

Centurion Quantum

User Manual



Centurion quantum

The BrAC 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 accuracy 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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1 Introduction

This User Manual details the operation of the Alcolizer Technology Centurion Quantum alcohol breath testing instrument.

Centurion Quantum comes in a variety of models with various configurations. Depending on the type of Centurion Quantum purchased, this manual may contain information that is not applicable to your model.

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 Quantum instrument.

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.

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2 Description of Centurion Quantum

2.1 The Instrument

Centurion Quantum is a wall mounted alcohol breath testing machine. It is designed for high volume, fixed point commercial and industrial alcohol breath testing applications. The Alcolizer Centurion Quantum incorporates innovative and patented replacement module technology, which means no more returning the Breathalyzer to base for service, Alcolizer Technology simply ships you an exchange module.

2.2 Accessories

The Centurion Quantum has the following accessories available:

- Alert System (LED Strobe and Buzzer)
- Card Reader
- iPad Connectivity, (using Wi-Fi connection router)
- Printer
- Wiegand

Some accessories require specific installation and operating instructions. Please contact your Alcolizer Technology representative for further advice.

2.3 Specifications

Item	Specification
Dimensions	410m (H) x 210mm (W) x 110mm (D)
Weight	4.5kg
Power	100-240V ~50/60Hz 60W
Housing	Steel construction
Sensor	Alcohol specific electrochemical fuel cell
Response Time	Within 3-5 seconds for a 0.100g/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)
Operating Temp	-10 to 55°c
Storage Temp	-10 to 70°c
Measurement Display	4 Digits (x.xxx g/210L BrAC)
Detection Range	0.000 - 0.500 g/210L
Accuracy	Absolute accuracy to better than +/- 0.005 g/210L (BrAC)
Sample volume	1.0 Litre
Minimum Air Flow Rate	10 L/min
Calibration	12-month module exchange system for on-site calibration
Certifications	<ul style="list-style-type: none"> • AS3547 – 2019: Breath alcohol testing devices for personal use • AS/NZS 3100:2017: General requirements for electrical equipment

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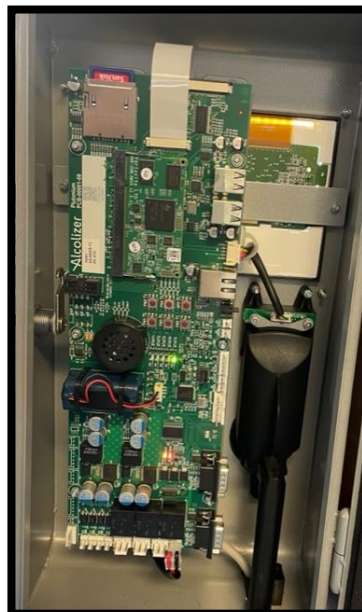
2.4 Equipment Overview

With a long-lasting and durable steel construction, Centurion 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.

2.4.1 External View

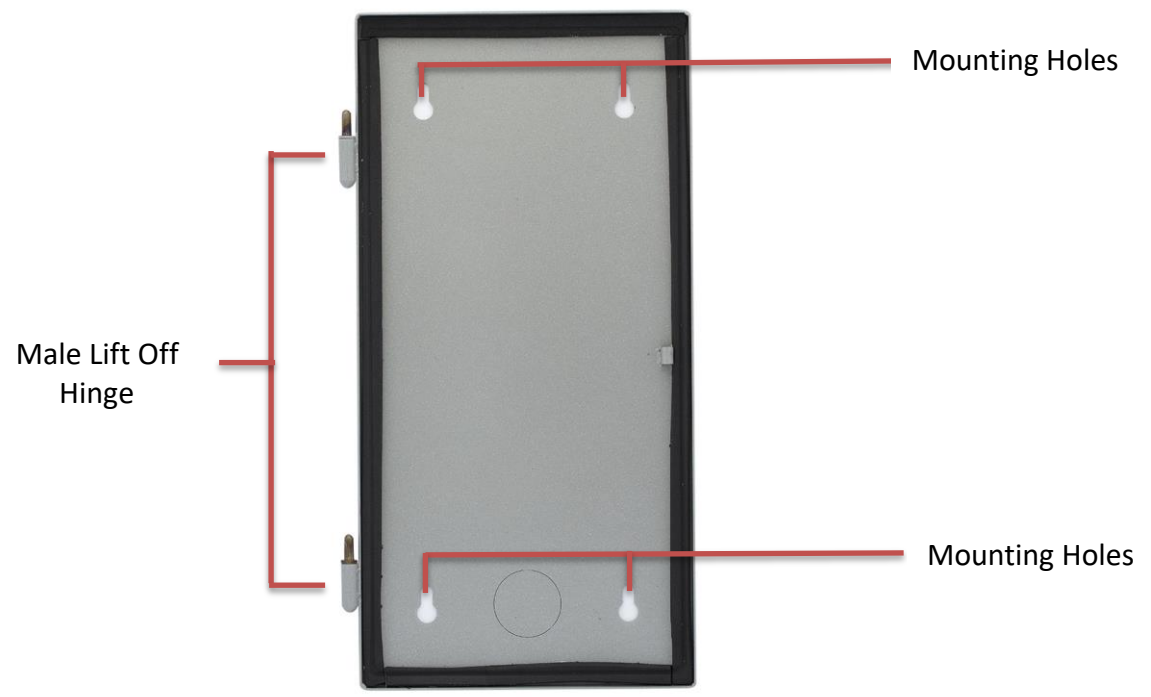


2.4.2 Internal View



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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 or water.
- 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 must not be exposed to extreme temperatures outside of the defined operating range (see Product Specifications Table).

3.1.2 Mounting Height and Position

The instrument must be mounted and positioned at a height to accommodate the majority of expected 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 Choosing a suitable mounting location

The Centurion Quantum is designed to be a rugged device however consideration must be made to its physical location and the possible environmental impacts on the instrument, particularly from the weather.

The ideal mounting location is indoors, in an ambient, temperature and humidity-controlled environment. This is typically what you would find in a normal office environment.

The Quantum is designed for industrial and commercial uses which may not lend itself to the “ideal mounting location” and may necessitate its mounting outdoors or in other “uncontrolled environments”. In this case consideration must be made towards optimizing the mounting and ensuring the instrument operates within its design specifications.

Aspects to consider when mounting the Centurion:

- Ensure the instrument is protected from the direct effects of the weather, in particular that it has shelter from rain and other forms of moisture e.g., snow, frost, condensation.
- The instrument should not be mounted in the path of direct sunlight – this can raise the internal temperature of the instrument beyond its design specifications.
- In particular, watch for the changing angle of the sun e.g., the morning or setting sun, winter sun vs. summer sun when positioning the instrument.

3.1.4 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.

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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 weight and any incidental loading such as a person leaning or pulling on the instrument.

WARNING

Do not use adhesives as the method of fixing as these are not considered to be a reliable or safe fixing means for the Centurion Quantum.

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 Electrical Connection

The Quantum should be provided with an independent electrical supply and should not be dependent upon a third-party device for power.

Quantum will automatically power up in the presence of a mains input.

3.2.3 Electrical Power Supply Plug

The Quantum is provided with an electrical plug suitable for use within Australia. Should a need arise to replace this plug please refer to the 'Wall Mounted Products Technical Manual'.

3.2.4 Other Electrical Connections

The Quantum has a variety of input/output ports for connecting peripherals. For guidance on how to connect to/from these ports please consult the 'Wall Mounted Products Technical Manual'.

WARNING

The correct way to turn Quantum off is to open the back panel and press the "OFF" button. It is not recommended to turn the supply off or unplug the device from the socket as this can damage instrument log retention and discharge the emergency back-up battery unnecessarily.

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3.2.5 Initial Start-Up

Perform the following steps for the initial start-up:

1. The Centurion will automatically begin the start-up process once you plug it into 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.

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4 Operating Instructions

PRE-TESTING NOTE

- Users should follow good hygiene practices and we recommend donors wash their hands before and after using the instrument
- 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.
- It is recommended not to clean the instrument with high-alcohol content materials; residual alcohol can cause background interference which a sensitive breathalyse will detect.
- Breath 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 breath alcohol concentration is indicated.
- When a high breath alcohol level has been reached, it can take **10 hours** or more for the breath 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.

