

User Manual
Wellness Premier
Recessed EQ Monitor 1

WP-100 BY Kaiterra
FCCID: 2ALV5-WP-100
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1. Important Information

Caution: To prevent accidents or damages to property, please follow the guidelines and instructions below

- Do not operate the product or touch the power plug if your hand is wet as you may get an electric shock.
- Do not wet the product as this may cause short circuits and electric shocks.
- Keep the product away from flammable substances or fire sources.
- Do not operate the product if any of the parts, including the power plug or the body is damaged. The damaged parts must be replaced by the manufacturer or authorized service centre in order to avoid hazards.
- Do not disassemble, repair or alter the product without authorization. Unauthorized disassembly or repair may cause failure and danger. Unauthorized alteration may result in fire or breakdown.
- Do not use alcohol or solvents to clean the product as it will damage the product or cause electric shocks leading to injuries or fire, etc.
- Unless under supervision by persons responsible for their safety, persons who are not familiar with the operating instructions, are not allowed to operate the product.
- RF Power: 13.20 dBm (2412 MHz - 2462 MHz)
- The maximum operating temperature of the product is 45° C and shouldn't be lower than -20° C.
- The device complies with RF specifications if it is used with a distance of at least 20cm from your body.

2. Overview

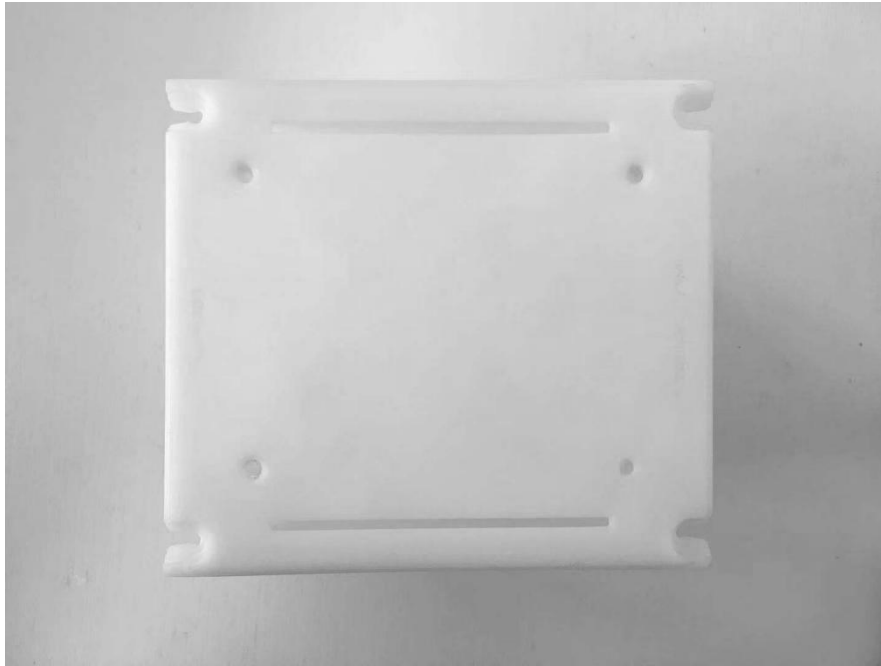
The device is a building-grade air quality monitor, designed to measure a range of pollutants and air quality parameters. It supports multiple methods of data communication and has a wide range of features for data collection, analysis and export. Up to 50 million air quality readings can be stored on the device, and can be exported for further analysis.

Connection Ports

The Sensedge has 3 ports for connectivity:

- Micro-USB: Debug interface.
- Charging PORT: DC 12V SUPPLY.
- Ethernet: Used for data transfer via Ethernet. The Sensedge does not support PoE - the micro-USB port must be used for power.

