

# Centurion Zero Tolerance

## User Manual



# Centurion

zero tolerance

### Disclaimer – External Document note to reader

The qualitative alcohol reading obtained by correct use of this device is only considered accurate at the time of testing. Great care has been taken to ensure the correctness of each reading.

Neither the manufacturer, the distributor, nor the owner accepts liability or responsibility due to any action or claim arising from the reading produced by this device, whether used correctly or incorrectly.

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### WARNING

When inserting or removing the Exchangeable Sample Module ensure that the Centurion Zero Tolerance is correctly powered down first and power only applied once the sample module installation is complete.

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### 1 INTRODUCTION

This User Manual details the operation of the **Alcolizer Technology Centurion Zero Tolerance** alcohol breath testing instrument. This manual is divided into various Sections and Sub-sections to enable the user to access the required information with ease. It includes Warnings, Cautions and Notes applicable to the Centurion instrument and a detailed table outlining the specifications.

**Please note there is a separate user manual for the Centurion Quantum instrument.**

### 2 DESCRIPTION OF THE CENTURION ZERO

#### 2.1 The Instrument

Centurion Zero Tolerance is equipped with the latest technology and is designed to accommodate a wide range of uses across many industries. This Breathalyzer is designed for high volume, fixed point commercial and industrial alcohol breath testing applications where you need a “Go” or “No Go”. This is the ideal tester where you have Zero Tolerance, and just need an Alcohol detected or alcohol not detected.

The Alcolizer Centurion Zero Tolerance incorporates innovative and patented replacement module technology, so no more returning your Breathalyzer to base for service, we simply ship you an exchange module.

If you have Zero Tolerance for Alcohol this is the device for you, and when used in conjunction with a quality Police grade Breathalyzer, such as the Alcolizer LE5, HH4 or the HH3, will deliver a total solution for your business.

#### 2.2 Specifications

Item	Specification
Dimensions	410m (H) x 210mm (W) x 110mm (D)
Weight	4.5kg
Power	100-240V ~50/60Hz 75W
Housing	Steel construction
Sensor	Alcohol specific electrochemical fuel cell
Response Time	Within 3-5 seconds for a 0.100 g/210L BrAC reading
Display - Type	18cm (7”) colour graphics LCD
Recovery Time	Instantaneous for 0.000 BrAC readings (reading remains on screen for 10 seconds)
Measurement Display	Alcohol detected or not detected.
Operating Temp	-5 to 55°C
Storage Temp	-10 to 70°C
Calibration	12-month module exchange system for on-site calibration

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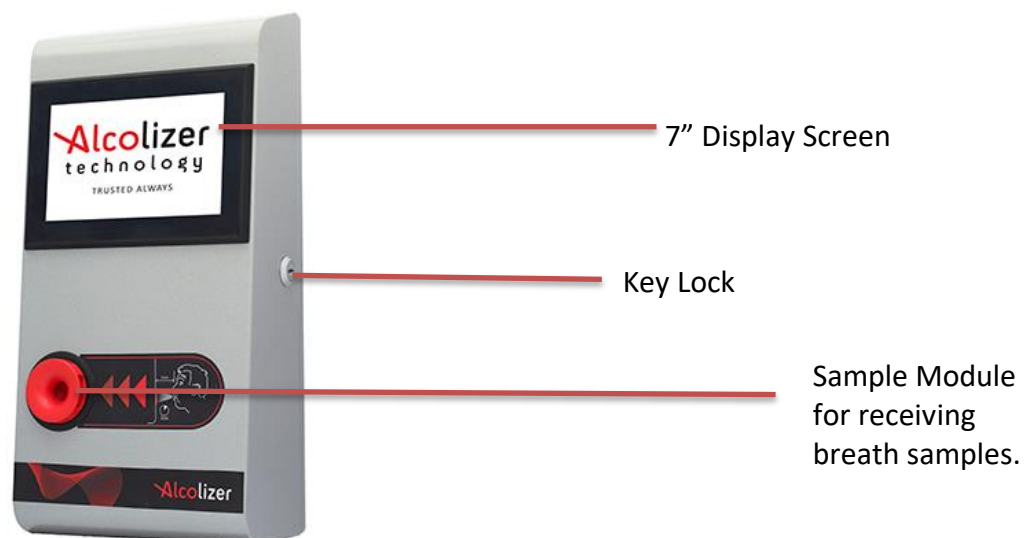
### SAFETY WARNING

- This device contains no owner serviceable parts. Should the instrument require servicing please contact Alcolizer Technology on 1300 789 908.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- The instrument requires an adequate connection to earth/ground at all times.

## 2.3 Equipment Overview

With a long lasting and durable steel construction, Centurion Zero Tolerance is manufactured to withstand long-term use. Weighing under 10kg, Centurion can be wall mounted in multiple, accessible locations. A large display screen also makes for clearer and easier reading of displayed results. There are no extra accessories associated with providing a breath sample, which is therefore beneficial in not having to replenish items and maintain stock for breathalysing.

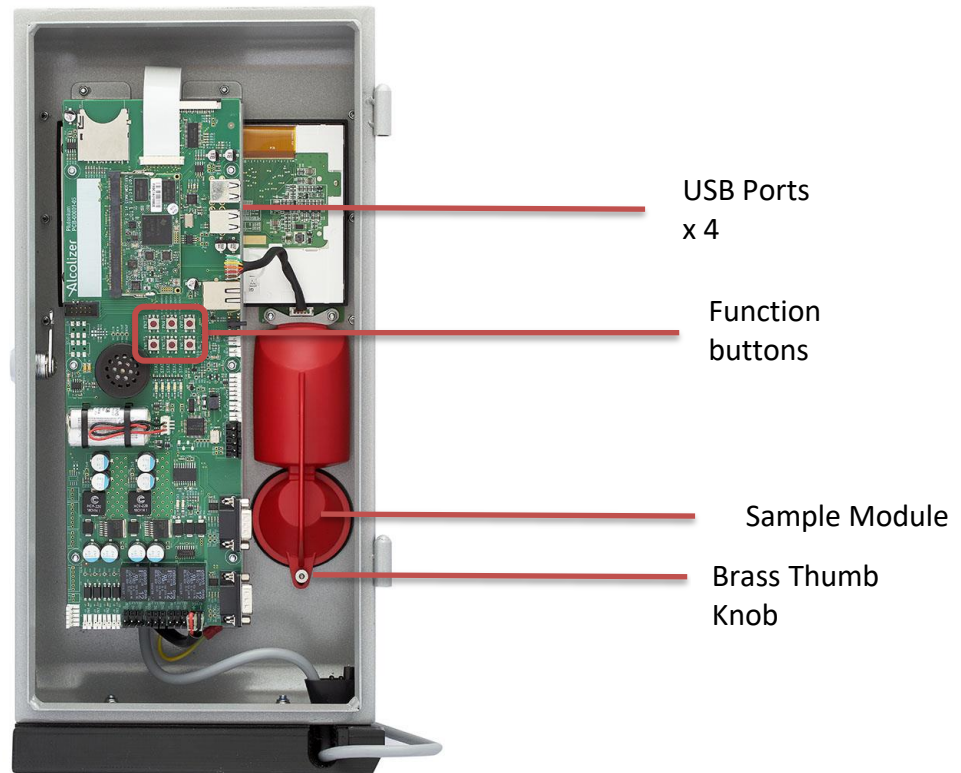
### 2.3.1 External view



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### 2.3.2 Internal view



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### 3 INSTALLATION PROCEDURE

#### 3.1 Installing the Back Plate

##### 3.1.1 Mounting location

When choosing a suitable mounting location, the following factors should be considered:

- The instrument must be mounted on a wall or structure that can support the weight of the instrument.
- The instrument must not be exposed to rain, water or strong sunlight.
- The instrument should be mounted near to a mains power socket to allow for easy connection and network point if advanced connectivity functions are being used.
- The Instrument should be provided with an independent power supply and not be interdependent on a third-party equipment for power.

The instrument must not be exposed to extreme temperatures outside of the defined operating range (See Specifications).

##### 3.1.2 Mounting height and position

The instrument must be mounted and positioned at a height to accommodate the majority of users and in such a way to allow access to the key lock and to allow the machine to swing open.

#### **WARNING**

When the unit is open or not installed on the back plate, electrical components are exposed. Ensure electrical power is isolated at the supply power point whenever the unit is open unless specifically required for special troubleshooting requirements.

##### 3.1.3 Mounting instructions

Mount the back plate in accordance with the following procedures:

1. Unpack and remove the instrument from the packaging. Unlock the instrument and remove the back plate from the unit.
2. Choose a suitable mounting site as described previously.
3. Remove any cutaway portions on the back plate to permit cable access if applicable, such as an Ethernet cable.
4. Fix the back plate to the wall using masonry fixing hardware (e.g. medium duty anchors).
5. The fixings should be strong enough to support the instrument (at least 20kg) and any incidental loading such as a person leaning or pulling on the instrument.

#### **WARNING**

Do not use adhesives (Liquid Nails) as the method of fixing as these are not considered to be a reliable or safe fixing means for the Centurion Zero.



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### 3.2 Mounting and Starting the instrument

#### 3.2.1 Mounting

Mount the instrument in accordance with the following procedures:

1. Using an assistant if required, hang the instrument onto the back plate by aligning the male lift off hinge pins on the back plate with the main instrument female hinge tubes.
2. Confirm the instrument swings effectively and does not impact any other fixtures.
3. Route any cables to avoid damage and trip hazards.
4. Visually check that there are no loose components from transportation.
5. Remove any packing materials.
6. Remove the screen protector film from the front of the display screen.

#### 3.2.2 Initial starting

Perform the following steps for the initial start-up:

1. The Centurion Zero Tolerance will automatically begin the start-up process once you plug it into the mains power.
2. The instrument will take several minutes to start up. The loading screen will be visible.
3. The instrument is ready to use when the display screen is visible and ready to receive a sample.

#### **WARNING**

The correct way to power the instrument down is to open the case and press & release the "OFF" button. It is not recommended to simply unplug the instrument from mains or turn the power socket off.

### 3.3 Instrument mains supply

The centurion has been designed to cope with a reasonable amount of tolerance for poor power supply. The centurion has an internal backup battery to facilitate graceful shutdown if power is lost. This backup can support up to 20 power cycles over a 20 day period. If the centurion is installed on sites with excessive noise or excessive blackouts, an external UPS may be required to clean up the power supply to the instrument and reduce the number of unplanned instrument starts/re-starts cycles.

### 3.4 Instrument wiring

The centurion instrument is an accurate measurement device. It is shielded from radiated noise by a robust metal casing however, excessive noise can be introduced into the machine via conducting cables. If any of the connectivity options are required, care must be taken during wiring installation to ensure that noise is not conducted into the instrument through any third-party wiring.

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All wiring of the centurion must be performed by an appropriately trained, competent, and qualified technician. Failure to implement correct terminations may result in poor instrument operation or intermittent failure.

### 3.4.1 General Guidelines

- DO NOT store or leave excess cable inside the cabinet.
- DO NOT loop cables inside the cabinet.
- ALL cables inside the cabinet must be kept as short as possible with direct routing to the cable exit.
- ALL cables must be paired (twin insulated), preferably as twisted pairs where possible.
- DO NOT run cables past the sensor module
- Blanking ports are provided in the rear and bottom of the case for cable exit. These can be removed using appropriate care, a suitable drift punch and supporting surface. The resulting open holes in the bottom and rear case must be blanked off as necessary for electrical safety and ingress protection (insects, fingers, dust, etc).
- ALWAYS provide adequate cable mounting and strain relief of cables. DO NOT rely on the PCB connector to support the cable.

### 3.4.2 Mains Supply Connection

For various reasons, some installations require a hard-wired installation of the supply cable rather than the removable wall socket provided. When removing the plug top and re-terminating the supply cable for a hard wire installation, all 3 of the conductors (active, neutral & earth) must be correctly connected to the site supply.