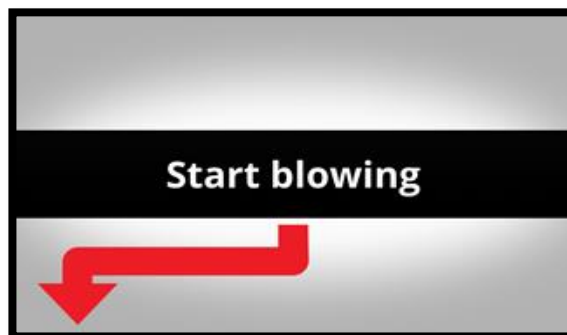
4.1 Providing a Breath Sample

Perform a breath test in accordance with the following procedure:

- 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.
- Take a straw from the straw holder provided.
 - Alcolizer recommends the use of individually wrapped straws.
- Place the straw in the sample port

CAUTION

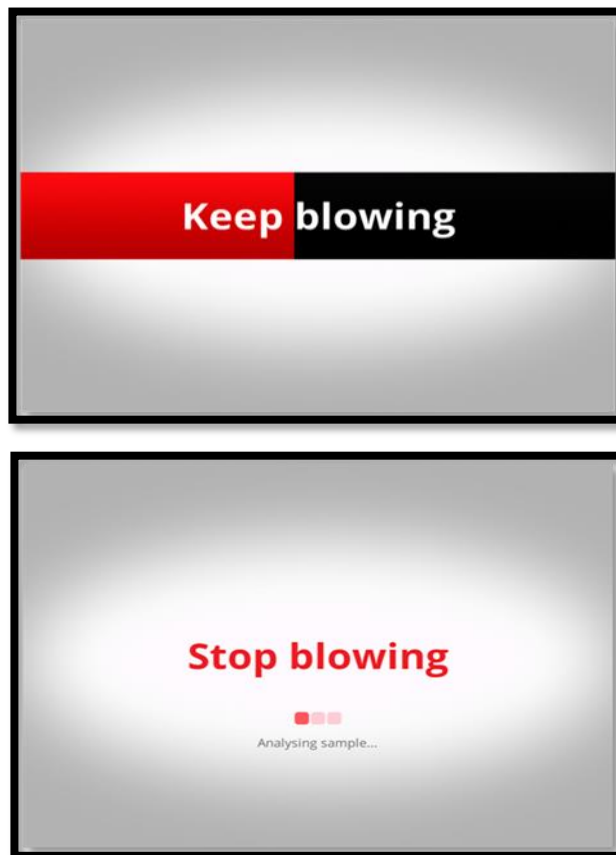
Never inject fluids into the sample port. This could render the instrument inaccurate for subsequent tests or temporarily disable it and may void any instrument warranty



- 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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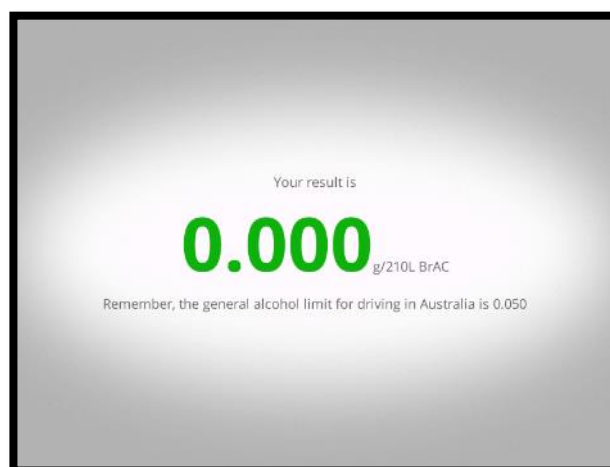
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- e. Stop blowing when the display shows *Stop Blowing*. This will also be indicated by a long beep.
- f. After each test, ensure straws are disposed appropriately according to your local authority disposal regulations.

4.2 Analysing the Breath Sample

The instrument will perform an analysis and then display the result.



The colour of the display is programmed to change according to the level of alcohol detected:

- If the BrAC detected is zero, the display will be green

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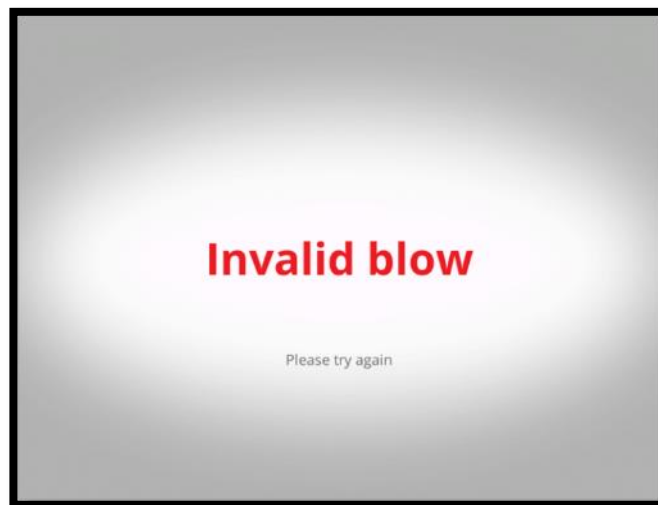
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- from 0.001 to 0.046g/210L, the display will be orange and for readings above 0.046 g/210L, the display will be red. The result will continue to be displayed while the instrument resets itself ready for the next test. For zero readings this will typically be about ten seconds but will be longer for increased alcohol readings.

Invalid Sample

The invalid blow screen is displayed if the user

- stops blowing before 1.0L of breath is recorded,
- blows too softly
- blows too hard
- doesn't blow for long enough.



If the blow is invalid, cease blowing, wait until the Insert Straw and Blow screen is displayed 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.
- **Sample Module** - It is recommended that the instrument is turned off before cleaning.

As part of routine cleaning, use the brush provided to clean out the Centurion Quantum sample port as follows:

- Gently clean around the sample port inlet.
- Do not insert anything into the sample port itself.
- Ensure no contamination or foreign objects enter the sample port area.
- Once cleaning is complete, test the unit by performing a breath test.

5.2 Cleaning Frequency

1. The Sample Port should be cleaned at least daily or as required based on the volume of testing and local conditions.
2. 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.

5.3 Mouthpieces

The Alcolizer Centurion Quantum has been designed for use with standard drinking straws. For the supply of individually wrapped, hygienic, biodegradable straws, contact Alcolizer.

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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.

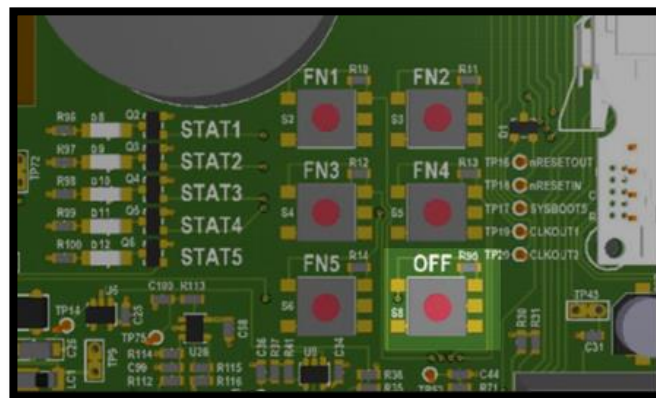
Do not come in contact with any exposed components.

