

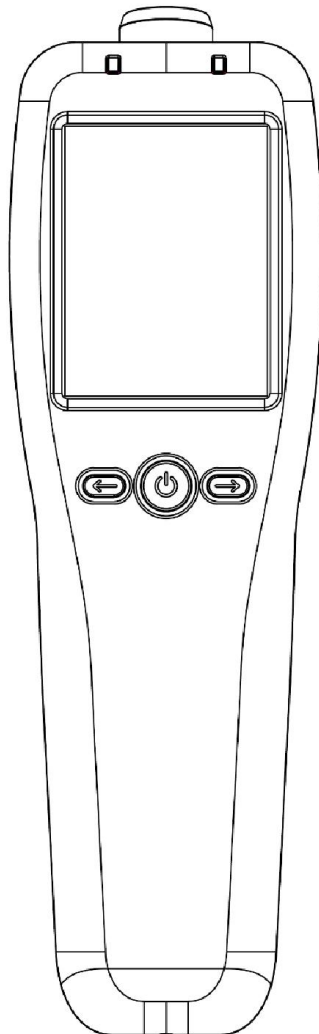


**ALCOVISOR<sup>®</sup>**

MODEL: Saturn

# Instruction Manual

(Use with Smartphone App)

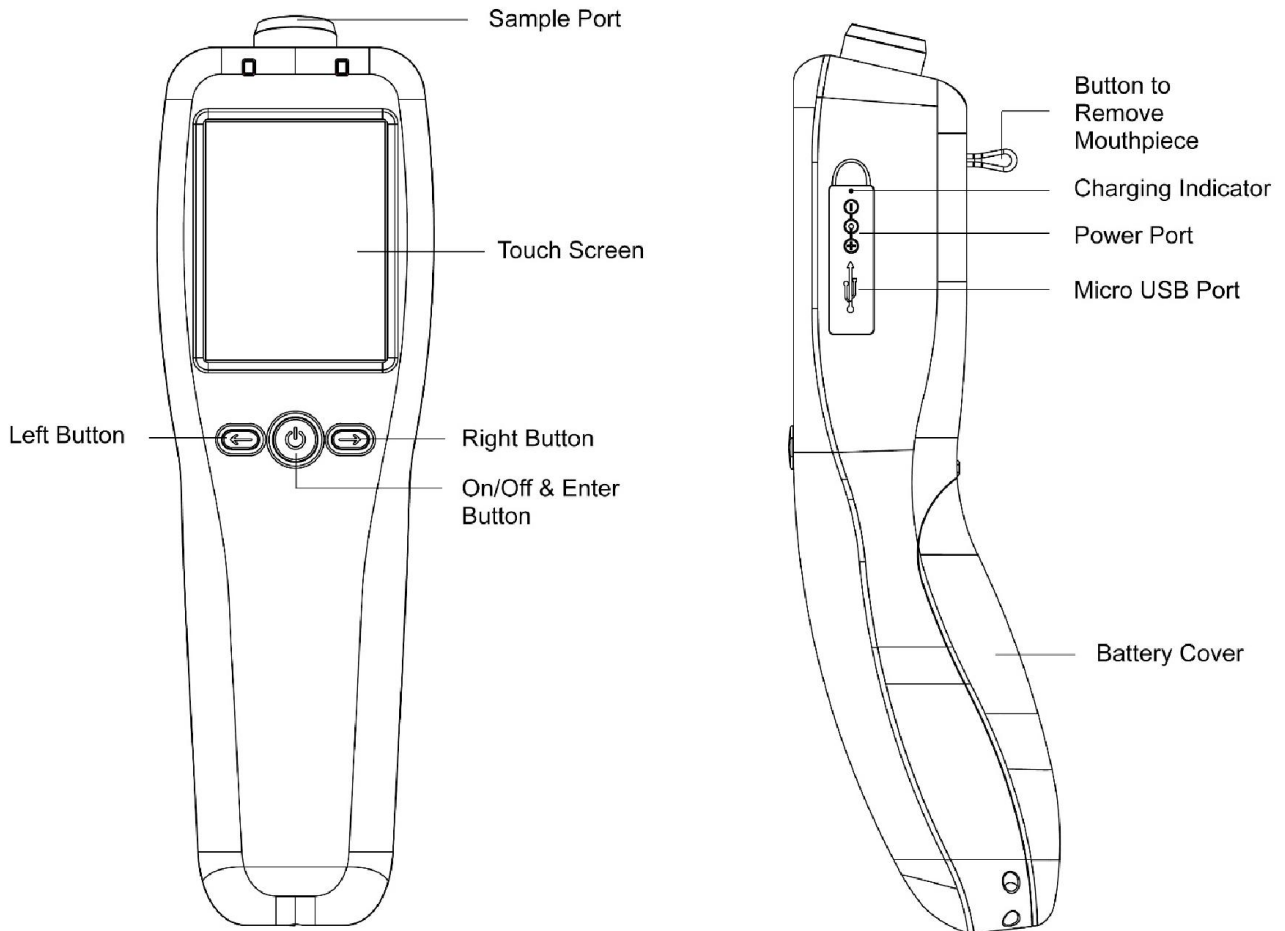




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# STRUCTURES



**Operator needs to read operation manual and familiar with the operation before using. Retain the manual for future reference.**

# INSTRUMENT FEATURES

## PLEASE REFER TO DIAGRAM ON PAGE 1

### 1. DISPOSABLE MOUTHPIECE

For sanitary reason, each mouthpiece is individually packed and sealed. New mouthpiece should be attached to sample port for each test to prevent any contamination from the previous sample.

### 2. SAMPLING CUP

Sampling Cup is reusable. Attach sampling cup to the sample port. Do not touch the sampling cup with the mouth while providing a breath sample. Remove the sampling cup after use and clean it for next use.

### 3. BUTTON TO REMOVE MOUTHPIECE

For sanitary reason, the mouthpiece can be removed by push the button on the back of the device.

### 4. TOUCH SCREEN DISPLAY

A touch screen display that will display corresponding instructions and alcohol concentration of the subject being test.

