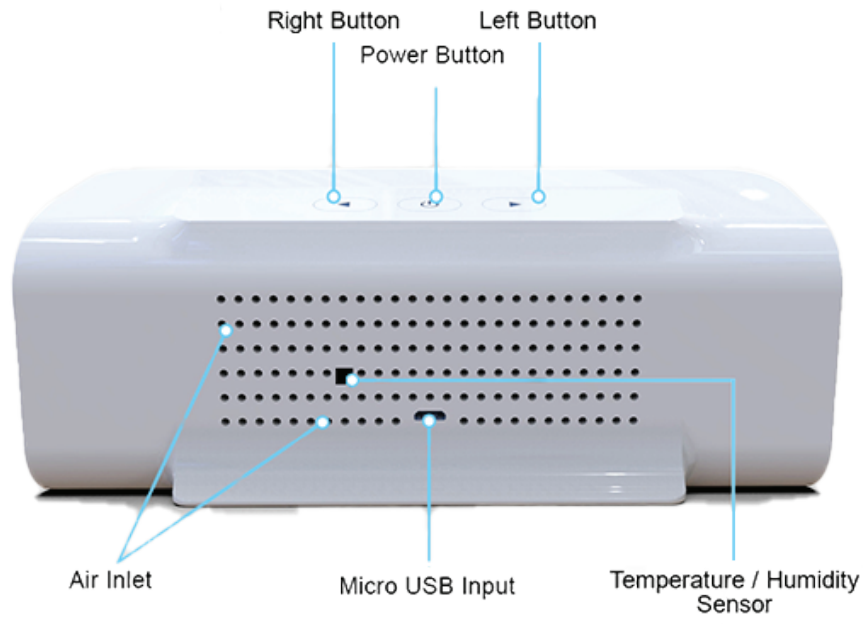
AIRKNIGHT™

Quick Start Guide

www.airknight.io

PROTECT YOUR AIR

The AirKnight AK1000 is an advanced, multifunctional air quality monitor that combines numerous different types of high-quality air sensors with a built-in fan to allow real-time monitoring of carbon dioxide (CO2), formaldehyde (HCHO), total volatile organic compounds (TVOC), PM2.5/10, air quality index (AQI) indication, temperature, humidity and time on its digital LCD display.



GET STARTED - HOW TO USE

WATCH OUR QUICK START VIDEO!

www.Instructions.AirKnight.io

STEP 1: Plug in the air quality monitor and press the power button for 2 seconds to turn it on.
Note: If the device does not power on right away, then please charge it first.

STEP 2: Wait 5 minutes for it to warm-up.

STEP 3: Set the time (see step-by-step directions on the next page).

STEP 4: The AK1000 will automatically turn off after 11 hours in order to recalibrate the sensors and prolong the product life (including battery life). Turn it back on when you want to use it again.

STEP 5: Enjoy the added benefits of having an AirKnight in your home!

Note:
If you ever have any questions or issues, please feel free to email us at **Hello@AirKnight.io** or call our US-based customer support at **+1 224 477 5846** and we will be happy to assist you.

TIME / TEMPERATURE ADJUSTMENT & CHARGING

Time Adjustment:

1. Press the power button (quickly) 3 times to enter time setting mode.
2. Press the left or right buttons to adjust the hours.
3. Then press the power button to switch to minutes.
4. Press the left or right buttons to adjust the minutes.
5. Once done adjusting, press the power button to confirm and complete the time setting.

Charging: Please use the included power adapter or any other power adapter that outputs at >=1000mA. Please avoid charging with a USB computer port which only outputs 500mA and please avoid charging with any adapter that outputs higher than 1000mA to ensure the longest battery life.

Temperature: The default Fahrenheit temperature scale may be changed to Celsius by pressing the right button twice.

CO2 ALARM

The AirKnight AK1000 was designed with a built-in CO2 alarm option. If enabled, this CO2 alarm beeps when CO2 levels surpass 1000 ppm (which is above the desired range). The purpose of the CO2 alarm is to notify you right away so the appropriate action can be taken immediately to improve CO2 levels (i.e. by opening a window / door or stopping the activity causing the high reading).