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,

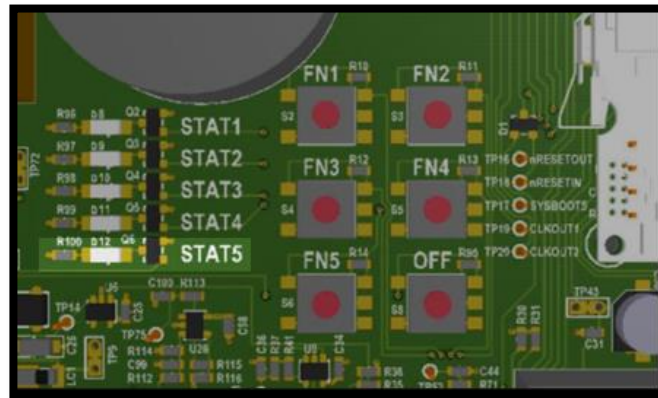
1. Use a USB keyboard, navigate to `Settings > Shutdown Instrument`
2. momentarily press the OFF button, located on the PCBA
3. removing power from the wall (unplugging instrument)

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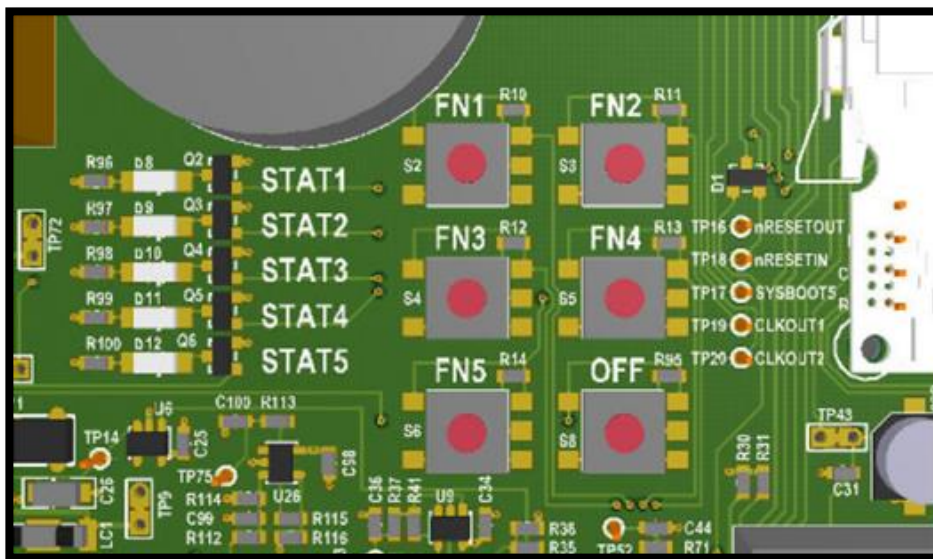
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Wallmount State	Stat 5 LED Indication	Pattern Specification
Reset	Fast blinking	40ms on, 40ms off (12Hz)
Starting Up	Two short pulses	100ms on, 100ms off, 100ms on, 700ms off (1Hz)
Running	One short pulse	100ms on, 900ms off (1Hz)
Shutting Down	Steady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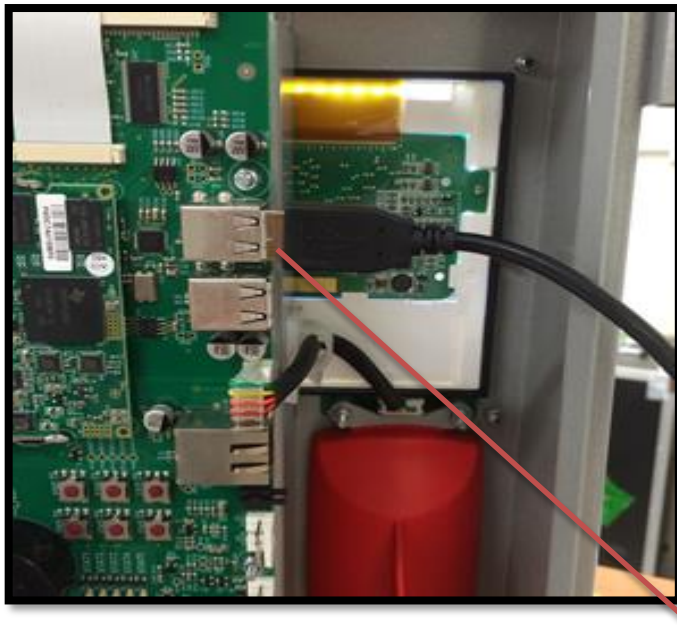
6.6 USB Keyboard

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.

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.

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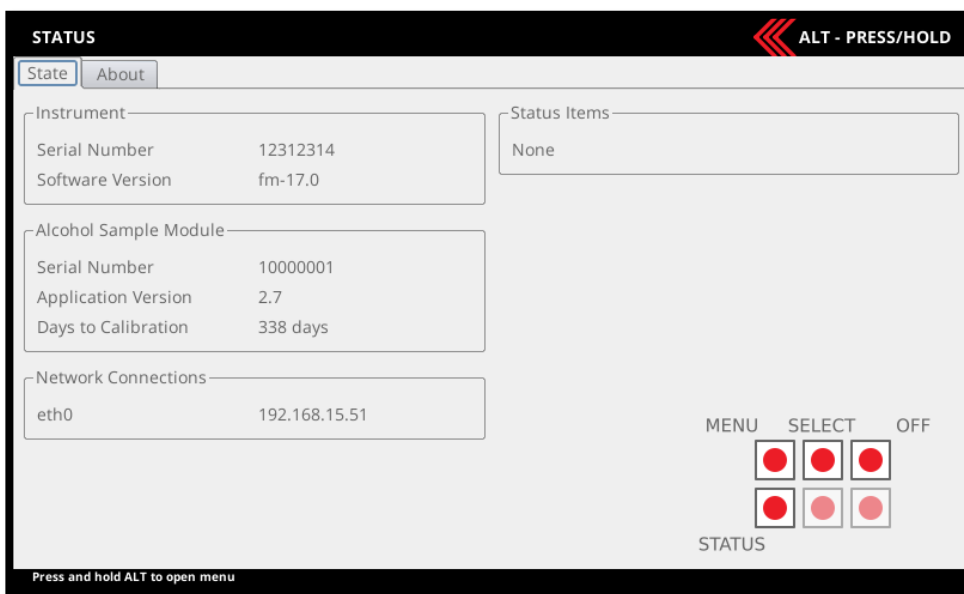
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7 User Interface

7.1 Accessing the User Menu

To access the User Menu, perform the following steps:

1. Connect a keyboard in accordance with paragraph 6.3.
2. Press the F1 key to access the Centurion Quantum 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.

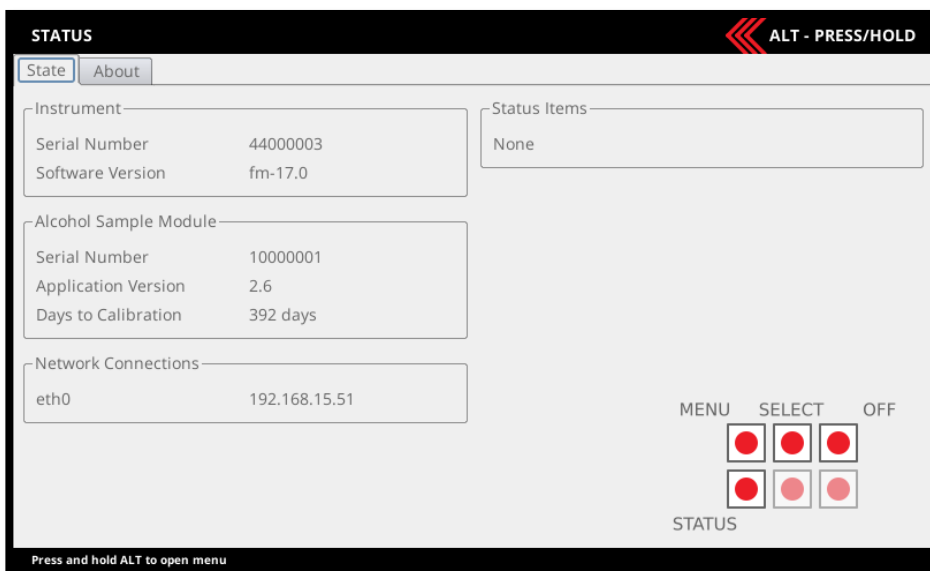


NOTE

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.

7.2 Status

The status page provides a variety of information for the user:



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7.2.1 Instrument

- **Serial Number:** A number that uniquely identifies the Centurion Quantum. 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 Quantum (e.g., fm-17.0).

