1. Product Description

The Geoziel Indoor Carbon Monoxide Detector developed and manufactured by our company is a product equipped with an alarm function that can prevent fatal accidents and gas explosion accidents caused by carbon monoxide poisoning by measuring carbon monoxide gas in indoor air more easily with a semiconductor gas detector.

2. Product Main Function

2.1 Precise detection of carbon monoxide

The product accurately measures carbon monoxide generated in everyday life between 10PPM and 1000PPM.

<CO Sensor SPEC>

Characteristics of sensitivity (β) (Rs,gas / Rs,air	-CO(10PPM) $0.75 \leq \beta \leq 0.85$, CO(100PPM) $0.30 \leq \beta \leq 0.60$ -Tobacco(2,000ppm-ESSE, KOREA) $\beta \leq 0.6$ -Ethyl alcohol vapor (50ppm) $\beta \leq 0.50$ (Sample is gathered by using injector(10㎖) 10mm/sec speed)
Operating environment	-Temp. : -10 ~ 50℃, Humidity : 5 ~ 90%RH, Non-condensing -Storage Æ Temp. : -10 ~70℃, Humidity : 0 ~90%RH
Reaction time(T90)	-Recovering Time(T90) : Less then 30sec

2.2 Danger Alarm

(1) When the carbon monoxide measurement value rises above a certain level, the product provides an immediate alarm to the user by using the built-in 85dB alarm buzzer and lamp.

(2) When the value measured by the built-in temperature sensor lasts more than 50℃ for more than one minute, the product judges it as a high-temperature condition and provides an immediate alarm to the user.

2.3 Built-in Battery

(1) The product has a built-in 2000mah rechargeable lithium-ion battery in 3.7V 1 cell type and can be used continuously for up to eight hours.

(2) The product can be charged and reused through a micro USB-C connector.

2.4 Bluetooth communication Function Support

(1) The product supports the communication function based on Bluetooth v4.2 BR/EDR BLE and allows the user to check the operation information such as sensor measurement value and battery level on a smartphone through its dedicated application.

The user can use the bluetooth wireless communication function through its dedicated software on a smartphone with Android 4.0 or higher, and this function may not be able to operate normally due to the technical characteristics, such as interference and external noise.

3. Product Specification Table

| Product Performance	- Measurement of carbon monoxide (CO) and alarm in the event of a danger situation - Measurement of high temperature situation and alarm
Power	- Built-in rechargeable lithium-ion battery (up to eight hours of continuous use time) - Charging the battery using the USB-C connector with 5V, 1A and higher (5.5 hours of full charge time)
Alarm	- Alarm of 85dB (30cm distance from the product)
Bluetooth	- Using the dedicated application on smartphones with Android 4.0 or higher - Real-time confirmation of sensor measurement value and alarm control function

4. Precautions

 The product is a detector equipped with semiconductor-type carbon monoxide sensors and it has different detection performance depending on the usage environment. The normal operation may not be possible in the following situation:

① High pollution that lasts for a long time (volatile gas, etc.);
② Battery low power state; and
③ A situation where the product has been exposed for a long time in the indoor environment with a continuous high temperature of 40℃ or higher.

