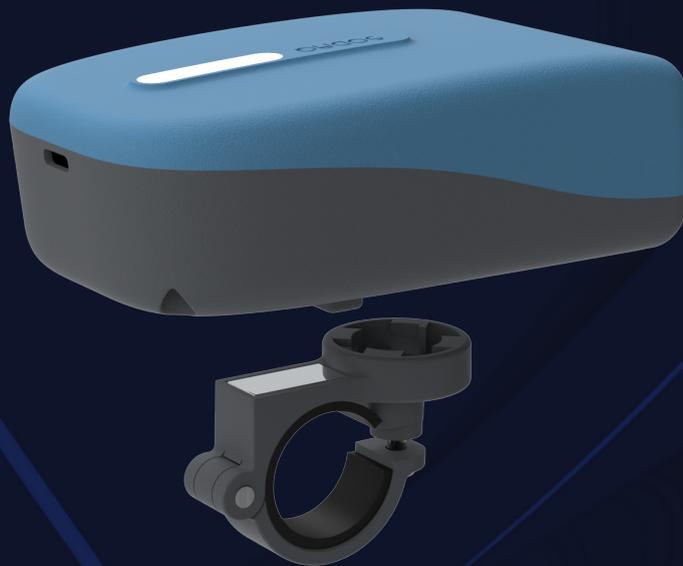


Extraordinary Technology,
Exceptional Care.

AIR User Guide



Author: Support Department
Document version: 1.2

World-**friendly** IoT

SODAQ

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About the AIR and how it works

The SODAQ AIR is a portable air quality monitor that provides insights into the air you breathe.

Each AIR contains:

- a PM Sensor for measuring Particulate Matter (PM1, PM2.5, PM10)
- a Temperature Sensor
- a Humidity Sensor
- an Accelerometer for detecting if the AIR is in motion
- a GNSS modem for positioning (eg: GPS, Galileo, Glonass, QZSS)
- an LTE-M / NB-IoT Modem which allows it to upload the data to the platform

The AIR does not run on a traditional battery but uses instead a Super Capacitor, which allows it to operate in a more environmentally friendly way.

Before you start

Each AIR Box contains the following items:

- 1x - SODAQ AIR
- 1x - Bicycle Mount
- 1x - Charging Cable (1m)

After unboxing the AIR, it must be charged before using.

The AIR has a USB-C port (on the back) and comes with a 1 meter USB-C Charging cable. You can use any USB-C charger to charge it.

After plugging it in the LEDs will briefly pulse white, and then continue pulsing in either green or red. These colors indicate its battery level.

- Green indicates the battery still has some charge.
- Red indicates that the battery is almost depleted.

It takes approximately 2 hours to charge the AIR from 0 - 100%, and the LED's will turn off once the AIR is fully charged.

Please refer to the rest of the User Guide to see what environmental conditions are best to charge your AIR in. The AIR is rainproof, however it can not be charged in conditions that can cause water to get on the USB-C connector.

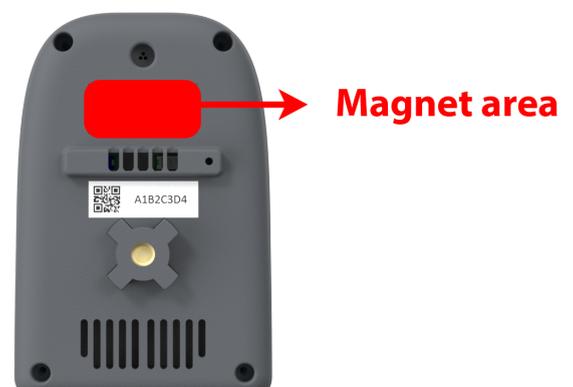
The AIR is activated by using a magnet which is included in the bicycle mount (see Figure 1).

When the magnet is in close proximity to a specific area on the AIR (see Figure 2), it will power on and start measuring. If removed from that area, it will turn off.

Figure 1



Figure 2



Mounting & Using the AIR

The AIR is designed to be used in two different modes:

- Active Mode
- Static Mode

Each mode requires it to be installed and mounted in a different way.

Active Mode

This is when you use the AIR on the go, for example mounted to a bicycle.

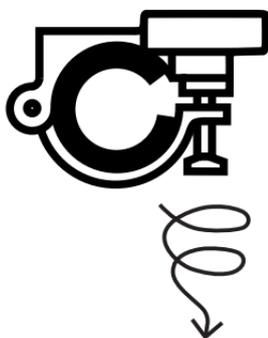
When in Active Mode, the AIR detects motion by using the Accelerometer and then determines its location using the GNSS modem. Afterwards, it starts measuring the air quality every 10 secs, and sends the data to the platform (knowyourair.net) so that it is visible.