7.2.2 Alcohol Sample Module

- **Serial Number:** A number that uniquely identifies the Alcohol Sample Module.
- **Application Version:** The version of software running in the Alcohol Sample Module (e.g., 2.06).
- **Days to Calibration:** Total days until the next calibration is due.

7.2.3 Status Items

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.

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.

7.2.4 Network Connections

The Network Connections area shows status information for the Centurion Quantum 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.

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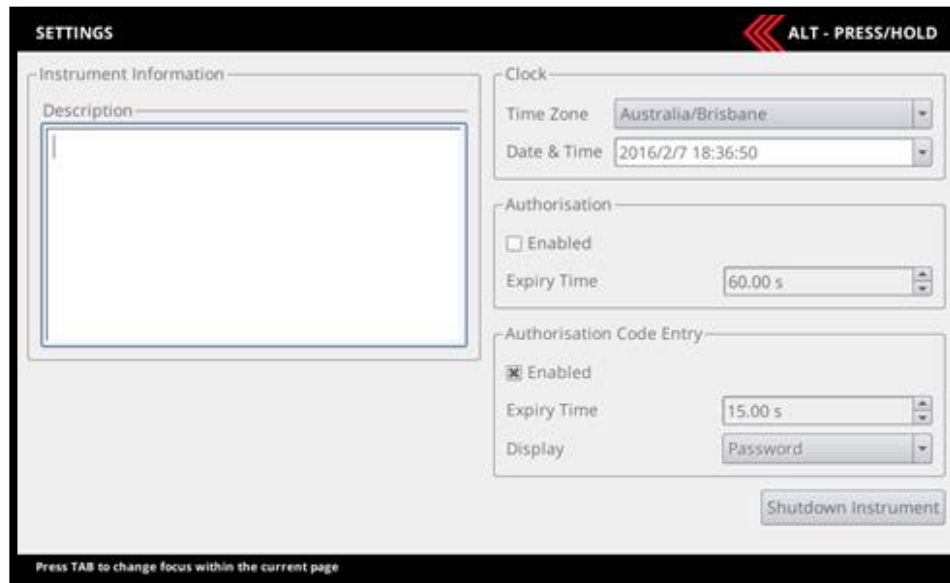
7.3 About

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

- The Instrument
- The Alcohol Sample module

7.4 Settings

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



7.4.1 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.

7.4.2 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 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.

7.4.3 Authorisation

The authorisation feature (when enabled) prevents the Centurion from performing a breath test until it has received authorisation, for example, by entering a code. This is used where you want to identify the person who is doing the breath test. 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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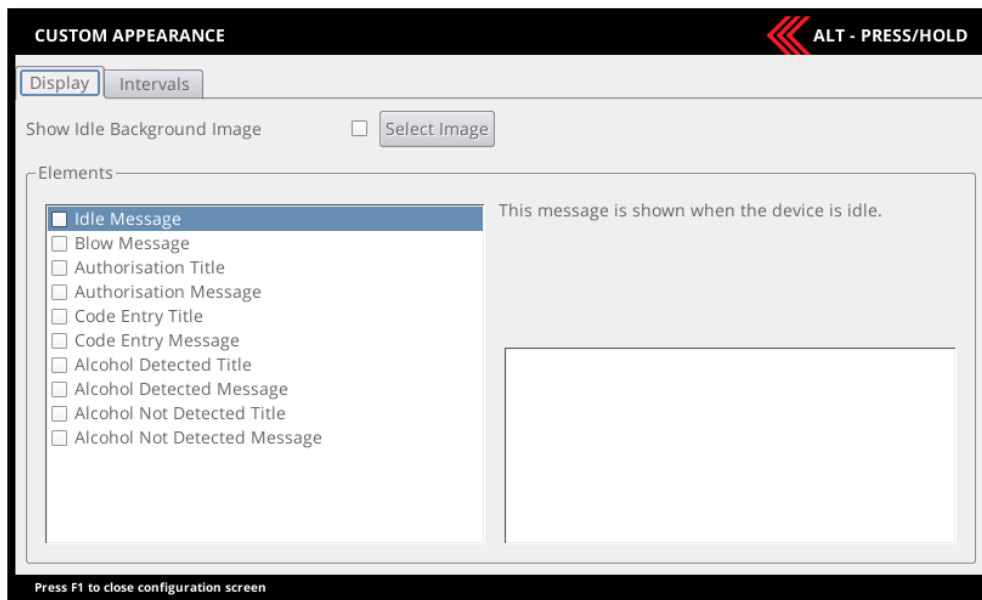
7.4.4 Shutdown Instrument

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 located internally in the Centurion, are the only two ways to correctly power off the instrument.



7.5 Custom Appearance



7.5.1 General Information

The front screen can be customised to suit specific customer requirements. Various images and messages can be displayed. The supported image formats are PNG, BMP, and GIF; however, PNG is recommended. The available space for the image is 800 pixels wide and 234 pixels high. To save time in uploading a background image, have only one image on the storage device.

7.5.2 Background Graphics

To import a background graphic, proceed as follows:

1. Connect a keyboard and access the User Menu in accordance with the procedures at paragraph 7.1.
2. From the User Menu, access the custom appearance screen by scrolling down to Custom Appearance and pressing the “Enter” key. The Custom Appearance screen will appear.
3. Tick the Show Idle Background Image box.

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4. Inset a USB storage device (thumb drive) with the desired image into an available USB port.
5. Click on the 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.

7.5.3 Custom Text

The Elements area allows customisation of user interface text for a variety of breath testing screens.

Display custom text on the screen as follows:

1. Connect a keyboard/mouse and access the User Menu in accordance with the procedures at paragraph 7.1.
2. From the User Menu, access the custom appearance screen by scrolling down to Custom Appearance and pressing “Enter” key. The Custom Appearance screen will appear.
3. Tick the Use Custom Text box in the elements field.
4. Select the desired screen.
5. Type the required text in the free text field for the highlighted screen.
6. To activate a free text of a specific screen, tick the box beside the screen name.

7.6 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.



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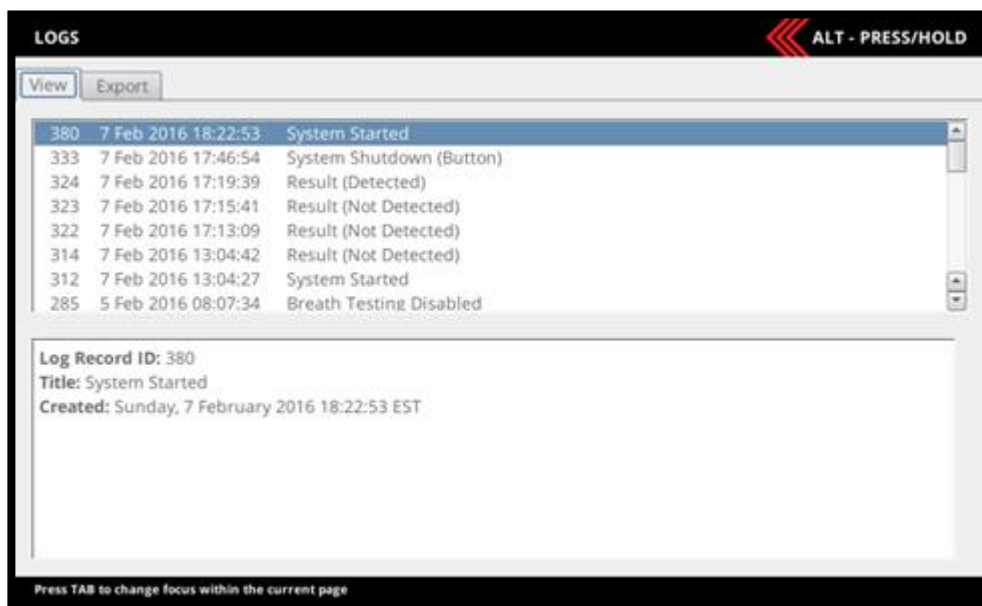
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7.7 Logs

7.7.1 View

The View page 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 highlighting 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.