Note 1: The default setting for the CO2 alarm is **OFF**. The AK1000 CO2 alarm can be turned on by simply pressing the **LEFT** button on the top of the monitor twice. Exposure to less than optimal CO2 levels for an extended period of time may not be healthy and it is therefore recommended to turn this CO2 alarm function **ON**.

Note 2: If you have elected to turn the CO2 alarm on, please be aware that the CO2 alarm's beeping will stop automatically even when CO2 levels are still above 1000 ppm if the CO2 levels are decreasing.

TIPS

CRITICAL NOTE: Auto-Saver Technology: Please note that the AirKnight AK1000 is programmed to automatically power off every 11 hours in order to recalibrate the sensors and prolong the product life (including battery life). You can simply turn it back on when you want to use it again.

Tip 1: Strange Readings? Do This:

1. Turn the device off for a few minutes and then turn it on back on again (effectively allowing the monitor to reset). After continuous use for extended periods or exposure to certain chemicals / fumes, the device may need to be reset.

   OR

2. Open a window or bring the AK1000 outdoors to allow the sensors to exhaust any possible accumulated fumes and to allow the readings to adjust back down to more normal levels.

Tip 2: Not Using It? Turn It Off: For the most consistently accurate readings and longest product life, it is recommended to leave the air quality monitor off while it is not being used (i.e. overnight, while on vacation, etc.). This will preserve the battery, sensors, and fan.

Tip 3: Open a Window: Often the quickest and most practical way to get readings back into the desired range is to simply open a window to ventilate more clean outdoor air into your home. This obviously does not apply if you are located in a wildfire area or any other area with compromised outdoor air quality.

Tip 4: Cooking Impacts Air Quality: Cooking often releases increased amounts of unhealthy pollutants into the air including but not limited to CO2, PM2.5 and 10, and VOCs. Furthermore, how and what you cook determines the types of pollutants which will be released into the air.

Tip 5: Use Filters and Air Purifiers: To improve indoor air quality, it is highly recommended to use not only a standard pleated or HEPA furnace filter, but also an air purifier in the areas in which you spend the most time; perhaps maybe your home office or bedroom.

HOW TO INTERPRET READINGS

	Good	Acceptable	Unhealthy	Very Unhealthy
CO2	0-1000	1000-2000	2000-3000	3000+
HCHO	0.0 - 0.1	0.1 - 0.123	0.123 - 0.5	0.5+
TVOC	0-0.5	0.5-1.0	1.0-3.0	3.0+
PM 2.5	0-35	35-55	55-75	75+
PM 10	0-60	60-80	80-100	100+
AQI				
Temperature	65°F-79°F	<65°F or >79°F		
Humidity	30-60%	<30% or >60%		

Note: The AQI indicator is calculated using a combination of the HCHO, PM2.5, and PM10 readings. For example, if ALL of the aforementioned metrics have readings which lie within the “Good” range, the smiley face will appear. If one of the readings falls into a less healthy range, the emoji face of that lower range will appear.

See the “PARAMETERS” section below to learn more details regarding measuring method, range, accuracy, and resolution.

PARAMETERS

	Measurement Range	Measurement Method	Resolution	Measurement Accuracy
CO2	400-5000 PPM	Infrared (NDIR)	1 PPM	50ppm±5%
PM 2.5, PM 10	0-999 μg/m³	Laser Scattering	1 μg/m³	±10μg/m³(0~100μg/m³), ±10%(≥100μg/m³)
HCHO	0.000-1.999 mg/m³	Semiconductor	0.001 mg/m³	±15%
TVOC	0.000-9.999 mg/m³	Semiconductor	0.001 mg/m³	±15%
Temperature	14-122°F	Semiconductor	0.1°F	±2 °F
Humidity	20%-85%	Semiconductor	1%	± 4%

UNDERSTANDING THE AIR QUALITY METRICS

1. CARBON DIOXIDE (CO2)

Definition: Carbon Dioxide is a gas which is colorless, tasteless, and important for plant photosynthesis.

Impact on Health: Too much CO2 may cause drowsiness, reduce cognitive function, and poor decision making. CO2 is generally allowable up to 1,000ppm. With readings above 2,000, it can cause dizziness, tinnitus, or even suffocation.

