Wave Enhance

Smart indoor air quality monitor

Congratulations on taking this important step toward living a healthier life.

When you really understand your indoor air quality, you can make informed decisions to improve your home's air and minimize airborne risks to you and your family's health.

This manual will guide you through setting up your new Airthings monitor and explain the sensors, common how-tos, and what to do if something goes wrong. We also recommend our [online knowledgebase](#) for additional, in-depth articles written by our customer support experts.

We hope you enjoy the peace of mind that Wave Enhance brings with its always-on, accurate measuring of the key factors affecting indoor air quality. Because when you breathe better, you live better.

The Airthings Team

P.S. Don't forget to register for your free 5-year extended warranty!

# INDEX

WHAT'S IN THE BOX

The box contains:

- Wave Enhance (fully assembled)
- 2 AA alkaline batteries (already installed)
- Quick Start guide
- Regulatory information guide

Your Wave Enhance comes fully assembled. You only need to take off the backplate, then remove the pull-tab so that the batteries begin to power the monitor. Finally, reattach the backplate and place the device where you want it to monitor the air quality. See Step 4 below for tips on where best to place the monitor.

ABOUT YOUR WAVE ENHANCE

Use the integrated table stand to place the monitor on a surface. You can also mount your device on a wall using the two countersunk screw holes. Be sure that you use a screw best suited for the wall's material. Attach the plate to the wall, then the magnets on the plate and the device make it a snap to mount the monitor.
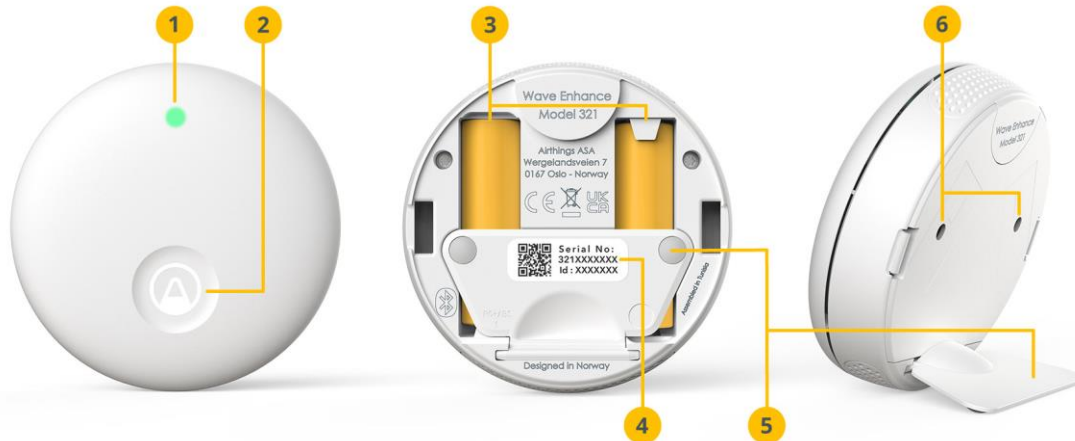
1. Glow indicator
2. Touch button to activate glow indicator
3. Two AA alkaline batteries
4. Product ID sticker
5. Fold-out table stand
6. Screw holes for wall mounting

ABOUT THE SENSORS AND THRESHOLDS

Wave Enhance contains 5 sensors that measure levels of key contributors to indoor air quality.

		Measurements and thresholds	Sampling frequency
CO_2	**CO2** Non-Dispersive Infrared (NDIR)	**ppm** 🟥 1000 or more 🟨 Between 800 & 1000 🟩 Less than 800	5 minutes
VOC	**VOCs** (or TVOCs) Metal oxide semiconductor sensor (MOS)	**ppb** 🟥 2000 or more 🟨 From 250 to 1999 🟩 Less than 250	5 minutes
HUMIDITY	**Relative humidity**	**%** 🟥 Over 70% 🟨 Between 60 & 70% 🟩 Between 30 & 60% 🟨 Between 25 & 30% 🟥 Below 25%	5 minutes
TEMP	**Temperature**	**°F** / **°C** 🟥 Over 77° / 🟥 Over 25° 🟩 Between 64° & 77° / 🟩 Between 18° & 25° 🟥 Below 64° / 🟥 Below 18° Because of personal preferences and varying local climates, the temperature measurements do not impact the glow indicator on the monitor. However, if you activate app notifications for temperature, they will be sent when the temperature enters a "red zone" as you see in the table.	5 minutes
PRESSURE	**Air Pressure**		5 minutes

[1] During the 4-day calibration period, values may fluctuate erratically as the sensor adjusts. This is expected behavior so don't be alarmed.

