI-based Vape/Smoke Detection can be activated on request by emailing us at support@pierasystems.com.

How do I get alerts sent to me?
Alerting is currently set up Piera Support. If you would like to receive email or text alerts on Device Offline, Vape or Smoke Detected contact support@pierasystems.com.

Can Canāree detect CO2, CO, or any other gases?
Not specifically. I5 measured Volatile Organic Compounds and presents a VOC AQI Score, no specific Gas is identified nor any PPM Values output.

Can Canāree detect mold?

The conditions that lead to mold spores will lead to elevated particle counts at higher humidity levels. Comparing this to a room without mold can indicate if mold exists and it's level. During mitigation or removal Canāree can indicate when particle counts in the space being cleaned or renovated are equivalent to background levels outside the cleaning area which can indicate that the mold has been removed. A mold test should still be done.

What are the serial port settings for communicating with the sensor in UART mode?
115200 / 8 / N / 1 (No Flow Control)

What does the Factory configuration do?
Default configuration spits out PC and PM Data every second to serial port, as well as the sensors Serial number and IoT Keys. By default - PM values are displayed in ug/m3, PC values are in #/Liter

How do I reset my device to factory-defaults?
SenseiAQ Offers a factory reset button, under device settings (gear icon) in local mode. If connected via UART issue the following command $Wfactory=

Can I change the units for PM Values output?
To change measured data unit, use the following command: $Wunit=n where n==0, 1, 2, or 3
1 for PC/PM values per ft3 ,
2 for PC/PM value per m3 ,
3 for PC/PM value per liter.

How do I stop the sensor from sending data continuously in UART Mode?
Enter *$Winterval=0* to stop auto streaming of data after bootup
Use *$Rget=* to retrieve a dataset for all PC and PM for previous seconds reading.
Use *$Wvsds=0* turns off the Vape / Smoke detection alerts on the Console.

What is the airflow rating for the fan?
0.2CFM

What is an acceptable range (lower and upper limits) of airflow rate for the specified sampling rate of 0.5 s?
0.05 - 0.1 CFM

Do we have any compensation for humidity?
Not at this time. It is planned in future product releases.

Do I have to wait 6 seconds after power-up / boot-up before I can read data?
Yes. The sensor needs to finish powering up before sending valid data. SenseiAQ Software always wait 6 seconds before reading data every time the sensor is powered on and 30 seconds before reporting any data to the cloud.

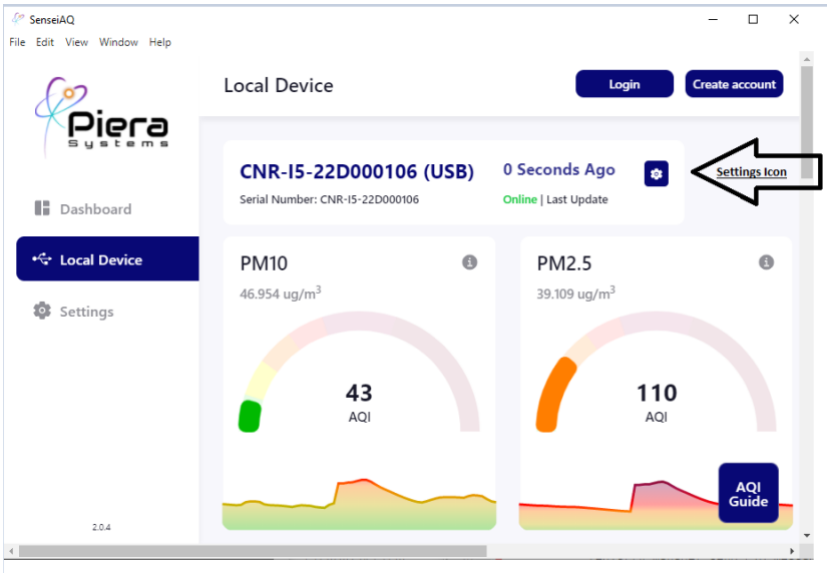
What's the sensor range? How far apart should the sensors be?