### 3.4.3 Mains Supply Rear Exit

- If a blind termination is required (supply cable exits to the rear rather than from the bottom), a blanking hole is provided in the back mounting panel.
- The supply cable must NOT be joined or terminated inside the enclosure using "chocolate blocks" or any other joining device. Termination of the supply cable must be done external to the enclosure. All three conductors (active, neutral & earth) must be correctly connected to the site supply.
- Exiting from the rear of the case requires disconnection from the bottom of the case. Blank off the holes as necessary to as necessary for electrical safety and ingress protection.
- The bottom exit provides strain relief for the supply cable. When wiring a rear exit, this strain relief must be provided by the installer.
- Rear exit wiring must allow sufficient length for the case to open without straining the internal termination connections. DO NOT loop in any additional cable length beyond this requirement. The cable is to be secured and strain relief MUST be provided at this length.

### 3.4.4 Relay connections

- Relay connections are dry contact and are not electrically connected to the breathalyser equipment, however, care should still be used for best practice installation.

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- Use of an appropriate connector is mandatory. Use connector TE Connectivity, 3-640599-2 or compatible connector to mate with the relay headers on the PCBA. Wiring is to be as paired conductors either as twin flex cable or as a sheathed pair. For best performance, conductors should be twisted. DO NOT allow conductors to separate and create loops.
- Nominal limits for the relay connection is 500mA and 12v. For loading exceeding these ratings, consult the manufacturer.

### **3.4.5 Serial DB9 connections**

Always use a correctly terminated serial cable and DB9 connector. The cable should be a shielded cable that is correctly grounded.

### **3.4.6 Ethernet cable**

Connection to the Ethernet interface must be done using a professionally terminated CAT5E or CAT6 shielded cable. Avoid running the ethernet cable close to the sensor module.

### **3.4.7 USB Connections**

Connection to the USB connectors must be with professionally terminated & shielded cables. Avoid running USB cables close to the sensor module.

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### 4 OPERATING INSTRUCTION

#### 4.1 Pre-Test Instructions

- For accurate testing results, food, beverages, medications, smoking, vaping or substances that contain alcohol should not be consumed for at **least 15 minutes** prior to testing.
- Allow **15 minutes** for any potential interfering alcohol to be cleared from the donor before testing again.
- Blood alcohol concentration can continue to rise for up to **2 hours** after the cessation of drinking and care should be taken if a result close to the designated blood alcohol concentration is indicated.
- When a high blood alcohol level has been reached, it can take **10 hours** or more for the blood alcohol level to return to zero.
- If the test result is above the operational maximum limit, a plus sign (+) after the result will be displayed.

##### 4.1.1 Providing a breath sample

Perform a breath test in accordance with the following procedures:

1. Ensure the instrument is ready to take a sample. This is indicated with a welcome screen and instructions on how to provide a breath sample. There may be a specific customer welcome screen.
2. The screen will indicate to **START BLOWING**.

#### NOTE

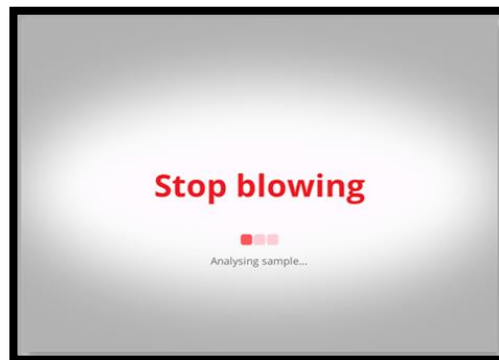
For accurate testing results, food, beverages, medications, or substances that contain alcohol should not be consumed for at **least 15 minutes** prior to testing.



- a. Start blowing and continue blowing until the progress bar reaches 100%. During the blow sequence, a beeping sound will be heard.

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- b. Stop blowing when the display shows **STOP BLOWING**.

### 4.2 Analysing the breath sample

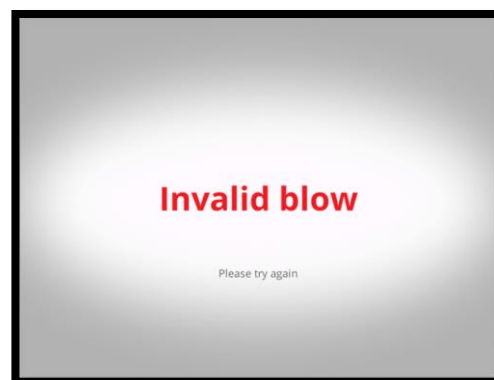
The instrument will perform an analysis after the breath sample has been received and then display the result. If the BAC (Breath Alcohol concentration) detected is zero, the display will be green, indicating no alcohol was detected and stating just that result on the screen. When the BAC is greater than zero, the display will be red and clearly indicate alcohol has been detected in the breath sample.

The result will continue to be displayed while the instrument resets itself ready for the next test. For zero readings this will typically be about five seconds.



### 4.3 Invalid sample

The invalid blow screen is displayed if the user stops blowing half way through a sample being taken, they blow too softly, blow too hard or not blowing directly into module as indicated on the front of the Centurion.



If the blow is invalid, cease blowing, wait until the device returns to the main screen and then provide another sample.

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### 5 OWNER SERVICING

#### 5.1 Cleaning

We recommend daily outside cleaning of the instrument and surrounding surfaces. We recommend cleaning be conducted using appropriate personal protective equipment (PPE) e.g.: gloves.

The instrument should be cleaned with a soft cloth and antibacterial spray

**Do not** use harsh cleaning agents,

**Do not** use alcohol-based cleaning products, abrasive cleaning pads or chemicals.

Non-alcohol-based cleaning wipes can be used to clean the instrument.

- **Main body** - Clean by wiping it over with a soft moist cloth followed by a soft dry cloth.
  - **Screen** - The screen of the machine can be cleaned by wiping it over with a soft moist cloth followed by a soft dry cloth.
  - **Flow Diverter** - should be cleaned with a soft cloth and antibacterial spray.
  - **Sample Module** - It is recommended that the instrument is turned off before cleaning.
1. Disconnect the sample module by unscrewing the Knob Thumb.
  2. Remove the Flow Diverter to have access to the Sample Port.
  3. Then, the Sample Port can be cleaned by wiping inside with a soft moist cloth ensuring any residual material is removed.
  4. Ensure the Sample Inlet is not blocked.



#### 5.2 Cleaning Frequency

1. The Sample Port and Flow Diverter should be cleaned at least daily or as required based on the volume of testing and local conditions.

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- The Main Body of the instrument and the Screen should be cleaned at least daily or as required based on the volume of testing and local conditions.

## 6 USER CONTROLS

### WARNING

When the unit is open or not installed on the back plate, electrical components are exposed. The following steps require the user to open the Instrument with power applied. During the procedures ensure only the buttons mentioned are activated.

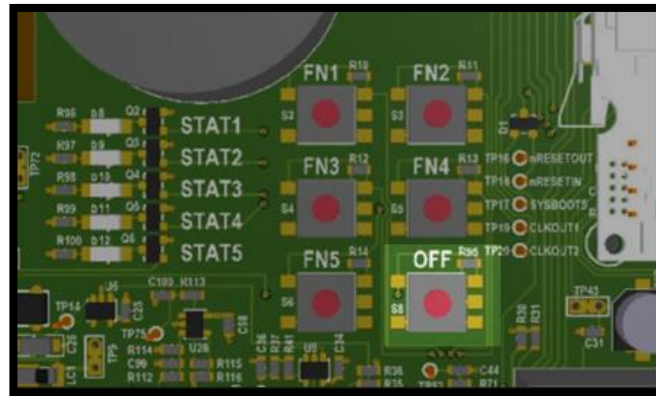
Do not come in contact with any exposed components.

### 6.1 Powering the Instrument On

Alcolizer Wall mounted instruments (WM4, Centurion Zero Tolerance and Quantum) will turn themselves on once power is applied to the unit. If the unit is unplugged simply plug it in. If the unit is powered but has been gracefully shut down as below, simply press the OFF button.

### 6.2 Powering the Instrument Off

To power off a wall mount device, WM4, Centurion Zero Tolerance and Quantum, do NOT press and hold the OFF button.



There are three supported ways to power off an Alcolizer Wall mounted instrument,

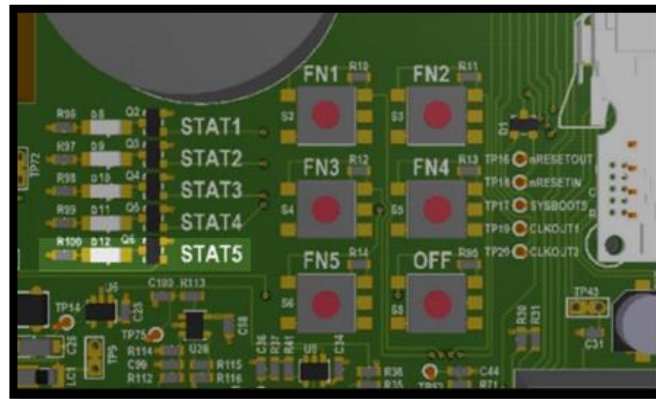
- Use a USB keyboard, navigate to `Settings > Shutdown Instrument`
- momentarily press the OFF button, located on the PCBA
- removing power from the wall (unplugging instrument)

Holding down the OFF button is likely to corrupt the Firmware, and the calibration. It is not to be used even if the instrument is completely frozen. Removing the power from the instrument is the recommended way to shut down a frozen instrument as it is designed to shutdown in the event of a power loss, hence the backup battery.

To verify the instrument has completed its shut down, look for the **STAT5 LED** located beside the FN buttons.

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### 6.3 Status LEDs

The Instrument status can also be assessed by viewing the status LEDs on the main circuit board while the unit is on. Only STAT4 and STAT5 LEDs display status.

If any other blinking patterns are noticed, contact your authorised Alcolizer service technician on 1300 789 908.

### 6.4 STAT4 - Logs Status indicator.

Shows the current state of the instrument, in the following states.

- Blinking - Logs are being written.
- Blank - No actions involving Logs

#### 6.4.1 STAT5 - Operating status indicator.

Shows the current state of the instrument, in the following states.

- Reset
- Starting Up
- Running
- Shutting Down

All these states are indicated by STAT5 blinking (see below table)

If you have correctly shut down as described above the STAT5 LED will not blink. If the instrument has shut down, but is still connected to mains power, the Stat 5 LED will be steady ON, if power is disconnected from the wall, the LED will be OFF. Waiting for the STAT5 LED to stop blinking is the only way to verify that the instrument has successfully shutdown. The Red 12v0 and Orange 3v3 LEDs on the left side of the board will remain lit if the unit is plugged in. This is okay, no other LED indicates if the unit is shut down correctly.

It takes at least 15 seconds for the instrument to power down and may be longer if the instrument has many event log records.

There is no way to speed up this process. Pressing the power button to shut down, then HOLDING the OFF button to “drain the power from the board” is also an unsupported and unrecommended as it is likely to corrupt the software. You are forcing a reset while shutting down the instrument.



