Intoximeters
Experience · Service · Integrity

Alco-Sensor® FST With Printer
User Manual

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UK Commercial Software

Note: In this manual the Alco-Sensor® FST is also referred to as the AS-FST.

be sent to the Service Center with a description of the difficulty (postage and insurance prepaid).

Intoximeters Authorized Sales/Service Outlet assumes no risk for damage in transit. Intoximeters Authorized Sales/Service Outlet will pay return postage for a product repaired under warranty. If Intoximeters Authorized Sales/Service Outlet determines that the failure was caused by misuse, alteration, accident or abnormal condition of operation or handling, Intoximeters Authorized Sales/Service Outlet will provide an estimate of repair costs before the repairs are made. Following repair, the product will be returned to the purchaser via ground transportation prepaid (overnight or express delivery charges are additional), and the purchaser will be billed for the repair and the shipping cost.

Warranty service is available outside the United States only on products purchased through an Intoximeters Authorized Sales/Service Outlet in the country of use, or if the Purchaser has paid the applicable Intoximeters international price. If Purchaser transports a product from the United States without having paid the applicable Intoximeters price, the product must be returned to the United States to receive warranty service. Purchaser shall pay for transportation to the service center and shall bear the risk of loss or damage in transit for all products so returned to the United States. Intoximeters reserves the right to invoice the Purchaser for importation costs of repair/replacement parts when the product purchased in one country is exported and submitted for repair or service in another country.

THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. INTOXIMETERS SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, WHETHER ARISING FROM BREACH OF WARRANTY OR BASED ON CONTRACT, TORT, RELIANCE OR ANY OTHER THEORY.

Note: Some countries or states do not allow the foregoing limitations. Other rights may also vary.

Warranty

Unless otherwise determined by the purchase agreement Intoximeters, Inc. ("Intoximeters") warrants to the original user-purchaser that all new *Intoximeters Breath Alcohol Analyzers* are free from defects in material and workmanship, under normal use and service, for a period of twelve (12) months from original invoice date. The following are not covered under this warranty: consumables or supplies (i.e. mouthpieces, calibration gas, ink ribbons, printer paper) nor any damage which has, in Intoximeters Authorized Sales/Service Outlet opinion, been the result of misuse, alteration, accident or abnormal conditions of operation or handling. Also excluded from coverage under this agreement are printers, keyboards and other hardware that are not manufactured by or for Intoximeters Inc. and do not carry the Intoximeters trademark, trade name, or logo affixed to them.

Licensed Firmware/Software is warranted to perform substantially in accordance with the accompanying written materials. Firmware/Software is warranted to be free from defects in materials and workmanship under normal use and service for a period of twelve months from original invoice date.

If the product, under warranty, is returned to an Intoximeters Authorized Service Center and, upon examination, it is determined to be defective, Intoximeters Authorized Sales/Service Outlet obligation is limited to repair, replacement or refund of purchase price. Intoximeters Authorized Sales/Service Outlet reserves the option to choose repair, replacement or refund as the means to satisfy this obligation. All products that are replaced become the property of Intoximeters. Any replaced or repaired product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer. Components not repaired or replaced do not receive an extended ninety (90) day warranty.

Intoximeters shall not be responsible for any custom firmware/software, custom configuration information or memory data of customer information contained in, stored on, or integrated with any products returned to Intoximeters, Inc. pursuant to any warranty, repair or recertification.

CAUTION: THE INTOXIMETERS BREATH ALCOHOL ANALYZERS CONTAIN STATIC-SENSITIVE MEMORY DEVICES. THE UNIT'S CASING SHOULD ONLY BE OPENED BY A FACTORY AUTHORIZED TECHNICIAN.

This warranty does not apply if the product has been repaired or modified by someone by someone other than a factory authorized technician without written permission from Intoximeters; if consumables or parts other than Intoximeters approved consumables and parts are used in operation or replacement or repair; or if any Intoximeters serial number has been removed or defaced.

For warranty service, contact your nearest Intoximeters Authorized Service Center to obtain an authorization return number and the address of the closed repair center. The product should

Table of Contents

Instrument Storage

Storage in cold or moderately hot environments will not harm the AS-FST. For prolonged storage avoid extremely humid or arid environments.

Optimal Storage Conditions

Temperature: -15°C to 50°C   (3° F to 122° F)

Humidity: 30% to 95% relative humidity (non-condensing)

Pressure: 450 to 1000 mmHg

Basic Safety Tips

The AS-FST should be used in accordance with the information provided in this manual.