### 5. ON/OFF BUTTON

Press and hold the On/Off button to turn on or turn off the device.

### 6. BATTERY CHARGING

Rechargeable batteries can be used and charged inside the device. The battery charging indicator turns red when charging, when the batteries are fully charged, the indicator turns off.

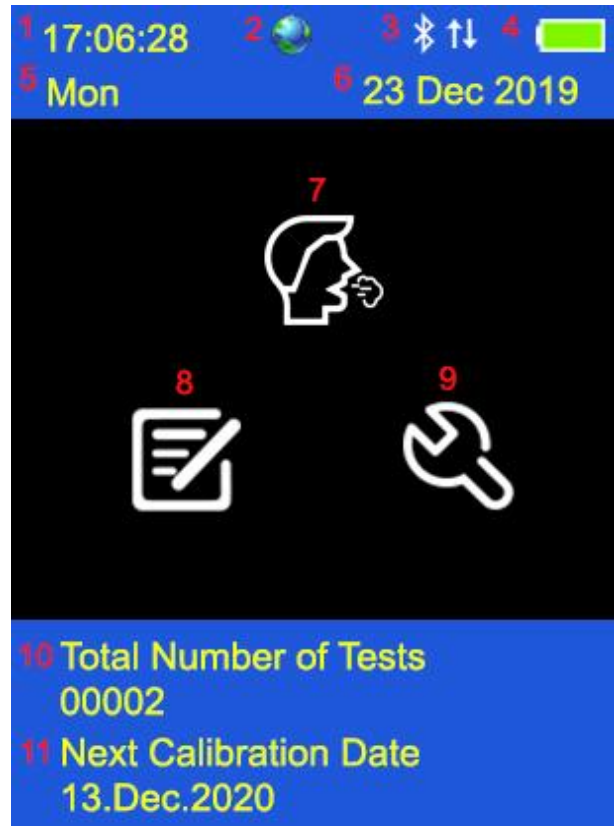
### 7. EXTERNAL POWER CONNECTORS

Connectors for 12V car (cigarette) adapter or optional 12V power transformer. Battery can be charged inside the device.

### 8. USB connector

Use an USB cable to upload test records stored in the memory and upgrade the software.

## ICON DESCRIPTION



1	Time Indicator	7	Test
2	GPS Indicator	8	Test Records
3	Bluetooth Connection Indicator	9	Settings
4	Battery Indicator	10	Total Number of Tests
5	Weekday Indicator	11	Next Calibration Date
6	Date Indicator		

## TOUCH SCREEN CALIBRATION

If the touch screen is not sensitive enough, please calibrate the screen. Switch off the device, press and hold the On/Off button (middle button) and then press the left button immediately. Use a stylus pen and follow the instruction on the screen to calibrate the screen.