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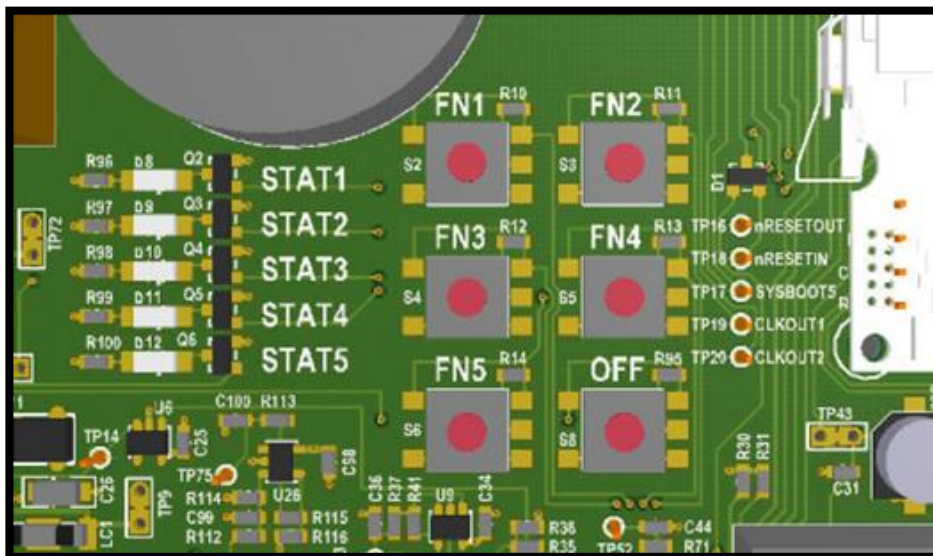
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Wallmount State	Stat 5 LED Indication	Pattern Specification
Reset	Fast blinking	40ms on, 40ms off (12Hz)
Starting Up	Two short pulses	100ms on, 100ms off, 100ms on, 700ms off (1Hz)
Running	One short pulse	100ms on, 900ms off (1Hz)
Shutting Down	Steady blinking	100ms on, 100ms off (5Hz)
Shut Down	On	On
Off	Off	Off

### 6.5 Buttons

Inside the instrument are buttons which can be used to access certain menus during setup and fault finding. Users should not access the machine and press these buttons unless specifically requested to by instructions in this manual or verbally when in contact with your Alcolizer Technology technical representative.

Access the buttons by unlocking the Centurion and swinging it open. The buttons are located on the main circuit panel.



The only buttons that users need to operate are **FN1**, **FN4** and **OFF**. **Do not touch the other buttons.**

The buttons have the following functions:

- **FN1**: Show/hide the Status page. Does the same as pressing F1 on the keyboard.
- **FN4**: Show/hide the Functions page to export the event log to a USB flash memory.
- **OFF**: Power-off and power-on the instrument. See **Powering the Instrument Off**.

### WARNING

**DO NOT PRESS AND HOLD THE OFF BUTTON.**

Pressing and holding the **OFF** button may cause irreparable damage to the instrument and should only be performed by an Alcolizer Technician.

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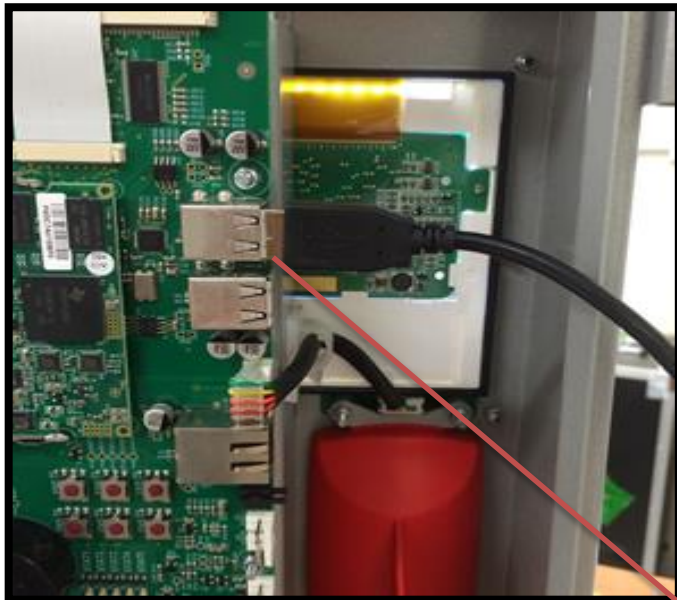
### 6.6 USB Keyboard

A standard 101 style keyboard (with a standard USB connection) or a wireless keyboard can be connected to the Instrument to access certain menus during setup and fault finding. Users should not access the machine and attach a keyboard unless specifically requested to by instructions in this manual or verbally when in contact with your Alcolizer Technology technical representative.

Access the USB ports by unlocking the Instrument and swinging it open. There are four ports located on the main circuit panel.

#### CAUTION

Use care when inserting the connector to the port to ensure neither are damaged.



USB Connectors X 4

#### 6.6.1 USB Keyboard Function Keys

Once the keyboard is connected, access to the menu is available.

The keyboard functions are as follows:

- **F1:** Toggle Status screen
- **F4:** Save event log
- **Alt:** toggle instrument configuration menu
- **Esc:** Toggle instrument configuration menu
- **Alt+up:** Switch to previous configuration page
- **Alt+down:** Switch to next configuration page
- **Alt+left:** Switch to previous tab or page
- **Alt+right:** Switch to next tab or page
- **Ctrl+Alt+P:** Write screen shot to USB
- **TAB:** used to navigate within the page across different sections.

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### NOTE

Use only the left Alt key. The right Alt key has no function. The spacebar has the same functionality as the Enter key in normal usage. When entering data, use the spacebar not the Enter key.




## 7 Upgrade Kits Available

One model with multiple possibilities. Allowing you the flexibility to add features that work for you. Please see the list below for the upgrade kits that are available

	<p><b>713010 - Camera Upgrade Kit</b>            Camera identifies test donor during test. Camera comes with bracket for easy assembly, USB connection, some models may require front fascia replacement as other may require a case retrofit.</p> <p><b>Specification:</b></p> <ul style="list-style-type: none"> <li>• EFL=1.75</li> <li>• BFL=4.6mm</li> <li>• BFL (M)=4.3mm</li> <li>• F/NO=2.2</li> <li>• FIELD OF VIEW (D) = 190 degrees</li> <li>• TV DISTORTION: -33%</li> <li>• CHIEF RAY ANGLE &lt;15 degrees</li> <li>• RELATIVE ILLUMINATION = 90%</li> <li>• CONSTRUCTION: 4G</li> <li>• THREAD: M12*PO.5</li> </ul>
	<p><b>740385 - Modem Router, Wireless 4G LTE</b>            Allows for independent communication of results without LAN connection. Indoor solution, require extra power point, no retrofit required</p>
	<p><b>741330 - Keypad, Numeric, USB</b>            Keypad for test donors to enter identifying code such as employee ID. keypad, can be mounted on case (retrofit required)</p>
	<p><b>720211- Printer, Epson TM-T82III, Thermal Receipt Printer Serial/USB</b>            Printer to provide thermal or adhesive label printouts of test result. Easy to use and connect to WM4Camera, USB connection</p>
	<p><b>711110 - Wiegand Upgrade Kit</b>            Comes with only one Wiegand adapter, USB connection (if additional Wiegand adapter is required, use code 711120)</p>

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	<p><b>741300 - Barcode Scanner, Datalogic GRYPHON I GFS4400 2D USB</b> Barcode and QR code scanner for test donors to use identification cards. Wall mount keypad, can be mounted on case (retrofit required)</p>
	<p><b>741270 – RFID Card Reader (Multi Format USB Reader 6 Foot Cable)</b> Card reader for test donors to use identifying cards. Easy to use and connect to Camera (retrofit required)</p>
	<p><b>741320 - Bar code reader, Wiegand Interf (BR-7)</b> Card reader for test donors to use identifying cards. Requires Wiegand adapter to communicate with Centurion, wall mounting feature or built in on case (retrofit required)</p>

## 7.1 RFID Card Reader Upgrade Kit

### 7.1.1 Installation

- 1- Unscrew the two screws that are located on the top and bottom of the RFID card reader as shown below.



*Unscrew the RFID card Reader*

- 2- Slowly remove the RFID card reader from Mounting block box and the USB cable should remain inside the mounting box as shown below.



*Removal of the RFID card Reader*

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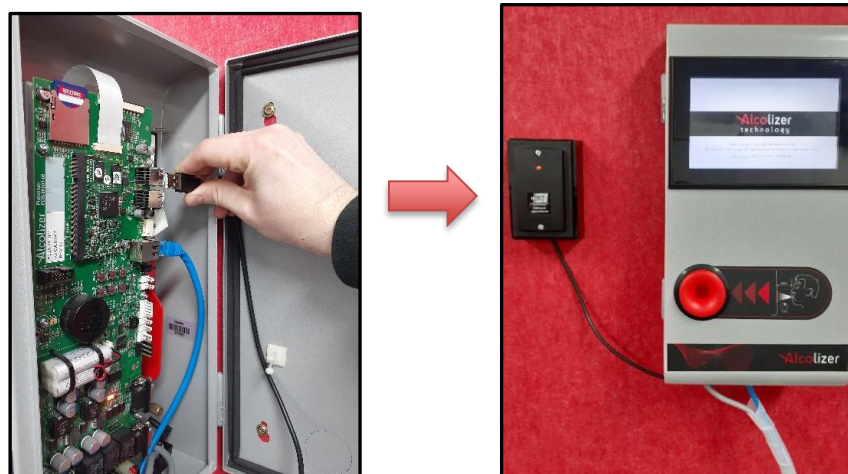
## User Manual

- 3- Use the mounting block box to pin mark two holes (Black Spots) on the mounting surface where RFID Card Reader Upgrade kit will be located
- 4- The Mounting block box must be screwed or drilled next to Centurion instrument using two screws that are suitable with the surface as shown below. Customer to supply these two screws. Customer to ensure the wall position and surface is suitable for mounting onto.



*Mounting the RFID card Reader*

- 5- Connect the RFID Card USB cable to Centurion.
- 6- You will notice a Red light on the RFID card reader has turned "ON" once the USB cable is inserted into the instrument as shown below



*Connecting the RFID cable to the Instrument*

- 7- Please refer to the Authorisation section of user manual to enable the Authorisation feature.

# Centurion Zero Tolerance

## User Manual

### 8 USER INTERFACE

#### 8.1 Accessing the user menu

To access the User Menu, perform the following steps:

1. Connect a keyboard in accordance with paragraph 6.2.
2. Press the F1 key to access the Centurion User Menu area.
3. Press the left Alt key to bring up available menu choices.
4. Press the down key and move down to the required menu (e.g. Settings).
5. Press left Alt to hide the menu and give clear access to the selected page.



#### NOTE

A mouse can be used to operate the various User Interface menus. Connect the mouse or mouse wireless connector in the same manner as the keyboard.

# Centurion Zero Tolerance

## User Manual

### 8.2 Status

The status page will provide a variety of information for the user:



#### 8.2.1 Instrument

- **Serial Number:** A number that uniquely identifies the Centurion. This number is also printed on the side panel safety label located on the side of the instrument.
- **Software Version:** The version of software running in the Centurion (e.g. ac-13.0).

#### 8.2.2 Alcohol Sample Module

- **Serial Number:** A number that uniquely identifies the Sample Alcohol Module.
- **Application Version:** The version of software running in the Sample Alcohol Module (e.g. 2.2).
- **Days to Calibration:** Total days till next calibration.

#### 8.2.3 Status Items

The status items page will provide a variety of information for the user. Each status item is classified as one of the following.

- **Fault:** The instrument has encountered a critical error and is unable to perform breath analysis. The fault must be manually cleared (or repaired) by an authorised Alcolizer service technician on **1300 789 908**.
- **Alert:** The instrument has encountered a temporary condition that is preventing the unit from performing breath analysis. The alert will clear automatically. Breath analysis is disabled if an alert is active.
- **Warning:** The instrument has discovered a problem but is able to function normally (for the time being).
- **Notice:** Information that might be useful to a technician but in no way represents a problem with the instrument. Breath analysis is enabled if a notice is active.
- **Disabled:** Breath testing is disabled for a reason other than a fault or alert. For example, no reference gas.

# Centurion Zero Tolerance

## User Manual

### NOTE

Status items are displayed to the user on the Status page in the instrument's current language. Each status item also includes a unique code to help identify the status item when the instrument is in a different language.

### 8.2.4 Network Connections

The Network Connections area shows status information for the Centurion Ethernet port.