Wave Enhance also tracks light and noise.

Noise

The MEMS-based noise sensor takes 60 millisecond noise samples every 10 times per minute. An average decibel level is calculated and reported for 1 minute periods. It is not a recording device. Samples are collected, used to calculate average noise levels, then permanently deleted. Only average decibel levels are saved for the purposes of rendering historical graphs.

Light

The photodiode light sensor samples light intensity every 5 minutes and reports results in *lux*.

SETTING UP YOUR WAVE ENHANCE

Step 1 - Download the Airthings app and create your account

Download the Airthings app from the Apple App Store or Google Play Store and create an account. If you already have an Airthings account, that's great! You'll only need to add your new Wave monitor to it.

For Android users: The Wave Enhance connects with your smartphone using Bluetooth LE. Google Android requires location permission to be enabled in order to use Bluetooth LE. This is not an Airthings requirement, nor do we collect or save your location data without your explicit permission. Need more information? [Read more here.](#)

Step 2 - Activate the monitor and add it to your Airthings account

Unbox the monitor and remove the pull-tab from the battery inside. It's now activated and will start monitoring. Open the Airthings app and log into your account. Follow the in-app instructions to locate and connect to the device.

Note: Make sure that Bluetooth is enabled on your smartphone or it won't find the monitor!

Once you add your new Wave Enhance to your account, you may be prompted to update the firmware. If so, we recommend that you take a few minutes to do it.

Step 3 - Connect Wave monitor to an existing Airthings hub

➔ *If you do not have an Airthings Hub or View series monitor already set up, skip this and proceed to Step 4.*

Once your Wave has been successfully added to your Airthings account, you can connect it to your [Airthings hub device](#).

If you are using a View series monitor as the hub, ensure that it is plugged into a power supply. It will not work as a hub unless it is plugged in.

To link your new Wave monitor to the hub device, click the link icon that appears in the app with the Wave monitor and follow the instructions. You must be within Bluetooth range of the monitor during this process and it can take from 15 minutes or up to one hour for the connection to be established. Once connected successfully, you will see a signal strength indicator associated with the Wave monitor.

Step 4 - Place the monitor where you need it

Because of the combination of sensors it contains, Wave Enhance is great for bedrooms, the baby's room, or a home office. That said, you can use it wherever you like inside your home. You may mount it on a wall or use the integrated table stand to set it on a surface. Remember that to get the most accurate readings, some of the sensors in the monitor require an initial adjustment period to gather enough data. Refer to the [calibration information](#) for the different sensors in your Wave Enhance.

Here are a few tips for optimal placement:

- Never place the device outdoors - Wave is designed only for indoor use and the components can suffer irreversible damage.
- Keep the device at least 1 meter (3 feet) from windows, doors, and vents that might interfere with accuracy of readings for the room's air.
- Try to place the device at the average "breathing height" in the room to take the most relevant measurements. For a bedroom, this would be at pillow height.
- If on a tabletop or other surface, make sure the surface is stable and that the monitor is placed where it's not likely to be tampered with, moved or knocked to the ground.

Step 5 - Calibrate and maintain your monitor

Most of the sensors inside your Wave Enhance will provide accurate readings immediately - like temperature, humidity, noise, light, and air pressure. However, the VOC sensor needs about

four days to calibrate to the space so it can before it acclimate to the space and provide the most accurate readings.

To maintain your device, now and then you'll want to wipe it gently with a dry cloth to keep it from collecting dust and impeding its ability to monitor the air properly. It's also important to be sure that the monitor is exposed to fresh air at least once a week. Do not take the monitor outdoors, simply air out the room regularly by opening a window for a few minutes or making sure that air is flowing freely through the room via open doors.

The Airthings app indicates the remaining battery power for each monitor in your account so that you are aware when it's time to change them. For longer-life and optimal performance, we recommend non-rechargeable, alkaline batteries. You can [read more about battery recommendations here](#).

Note: When you change the monitor's batteries, it can take up to 1 hour for the remaining battery power to be updated in your Airthings app.