# INTRODUCTION

It is a state of the art instrument used to detect Ethyl Alcohol from a valid breath sample. It uses an electrochemical fuel cell to measure the concentration of alcohol from the sample of the expired breath from a human subject. If alcohol is present, a corresponding voltage is generated from the fuel cell, which is proportional to the alcohol content of the sample provided by a human subject. This voltage is then sent to the CPU and converted to a subject's BAC which is then displayed.

## **Instrument Features:**

1. Test record storage is more than 16,000 entries depending on the length of the records being stored. Capability of uploading test records for record keeping.
2. Use disposable mouthpieces or sampling cups to prevent foreign matter from entering.
3. A plastic case is included for storing the device and accessories for easy transport. When not in use, the device and accessories should be stored in this plastic case to prevent damage.
4. Ability to run as often as needed. Recovery time between tests on average is 30 seconds between positive tests.
5. Powered by 4 AA alkaline batteries or rechargeable batteries. Batteries are located behind the sliding cover on the back of the device. The level of power left in the batteries is indicated on the screen. A cigarette plug adapter is also included for use by the operator.
6. Rechargeable batteries can be used and charged inside the device. The battery charging indicator turns red when charging, when the batteries are fully charged, the indicator turns off.
7. Storage temperature range is -25°C to 70°C, storage humidity is 15% to 90%, inappropriate storage of the device will shorten the lifespan of the fuel cell sensor.

# OPERATING INSTRUCTIONS

## Pre-test Conditions

1. Operating temperature range is  $-10^{\circ}\text{C}$  to  $50^{\circ}\text{C}$ . Use within this temperature range will limit condensation from a subject breath to insure an accurate reading from a breath sample.
2. It is recommended that the operator to observe a subject for about 20 minutes before administering the breath test to insure that nothing is consumed or expelled from the mouth of the subject. Following this procedure will eliminate reading from mouth alcohol.



### Test

1. Attach a disposable mouthpiece onto the sample port.
  2. Input information in touch screen.
- NOTE:** Maximum 16 characters for each input.
3. When displays “Please Blow”, take a deep breath and blow until BEEP tone stops.
  4. Test result displays on the display.
  5. If printer is using, select “Print” to print the test result.
  6. Select “Retest” to start another test.
  7. If testee did not blow within 30 seconds, tester can select “Refuse” to confirm the testee refused to do the test; or select “Test Again” to allow testee to do the test again.
  8. If testee failed to give a valid breath sample, tester can select “Discontinue” to confirm; or select “Test Again” to allow testee to do the test again.
  9. A passive test can be performed by select “Manual” during the testee is blowing.
  10. Push the mouthpiece removal button to remove the mouthpiece.
  11. 16,000 test records can be stored, if memory limit is reached, new test is not available. Send the device to service centre to upload test results to PC and clear out all memories and use it again.



## Screening Test



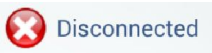


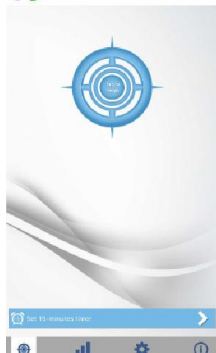


1. To perform screening test, select “On” in the “Screening” option in “Setting”
2. Attach a sampling cup onto the sample port.
3. When displays “Please Blow”, take a deep breath and blow to the sampling cup until BEEP tone stops.
4. “Alcohol Detected” or “No Alcohol” displays on the display.
5. A passive test can be performed by select “Manual” during the testee is blowing.
6. Select “Retest” to start another test.
7. If “Alcohol Present”, use mouthpiece to perform a standard test to obtain an accurate test result with reading.

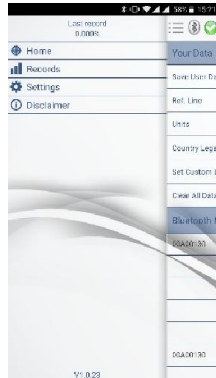
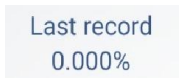
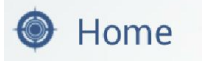




**NOTE:** This mode is only used for screening purpose to check whether alcohol is found in the breath sample. An accurate test result can only be obtained by standard test.