- A valid network connection is not required for the instrument to operate correctly, however if a Centurion has an internet connection, the date and time will be automatically adjusted.
- If connected to a valid network the instrument's IPv4 address is displayed (e.g. 192.168.15.133).
- If not connected to a valid network, **none available** is displayed.

### WARNING

When the instrument is open or not installed on the back plate, electrical components are exposed. The following steps require the user to open the Centurion with power applied. Do not come in contact with any exposed components.

### 8.3 About

This page has further detailed information about the Centurion device divided into two parts:

- The Instrument
- The Alcohol Sample module



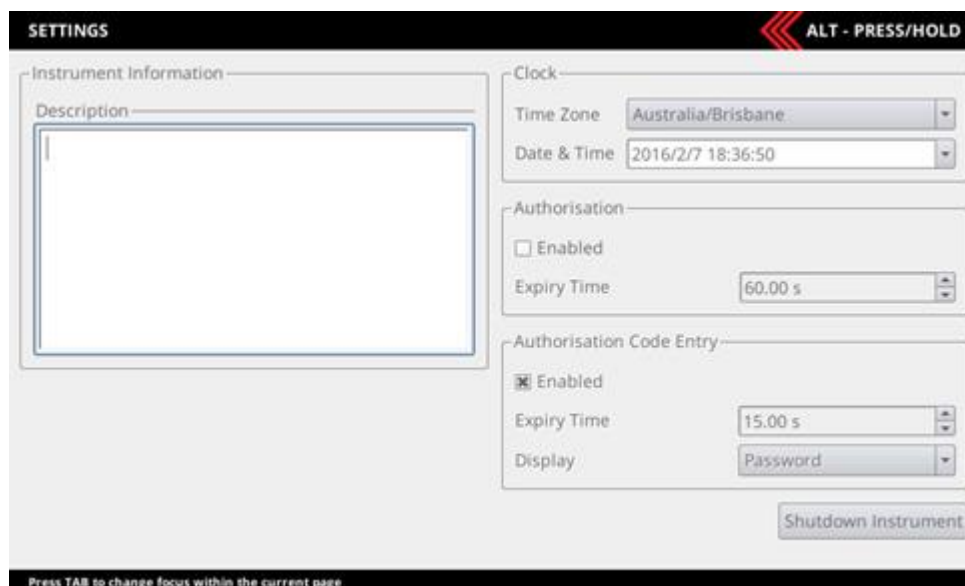


# Centurion Zero Tolerance

## User Manual

### 9 Settings

The settings page provides the configuration options available for the user:



#### 9.1 Instrument Information

The instrument information feature allows a customer to add user-specific descriptions of the instrument (e.g. "Site 13, Gate B"). This description is included in all email reports by default.

#### 9.2 Clock

The date and time can be set manually or automatically if the instrument is connected to the internet (via the wired Ethernet connection). There is no need to manually adjust it if connected to the internet.

In order for the Centurion to display the correct date and time, the time zone must be set correctly. The display format is set to **YYYY-MM-DD HH:MM:SS** and cannot be changed.

#### 9.3 Authorisation

The authorisation feature when enabled prevents the Centurion from performing a breath test until it has received authorisation, such as by entering a code using a connected USB keyboard. This is used where you want to identify the person who is doing the breath test. For example, you may be able to integrate your security access card system with your Centurion. Please contact your account manager for more details.

- **Enabled:** Check to enable breath test authorisation.
- **Expiry Time:** Once a single breath test is authorised, the test analysis must be completed within this time or the authorisation expires and a new authorisation is required.

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## User Manual

### 9.4 Authorisation Code Entry

These settings are only accessible if breath test authorisation is enabled. They apply to authorisation code entry using a USB input device (keyboard, etc.).

- **Enabled:** Check to allow authorisation codes to be entered using a USB input device.
- **Expiry Time.** Amount of time a user has to accept the input code (by pressing ENTER) before the code entry expires and the user must start again.
- **Display.** Specify how password characters entered on the screen should be displayed.



### 9.5 Shutdown Instrument

When the Shutdown Instrument button is pressed the following options are presented to the user:

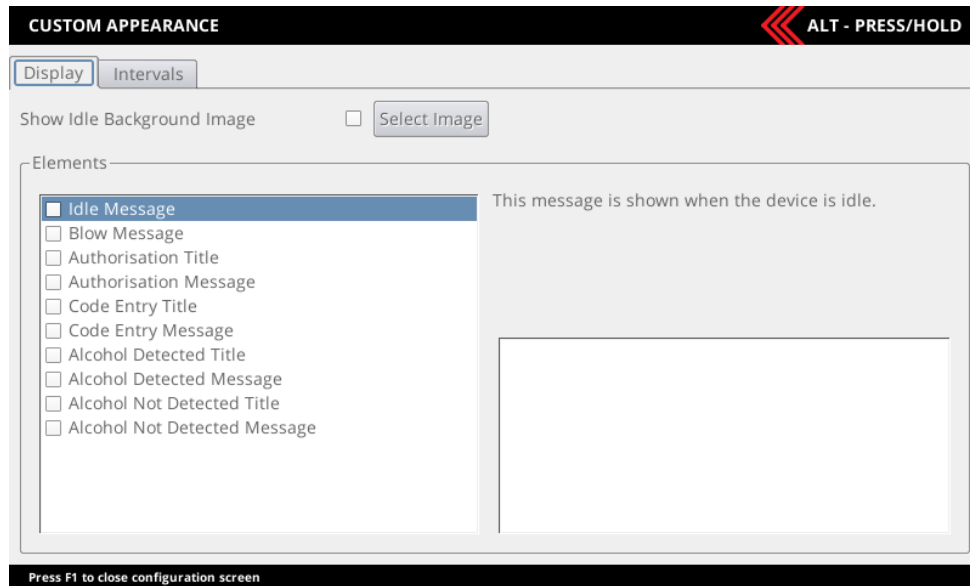
- **Reboot:** Restart the instrument.
- **Power Off:** Shutdown the instrument so that mains power can be removed. This method or the OFF button on the back of the board localised internally in the Centurion, are the only two ways to correctly power off the instrument.



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## User Manual

### 10 CUSTOM APPEARANCE



#### 10.1 Background Image

To import a background image, proceed as follows:

1. Connect a keyboard and access the User Menu in accordance with the procedures at paragraph 8.1.
2. From the User Menu, access the custom appearance screen by scrolling down to Custom Appearance and press enter. The Custom Appearance screen will appear.
3. Tick the **Show Idle Background Image** box using the space bar.
4. Inset a USB storage device (thumb drive) with the desired image into an available USB port.
5. Select Image button.
6. Select the required graphic from the Select Image page and click OK.
7. That image will now appear on the screen.

#### 10.2 Custom Text

The Elements area allows customisation of the user interface text for a variety of breath testing screens. Display custom text on the instrument introductory screen as follows:

1. Connect a keyboard/mouse and access the User Menu in accordance with the procedures at paragraph 8.1.
2. From the User Menu, access the custom appearance screen by scrolling down to Custom Appearance and press enter. The Custom Appearance screen will appear.
3. Select the desired screen.
4. Type the required text in the free text field for the highlighted screen.
5. To activate a free text of a specific screen, tick the box beside the screen name.

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### 10.3 Intervals

It is possible to adjust the timings for some screen display intervals. Descriptions of how the timings apply to the display are presented for each adjustable interval.



# Centurion Zero Tolerance

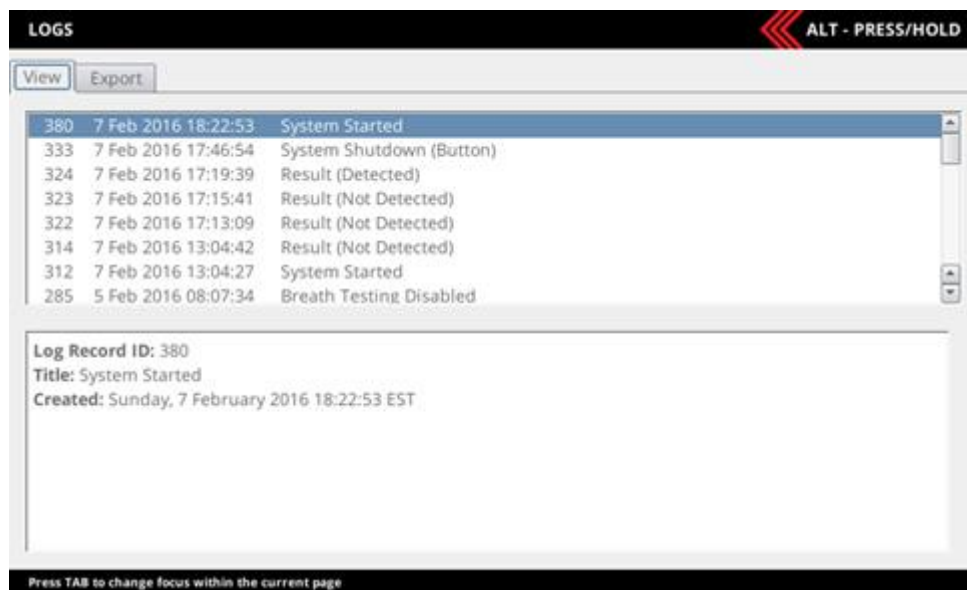
## User Manual

### 11 Logs

#### 11.1 View

The View contains the log records which consist of one or more pieces of information. Each record will show a unique log record ID entry followed by the date and time and a brief description of the logged event.

By selecting an item in this panel, a more detailed view of the selected log record is presented below the list of log records



The log record can contain the below events but not limited to:

- **Result.** The result of a breath test.
- **System Shutdown.** The instrument was shut down (to be powered off or rebooted).
- **System Started.** The instrument was started.
- **System Time Changed.** The instruments time or date was changed.
- **Fault Cleared.** A fault status item cleared.
- **Fault Set.** A fault status item set.
- **Alert Cleared.** An alert status item cleared.
- **Alert Set.** An alert status item set.
- **Warning Cleared.** A warning status item cleared.
- **Warning Set.** A warning status item set.
- **Notice Cleared.** A notice status item cleared.
- **Notice Set.** A notice status item set.
- **Breath Analysis Block Set.** Data analysis is disabled.
- **Breath Analysis Block Cleared.** Data analysis enabled.

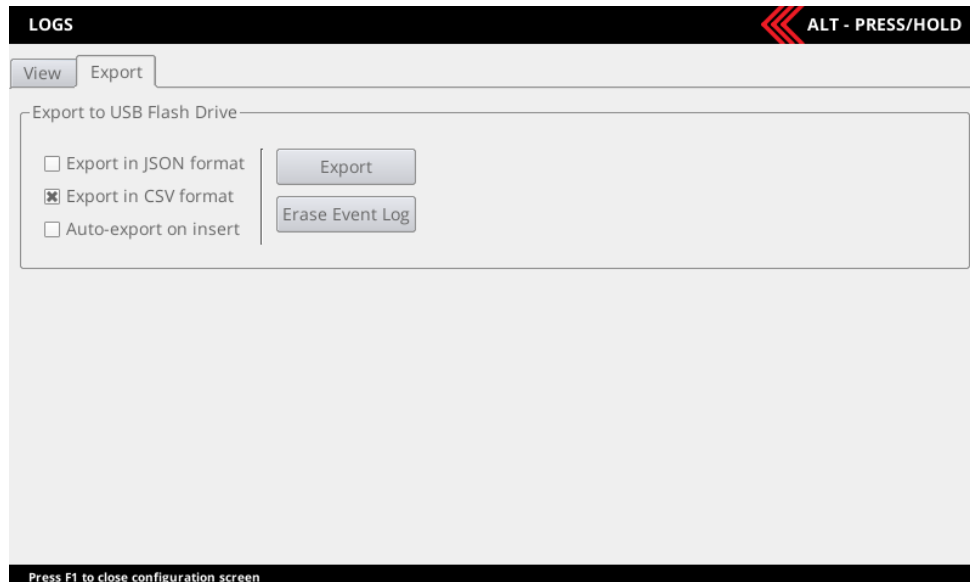
# Centurion Zero Tolerance

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### 11.2 Export

Logs can be exported from the instrument into USB flash drive both by using different options.