Possible Causes of High Reading:

- Poor ventilation and recycled indoor air (Note: A newer home could trap and accumulate higher levels of CO2 as newer homes are constructed to be more air tight)
- Cooking (especially using the oven) and use of certain appliances
- Soil build-up / mold (which releases CO2)

Tips to Improve:

- **Increase air circulation.** It is imperative that a room or building has proper ventilation to ensure lower, healthy levels of CO2. Outdoor air typically contains CO2 levels between 400 - 450 PPM (although certain areas may have less healthy outdoor air and be above this).
- **Add plants to your home.** This helps to reduce CO2 and increase oxygen which can have the effect of making you feel less drowsy. Some recommended indoor plants for improving air quality in your home are Areca Palm, Philodendron, Rubber Plant, Peace Lily, Dracaena, Snake Plant, Boston Fern, Aloe Vera, English Ivy and Spider Plant.

2. TOTAL VOLATILE ORGANIC COMPOUNDS (TVOC)

Definition: TVOC stands for “Total Volatile Organic Compounds” and is comprised of organic compounds / substances that have a high vapor pressure.

Impact on Health: Irritation to nose, throat, eyes and affects on breathing which could produce symptoms such as fatigue, nausea, skin problems and more. High levels could affect organs and damage the lungs, liver, kidney or the nervous system.

Possible Causes of High Reading / Sources:

- Cooking
- Solvent-based paints
- Cleaning using chemicals, disinfectants, and solvents
- Automobile fumes
- Aerosol sprays, hobby supplies, pesticides

Tips to Improve: Ensure that you adhere to the warning labels on paints, gasses and cleaning products. When possible, avoid using products that are aerosol and solvent-based.

3. FORMALDEHYDE (HCHO)

Definition: Formaldehyde is a gas that is pungent and colorless. It is typically released from burning products such as kerosene, gas, wood, or tobacco.

Impact on Health: High levels of HCHO can cause eyes, nose, and throat to have a burning sensation. It will affect breathing significantly. Research has shown that prolonged unhealthy formaldehyde exposure can even cause leukemia.

Possible Causes of High Reading:

- New furniture, clothing, or household products which “gas off” HCHO.
- Appliances which are not properly vented
- Tobacco smoke / vaping pens

Tips to Improve: Proper ventilation and appropriately cleaned appliances help to prevent this from being released into the air. Establish a no smoking policy in your home or building.

4. PARTICULATE MATTER PM 2.5

Definition: Fine particulate matter that is 2.5 microns or less in diameter.

Impact on Health: shortness of breath, fatigue, coughing, chest discomfort possibly leading to heart attacks, strokes, asthma, and bronchitis, premature death from heart ailments, lung disease and cancer. PM2.5 is worse than PM10 because its size is smaller, allowing it to penetrate deeper into the lungs.

Possible Causes of High Reading:

- Cooking (especially using the stovetop)
- Vacuuming (which releases dust into the air)
- High emissions from wildfires, gas, oil, diesel fuel and burning wood (usually coming from outside the home)
- Pollutants that come from power plants, automobiles, and indus trial buildings
- Older appliances that burn (stove) will produce higher levels of PM

Tips to Improve: Remain indoors when external levels are high. Maintain use of a furnace air filter and/or air purifier.

5. PARTICULATE MATTER PM 10

Definition: Fine particulate matter that is 10.5 microns or less in diameter

Impact on Health: Nasal and upper respiratory tract health problems causing long-term effects that differ depending on the source

Possible Causes of High Reading:

- Cooking (especially using the stovetop)
- High emissions of gas, oil, diesel fuel and burning wood
- Pollutants that come from power plants, automobiles, and indus trial buildings
- Older appliances that burn (stove) will produce higher levels of PM

Tips to Improve: Remain indoors when external levels are high. Maintain use of a furnace air filter and/or air purifier.

6. AIR QUALITY INDEX (AQI)

Definition: An indication of overall air quality including the top four major pollutants: ground level ozone, carbon monoxide, sulfur dioxide, and airborne particles (aerosols) / particulate matter.

Impact on Health: Respiratory and circulatory systems issues which vary depending on the source

Possible Causes of High Reading:

- Cold winter air
- Cooking
- Pollution from traffic
- Smoke from fires or burning wood

Tips to Improve: Open windows to get proper ventilation and fresh outside air. Avoid burning fireplace wood, gas logs, candles, or incense. Vacuum less frequently.