**NOTE:** This mode is disabled when connecting to the mobile phone App.











## Test with Smartphone App

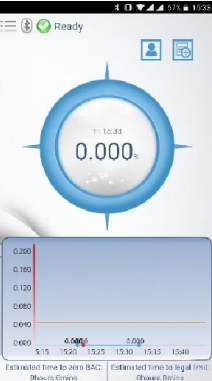

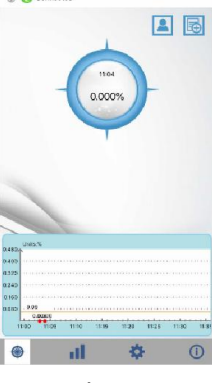

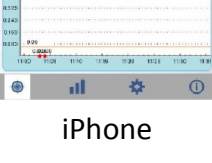

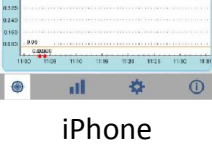

1. The Android and IOS mobile APP “Alcovisor Elite” can be used with the device, compatible with Android version 4.3+ and IOS 9.0+, and the internal bluetooth module of the mobile is 4.0+
2. Switch on the device, and open the App “Alcovisor Elite”. Both Bluetooth signal and connection signal is shown when it is successfully connected with the App.
3. Once the device is connected with the App, the device will be controlled by the App, all buttons on the screen will be disabled.
4. Attach a disposable mouthpiece onto the sample port.
5. Press “Tap to begin” on the mobile phone screen to start the test. The serial number of the device will be shown on the device screen.
6. Face the mobile phone camera, make sure the face and serial number is clearly shown on the mobile phone screen.
7. Take a deep breath and blow until BEEP tone stops.
8. Test result will be shown on both the device and the App.




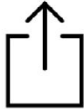
		Icon	Function
 <p>Android</p>			Android: Listing Menu iPhone: The menu is at the bottom
			Disconnected
			Connecting
			Connected
	 <p>iPhone</p>		
			There must be an interval of at least 15 minutes after alcohol has been taken into the mouth. Residues of alcohol in the mouth may give false measurements.










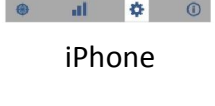




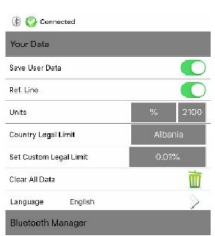

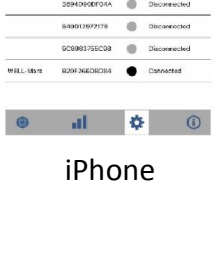
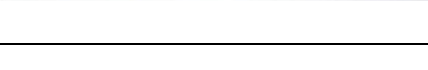

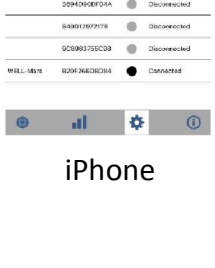

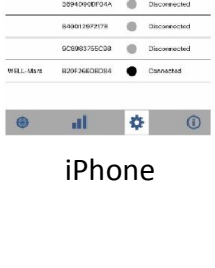
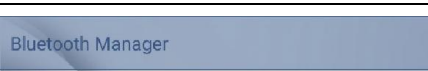
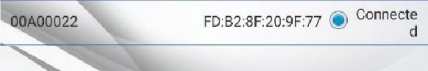
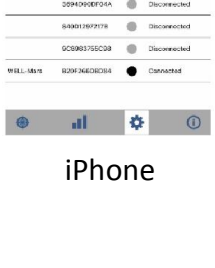
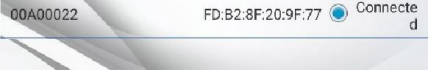
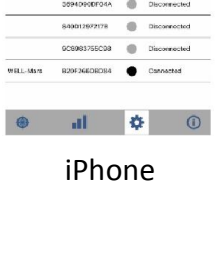


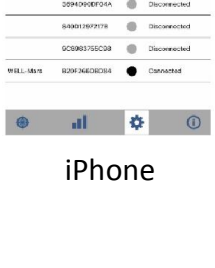

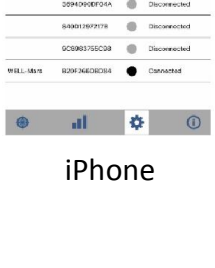


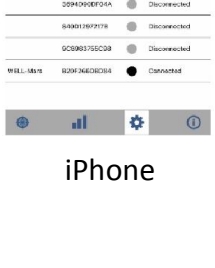

		Icon	Function
 <p>Android</p>			Show last test record
			Back to home menu
			Test record history
			Settings
	 <p>iPhone</p>		