- Logs / Export Menu
- Functions Menu



#### 11.2.1 Exporting

Logs can be exported from the instrument into USB flash drive both by using the *Export* button on the *Export* page or automatically when a USB flash drive is inserted if configured to do so.

Alternatively, the records can be exported by inserting a USB flash drive and pressing FN4 on the PCBA. Refer to paragraph to see button location.

These are the formats which logs can be exported:

- **CSV:** Comma Separated Values with one log record per row and record fields separated by commas within rows. This is suitable for import into most spreadsheet applications.
- **JSON:** JavaScript Object Notation in a format suitable for integration with automated systems.

### 11.3 Erase Event Logs

To erase the current event log records on the device, go to Logs / Export menu and use the *Erase Event Log* button.

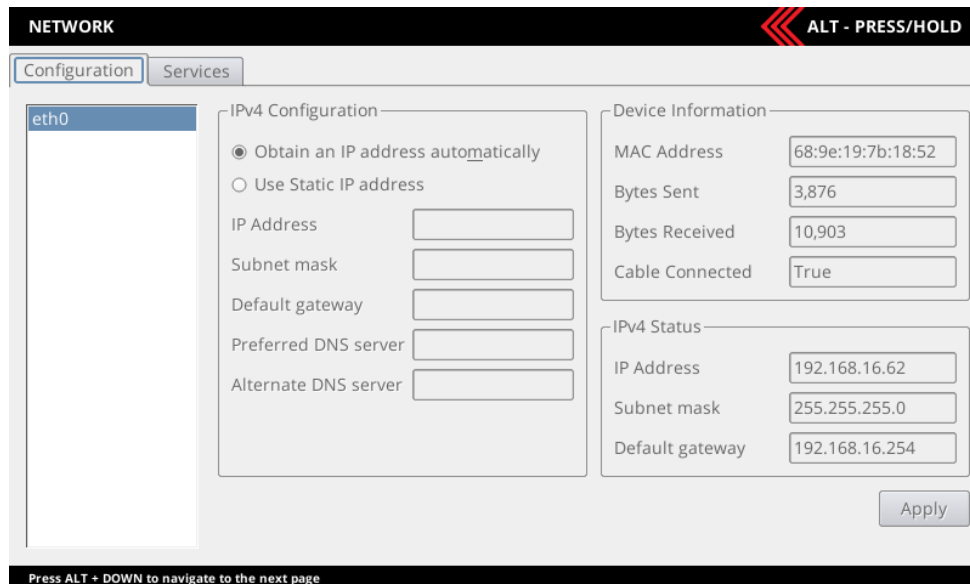
# Centurion Zero Tolerance

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## 12 NETWORKS

### 12.1 Configuration

The configuration panel provide general information about the network connection and device.



The screenshot shows the NETWORK Configuration panel with the following sections:

- IPv4 Configuration:**
  - Obtain an IP address automatically
  - Use Static IP address
  - IP Address: [ ]
  - Subnet mask: [ ]
  - Default gateway: [ ]
  - Preferred DNS server: [ ]
  - Alternate DNS server: [ ]
- Device Information:**
  - MAC Address: 68:9e:19:7b:18:52
  - Bytes Sent: 3,876
  - Bytes Received: 10,903
  - Cable Connected: True
- IPv4 Status:**
  - IP Address: 192.168.16.62
  - Subnet mask: 255.255.255.0
  - Default gateway: 192.168.16.254

Buttons: Configuration, Services, Apply

Navigation: Press ALT + DOWN to navigate to the next page

#### 12.1.1 Network Setup

The network IPv4 Configuration can be set to obtain an IP address automatically or use a static IP address.

Establish an internet connection as follows:

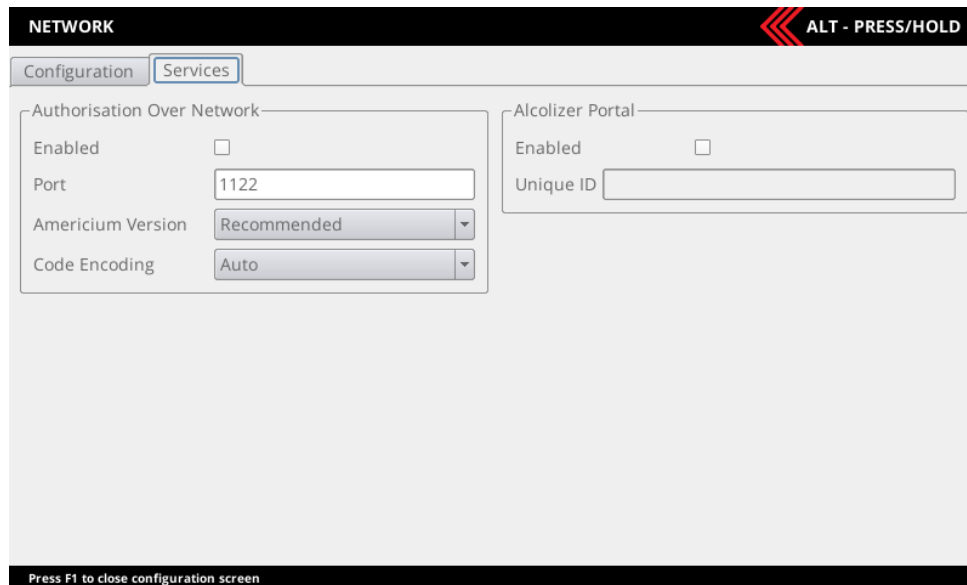
1. Connect the Centurion to an internet receptacle via the Ethernet cable.
2. Connect a keyboard/mouse and access the User Menu in accordance with the procedures at paragraph 8.1.
3. From the User Menu, access the network configuration screen by scrolling down to Network and press enter. The Network Configuration page will appear
4. Complete the Configuration page with the required details to establish the network connection if a Static IP address will be used. Alternatively select "Obtain an IP address automatically".

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### 12.2 Services

The services panel provide access to enable Authorisation Over Network and Alcolizer Data Management Portal.



#### 12.2.1 Authorisation Over Network

A breath test authorisation over the network can be enabled through the Americium serial protocol on a TCP/IP port. The operation of this feature is identical to the protocol operating over the serial ports (refer to Serial Ports Section 16). There is no limit to the number of network clients that can connect simultaneously.

- **Enabled:** Whether the instrument accepts network connections on the specified port. This is disabled by default.
- **Port:** The TCP port number.

The americium serial protocol operates with the following settings by default. Refer to the Serial Ports section for additional details of the Americium protocol:

- **Protocol version:** Recommended
- **Code Encoding:** Auto
- **Date/Time:** local time (not UTC)

*Please contact your Alcolizer Technology representative for further advice.*

#### 12.2.2 Alcolizer Portal

The AlcoCONNECT Data Management enables your device to post logs and status information from the instrument to the portal which is a Cloud service. This portal provides a real-time solution with analytical and statistical tools.

#### NOTE

Please, contact your Alcolizer Technology representative for further information about AlcoCONNECT Data Management Portal. This allows you to monitor many remote sites from a single dashboard, and remotely monitor compliance of your Breathalyzer testing assets.

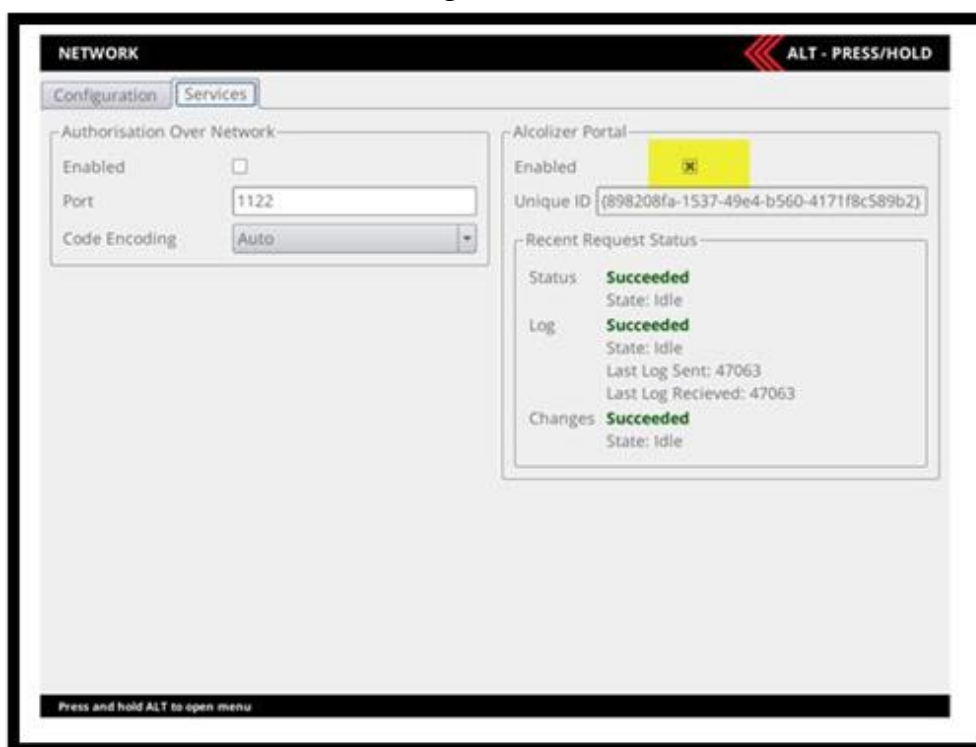


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### 12.2.3 Enabling AlcoCONNECT Data Management Portal

- Open the device
- Insert the USB connection for a keyboard
- Press F1
- Press Esc
- Arrow down the menu to network
- Press Tab
- Right arrow to Services tab
- Press Tab twice to select Alcolizer Portal
- Press Space bar to insert **X** to enable Alcolizer Portal
- Wait for status to show as below
  - Status **Succeeded**
  - Log **Succeeded**
  - Changes **Succeeded**



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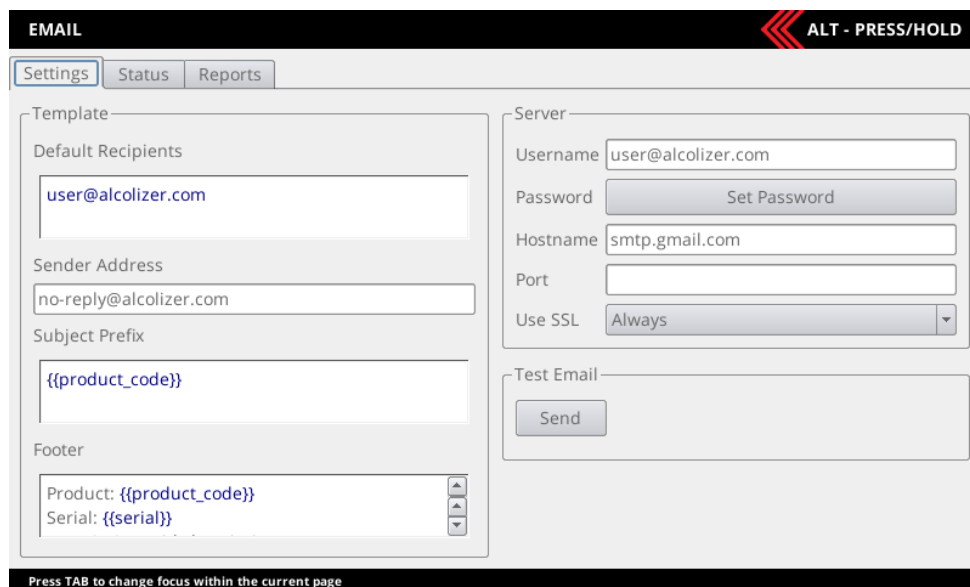
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### 13 EMAIL

#### 13.1 Email Settings

The Centurion is equipped for forwarding email notifications of status and logs. To configure the email function, perform the following steps:

1. Establish an internet connection via the Ethernet cable. This step is not required if the instrument has a GSM modem.
2. Connect a keyboard/mouse and access the User Menu in accordance with the procedures at paragraph 8.1.
3. From the User Menu, access the email configuration screen by scrolling down to Email and press enter.
4. The email screen has two tabs: Settings and Reports.