While in Active Mode the LED lights will show different colors, each representing a different PM measurement (Please refer to Section - [LED](#)).

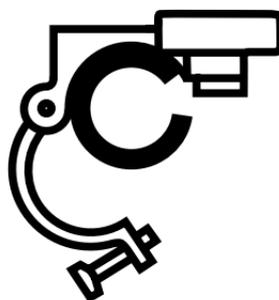
The AIR was designed to be used with your bicycle, so it comes with a bicycle mount that allows you to attach it onto your handlebars and capture the air quality while you ride.

To install the AIR on your bicycle, you must install the mount with the flat circular part facing in the forward direction.

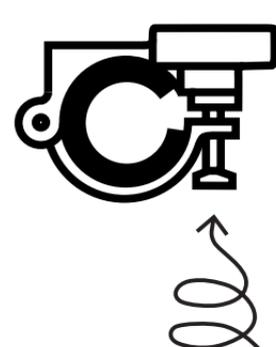
1.



2.

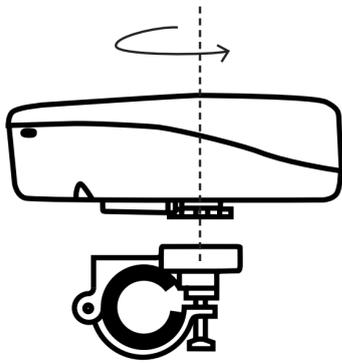


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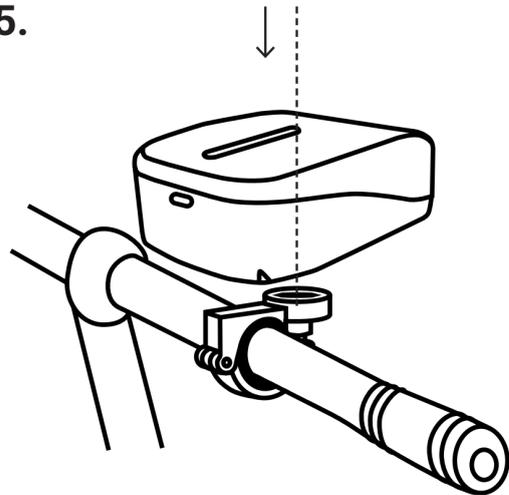


Then take your AIR and attach it to the mount by twisting it 45 degrees clockwise. The AIR should be facing forward (USB-C opening towards the cyclist) after being attached.

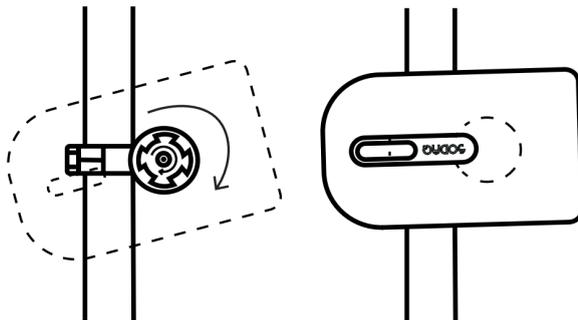
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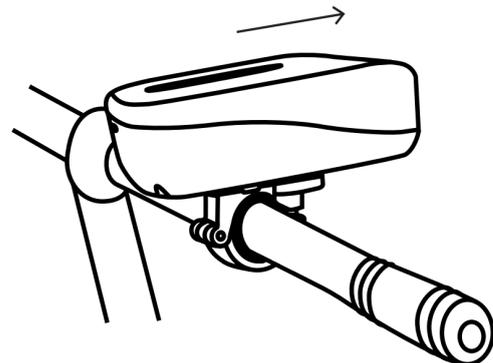
5.



6.



7.



Once mounted, the AIR will start up and show a GREEN LED (or RED LED if the battery is low) and will start warming up the sensors. This process takes between 1 - 2 minutes after which it is ready to start measuring the air quality.

The AIR has a run time of approximately 5 hours of continuous usage, after which the LED will pulse RED and the AIR needs to be recharged.

Do not charge the AIR while on the bicycle in rainy weather, especially in a heavy downpour, because the cable can create a short circuit on the USB-C connector and damage the electronics. However in dry weather it is completely safe to charge the AIR while cycling. If the AIR has gotten wet, please check and confirm that the USB port is dry before putting it on to charge.

Static Mode

This mode is used to capture the air quality in a specific area.