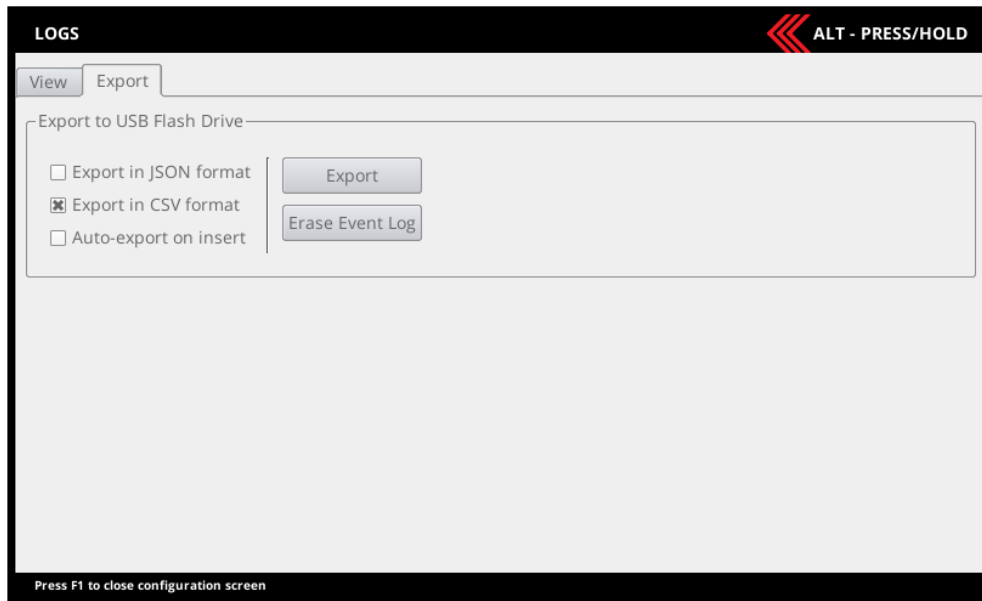
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7.7.2 Export

Logs can be exported from the instrument into USB flash drive through the following menus:

- Logs / Export Menu
- Functions Menu



7.7.3 Exporting

Logs can be exported from the instrument into USB flash drive both by using the *Save* 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.

Note: The export function will only operate correctly with a suitable USB connected.

7.7.4 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.

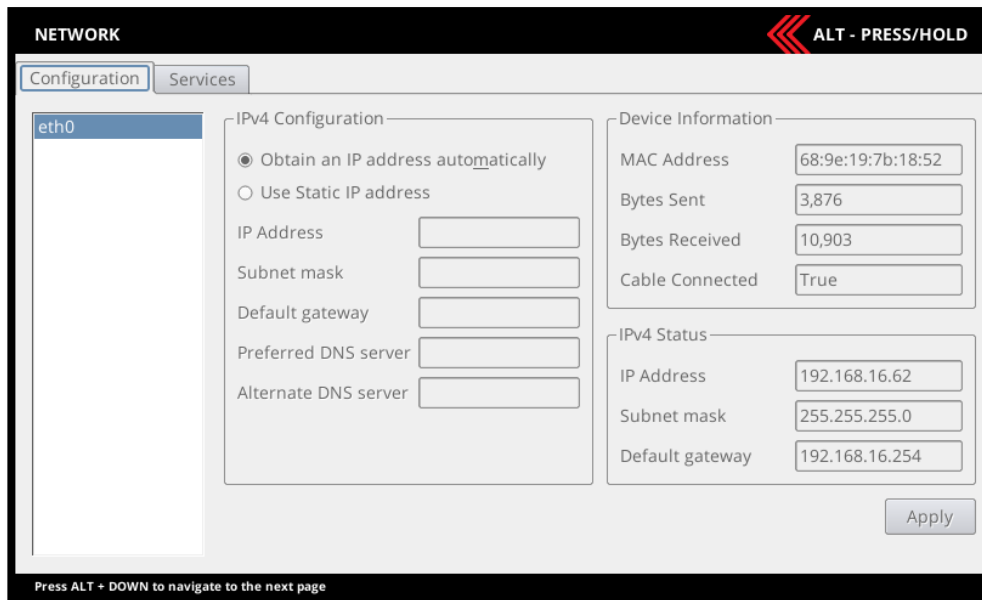
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7.8 Networks

7.8.1 Configuration

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



7.8.2 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:

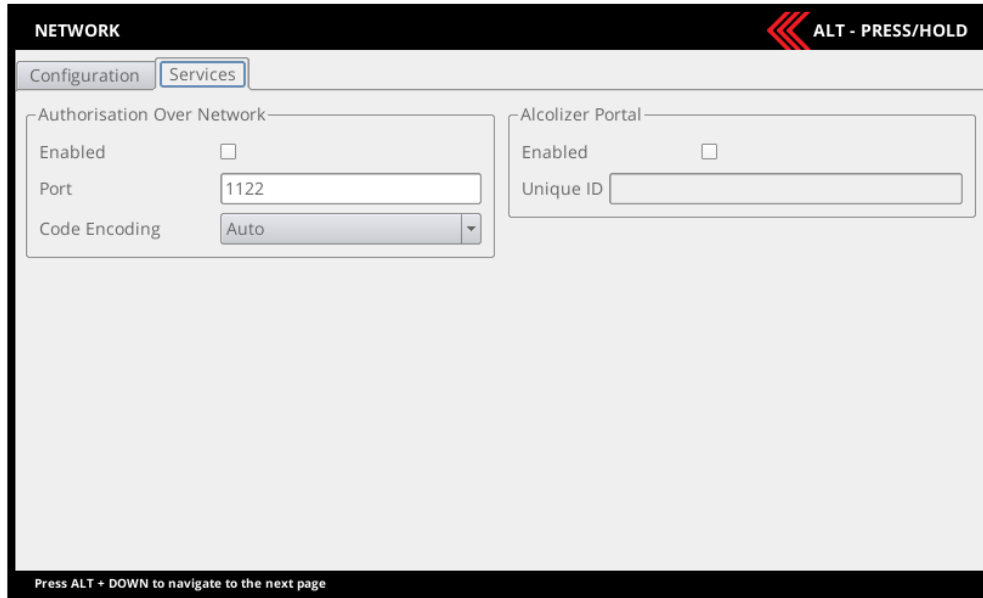
1. Connect the Centurion to an internet receptacle via the Ethernet cable.
2. Connect a keyboard/mouse and access the User Menu in accordance with the procedures at paragraph 7.1.
3. From the User Menu, access the network configuration screen by scrolling down to Network and press enter. The Network 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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7.8.3 Services

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



7.8.4 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. 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 on both serial ports with the following settings:

- Protocol version: Custom
- Date/Time: local time (not UTC)

Please contact your Alcolizer Technology representative for further advice.

7.8.5 Alcolizer Portal

The Alcolizer Portal 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

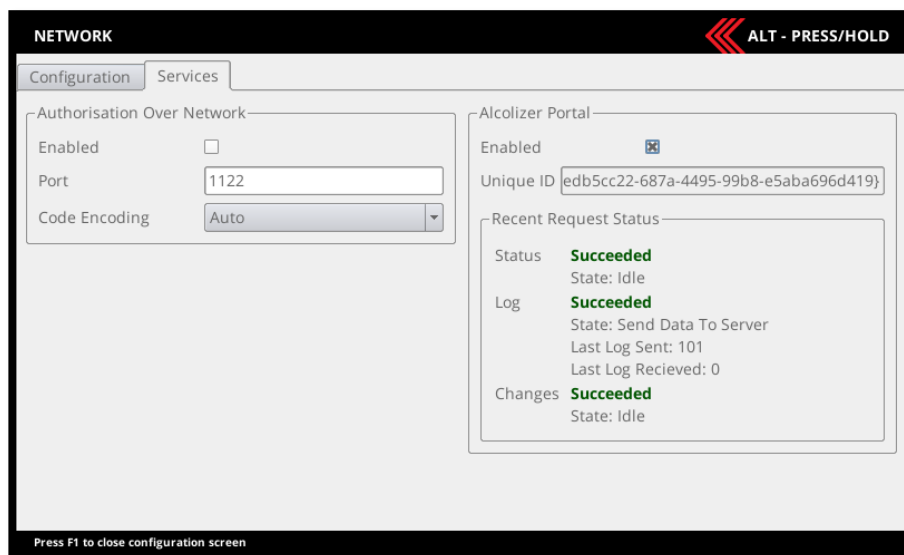
Please, contact your Alcolizer Technology representative for further information about AlcoCONNECT Data Management Portal. This allows you to monitor many remote sites from a single dashboard, and remotely monitor compliance of your Breathalyser testing assets.