	Icon	Function
 <p data-bbox="245 651 352 680">Android</p>		<p data-bbox="815 237 1422 416">When the device screen display “Please Blow” and the mobile start the camera, face the camera, take a deep breath and blow CONTINUOUSLY until a click sound is heard. Test result with time of test will be shown. A photo will be taken during the test with test results printed on it.</p> <p data-bbox="815 573 1299 607">Android: Photo is saved in <b>/Alcovisor</b>.</p> <p data-bbox="815 622 1414 703">iPhone: Photo is saved inside the app and can be exported to Photos.</p>
 <p data-bbox="245 1173 352 1202">iPhone</p>		<p data-bbox="815 931 1406 1012">Tap this button to switch from front and back camera</p>

Records	Icon	Function
		<p>Show all the test results. Select the specific record to show the details.</p>
<p><b>Android</b></p> 		<p>Add remarks of the specific test records.</p>
<p><b>Android</b></p> 		<p>Tap this button to review the test photos.</p>
		<p>Date of the test, maximum days can be search is 1000 days.</p>
<p><b>iPhone</b></p> 		<p>Time and test result.</p>

Records	Icon	Function
		<p>Tap this button to review the test photos.</p>
<p><b>Android</b></p> 		<p>Tap this button to add remarks.</p>
<p><b>iPhone</b></p> 		<p>Test Result</p>
		<p>Show the curve of the test results within 1 hour. The yellow line is the line for the alcohol alert limit, it can be set on the Settings page.</p>

Test Photo	Icon	Function
 <p>Android</p>	<p>SN: 00A00022 Last Calibration Date: 18 Apr, 2019 Test result: 0.000% Date: 20 Apr, 2018 Time: 17:21:28</p>	<p>Test Result Details</p>
 <p>iPhone</p>	 <p>or</p> 	<p>Tap this button to share your test photo.</p>

Settings	Icon	Features
 <p>Android</p>		<p>Auto save test records (On/Off)</p>
 <p>iPhone</p>		<p>Display the yellow line for the alcohol alert limit (On/Off).</p>
		<p>Set measurement unit and the BAC : BrAC ratio (only apply to mg/L and µg/100mL) according to the local regulation.</p>
	 	<p>Set the corresponding country and custom legal limit (For reference only).</p>
		<p>Delete all test records.</p>
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	 	<p>Set the corresponding country and custom legal limit (For reference only).</p>
		<p>Delete all test records.</p>



## Test Record

1. 16,000 test records can be stored, depending on the length of the records.
2. Individual test record can be printed by selecting “Print”.
3. Use “←” or “→” to move to the previous or next record.



## Setting

### 1. Auto Off

Select time limit to turn off the device automatically, select “Enter” to confirm

### 2. Cali

- i. When the screen displays “Calibration Needed”, send the device for calibration.
- ii. A password is needed for calibration to ensure calibration is performed by eligible persons. Please refer to Calibration Instruction.

### 3. Advanced Setting

- i. Only legitimated persons are allowed for advanced setting.
- ii. Please refer to Advanced Setting Instruction.

### 4. Screening

Turn on or turn off the screening / passive test mode.

### 5. GPS

- i. Longitude and Latitude of location of the device will be shown.
- ii. Longitude and Latitude of the test is stored and printed on the printout.  
**NOTE:** GPS system only functioned 5-10 minutes after turn on the device. It can only receive signal in open area. If there is no GPS signal, the Longitude and Latitude will not be shown on the printout.

## **6. Date & Time**

- i. Input date and time in the format of `yyymmddhhmmss` and select “Enter” to confirm
- ii. If the device is connected with the App by Bluetooth, date and time will be adjusted automatically according to the time of the phone.

7. **Brightness:** Adjust the brightness level of screen.

## **8. Print**

- i. Select “Auto Print” to print the result automatically after each test without selecting “Print” manually.
- ii. Select number of printout copies needed and Select “Enter” to confirm.

## **9. Mirror Display**

Some mobile phone models may take in a reversed image during test, in this case, select Mirror Display to have a reverse the image.

## **10. Keyboard**

Disselect “Keyboard” to disable the keyboard.



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