General Information

Disclaimer

The authors of this document have made their best efforts in preparing this information and ensuring that the technical content is accurate at the time of publication. **Intoximeters, Inc.** does not accept any responsibility for technical inaccuracies and reserves the right to make periodic changes, enhancements, revisions and alterations to the programs and/or its manuals without obligation to notify any person, institution or organization of such changes, enhancements, revisions, and alterations.

Safety

For correct and effective use of the described instrument, it is essential to read and strictly follow the instructions contained in this document. The described instrument is to be used only for the purpose specified herein

Maintenance

Repairs of the described instrument may only be performed by **Intoximeters, Inc.** or an **Intoximeters** authorized service organization.

Only original **Intoximeters** spare parts may be used.

Unpacking and Setup

•Carefully open the packing carton and remove contents.
•Refer to the packing list in the box to ensure all items are accounted for.
•Inspect for any sign of shipping damage.

DO NOT DISCARD CARTON OR PACKING MATERIALS UNTIL YOU ARE SURE THAT ALL PARTS OF SHIPMENT ARE DAMAGE-FREE AND IN WORKING ORDER. IN THE EVENT OF DAMAGE CONTACT THE CARRIER AND INTOXIMETERS IMMEDIATELY

License Agreement

The Firmware/Software within the instrument is the property of **Intoximeters, Inc.** and is protected by US Copyright Law, Trademark Law and International Treaty Provisions. No ownership or title to the Firmware/Software is transferred to the

Purchaser. **Intoximeters, Inc.** does not grant any express or implied right to the Purchased under **Intoximeters, Inc.'s** patents, copyrights, trademarks, or trade secret information, except as set forth immediately below. **Intoximeters, Inc.** grants purchaser a non-exclusive license to use the Firmware/Software as part of Purchaser's use of the Hardware and under the following terms and conditions:

- Purchaser shall not remove or obscure **Intoximeters, Inc.'s** copyright, trademark or proprietary notice from the Hardware and any documentation associated with the Hardware;

- Purchaser shall not copy, sell, transfer, loan, rent, lease, modify, extend, improve, or create derivative works or alter the Firmware/Software in any way, nor shall Purchaser allow any other entity to do so, without the express written consent of **Intoximeters, Inc.** ;

- Purchaser shall take appropriate steps to prevent any unauthorized copying of the Firmware/Software;

- Purchaser shall not take any actions inconsistent with **Intoximeters, Inc.'s** ownership of the Firmware/Software;

- Purchaser shall not reverse engineer, decompile, or disassemble the Firmware/Software or otherwise attempt to derive source code from the Firmware/Software, nor shall Purchaser allow any other entity to do so. The foregoing license is nontransferable, except in conjunction with a permanent transfer of the Hardware to another entity and providing such other entity expressly acknowledges and agrees to the terms and conditions of this license.

the instrument temperature is at or within the Minimum and Maximum Temp range the unit will operate.

TEST TYPE	MIN TEMP	MAX TEMP
Breath Test	0° C	50° C

The desired operating environment is one where:

- The atmospheric pressure is between 450 and 1,000 mmHg
- The environmental relative humidity is between 10 % and 95 %, non-condensing
- The environment is smoke free*
- The air in the environment is free of measurable levels of ambient alcohol*

*Prior to performing a subject test, the instrument monitors the environment for possible substances that might interfere with the analysis of a subsequent sample. A successful pretest sensor blank, performed with each test, is a requirement for the test sequence to continue. If the blank test fails, testing will be aborted. If the blank test passes, the instrument has demonstrated that the environment is free of alcohol or an interfering substance. When the pretest condition cannot be met, due to alcohol from a prior test or environmental contaminant, moving the test process to an environment that is free of the contamination should allow testing to continue. DO NOT BLOW RAW CIGARETTE SMOKE INTO THE INSTRUMENT; IT MAY SHORTEN THE LIFE OF THE FUEL CELL SENSOR.

Preventive Maintenance

Servicing

Intoximeters offers factory support from its Headquarters in St. Louis, Missouri USA and its Totnes, UK offices or from one of its many Factory Authorized Service Centers located around the world. Up to date regional support information can be found on our website at www.intox.com.

Cleaning

The AS-FST can be cleaned using a damp cloth, but it is important that the instrument is dried thoroughly after wiping down.