Pictures
Top View



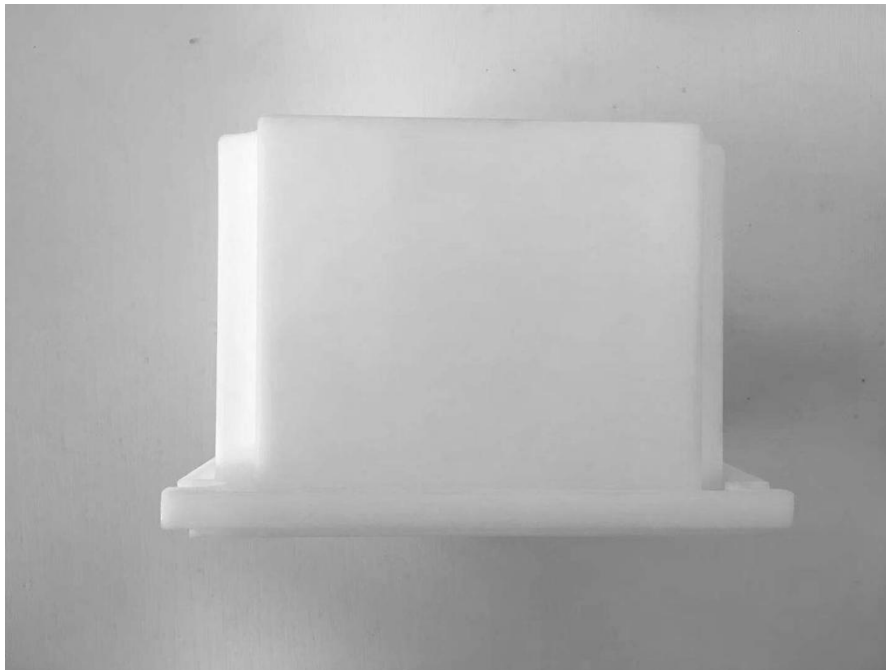
Side View #1



Bottom View



Side View #2



Side View #3



3. Operating Guidelines

Sensor Modules

The device utilizes a modular design to allow for easy control and replacement of sensors. A CO2 sensor is built into the core of the device, and a variety of other sensors may be inserted.

Sensors may be inserted in either sensor bay, and in any order. They may be swapped both when powered on and operational, and when the device is turned off.

By default, the device is shipped with the KM-100 and KM-102 sensor modules, which together measure PM2.5, TVOC, temperature, and relative humidity.

About the Measurement

The following methods are used for measurement of pollutants and parameters:

- CO2: Non-dispersive infrared (NDIR)
- KM-100 module, PM2.5: Laser-based light scattering (mie principle)
- KM-102 module, TVOC: Metal-oxide-semiconductor (MOS)
- KM-102 module, temperature and relative humidity: CMOSens® technology

The device provides realtime measurements, thus it is important to consider other factors that may influence sensor measurement when taking a reading of air quality. Human breath within several meters of the device will impact both CO2 and TVOC measurements, and physically touching and interacting with the device can have a measurable impact on temperature.

Changes in airflow or currents in an indoor space can all have a measurable impact on the readings of the device and correct usage is vital for accurate and reliable readings.

Data Buffer

The Sensedge takes readings of pollutants and measured parameters every second, and calculates a minute-by-minute average, which is recorded in the Sensedge's onboard memory. When connected to the Internet, these readings are uploaded once per minute.

Should the data connection be lost for a period of time, all readings will be stored in the data buffer, and automatically uploaded to the cloud when the Sensedge reconnects. There is no maximum number of historical readings that can be stored in the data buffer and uploaded upon reconnection.

Updating the Firmware

- The device will auto-update when connected to the Internet via WiFi or Ethernet.

4. Limitation of Use

- The WP-100 is made for indoor application.
- The accuracy of the WP-100' s readings can be influenced by the conditions of usage.
- Do not use the WP-100 in dusty environments. Otherwise the sensitivity, accuracy and lifetime of the device will be affected seriously.
- WP-100 is not intended to be used:
 - For outdoor measurements
 - Under extreme temperature or humidity condition
 - Next to a source of heat or fire
 - As a medical device or a substitute to any medical treatment

5. Specification

| | |
|--|------------------------------------|
| Material | ABS Plastic |
| Colour | White |
| Connection | Wi-Fi (2.4 Ghz), Ethernet |
| Storage | 8GB flash |
| Input voltage | 12V |
| Input current | 1A |
| TVOC measurement principle | MEMS metal oxide sensor technology |
| TVOC measurement range | 125 - 600 ppb (relative) |
| TVOC module | Removable |
| PM2.5 measurement principle | Laser-based light scattering (mie) |
| Measurable particle size | 0.3 μ m - 10 μ m |
| PM2.5 measurement range (PM2.5 concentration) | 1-999 μ g/m ³ |
| PM2.5 module | Removable |
| CO2 measurement principle | Non-dispersive infrared |
| CO2 measurement range | 400 - 2000 ppm |
| CO2 life expectancy | 15+ years |
| Temperature measurement range | -20 - +125 ° C |
| Temperature drift | <0.03 ° C/year |
| Relative humidity measurement range | 0-100% |
| Relative humidity drift | <0.25%/year |