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7.8.6 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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7.9 Email

7.9.1 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 7.1.
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.



7.9.2 Settings – Mail 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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7.9.3 Settings – Server Test Mail

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.



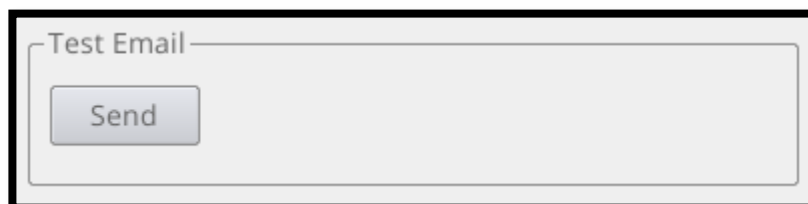
The screenshot shows a 'Server' configuration panel with the following fields and controls:

- 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'.

7.9.4 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 timeout 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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7.9.5 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.



7.9.6 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 set up on this panel.



7.9.7 Breath Test Results

The instrument can be configured to send an email detailed result of a breath test. This can be done for both negative and positive results. If instrument authentication is enabled, the report can also include information about previous breath tests from the same authentication code.

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7.9.8 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.

7.9.9 Event Log Report

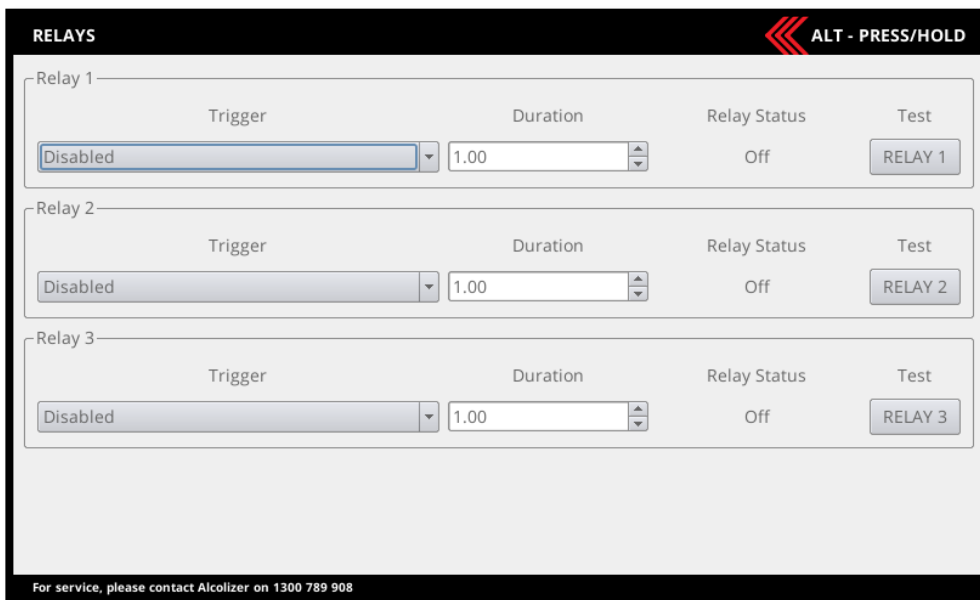
The instrument can be configured to send periodic emails containing log information for the given period. The interval for the report can be configured from hourly through to monthly and the day or hour the report will occur on is dependent on the start date. For example:

- The current date is the 3rd of October 2021.
- The Start Time chosen is on the 29th of September 2021, 12 noon.
- The Report Interval is Weekly.
- The next email will be sent on the 6th of October 2021, 12 noon. And every week thereafter until the configuration is changed.

7.10 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.

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

For service, please contact Alcolizer on 1300 789 908

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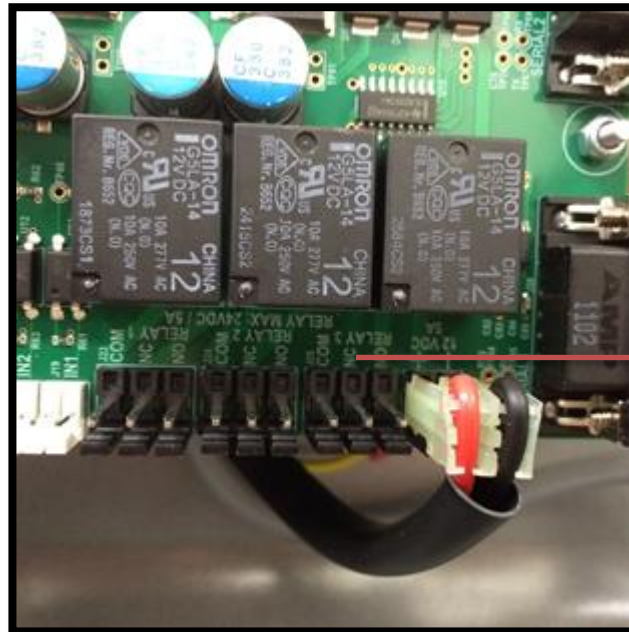
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7.10.1 Hardware

The relay outputs are labelled on the circuit board as Relay1, Relay2 and Relay3.

Each relay output has three terminals:

- **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

7.10.2 Configuration

There are three relays available. 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 activate the relays. (Located under TEST)

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7.11 Functions

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

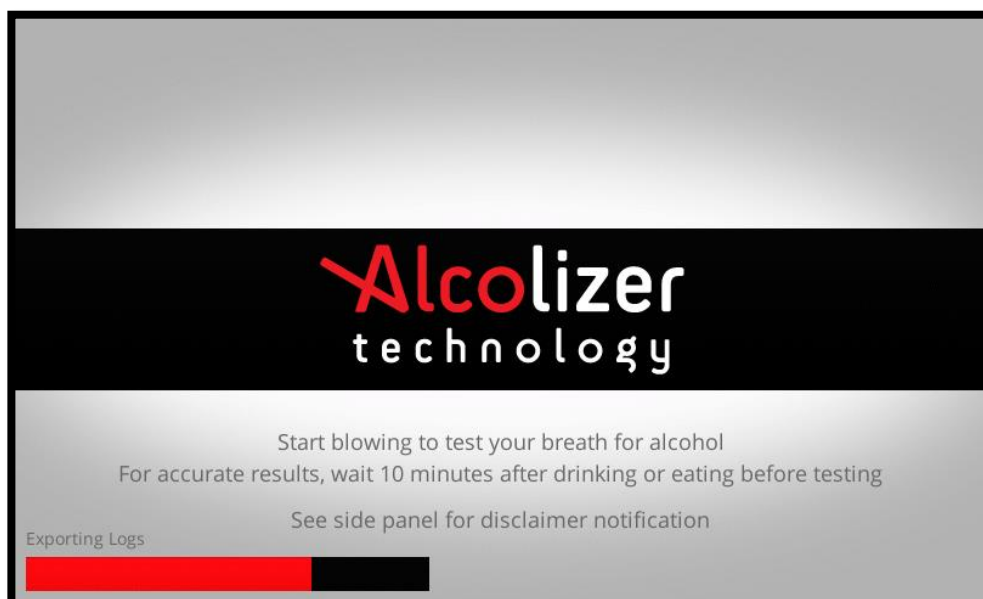
7.11.1 Functions Menu

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



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.