USING YOUR WAVE ENHANCE

The Airthings app is where you will interact the most with your Wave Enhance. Unless your Wave monitor is connected to an Airthings hub, you must have Bluetooth enabled on your smartphone and be within Bluetooth range whenever you want to check your air quality data.

In order for the monitor's sensors to calibrate fully to offer you the most accurate readings possible, we recommend that you keep the Wave Enhance in the same space and move it as little as possible. If you do want to use the device to monitor a different space, [check out the tips here](#) to get the best results.

Quick-checking the current readings

Wave Enhance is equipped with a capacitive touch sensor behind its faceplate so that when you tap the logo, a color-coded glow indicator gives you an indication of the overall air quality.

The color of the indicator is determined by the current readings for each sensor, excluding temperature:

	Air quality is good The current reading for each of the six sensors are within the normal, healthy ranges.
	Air quality is fair At least one of the sensors is recording a reading that is in the *fair* range of values.
	Air quality is poor At least one of the sensors is recording a reading that is in the *poor* range of values.

To access detailed readings, open the Airthings app.

Look into trends over time

Open the Airthings app. The Devices page lists the devices that are associated with your primary location in your account. Select the device whose readings you want to look into. You will see a color-coded snapshot of the current air quality values for each of the device's sensors. Click on any sensor value to consult the trends over time in a line graph. You can view the trends in a graph over preset time periods from the last 3 hours up to the last 12 months. Depending on the selected time resolution, average and sample values are reported along with the graph.

Advanced settings let you show sensor thresholds and ranges of individual sample values on the graph and to indicate if the graph line should be color-coded based on the readings.

Manage notifications

You can receive notifications on your phone when a threshold is crossed and a reading is detected inside a "red" zone. To turn notifications on and off for the monitor, go to Settings in the Airthings app.

You will only receive notifications when you are within Bluetooth range of the Wave monitor. However, if your Wave is enabled for remote access via an [Airthings hub device](#), you will receive notifications whenever a threshold is reached, no matter where you are.

Move your monitor to a new location

After monitoring the air in one space for a while, you may want to move the monitor to understand what's in the air in a different space in your home. There are a few ways to do this and you can get more information in our [Help Center](#).

Change the batteries

The two AA batteries should keep your Wave Enhance running for up to 15 months. If your Wave Enhance is connected to an Airthings Hub, you can expect it to last up to about 20 months. In any case, the time will come when you need to replace them. We recommend using non-rechargeable alkaline batteries. Do not use lithium batteries.

When you change the batteries, it can take up to one hour for the battery charge level to update in the app. But don't worry, the monitor will start taking its readings as soon as the new batteries are inserted.

When you remove the old batteries, all of the sensors automatically reboot. This means that the CO_2 and VOC sensors need to recalibrate so you might notice some fluctuations in those readings in the following few days until they are recalibrated.

TROUBLESHOOTING

The most common issues customers experience are related to connectivity and syncing. Before getting to our troubleshooting guidance, let's explain how connectivity works with the Wave monitor.

About Wave monitor connectivity & syncing

Your Wave monitor is not enabled for direct WiFi connectivity. So, how does it send its readings to your account in the cloud? It does this using Bluetooth Low Energy (BLE) to sync the data it collects with the Airthings app on your smartphone. Since it can only sync with the app when your smartphone is within Bluetooth range, you will only be able to read current measurements in the app when you are within range of the monitor. The monitor itself collects all of its readings and saves them in its local memory for up to 80 days. Each time it syncs with the app, it uploads all of the readings taken since the last time it synced. Those readings are sent through your phone to your account in the cloud. This allows you to maintain and consult the full history of the sensor readings over time.

About connectivity & syncing with an Airthings hub device

Your Wave monitor can be enabled for remote access so that, wherever you are, your app shows you the latest, live readings from the monitor. How? By using an Airthings hub device. A hub device is one that connects directly to your home's internet network and uses SmartLink*, to wirelessly link to Airthings Wave monitors in your home. The Wave monitors send their readings continuously to the hub device over SmartLink, and the hub device sends the data to your account in the cloud. Then, wherever you are, you can open your Airthings app and check the current air quality measurements taken by your home's monitors.

Other benefits of being Hub-connected are to use voice commands with your home's [Amazon Alexa](#) or [Google Assistant](#) devices, or to use [IFTTT applets](#) that integrate your Airthings air quality readings with your home's smart plugs, air purifiers, humidifiers, and so on. In addition, when a hub enables your Wave monitor for remote access, you will receive any configured notifications whenever and wherever, and not just when you are within Bluetooth range of your monitor. Finally, because using SmartLink automatically turns off Bluetooth, you extend the battery life of your Wave monitor.