6. Frequently Asked Questions

Sensors

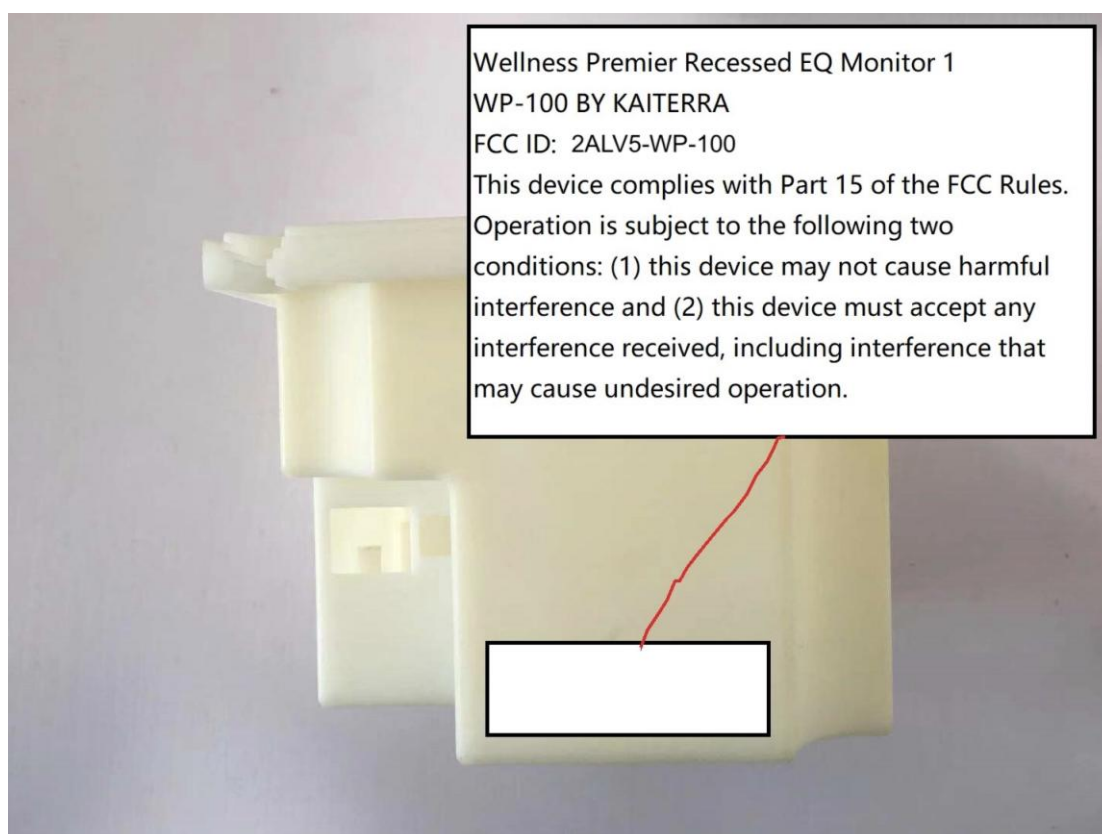
- The WP-100 has an embedded CO2 sensor, and is shipped with two replaceable sensor cartridges
 1. KM-100 (PM2.5)
 2. KM-102 (TVOC, temperature & humidity)
- These five parameters (PM2.5, TVOC, CO2, Temperature and Humidity) should be recorded when the device is operational. If data from any sensor is not visible, reset the module and try again.
- Once a module has been inserted into the WP-100, it may take up to 15 seconds for the data to be displayed on the screen.
- When the sensor lifespan reaches 0%, the sensor module should be replaced.

7. Environment

Please play a part in preserving the environment by not discarding the indoor air quality monitor with usual household waste at the end of its lifespan. Please bring it in to a recycling collection point instead.



8. Label and Label Location



FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.