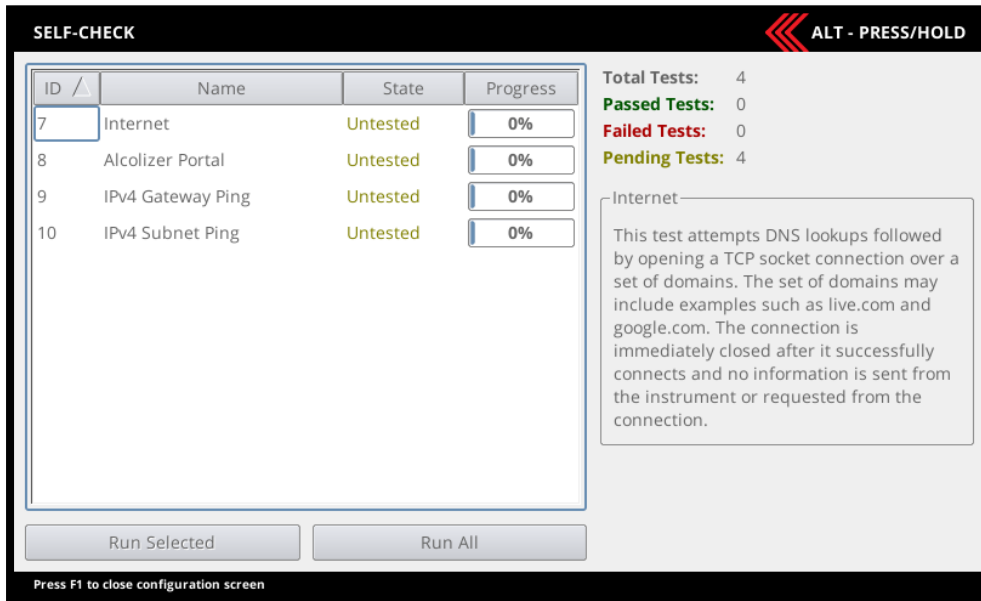
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7.12 Self-Check

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



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8 Breath Test Authorisation

Breath Test Authorisation is a feature that prevents the device from performing a breath test until it has received authorisation from an external agent (remote serial device, keypad, etc). The authorising agent sends a code to the Centurion that allows the device to execute a single breath test. Once the test is performed the authorisation code and authorisation source is logged with the breath test result in the event log and the Centurion waits for authorisation to perform further tests. If a breath test is not performed within a timeout period, the authorisation expires, and the Centurion must receive a new authorisation code to perform further tests. Please contact your account manager for more details.

Authorising agents connect to the Centurion through authorisation channels. An authorisation channel is a combination of a physical connection (serial port, ethernet port, etc) and a software protocol operating over that physical connection.

The following authorisation channels are supported depending on model being used:

- Two RS-232 serial ports (Serial 1 and Serial 2) running the americium serial protocol.
- Any number of direct network connections running the americium serial protocol.
- HID input device attached to a USB port (keyboard, card reader, etc).

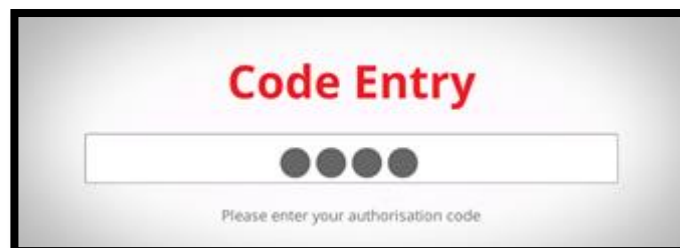
8.1 Authorisation Code Entry

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.



8.2 Serial Port Authorisation

The two RS-232 serial ports are activated with the Americium serial protocol (custom) at all times, whether test authorisation is enabled or not. This means that all breath test results are sent by the Centurion on *both* serial ports.

If authorisation is enabled, then an agent can send authorisation codes to the Centurion on *either* serial port.

8.2.1 Americium Serial Protocol

The Americium serial protocol operates on *both* serial ports simultaneously. By default, the instrument is configured to comply with the latest AS3547:2019 standard, so the Americium version will be limited to *custom*. The following additional options are available for the default custom specification:

- **Code Encoding:** How to interpret the authorisation code. "Auto" will generally be suitable for most purposes.

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- **Unit of Measure:** Not configurable. By default it will be “Custom (UI-UOM)”, which will reflect what is currently configured in the system.
- **Send State:** Send the current state of the instrument every second.
- **Send Qualitative Result:** Send a qualitative result alongside the numerical value.
- **Send Photos:** Send base64 encoded photos with the breath test result (requires camera).
- **Send Unit of Measure:** Append the unit of measure to the result string.

Note: The date/time is configured to local time (not UTC).

Please contact your Alcolizer Technology representative for further advice.

9 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.

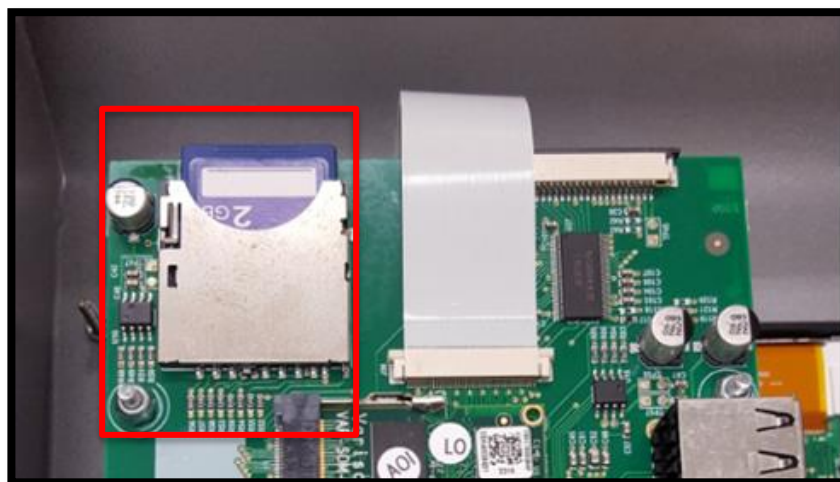
9.1 Saving software into the USB stick

1. Download the software to your computer.
2. Copy the software file (e.g., *fm-17.0.software*) to a USB stick.

9.2 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.

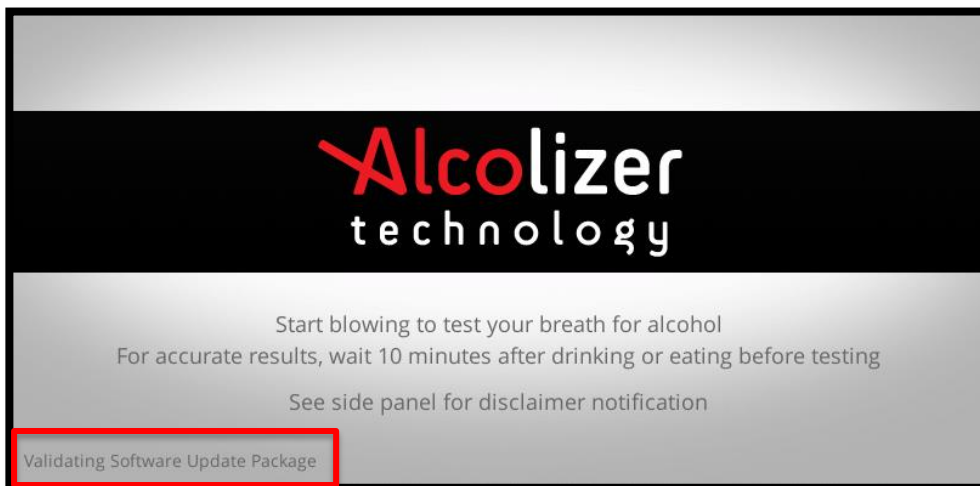
Note: The card must be a SDHC type with 2GB capacity or more. It must be formatted as FAT32.



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.

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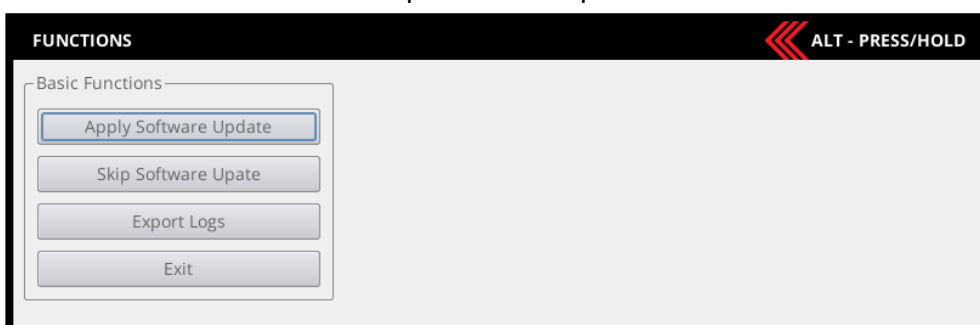


- Then, the message below will appear on the main screen. Follow instructions on the screen.