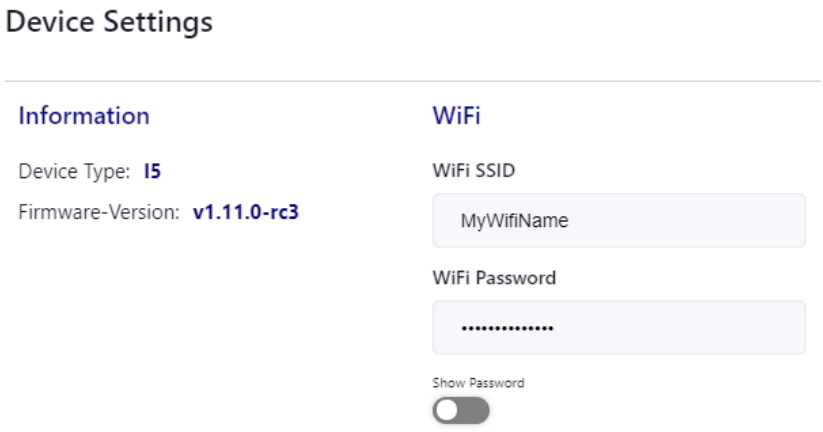
about 30 m3 for real-time event detection; 200 m3 for general purpose monitoring; and everything else is in between

Is there crosstalk or cross-pollination between our various bins?
No, as our bins are distinctively measuring different sized particles.

How do I update my device to the latest Firmware Version?
Devices that are online may receive automatic firmware updates, so typically this is not required. However, in some cases if your device has not been online for a while, a manual firmware update may be required. To update firmware manually follow these steps:

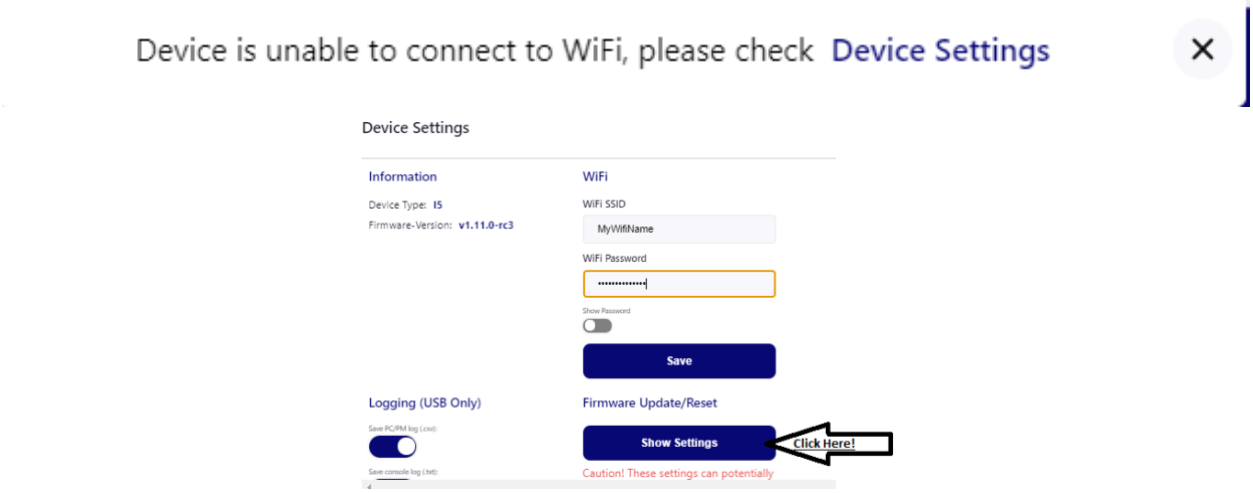
Step 1 - Open the SenseiAQ App, with your Canāree connected a Local Device (USB) should appear. Click on the Settings (gear icon) as indicated below.



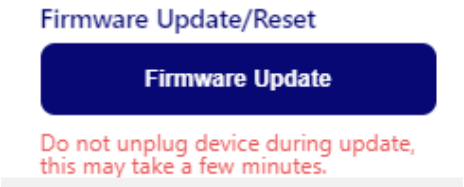


If you have not previously configured Wifi settings, **you must enter your Wifi SSID and Password** if required and press Save before proceeding to step 2.

If you get the following message, your device is unable to connect to your Wifi network. Please check SSID name and password before proceeding to step 2.



Step 2 - Once connected to Wifi, return to the settings window and under Firmware Update / Reset click on the ***Show Settings*** icon as indicated above.



Step 3 - Click on Firmware Update, the process may take up to 2 minutes. The Canāree will reboot and flash green or blue during the software update

SenseiAQ will indicate it is Performing firmware updates.
Do not unplug your device during this time!

Device will boot to new firmware and reappear as a Local USB Device after 1 minute.