##### 13.1.1 Settings – Template

The Mail Template panel allows configuration of the format and recipients of emails sent from the instrument.

- **Default Recipients:** A list of email recipients for emails produced by the instrument. e.g. someone@bigmine.com.au. Add additional recipients as required separating each with a space.
- **Sender Address:** This is the email address used to send the notifications and seen by the recipients.
- **Subject Prefix:** Text to be prepended to the subject line of emails produced by the instrument. It is also possible to use text replacement allowing real data to be inserted into the text when the email is sent.
- **Email Footer:** Text to be appended to the body of emails produced by the instrument. It is also possible to use text replacement allowing real data to be inserted into the text when the email is sent.

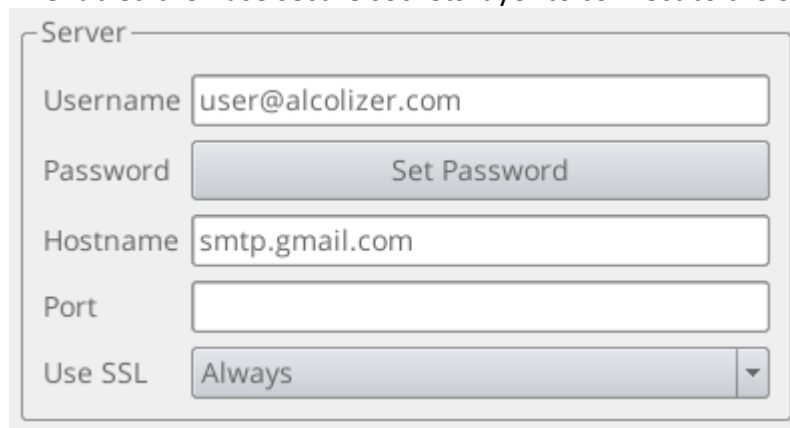
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### 13.1.2 Settings – Server

The Mail Server panel allows configuration of the email account used by the instrument to send emails. This must be a valid email account as it would be configured in a desktop email program.

- **Username:** The username (typically an email address) used to log into the SMTP server.
- **Password:** Password associated with the specified username. Pressing the password button clears the current password and shows a text editor to enter a replacement password. The password characters are obscured by default; press the “eye” icon to temporarily display the password characters.
- **Hostname:** URL of the SMTP server (e.g. smtp.gmail.com).
- **Port:** The TCP/IP port number used by the SMTP server. Leave blank to use a default value.
- **Use SSL:** If enabled then use secure sockets layer to connect to the SMTP server.



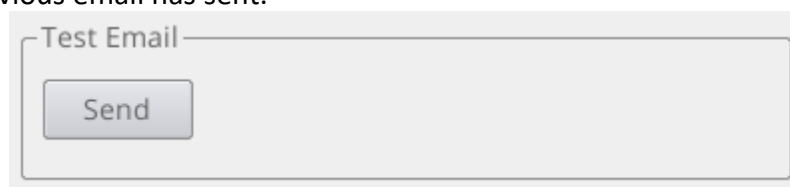
The screenshot shows a 'Server' configuration panel with the following fields and controls:

- Username:** A text input field containing 'user@alcolizer.com'.
- Password:** A button labeled 'Set Password'.
- Hostname:** A text input field containing 'smtp.gmail.com'.
- Port:** An empty text input field.
- Use SSL:** A dropdown menu currently set to 'Always'.

### 13.1.3 Test Mail

The Test Email panel allows sending a test email from the system, confirm email settings and provide feedback on any issues the instrument has sending emails.

Activating **Send** will initiate a test email with the current configuration. The Test Email panel will then report the status of sending the email and if it fails, indicate information about how sending the test email failed. Due to the very long time out periods specified for email configuration, if there is an issue with the Mail Server settings, it can take a very long time for the test email to fail and this can also block further test emails being sent until the time out for the previous email has sent.



The screenshot shows a 'Test Email' panel with a single button labeled 'Send'.

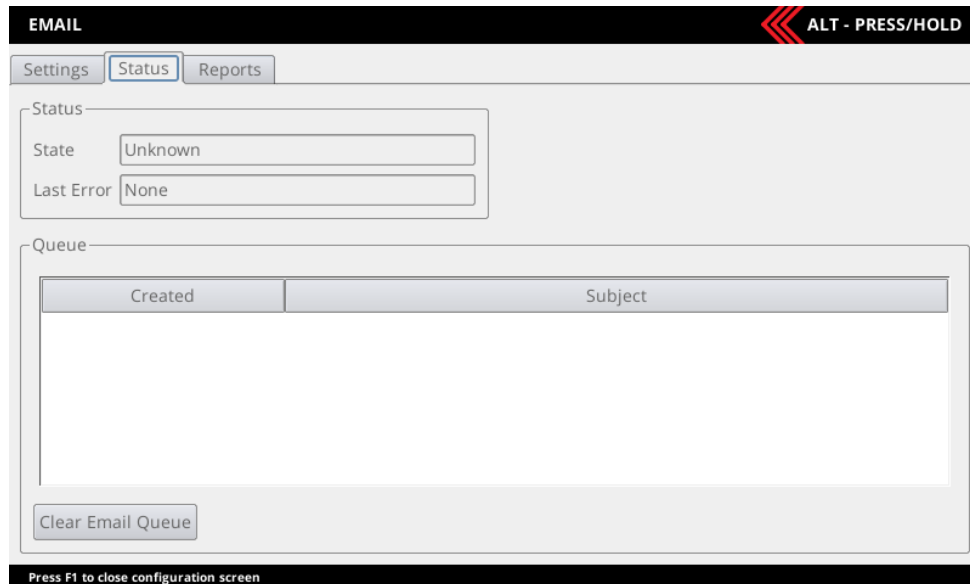
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### 13.2 Email Status

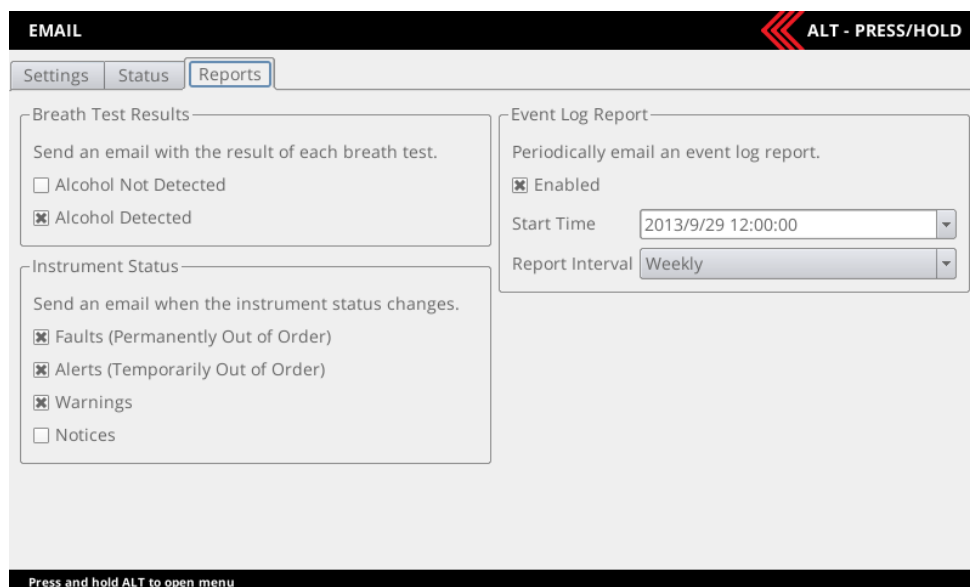
This feature has two panels:

- **Status:** indicates the status of the email/s being sent.
- **Queue:** emails can be seen in the queue that are ready to send; the queue can be cleared by selecting the “Clear Email Queue” tab at the bottom.



### 13.3 Email Reports

The Reports panel allows setup the breath test results and instrument status that will be sent via email. The frequency that the report will be sent can be setup on this panel.



#### 13.3.1 Breath Test Results

The instrument can be configured to send an email detailed results of a breath test. This can be done for both negative and positive results. If instrument authentication is enabled, the

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report can also include information about previous breath tests from the same authentication code.

### 13.3.2 Instrument Status

Notification about changes in instrument status can be sent from the instrument for various types of status information. The report includes information on all currently active status items, not just the status item that changed state. The status options are:

- **Faults (Permanently Out of Order)** – send an email if a fault is raised or cleared.
- **Alerts (Temporarily Out of Order)** – send an email if an alert is raised or cleared.
- **Warning** – send an email if a warning is asserted or cleared.
- **Notice** – send an email if a notice is asserted or cleared.

### 13.3.3 Event Log Report

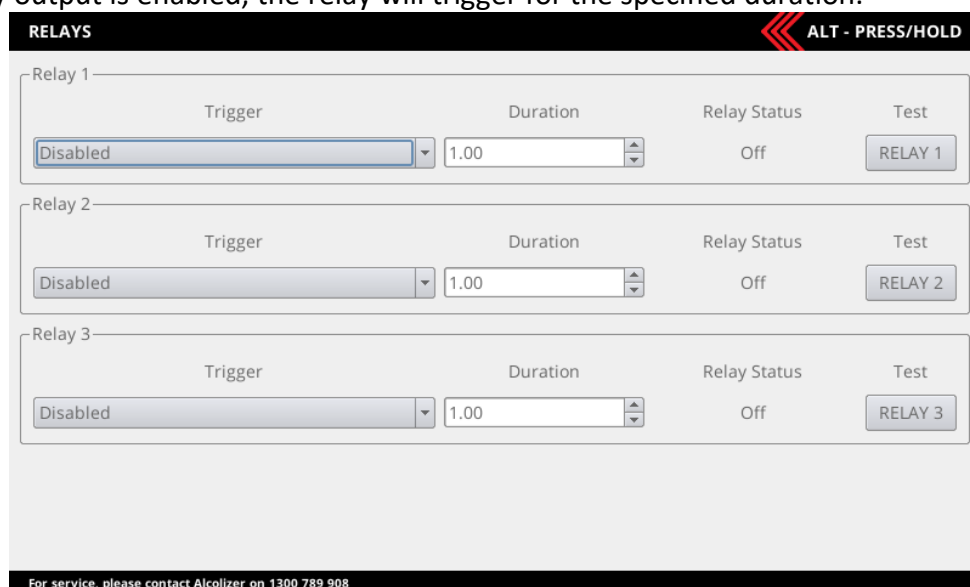
The instrument can be configured to send periodic emails containing log information for the given period. The interval for the report can be configured from hourly through to monthly and the day or hour the report will occur on is dependent on the start date. For example:

- The current date is the 3rd of October 2013.
- The Start Time chosen is on the 29th of September 2013, 12 noon.
- The Report Interval is Weekly.
- The next email will be sent on the 6th of October 2013, 12 noon. And every week thereafter until the configuration is changed.

## 14 Relays

The Centurion is equipped with three relay outputs on the circuit board and their outputs can be configured to trigger in response to a breath test result. To access the Relays Menu, refer to paragraph 8.1.

If a relay output is enabled, the relay will trigger for the specified duration.