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

- 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!**

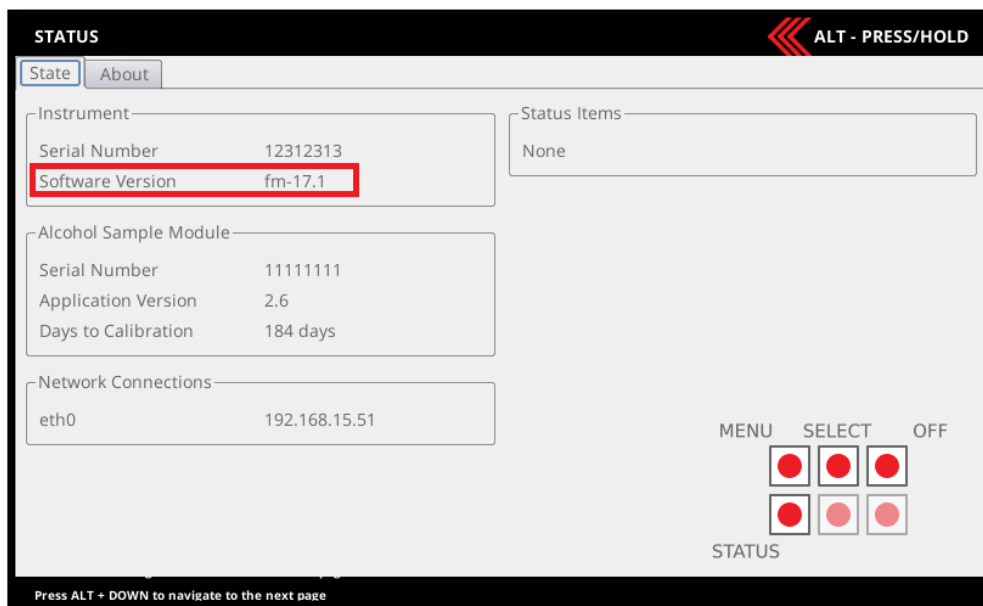
9.3 Checking the software version in your Centurion

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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10 Calibration

10.1 Calibration Interval

To ensure compliance, every breathalyser device needs to undergo regular calibration and maintenance to maintain its accuracy, provide reliable results and comply with relevant standards e.g., 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.

10.2 Alcohol Sample Module (ASM) calibration

The Centurion instrument will require calibration of the Exchangeable Sample System every twelve (12) 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.

10.3 Instructions for replacing the ASM

WARNING

The Quantum Breathalyser uses human breath as an input to the measuring system. When replacing the ASM it is advisable to wear appropriate gloves and Safety Glasses to protect the eyes.

10.3.1 Turn the instrument OFF

The ASM is not intended to be a “Hot Swap” device, therefore Quantum must be powered OFF before the ASM is replaced.

Turn the instrument OFF by pressing & releasing the OFF button once.

WARNING

The correct way to turn Quantum off is to open the back panel and press the “OFF” button. It is not recommended to turn the supply off or unplug the device from the socket as this can damage instrument log retention and discharge the emergency back-up battery unnecessarily.

Once the instrument has successfully powered down and the screen and then unplug it from the mains power supply. It is now safe to remove the ASM.

Note: Quantum will automatically power up in the presence of a mains input.

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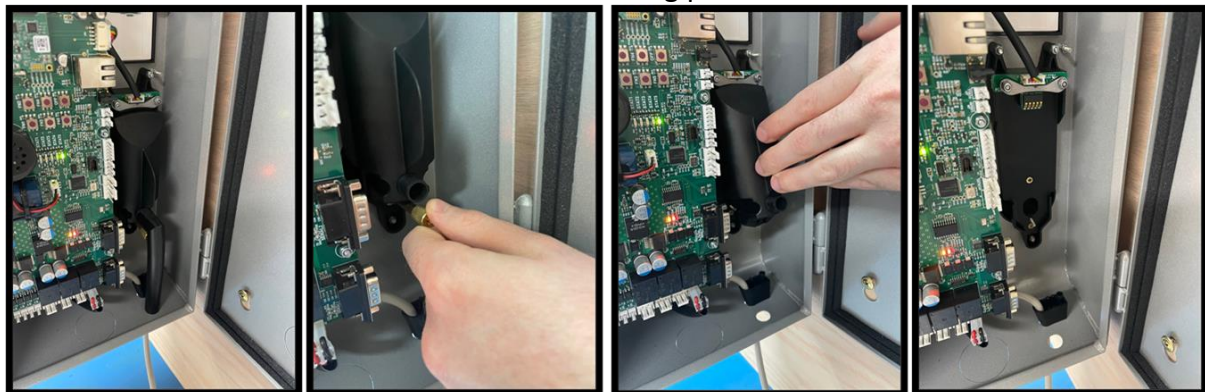
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10.3.2 Exchanging the ASM

- Locate the replacement (new) ASM which should have been supplied by Alcolizer or your Authorised Service Agent.
- Ensure the instrument is turned OFF and disconnected from mains power. Unlock and open the back of the Centurion instrument and locate the ASM.
- Remove the (normally black) L-shaped drain tube, this can be thrown away or returned to Alcolizer for cleaning.
- Carefully 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 have been sent to you prior to your current sample module's expiry. Insert this one now.
- To replace your pre-calibrated ASM, the same method applies in reverse. Ensure the thumb bolt is not screwed in too tightly.

Note: 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.

The instructions here are illustrated in the following picture:



10.3.3 Main Module servicing

There is no requirement to service the main module, only the ASM, but on replacement of the ASM it is advisable to inspect the state of the chassis and screen and advise Alcolizer if there are any concerns.

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11 Printer Setup

Alcolizer Centurion supports ONLY the following printers

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

To set up 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.

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12 Troubleshooting

12.1 Contacting Service

12.1.1 Routine servicing of the ASM

Typically, a replacement ASM should be sent to you by your Authorised Service Representative several weeks ahead of time. In the event this did not occur please contact your Service Representative having details of your instrument to hand: instrument make and model, serial number, and location/address if relevant.

12.1.2 Contacting Alcolizer

In the event the instrument malfunctions 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:

- Phone: 1300 789 908
- Email: service@alcolizer.com
- Web: www.alcolizer.com

12.1.3 Returning equipment to Alcolizer

If the machine is to be returned to Alcolizer, prepare it for shipment in accordance with the following procedures:

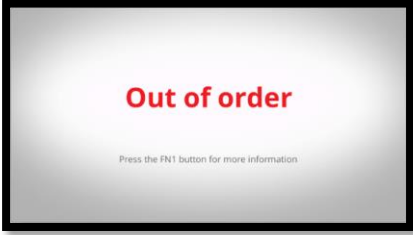

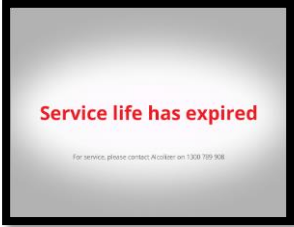
- Unlock and open the instrument.
- Turn off the instrument by pressing & releasing the OFF button.
- Unplug the power cord.
- Using safe lifting techniques, lift the instrument off the back plate hinges and remove it from the wall.

Pack the instrument into its Alcolizer provided container or other suitable packaging to ensure it is not damaged in freight.

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12.2 Troubleshooting FAQ

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: service@alcolizer.com W: www.alcolizer.com</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: service@alcolizer.com W: www.alcolizer.com</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: service@alcolizer.com W: www.alcolizer.com</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 a replacement module and have your serial number ready to quote. T: 1300 789 908 E: service@alcolizer.com W: www.alcolizer.com</p>

END OF DOCUMENT