

# Professional Alcohol Tester EK911



Operation Manual

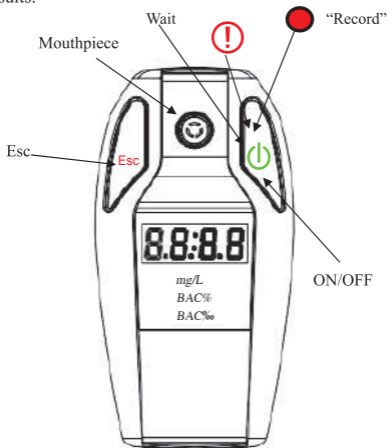


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## Product Instruction

EK911 is a hand-held professional alcohol tester that uses the most stable fuel cell / electro-chemical sensor to provide fast and accurate test results.



### Description on indicator lamp:

"Wait light" and "PH" flicker, indicating that the sensor is being initialized. When the "green light" keeps on and "TEST" flickers, you can start blowing test.

When the USB is connected to charge, the red light at "wait" is on, and the red light goes out after the charging is full.

"  " When the test results exceed the alarm value, the red light here is on.

"  " When viewing the record, the green light is on here.

## Basic Operation

It is recommended to avoid smoking and drinking for at least 10 minutes before the test and gargle with clear water before the test to ensure the accuracy of the test results. The alcohol residue can influence on the reliability of the test results.

## Power Supply Description

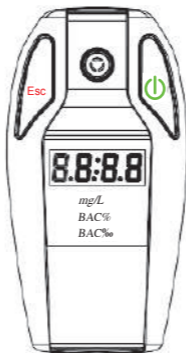
### **Please read the instructions carefully**

1. Open the back battery slot.
2. Mount one load circuit protection rechargeable lithium battery. (3.7V)
3. When "Lo bat" flickers, the battery is dead. There is a need to replace battery or charge with USB connection. When charging, the red light is on, and when fully charged, the red light goes out.

## On/Off

If under shutdown status: press "  " button for 2 seconds to start. When the test results are displayed, long press "  " button to shut down.

When the tester is turned on, it automatically enters test mode.



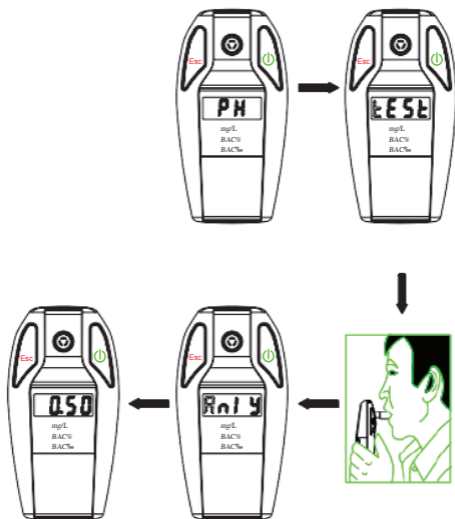
## Alcohol Test

2. In test mode, "PH" flickers, indicating sensor is in initialization. The initialization time is determined by the alcohol concentration of the previous test.
3. When "TEST" flickers, the sensor has been initialized and you can blow for testing. At this status, press "Esc" to exit the test mode and enter "ALCO" standby mode. If there is no blow test, it will automatically return to "ALCO" standby mode after 30 seconds.
4. In blowing test, the machine automatically detects the blowing time and

blows for about 6 seconds. When "Anly" flashes, please stop blowing. The tester automatically analyzes the alcohol concentration and displays the results.

In the process of blowing, if the blowing time is not enough or the blowing is interrupted, the detection failure is judged and "Err" is displayed. At this time, you can retest by pressing "ON/OFF" button.

Display range of test results: 0.0‰ - 4.0‰. HI is displayed when exceeding 4.0‰.



5. After the test result is displayed, press "ON/OFF" for 1 second to conduct the next test.
6. The display time of test results is about 120 seconds. It will return to "ALCO" standby mode after 120 seconds if no manually interruption.

**Warning:** When the test result exceeds the alarm value, the red light at "!" is on with the alarm sound of the buzzer.

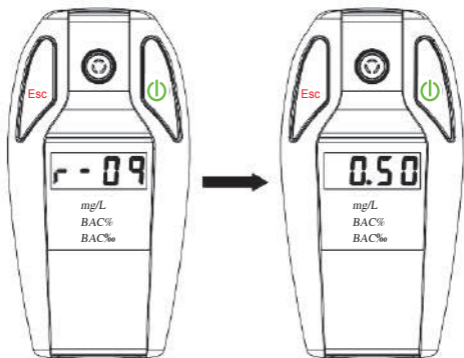
In "ALCO" standby state, it will automatically enter "sleepy mode" in 30 seconds without pressing any button.

## Test Record

Press "ESC" button for 3 seconds in "ALCO" mode or press "ESC" button for 3 seconds to enter the record mode.

The tester can store 10 records (00-09). For example for the 9<sup>th</sup> record (the data is 0.50‰), r-09 and 0.50 flash alternately.





In record mode, press "ESC" for 1 second to look forward and long press "ESC" to exit from record mode. The record storage mode is FIFO. When the storage is full, the latest record results automatically overwrite the first record.