Relay	Trigger	Duration	Relay Status	Test
Relay 1	Disabled	1.00	Off	RELAY 1
Relay 2	Disabled	1.00	Off	RELAY 2
Relay 3	Disabled	1.00	Off	RELAY 3

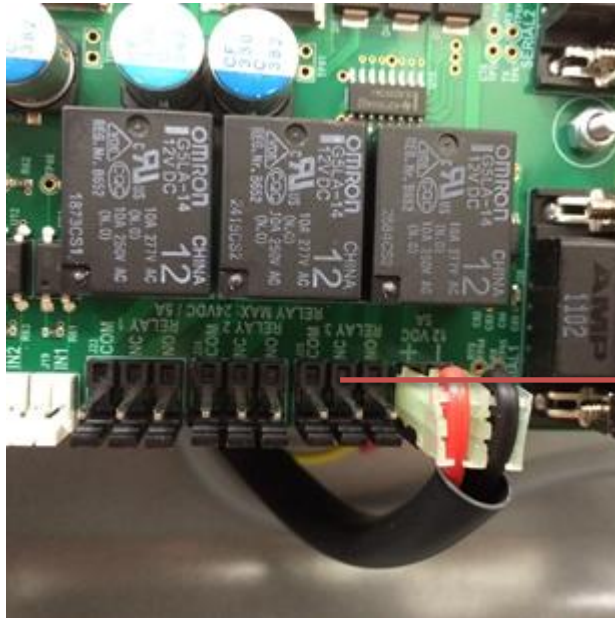
### 14.1 Hardware

The relay outputs are labelled on the circuit board as Relay1, Relay2 and Relay3. Each relay output has three terminals:

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- **COM:** Common connection.
- **NC:** Normally Closed, the COM/NC circuit is *closed* (passes current) when the relay is *not* triggered and *open* when the relay is triggered.
- **NO:** Normally Open, the COM/NO circuit is open when the relay is not triggered and closed (passes current) when the relay is triggered.



Relays x 3

### 14.2 Configuration

There are three relays available and their behaviour can be configured on the *Relays* page. For each relay the following properties can be configured:

- **Enabled:** If checked, indicates that the relay should respond to breath test results and enables remaining configuration items for the relay.
- **Duration:** If the relay is enabled and a breath test result falls within its configured range, the relay should fire for a number of seconds equal to the configured duration.

The *Relay Status* indicates if the relay is currently **ON** or **OFF**.

There are three buttons on this page that briefly activates the relays. (Located under TEST)

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### 16 Serial Ports

This page contains all configuration options for both serial ports 1 & 2, and the Americium protocol operating across them.



By default, the Americium version is set to a “Recommended” configuration for Centurion Zero on both serial ports and is suitable for many situations. However, the version can be freely selected from the dropdown box and further customised according to user requirements by selecting “custom”.

In doing so, the following additional configuration settings become available:

- **BrAC Placeholder:** What is returned as the first field of an Americium result message based on a breath test negative/positive result, respectively (\_/\_ , 0.000/100.000, or 0.000/\_).
- **Send State:** Send an Americium state message every second (Americium operating over TCP/IP sets this interval to 60 seconds).
- **Send Qualitative Result:** The Americium result message contains an additional, more detailed qualitative result field.
- **Send Photos:** Attach photos to a result message (requires camera).

*Please refer to the **WALL MOUNTED PRODUCTS TECHNICAL MANUAL** for detailed information.*

### 17 Functions

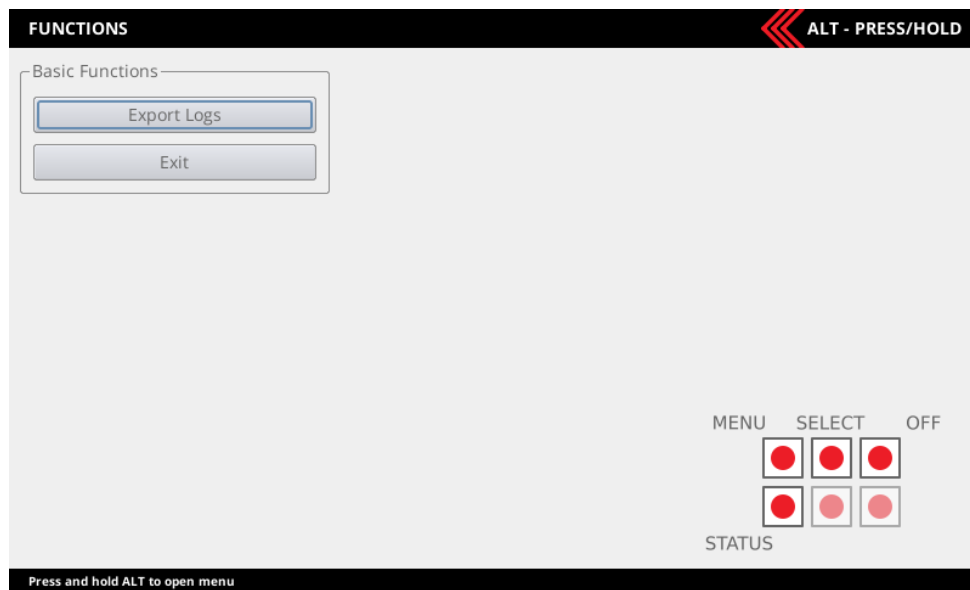
This page shows a visual description of the user buttons that will access the main menu.

#### 17.1.1 Functions Menu

1. Connect a USB flash drive to an available USB port.
2. Press FN4 key. Then, Functions screen will be displayed.

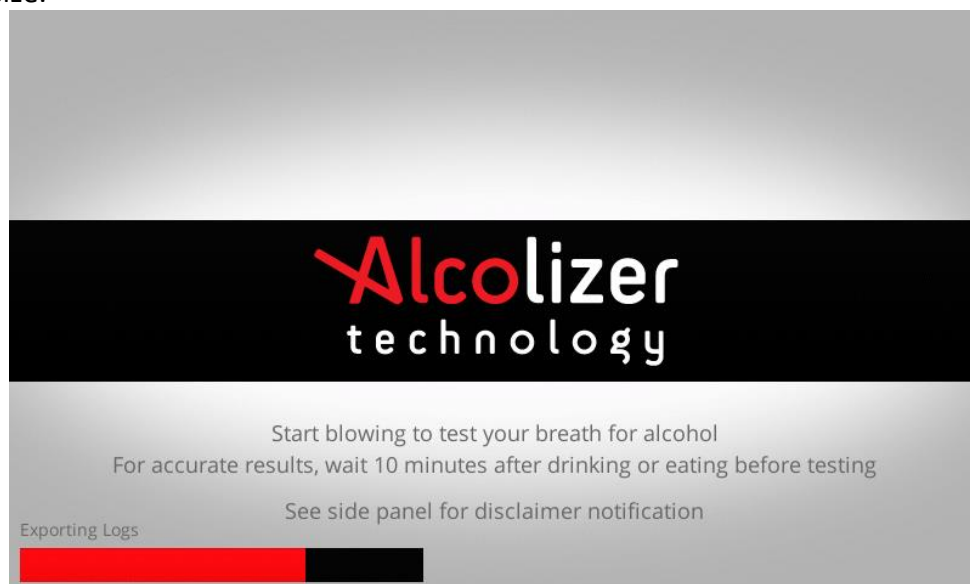
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3. Having the “Export logs” option selected, press FN4 to start the download.
4. Use the Menu button to select “Exit” and press FN4 to return to the operational screen.
5. On the operational screen you should see a progress bar.

**Note:** If the log data to download is small, you may not see the progress bar when back on the operational screen. The download time will differ depending on log data size.



## 18 Self-Check

This page allows running some automated self-checks of the instrument to validate the instrument configuration and behaviour.

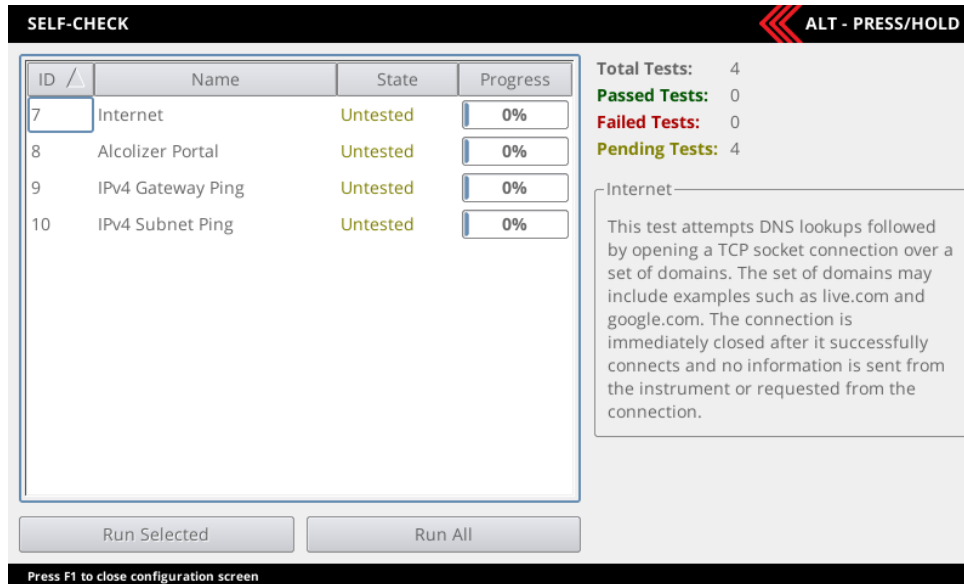
Each test indicates whether it has been recently tested and lists a title as well as provides a description of what the test does. One, many, or all tests can be run. Some tests require a



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degree of user interaction and if this occurs instructions will appear on the screen indicating how to proceed.



## 19 UPGRADE SOFTWARE

To upgrade the software on your Centurion, you will need a USB stick. Follow instructions below to receive/download the latest software version.

### NOTE

Contact Alcolizer to receive the latest software version or access our website for further information.

### 19.1 Saving software into the USB stick

1. Download the software to your computer.
2. Copy the software file (e.g. *ac-13.1-rc2.software*) to a USB stick.

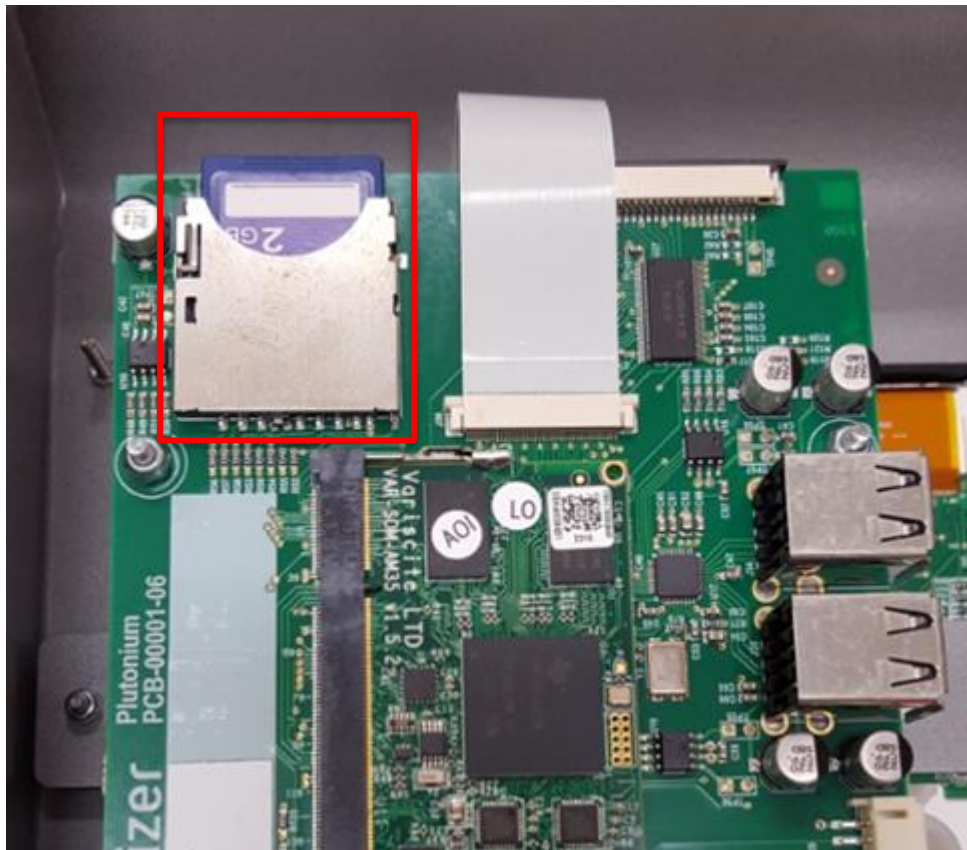
### 19.2 Installing the update on your Centurion

1. Open the Centurion to have access to the hardware and verify if there is a SDHC card present. If not, contact Alcolizer to provide this card.