- Do not use solvents to clean the instrument
- Do not allow liquids to enter the fuel cell sample inlet or the pressure sensor sample inlet
- If alcohol is used to clean the instrument, wait fifteen (15) minutes after the instrument has been dried before performing subject tests

Operator Training

Even though the AS-FST has a very simple sample collection process, training on the use of the instrument is recommended. Training is available through a variety of mediums. For further information on training sessions and the availability of training tools contact Intoximeters, Inc.

Periodic Verifications

To validate the accuracy and precision of your AS-FST, performing periodic accuracy checks (aka Verifications) and recording the results will build a set of data that can be used later to demonstrate the instrument's consistency in performance.

Temperature Requirements

The table below identifies the basic operating temperatures for this AS-FST. This table reflects the temperature of the instrument itself, and as long as

Instrument Operating Components

Mouthpiece

The mouthpiece is a critical portion of the sample assembly and specifically designed to be used with the Alco-Sensor FST.

The cross section is a "D" shape which helps orient the mouthpiece when placing it on the instrument. By inserting the closed end of the mouthpiece into the mouthpiece channel, and then rotating the shaft of the mouthpiece downward, the flat side of the mouthpiece and the two holes on the underside of the mouthpiece will naturally align and attach to the appropriate ports on the Alco-Sensor FST.

Use only mouthpieces manufactured or approved by Intoximeters. The design of the mouthpiece can affect both the analytical process and/or damage the instrument. Using unapproved mouthpieces can void the instrument warranty and make it impossible for Intoximeters to support test results generated while using these unapproved parts.

Drink Sniffer/Mouthpiece

The Drink Sniffer/Mouthpiece attachment is designed to improve the ASFST's ability to test the 'headspace' above a beverage for the presence of alcohol.

Passive Sample Cup

The Passive Sampling Cup is designed to help automatically collect an air sample while a subject is blowing in the direction of the instrument. For best passive results have the subject's mouth about two inches from the top of the cup, while the subject is blowing into the cup.

Display

The display turns on when the instrument is powered ON. If it is necessary to backlight the display, pressing and holding the ON button down for an additional second will illuminate the backlighting.

Various commands and symbols appear on the display to direct the operator through the testing protocol and to alert the operator of improper testing conditions detected by the system.

ON Button

The ON button (labeled with a "I" symbol) is the larger of the two buttons on the Alco-Sensor FST case. This button is located opposite the display and will naturally rest under the operator's forefinger when holding the instrument. The primary function of the button is to turn the instrument ON, and this is accomplished by pressing the button down for one second, a beep and/or the display powering ON will indicate that power up has been successful. (Note: If you want to illuminate the display, hold the ON button down for an extra second on power up or press the ON button at any point when the temperature is being displayed and the display will illuminate). The ON button also allows an operator to capture a manual sample.

Additionally, the ON button is used to toggle through menu items to access certain features of the instrument. The steps are described later in this manual.
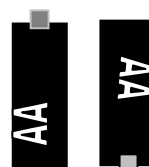
OFF Button

The OFF button (labeled with an "0" symbol) is located on the Alco-Sensor FST case beneath the display; depressing it and holding it down for two seconds, during normal operation, will manually turn the instrument off. Manually turning the instrument off will always reset the instrument to the standard subject test sequence. Note: The instrument does have an auto power down feature, which powers the instrument down when it has not been used for a period of time.

The OFF button is also used to select several other features of the instrument. The steps are described throughout this manual.

	moderate rate of breath flow.
Flow CUT	Subject provided enough breath flow to capture a sample but their breath flow stopped too abruptly. Subject is given a preset number of attempts to provide an adequate sample before the test is aborted. Instruct the subject to provide a continuous sample with a moderate rate of breath flow.
RFI	Instrument detected possible radio frequency interference at the time of the test and aborted the test process.
RCL	Indicates that the result that is being viewed is a recalled test result from the previous sample.
E03	Blank Timeout (> 60 seconds)
E06	Exceeded Sample Attempt Allotment
E07	Bad Calibration (Invalid Sample)
Too / Cold	Temp too Cold for Test Type Being Performed
Too / Hot	Temp too Hot for Test Type Being Performed
E31	Result Over Range – Alcohol content above the defined limit
E63	Date & Time need to be set