5. Product Configuration

(1) Product Configuration Diagram
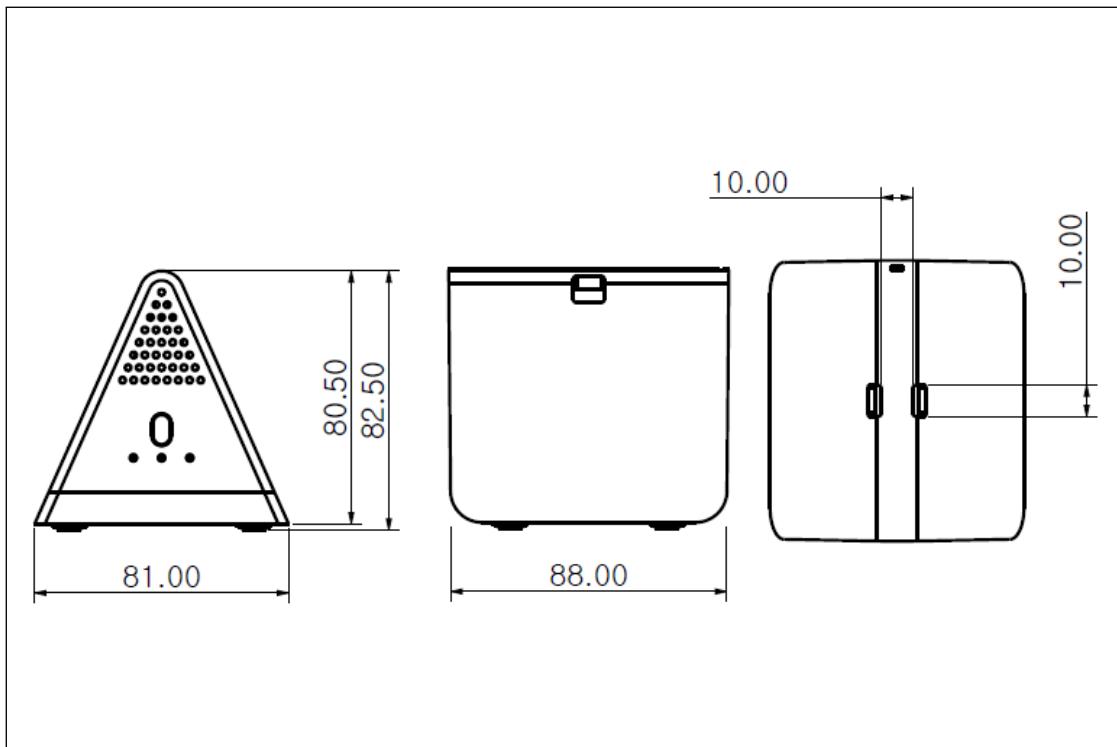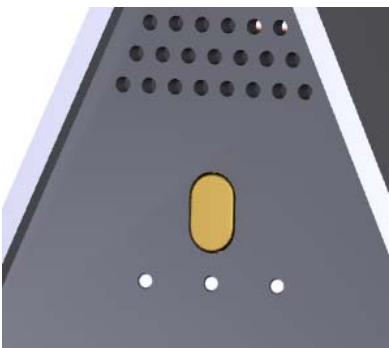
(2) Product Structure Description
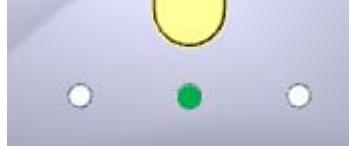
## 6. How to Use the Product
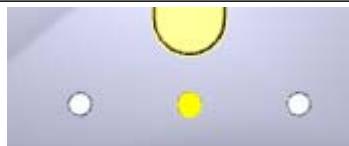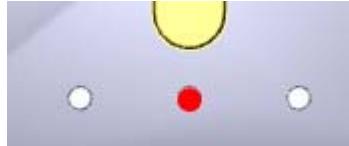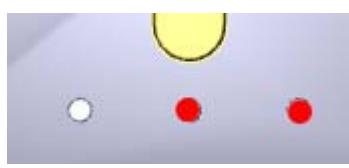
① How to turn on and off the product

	>Press the power button on the front of the product for a long time until the product turns on. >When the product is turned on, the state and operation indicator lamp lights up in white along with the melody. >After the sensor stabilization time for 30 seconds, the sensor starts to detect. During this time, the white LED lamp lights up and the button operation is deactivated. >If you press the power button for more than three seconds during the operation, the operation is turned off along with the off melody.

② Product Operation Situation
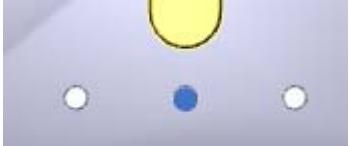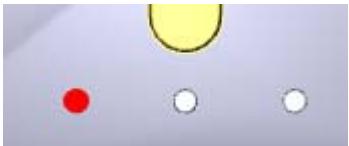
	>After 30 seconds of the operation, the product starts to detect gas and measure temperature. At this time, the status and operation indicator lamp in the middle lights up in green every 4 and 5 seconds.