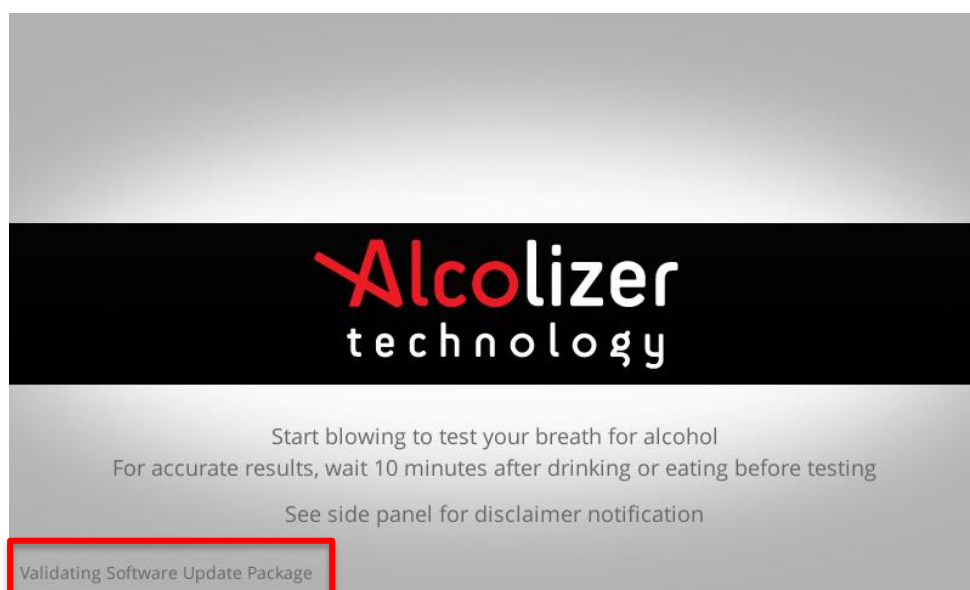
**Note:** The card must be a SDHC type with 2GB capacity or more. It must be formatted as FAT32.

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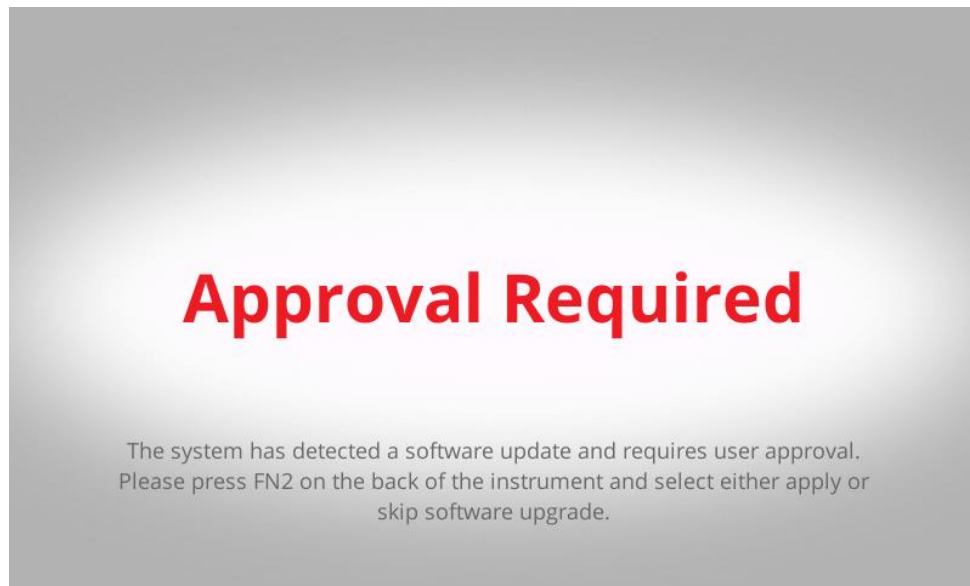
2. Turn the Centurion on.
3. Ensure the device has started correctly. It should display the message “Start Blowing” on the screen.
4. Insert the USB stick with the software to any of 4 USB ports. On the main screen a message will appear “Validating Software Upgrade Package” for around 15 seconds.



5. Then, the message below will appear on the main screen. Follow instructions on the screen.

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**Note:** If FN2 switch is not pressed within 45 seconds, update process will be aborted. To restart upgrade process, remove USB stick and reconnect it.

6. Ensure “Apply Software Update” is highlighted. Press “Select” button (FN4 Button)” on the Centurion board to accept software update.



**Note:** The Centurion will restart and apply the software update. It will take several minutes to complete. **DO NOT REMOVE THE USB STICK DURING UPGRADE SOFTWARE PROCESS!**

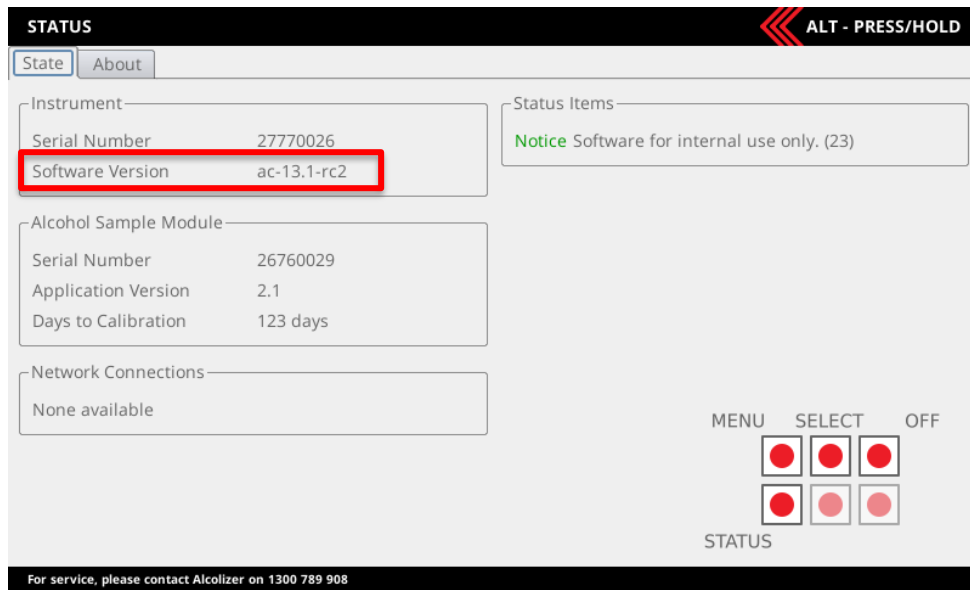
### 19.3 Checking the software version in your Centurion

Once centurion has restarted and is displaying the normal idle screen confirm the installed firmware version in the configuration status page.

To access the status page, press FN1 switch on the back of the unit.

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## User Manual

### 20 CALIBRATION

Each breathalyser device needs to undergo regular calibration and maintenance to maintain its accuracy, provide reliable results and comply with Australian Standards. Calibration is the process of checking and adjusting the internal settings of a breath analyser by comparing and adjusting its test results to a known alcohol standard. Calibration requires specialized equipment and appropriately trained technicians. It is not a procedure that can be conducted by untrained users without the proper equipment.

The Centurion instrument will require calibration services every six months. This service is to be completed by a service technician with appropriate training, however due to our patented technology and design only the Alcohol Sample Module (ASM) is required to be exchanged during the calibration process.

Turn off the instrument by selecting the shutdown option (see section 10.5) or pressing the OFF button once (see section 6); and then unplug it from the mains power supply. Open the back of the Centurion instrument and locate the ASM.

Remove the ASM by unscrewing the thumb bolt located towards the lower end of the ASM. Gently remove the sample module by lowering it slightly then pulling it out. A pre-calibrated sample module will be sent to you prior to your current sample modules expiry. To replace your pre-calibrated ASM, the same method applies in reverse. Ensuring the thumb bolt is not screwed in too tightly.

The sample module that was removed needs to be sent to your nearest Alcolizer Pty Ltd distributor in the packaging supplied as per the instructions accompanying your replacement module.

### 21 Printer Setup

Alcolizer Centurion supports ONLY the following printers

- Epson TM-T82III
- Epson TM-T20 USB model
- Epson TM-T82IIIL

To setup the Epson TM-T20 USB model:

1. Unpack printer.
2. Remove any tape used to secure parts for transport, then fit paper roll.
3. It is recommended to turn the Centurion off.
4. Carefully open the Centurion.
5. Connect printer to the Centurion using USB cable supplied with the printer. Use any available USB port located on the board.
6. Close the Centurion. Then, turn on the Centurion and the printer.

The printer should now be operational. Please refer to printer specifications for printer configuration.

# Centurion Zero Tolerance

## User Manual

### 22 Troubleshooting



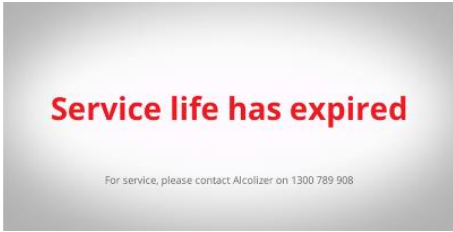
In the event the instrument may malfunction or a warning message should appear on the screen, consult Alcolizer Technology in the first instance.

Contact Alcolizer Technology by any of the following means:

T: 1300 789 908

E: [service@alcolizer.com](mailto:service@alcolizer.com)

W: [www.alcolizer.com](http://www.alcolizer.com)

Frequently Asked Question	Suggested Action
<p>My Centurion is displaying an Out of Order message on the screen after initial start-up.</p> 	<p>Contact Alcolizer Technology.  T: 1300 789 908  E: <a href="mailto:service@alcolizer.com">service@alcolizer.com</a>  W: <a href="http://www.alcolizer.com">www.alcolizer.com</a></p>
<p>My Centurion continues to display Out of Order message on screen after initial start-up.</p>	<p>Contact Alcolizer Technology.  T: 1300 789 908  E: <a href="mailto:service@alcolizer.com">service@alcolizer.com</a>  W: <a href="http://www.alcolizer.com">www.alcolizer.com</a></p>
<p>My instrument is displaying a warning icon in the bottom left corner.</p> 	<p>Either there are status items requiring attention (press "FN1" to identify items requiring attention), or the service life may shortly be about to expire. Contact Alcolizer immediately to arrange service.  T: 1300 789 908  E: <a href="mailto:service@alcolizer.com">service@alcolizer.com</a>  W: <a href="http://www.alcolizer.com">www.alcolizer.com</a></p>
<p>How do I locate FN buttons to access menu.</p>	<p>FN buttons are located on the circuit board – SEE PARAGRAPH 6 USER CONTROLS</p>
<p>My instrument is displaying "Service Life has Expired".</p> 	<p>The instrument's service life has expired and requires its service. Contact Alcolizer immediately to arrange replacement module replacement and have your serial number ready to quote.  T: 1300 789 908  E: <a href="mailto:service@alcolizer.com">service@alcolizer.com</a>  W: <a href="http://www.alcolizer.com">www.alcolizer.com</a></p>

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