7. TEMPERATURE

Definition: Measurement of the heat or cold of the environment.

Impact on Health: Issues with your respiratory and circulatory systems.

Tips to Improve: Temperature inside the home is typically a controllable element. It is advised to adjust temperature slowly rather than allow drastic changes.

8. HUMIDITY

Definition: Humidity is the level of water vapor in the atmosphere.

Impact on Health: With an increase of humidity by 35% or more, formaldehyde emissions will increase and remain suspended in the air.

Possible Causes of High Reading:

- Humid outdoor weather
- Activities which release steam / moisture into the air such as drying laundry, taking a hot bath or shower, or boiling water/liquid

Tips to Improve: Utilize dehumidifiers to control levels of humidity. It is recommended to keep humidity in your home around 50% in the Summer and around 30% in the Winter.

9. TIME

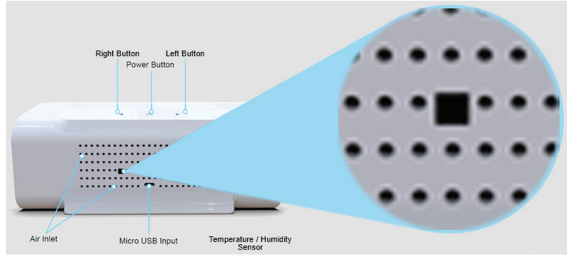
While the measurement of time is self-explanatory, is it important to note that air quality readings are dynamic and constantly changing over time in conjunction with every minuscule change in the surrounding environment.

CONSIDERATIONS & PRECAUTIONS

- This air quality monitor is meant to be used indoors and kept dry at all times. It is strongly recommended to store in a cool, dry place.

- **Sampling Frequency:** The sampling frequency of the AK1000 is 1.5 seconds. This means that your AirKnight is providing you with updated readings every 1-2 seconds. Please note that, in order to provide constantly-updated, real-time readings, the AK1000 contains a continuously running mini fan which gives off a very slight buzzing sound.

- **DO NOT touch the temperature / humidity sensor** on the back of the unit (pictured below). Touching or poking this sensor will damage the device and cause inaccurate temperature and humidity readings.



- **DO NOT** expose to sunlight or use in an extremely polluted, dusty, or smoky environment for prolonged periods as doing so may damage the sensors over time.

- **DO NOT** cover the air intake areas during use to avoid inaccurate measurements.

- **DO NOT** use chemicals or solvents to clean the product as residual fumes will skew air quality readings.

- **DO NOT** put water or other liquids on or near the product to avoid electrical damage.

- **DO NOT** allow unauthorized modification or repair of this product.

- **DO NOT** take apart or disassemble this monitor. Doing so may damage the product and will invalidate the warranty.

PRODUCT SPECIFICATIONS

Model	AK1000
Power Source	Rechargeable Lithium-Ion Battery
Battery Capacity	3000 mAh
Charging Input	AC 100-240V, 5V Micro USB Connection
Product Size	7.48 x 3.15 x 2.05 Inches
Display Method	LCD VA Screen
Atmospheric Pressure	12.47 PSI - 15.37 PSI
Sampling Frequency	1.5 Seconds
Operating Temperature / Humidity	14 - 122F / 10% - 80%, Non Condensing
Storage Temperature / Humidity	14 - 122F / 10% - 80%, Non Condensing

WARNING

While this product can reduce your risk of harm by increasing your awareness of air quality, it can in no way guarantee your health or safety. Please instead take a comprehensive approach to living healthy and do not depend on this monitor alone to improve your health or save your life. For more info on air quality, go to **www.AirKnight.io.**

LEGAL DISCLAIMER

The use or misuse of this air quality monitor is conditioned upon the user's agreement that in no event shall the manufacturer, importer, reseller, or distributor of this gas detector be liable for any direct, indirect, punitive, incidental, special consequential damages, to property or life, whatsoever arising out of or connected with the use of this air quality monitor.

Warranty Claims?

Contact us at www.Warranty.AirKnight.io

Questions? Comments?

Get in Touch at:

Hello@AirKnight.io

WWW.AIRKNIGHT.IO