Status Messages

blnk	Indicates that a blank test is in process
OFF	Indicates that the instrument has been turned OFF
PRT	Indicates that the instrument is printing
Blow	Indicates that the instrument is ready to accept a sample
PAS	In the Menu this menu item indicates the Passive Testing Option
NEG	Indicates, during a PASSIVE TEST, that the prior test result was negative
POS	Indicates, during a PASSIVE TEST, that the prior test was positive
RBL	In the Menu this menu item indicates the Screen Test / Road Block Testing Mode
ACC	Menu item indicating the Accuracy Check Mode Option
CAL	Menu item indicating the Calibration Mode Option
DSR	Menu item indicating the software revision identification
CKS	Menu item indicating the instruments security checksum
Time	Menu item to set the instruments Date & Time
Bat	Battery power low – Change the battery
LOW Flow	Subject's breath flow fell below the instrument's minimum flow requirements before the minimum volume requirement was met. Subject is given a preset number of attempts to provide an adequate sample before the test is aborted. Instruct the subject to provide a continuous sample with a moderate rate of breath flow.
HIGH Flow	Subject's breath flow exceeded maximum allowable flow rate. Subject is given a preset number of attempts to provide an adequate sample before the test is aborted. Instruct the subject to provide a continuous sample with a moderate rate of breath flow.
INS Flow	Subject's breath flow was not consistent. Subject is given a preset number of attempts to provide an adequate sample before the test is aborted. Instruct the subject to provide a continuous sample with a

Batteries

The battery cover is located on the base of the Alco-Sensor FST. Two AA batteries should run well in excess of 1500 tests at room temperature. *When changing batteries always replace both batteries.*

Caution

When changing batteries always replace both batteries and never mix battery types.

When installing **batteries**, the **proper** polarity, or direction, must be observed. (On both the inside of the case and on the circuit board in the battery compartment there is a guide for proper polarity or direction).
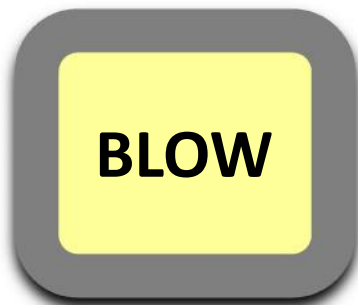
Performing a Direct Test

Ensure the Printer is powered ON and connected to the instrument with the cable provided prior to commencing the test.

1.) **Attach Mouthpiece**. Insert closed end of mouthpiece into end of channel, single hole facing up. Lever / push down the mouthpiece to lock into place.

2.) **Power On the Alco-Sensor FST**, by pressing the ON (Trigger) Button. Hold down the ON Button for 2 seconds if back lighting is preferred.

3.) Battery conditions and temperature will be displayed whilst the instrument performs a blank check.

4.) **When 'Blow' appears, instruct the subject how to correctly provide a breath sample** *"Take a deep breath, hold for a moment, and then blow long and steady until I tell you to stop"*

FST View Software

Intoximeters FST View Software is a Windows® application that allows the download of the current test memory from the Alco-Sensor FST into a .csv format for use with Microsoft Excel® or similar spreadsheet programs. To use this application with your instrument, an Interface Cable is required (sold separately).

4.) **Set the Day**. Press the ON button (large button) to set the first digit, Press OFF button to confirm. Repeat for the second digit, the display will flash 3 times to confirm before moving onto the next step.

D 23

5.) **Set the Hour (Using 24 Hour Clock)**. Press the ON button (large button) to set the first digit, Press OFF button to confirm. Repeat for the second digit, the display will flash 3 times to confirm before moving onto the next step. *Note: Time must be set to GMT.*
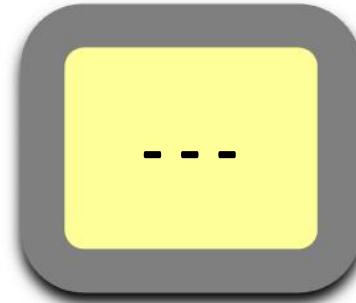
H 15

6.) **Set the Minute**. Press the ON button (large button) to set the first digit, Press OFF button to confirm. Repeat for the second digit, the display will flash 3 times to confirm and then power down. **THE DATE AND TIME ARE NOW SET**

M 47

5.) **Analyzing**. As soon as a successful breath sample has been captured, the analyzing signal is scrolled across the display.

- - -

6.) **Note the subject's result.**

27

7.) Remove & discard the mouthpiece

8.) **PRINTING** The instrument will automatically print the test result prior to powering down. Press the OFF button (small button under the display) or the instrument will auto-power down after fifteen seconds.

PRT

Performing a Passive Test

It is not possible to print the results of a Passive Test

1.) **Attach Passive Cup** to the instrument using the 'lip' on the bottom of the cup against the instrument to align the holes over the inlet ports. Push down to lock the Passive Cup into place.