What are Airthings hub devices? One is the appropriately named Airthings Hub which simply serves as a link between your Wave monitors and your home's internet network. The other type of hub is any of our three View series monitors. These monitors contain different sets of sensors to take their own readings in a space in your home and can simultaneously be used as Airthings hubs to link your Wave monitors with your account in the cloud.

   * Airthings SmartLink is a form of long-range wireless communication, developed by Airthings. It is based on the Sub-1 Ghz communication protocol and it is designed for low power consumption and long-range robust connectivity of up to approx 100m/ 330ft.

General troubleshooting tips

Whenever you are experiencing problems with the Airthings app or a monitor, there are some basic things you should always check first:
- Has the monitor been dropped recently? Unfortunately, the monitors are not designed to be rugged and the sensors inside are quite delicate. If you drop your monitor or it suffers an impact, this could cause a malfunction in readings or the monitor's general operation.
- Are you running the latest version of the Airthings app and do you have the latest firmware installed?
- Are the batteries dead or about to run out? You can consult the monitor's battery level in the app from the last time it synced. If the monitor's glow ring is blinking, this could also indicate that the batteries are about to run out.

When using a Wave monitor *without an Airthings hub*

After following the general troubleshooting tips above, you might still be seeing a problem. Here are a few common problems and what you should do *if you are not using an Airthings hub device* with your Wave monitor.

My app is not connecting to my Wave monitor	• Ensure Bluetooth is enabled on your smartphone and that you are within Bluetooth range of 2-5 meters or 5-15 feet from the monitor. • (Android only) Ensure that location services are enabled for the Airthings app as required by Google Android to use Bluetooth LE.
My app is not syncing with my Wave monitor while running in the background	• Ensure that your app is actually running in the background. Check your smartphone's app management settings for the Airthings app. • Syncing can only occur when you are within Bluetooth range of the monitor (2-5m or 5-15 ft).
The glow indicator doesn't light up when I touch the logo for an air quality quick-check	• It is probably time to replace the batteries. • First attempt to sync your monitor with the app, then replace the batteries. Remember to use alkaline, non-rechargeable batteries.

When using a Wave monitor *with an Airthings hub*

After following the general troubleshooting tips above, you might still be seeing a problem. Here are a few common problems and what you should do *if you are using an Airthings hub device* with your Wave monitor.

➔ If using an Airthings Hub, please refer to the Airthings Hub setup guide online.
➔ If using a View series monitor as the hub, ensure that it is plugged into a power outlet. View series monitors are only activated as hubs when they are plugged in.

I've set up my Airthings hub device but I cannot see the Wave monitor to link it to the hub	Bluetooth is required to establish the link between the Wave monitor and the hub device. • Ensure Bluetooth is enabled on your smartphone and that you are within Bluetooth range of 2-5 meters or 5-15 feet from the monitor. • (Android only) Ensure that location services are enabled for the Airthings app as required by Google Android to use Bluetooth LE. • Exit the Link Device screen and re-enter to see if your Wave monitor appears. Once the Wave is linked to the hub, Bluetooth will be deactivated on the Wave monitor (to reduce its power

	consumption). Communications between the devices will occur using SmartLink.
've linked my Wave monitor with the hub but I am not seeing up-to-date readings from that monitor in the app	• It's possible the linking process did not complete successfully. You can also try closing the app and opening it again. • Verify that your Airthings hub device is powered on and that your home Internet service is working correctly.

NEED MORE HELP?

If you're still having trouble and you've followed the troubleshooting guidance above, it's always a good idea to search our knowledge base where we answer common questions about how Airthings monitors work and what to do when something goes wrong.

If you are looking for technical details about the product or sensors, check out the product sheet.

If you cannot find the help you need there, you can contact our Customer Success team in the following ways:

- **Live web chat**: Our representatives are available on the airthings.com chatbot 18 hours a day, Monday through Friday.
- **Email**: Email our team at support@airthings.com and we will reply to you within 24 business hours. Please attach any photos or screen captures that may help to describe the problem. You should also include your monitor's serial number which you can find inside the unit by removing the back plate. Finally, also confirm the email address associated with your Airthings account in the case you send the email from a different address.