There are various ways of using an AIR in Static Mode, but here are some of the recommendations that SODAQ has.

When in Static Mode the AIR requires:

- A power source
- A mounting that secures the AIR as well as activates it using a fixed Magnet or use the provided bicycle mount with the pre-installed magnet
- To be installed outdoors in an area with clear sky coverage and ventilation, and completely protected from rain
- To be installed horizontally (if installed vertically may put it at risk of damage due to rain)
- To be installed away from areas that may influence the Air Quality readings (E.g Barbeques, Kitchen / Heating Vents)

It is very important that the AIR is **completely protected from rain or other sources of water** when it is mounted in Static Mode. This is because the connected USB-C cable/connector, if wet, can create a short circuit in the AIR and damage the electronics.

Once mounted and plugged in, the AIR will start up and show a GREEN LED (or RED LED if the battery is low) and will start the sensors. This process takes between 1 - 2 minutes after which it is ready to start measuring the air quality.

When in Static Mode, the AIR determines its location and then measures the air quality every 5 minutes, after which it sends the data to the platform (knowyourair.net) so that it is visible. It also shows a different LED for each PM measurement (Please refer to Section - LED) with a pulsing GREEN LED to show its battery level.

LED**BLUE LED**

This means that the air quality was checked with a PM (Particulate matter) Sensor from 0.3 to 2.5 microns and it is below 9 $\mu\text{g}/\text{m}^3$

(further detailed information is shown on knowyourair.net)

**YELLOW LED**

This means that the air quality was checked with a PM (Particulate Matter) Sensor from 0.3 to 2.5 microns and it is between 9 to 24 $\mu\text{g}/\text{m}^3$

(detailed information is shown on knowyourair.net)

**ORANGE LED**

This means that the air quality was checked with a PM (Particulate Matter) Sensor from 0.3 to 2.5 microns and it is between 24 to 60 $\mu\text{g}/\text{m}^3$

(detailed information is shown on knowyourair.net)



RED LED

This means that the air quality was checked with a PM (Particulate Matter) Sensor from 0.3 to 2.5 microns and it is above 60 $\mu\text{g}/\text{m}^3$

(further detailed information is shown on knowyourair.net)

**GREEN LED**

If the AIR is not activated (no magnet), but is plugged in, then the LED will pulse GREEN until it is fully charged. The LED will go off when it is fully charged

If the AIR is activated (magnet present), and plugged in, but in STATIC mode, then the LED will pulse GREEN with the PM LED colors flashing for 10 seconds.

If the AIR is activated (magnet present), and plugged in, but in ACTIVE mode, then the LED will pulse GREEN only during the warm-up phase then the LED will only show the PM LED colors.

**WHITE LED**

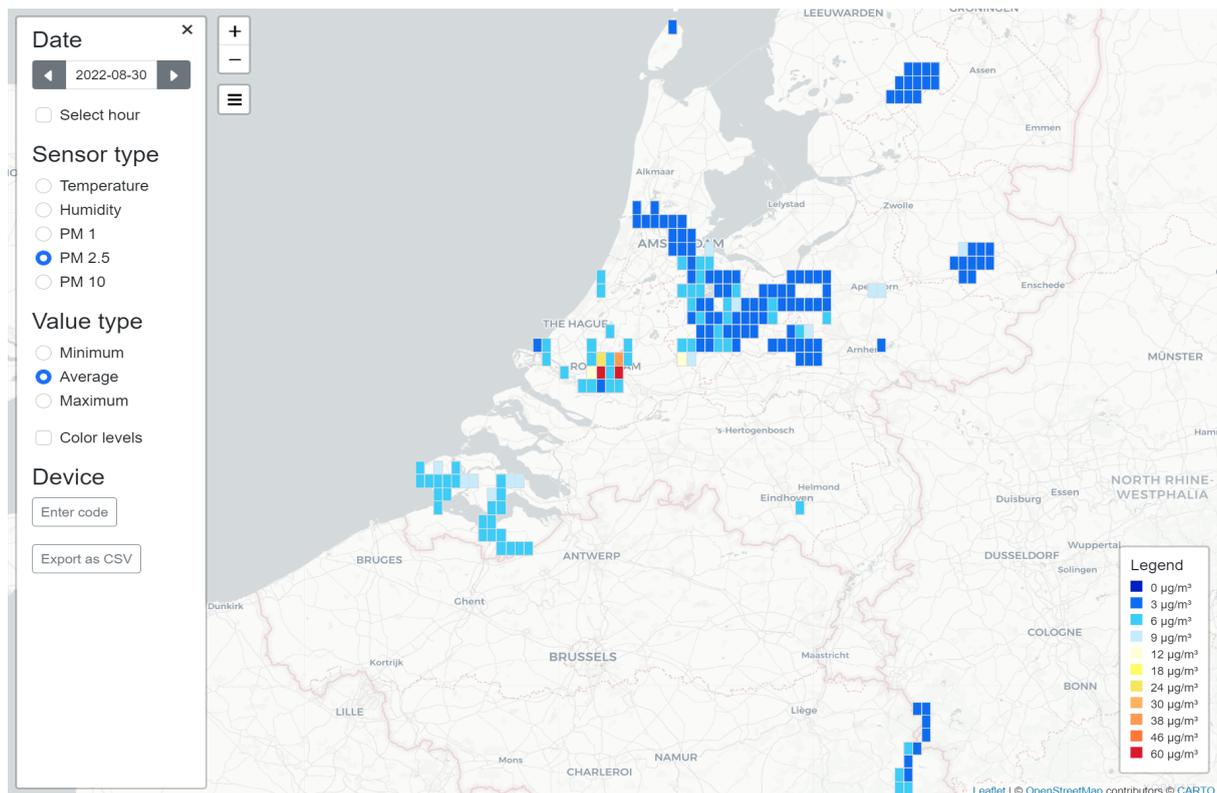
If the AIR is doing an firmware update then the LED will pulse WHITE throughout the update process