③ Sensor Operation Situation

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	>When the status indicator lamp light up in yellow, it displays that the concentration of carbon monoxide is cautious. Therefore, you need to adequately ventilate the room.
	>When the status indicator lamp light up in red, it displays that the concentration of carbon monoxide is high. Therefore, you must adequately ventilate the room.
	>When both the status indicator lamp and the warning indicator lamp light up in red, they indicate that the concentration of carbon monoxide is a very dangerous condition. Therefore, you must immediately ventilate the room or leave the area. *At this time, a warning buzzer sounds. *However, the buzzer operates 3 minutes after the operation.

④ Power Situation

	>When the status indicator lamp flashes blue periodically, it displays that the product needs to be charged due to low battery power.
	>When a power adaptor of 5V, 1A or higher is connected to the USB-C connector, the charging indicator lamp lights up in red. This red light turns off when the battery is fully charged.

7. How to Use the Dedicated Application through Bluetooth

① Basic bluetooth connection of the product
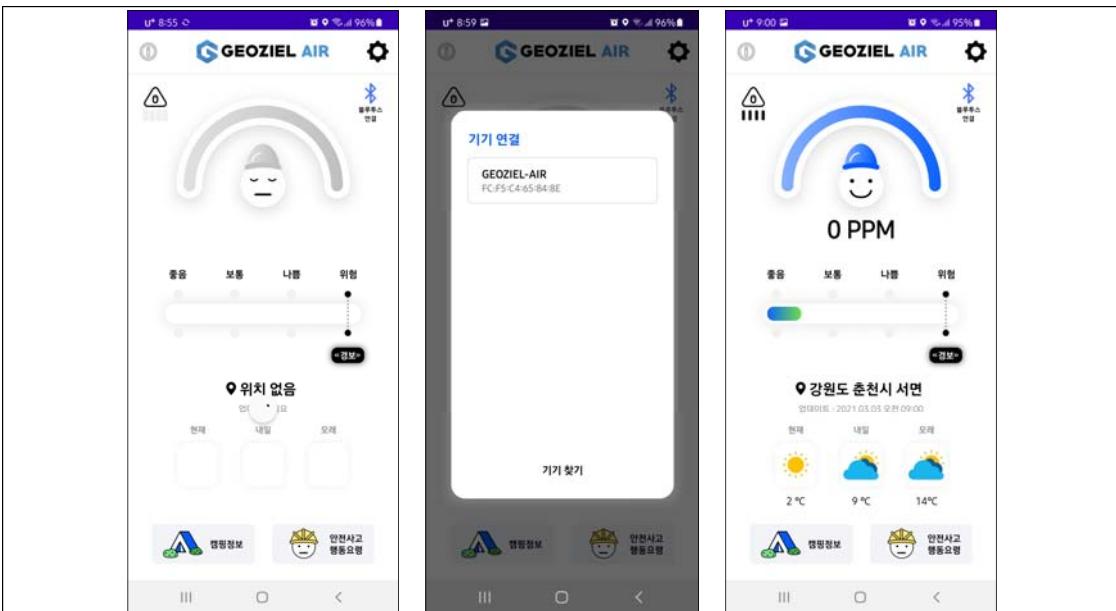
1) After running the dedicated application installed on the smartphone, click the product connection menu.

2) When you execute the function "Find Device," the application searches for your device. When you select the device, the device is connected to the application through Bluetooth.

3) When the device is normally connected to the application, the application displays the temperature and carbon monoxide measurements in the application menu.

② Alarm

1) When a carbon monoxide level of 250ppm or high is detected for more than 30 seconds, the application will show an alarm message.
2) When you click the alarm message, the alarm stops for 30 seconds.

8. Reboot and Automatic Recovery for Device Malfunction

>If the product is abnormally turned off due to sudden situations such as sudden static electricity application from the outside, the self-recovery function operates to automatically reboot the product and return it to the previous operation.
>In this case, since the product maintains the previous setting value and automatically reconnects the smartphone without user intervention, the user can continuously use the product without other operations.

FCC Information to User

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 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 con-nected.

• Consult the dealer or an experienced radio/TV technician for help.

Caution

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Compliance Information : 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.

"CAUTION : Exposure to Radio Frequency Radiation.

Antenna shall be mounted in such a manner to minimize the potential for human contact during normal operation. The antenna should not be contacted during operation to avoid the possibility of exceeding the FCC radio frequency exposure limit.

IMPORTANT NOTE:

FCC RF Radiation Exposure Statement:

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.