2.) **Power ON the Alco-Sensor FST and select PAS function**. Hold down OFF (small button under display) button while pressing ON button (large button) to access MENU features. Press ON button to cycle through MENU until PAS is displayed. Press OFF button to select PAS function.

3.) Battery conditions and temperature will be displayed whilst the instrument performs a blank check.

4.) **When 'PAS' appears (flashing), instruct the subject to blow at the Passive Cup until the instrument automatically samples.**

Setting Date & Time (E63 Error Code)

If the batteries have been removed from the instrument for an extended period of time or an E63 error code is displayed during 'power up' the Date and Time on the instrument will need to be reset.

1.) **Power ON the Alco-Sensor FST and select 'Time' function**. Hold down OFF (small button under display) button while pressing ON button (large button) to access MENU features. Press ON button to cycle through MENU until 'Time' is displayed. Press OFF button to select 'Time' function.

2.) **Set the Year**. Press the ON button (large button) to set the first digit, Press OFF button to confirm. Repeat for the second digit, the display will flash 3 times to confirm before moving onto the next step.

3.) **Set the Month**. Press the ON button (large button) to set the first digit, Press OFF button to confirm. Repeat for the second digit, the display will flash 3 times to confirm before moving onto the next step.
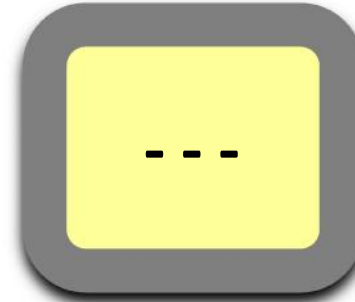
Recall and Reprint Last Test

The instrument will only reprint the last Direct Test result.

1.) **Power On the Alco-Sensor FST and select RCL function**. Hold down OFF (small button under display) button while pressing ON (Trigger) button to access MENU features. Press ON button to cycle through MENU until RCL is displayed. Press OFF button to select RCL function.

RCL

2.) Whilst RCL and the last Direct Test Result are displayed press ON (Trigger)Button to reprint the last test.

5.) **Analyzing**. As soon as a successful breath sample has been captured, the analyzing signal is scrolled across the display.

- - -

6.) **Note the subject's result**. 'NEG' for no alcohol has been detected, 'POS' for alcohol has been detected.

NEG **POS**

7.) **Standby Mode**. Following the displayed result the instrument will enter a standby mode. Pressing the ON button will start a new Passive Test.

8.) **Turn the instrument OFF**. Press the OFF Button (small button under the display) or the instrument will auto-power down after one minute when in standby mode.

Performing a Drink Sniffer Test

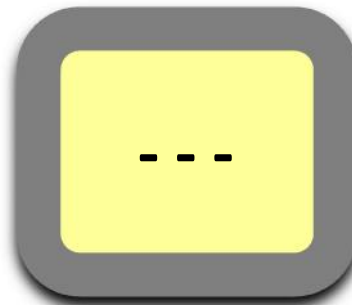It is not possible to print the results of a Drink Sniffer Test

1.) **Attach Drink Sniffer** to the instrument using the 'lip' on the bottom of the cup against the instrument to align the holes over the inlet ports. Push down to lock the Passive Cup into place.

2.) **Power ON the Alco-Sensor FST and select PAS function**. Hold down OFF (small button under display) button while pressing ON button (large button) to access MENU features. Press ON button to cycle through MENU until PAS is displayed. Press OFF button to select PAS function.

3.) Battery conditions and temperature will be displayed whilst the instrument performs a blank check.

4.) **Collect a Sample.** When 'PAS' appears (flashing), the instrument with the drink sniffer attached, should be positioned within one or two inches above the surface of the liquid. **(CAUTION: DO NOT IMMERSE THE DRINK SNIFFER ADAPTER OR THE UNIT IN THE LIQUID)**. After several seconds press the ON button and a sample will be captured for analysis.

5.) **Analyzing**. As soon as a successful breath sample has been captured, the analyzing signal is scrolled across the display.

6.) **Note the subject's result**. 'NEG' for no alcohol has been detected, 'POS' result likely indicates the presence of alcohol in the beverage.

7.) **Standby Mode**. Following the displayed result the instrument will enter a standby mode. Pressing the ON button will start a new Passive Test.

8.) **Turn the instrument OFF**. Press the OFF Button (small button under the display) or the instrument will auto-power down after one minute when in standby mode.