## System Settings & Calibration

### ① Unit Setting

Selection of 3 units:

Permillage (‰BAC); Percentage (%BAC); mg/L;

### ② Alarm Value Setting

Take permillage as an example:

BAC1 (0.1‰BAC) BAC2(0.2‰BAC), BAC3(0.3‰BAC),  
BAC5 (0.5‰BAC) and BAC8 (0.8‰BAC)

③ **"mg/L" Unit Coefficient Setting:**

Conversion coefficient between Mg/L and permillage:

2.0, 2.1, 2.2 and 2.3.

④ **How to Set Alarm Value and Unit ?**

1. In the ALCO standby mode, press the left and right buttons at the same time about 3 seconds, then the screen shows 0000 to enter the password setting mode, the default password is 1818. Setting to 1818 status through pressing the left and right buttons, you will go to the unit setting status several seconds after you put the default password 1818, then click the button ESC to adjust the alarm value selection from 0.1 0.2 0.3 0.5 0.8. Click the right power button to switch the 3 different units: ‰BAC,‰BAC,mg/L.

2. The adjustment will be quit to ALCO waiting mode automatically after a few seconds.

⑤. **Calibration**

**Only technicians authorized by EEK are allowed to modify and correct the data.**

**Notes: System setup and calibration have password control. Only our authorized service center can handle calibration.**

## Important Notes

- When the alcohol tester is not in use for a long time or works in a low temperature environment, the initialization / heating time of the instrument test will be prolonged.
- When the instrument is not in use, place it in a dry environment at room temperature.
- Avoid exposure to extreme conditions, such as long periods of direct sunlight.

- If the difference of two continuous test results is larger than 0.1‰BAC or 0.01% BAC or 0.05 mg/L, it should be retested by the user.
- During the breath sampling test, please do not block the vent.

## Liability for Proper Function or Damage

Do not unpack EK911. The warranty is invalid if the warranty label is damaged.

## Technical Parameters

- Fuel Cell / Electro-chemical sensor
- Display range: 0.00~4.00‰BAC or 0.00~0.400%BAC or 0.00 ~2.00mg/L  
(The conversion coefficient of ‰ and mg/L takes 2.0 as an example)
- Power supply: 3.7V rechargeable lithium battery
- Display: 4-digit LED
- Size: 105 x 55 x 20 mm.
- Weight: 190g.
- Operating temperature: -5°C~50°C
- Certificate: CE RoHS FCC FDA
- Accessories: 5 mouthpieces.

## Precautions

- Alcohol concentrations in the blood of the subjects may change in a matter of minutes.
- Please do not use this instrument to determine whether you can drive. The test results are only used for reference without legal effect.
- For your health, please do not drink heavily! Whether you drive or not, make sure your alcohol concentration does not exceed the alarm value.
- For accuracy and hygiene reasons, replace the new mouthpiece with each test.
- Please take care of fragile items.

# Fuel Cell Technology



## Working Principle of Alcohol Tester

The alcohol tester collects lung gas and simulates the principle of measuring the alcohol content (BAC) in human blood.

When alcohol enters the circulatory system through digestive organs such as the stomach, intestine, liver, and so on, it is scattered in every part of the body, including the lung organs; When blood passes through the lungs, alcohol spreads through the capillaries into the lung cavity and into the respiratory tract. Long-term experiments have shown that the concentration of alcohol spread through the lungs to the respiratory tract is proportional to the concentration of alcohol in the blood.

By measuring the amount of alcohol exhaled from human lungs, the relative alcohol concentration (BAC) in human blood is calculated by the alcohol tester. The calculated ratio is different in different countries and for different races. The ratio is 2200:1 in China and some countries or regions. In simple terms, the concentration of alcohol in every 2200 milliliters of breathing gas, is equal to the concentration of alcohol in one milliliter of blood (2300:1, 2100:1, 2000:1 in other countries or regions; 2,300:1 in Hong Kong).

Alcohol tester can be used to measure the alcohol concentration (BrAC) in the body lungs and further calculate the blood alcohol concentration in the human body. Because sufficient gas from the lung is needed, it should be blown for at least 5 minutes when using the alcohol tester. At the same time, it is recommended that alcohol tests take place 20 minutes after drinking, during which time you do not smoke, and that you gargle with clear water to detect correct blood alcohol readings.

## Principles of Fuel Cell Technology Alcohol Sensor

Fuel Cell Technology alcohol sensor works by obtaining principle of positive proportional current of alcohol molecules with platinum catalyzed "combustion" of alcohol molecules through Fuel Cell Technology method. This is also the fastest and most stable measurement technology of alcohol concentration at present.

### Maintenance

★ Manufacturers have the right to modify technical indicators, packaging and accessories without prior notice.

**Many factors (such as the surrounding air residues, smoke and odors in the mouth) will affect the test results of the alcohol tester, so please rinse the mouth with clean water before the test and test it for at least 10 minutes after you drink. The test results are for reference only.**

**The manufacturer and seller shall not be liable for any accident caused by drink driving or other actions by the user of this product. Please do not drink driving.**

Made in China