Viewing the Data

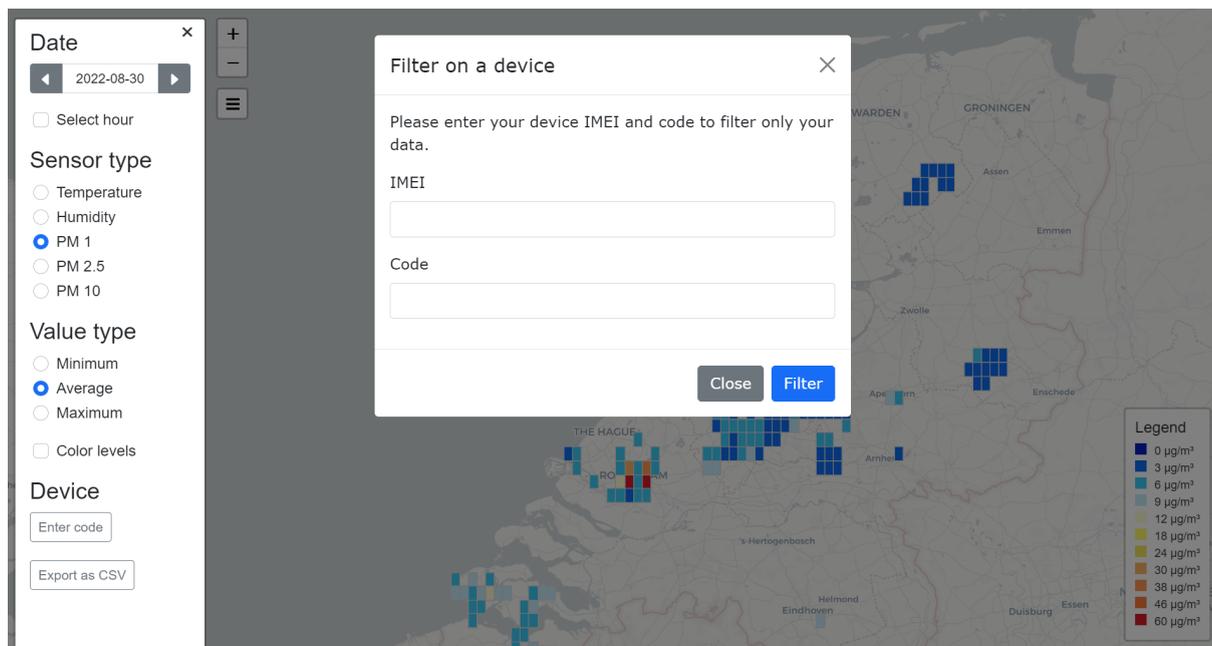
All data from the AIR is uploaded, sorted and anonymised, after which it is stored in the Platform.

You can see the data by going to knowyourair.net dashboard.



Checking your Data

To view the data from your AIR, first go to the dashboard (knowyourair.net), click on "Enter Code", a popup will appear and you can type in the IMEI & Code of the AIR.



To find the IMEI and the CODE, turn the AIR over and scan (With an App, Mobile Phone Camera, Hand scanner) the QR Codes below:

