Touch 10 User & Installation Manual

v2.0

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Important

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Translations: In the event that there is a difference between a translation of this manual and the English version, the English version should be considered the official version.

FCC Statement: This device complies with the limits for a Class B digital device, pursuant to part 15 of FCC rules. These rules pertain to reasonable protection from harmful interference in a normal installation. This equipment generates extremely low levels of radio frequency energy which should not interfere with normal radio equipment if installed properly. If interference is detected and attributed to this device, you could try to:

- re-orient or relocate the receiving antenna
- separate the equipment and the receiver
- isolate circuit output between the device and the radio
- contact an experienced technician or dealer to help.

It is the owner's sole responsibility to install and operate the device in a manner that will not cause accidents, personal injury or property damage.

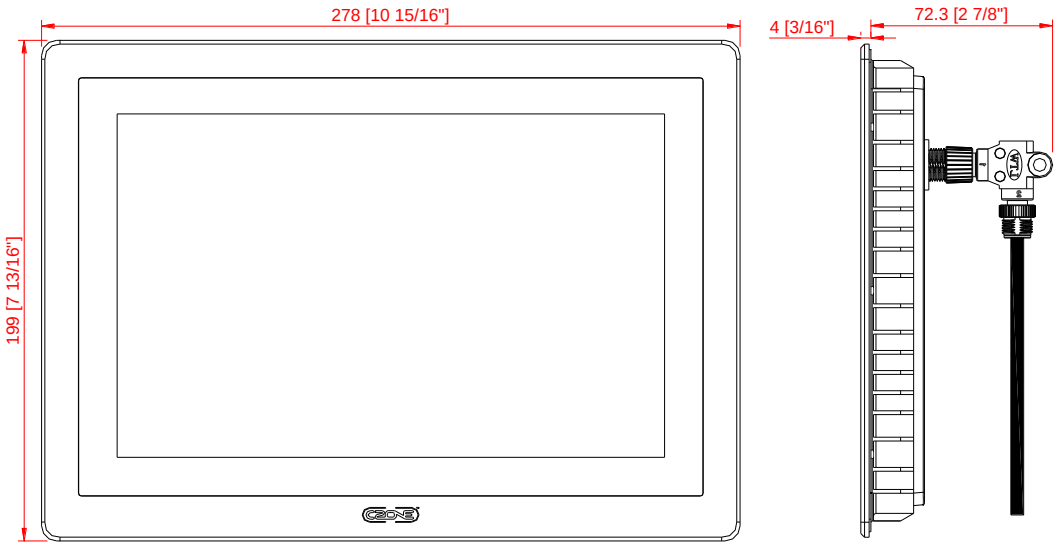
Table of Contents

1 General Information

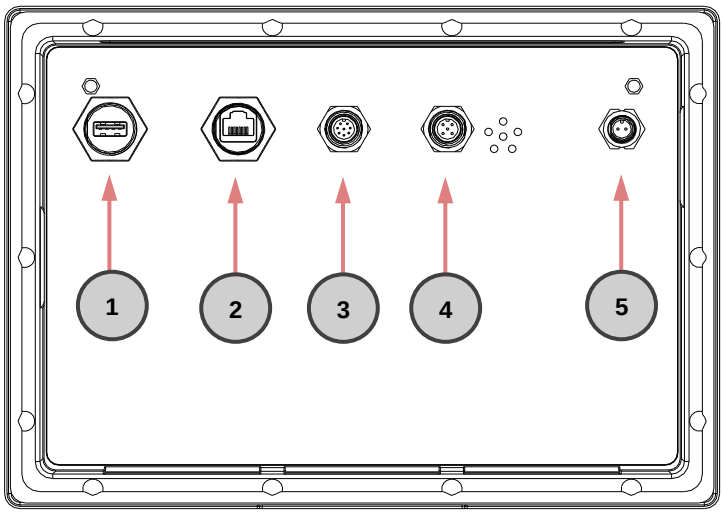
1.1 Description

CZone Touch 10 is a 10.1” colour touch-screen, which operates as a Display Interface on any new or existing CZone network. It is designed especially for marine environments and has no moving parts. With its large touch-screen and multiple levels of backlighting, Touch 10 provides fast and positive operation in all visibility conditions. Together with toughened glass and splash proofing, this makes it ideal for cockpits and other exposed locations.

1.2 Dimensions



1.3 Connections



1. USB 2.0
2. Ethernet
3. GPIO (General Purpose Input Output)
4. NMEA 2000
5. 8-32V DC power

2 Installation

2.1 Mounting Location

Choose the mounting locations carefully before you drill or cut. The unit should be mounted so that the operator can easily use the controls and clearly see the screen. Be sure to leave a direct path for all the cables. The unit has a high-contrast screen, and is viewable in direct sunlight, but for best results install the unit out of direct sunlight. The chosen location should have minimal glare from windows or bright objects. Choose an area where the unit will not be subjected to excessive vibration, or heat. Good ventilation is required.

Warning! Inadequate ventilation may cause the unit to overheat. The unit is designed to operate in temperatures from 0° C to +50° C.

2.2 Panel Mounting

The screws and gasket used for panel mounting are included in the box. For mounting instructions, refer to the Touch 10 Cutout Template on the back side of the box sleeve.

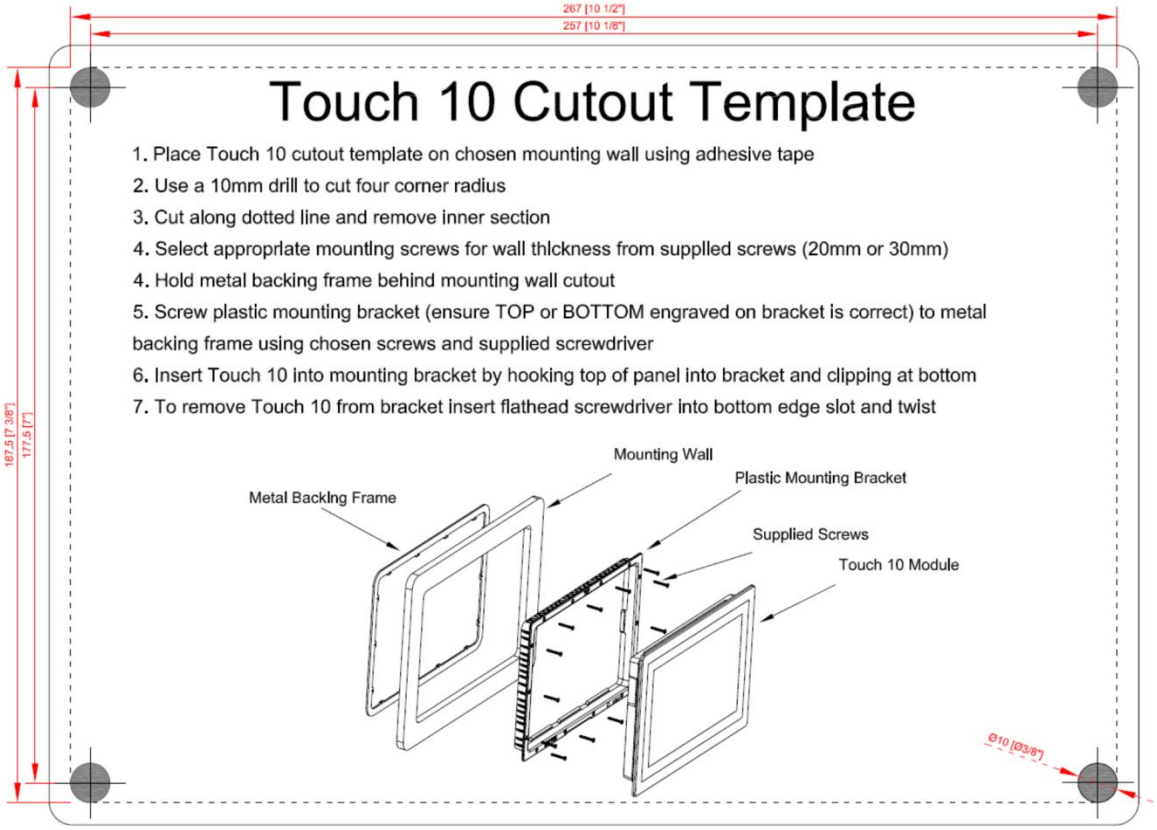


Figure 1 Touch 10 Cutout Template Example

2.3 Wiring

Warning! Before starting the installation, be sure to turn electrical power off. If power is left on or turned on during the installation, fire, electrical shock, or other serious injury may occur. Be sure that the voltage of the power supply is compatible with the unit.

The unit has a voltage rating 8 to 32v DC, hence it can be installed in either 12V or 24V systems.

Plug the supplied power cable to the DC Power port on the Touch 10.

Connect Red to (+) DC using a 3-amp fuse. Connect Black to (-) DC.

2.4 NMEA 2000 Backbone

Run an NMEA2000 cable from the NMEA2000 connector to an NMEA2000 network backbone

2.5 USB Port

The USB 2.0 port on the back of the Touch 10 is used for updating the firmware of the Touch 10, by copying those firmware update files onto a USB memory stick and then going through the software update process with this plugged in. The same mechanism can also be used for loading the Favourites pages to the Touch 10. It is important therefore during installation that some means of access to the USB connector on the rear of the unit is retained.

3 Getting Started

3.1 First Power Up

If connecting Touch 10 to an existing CZone network, ensure the display has been added to the CZone configuration file and assigned a dipswitch. Every CZone device on a network requires a unique dipswitch to operate correctly, and the Touch 10 has a virtual dipswitch. Refer to the CZone Configuration Tool manual for this process.

1. Turn on the circuit breaker or switch supplying power to the Touch 10.

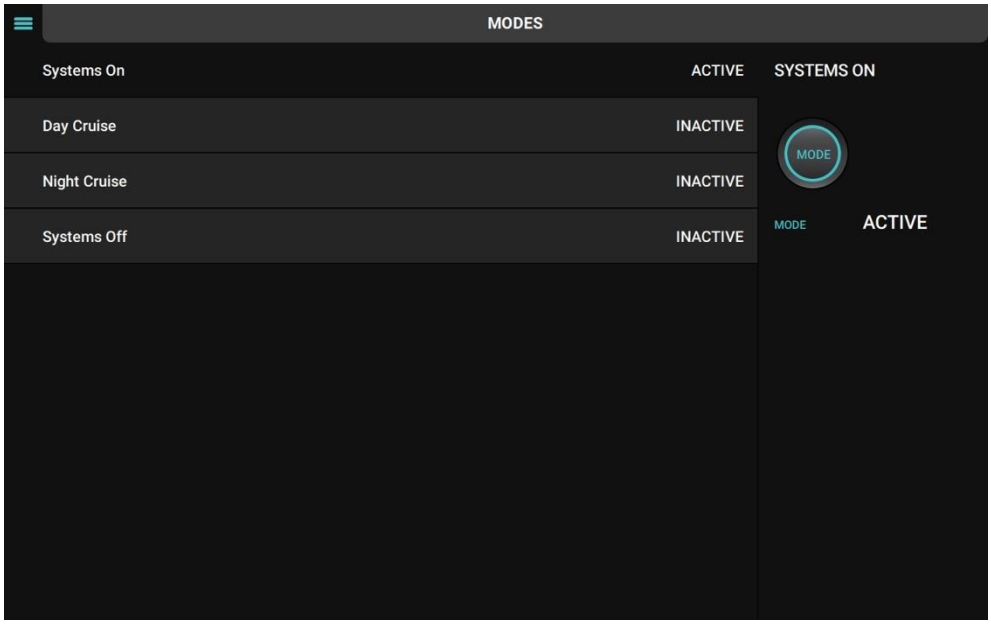
2. The CZone splash-screen will appear for about 10 seconds then the text 'Starting Configuration Claim'. Touch 10 will now read the CZone configuration file from another CZone device on the network.

3. When configuration has been successfully read the text 'Configuration Successful' will appear. It is also possible to write the configuration to the network at a later date for new installations.

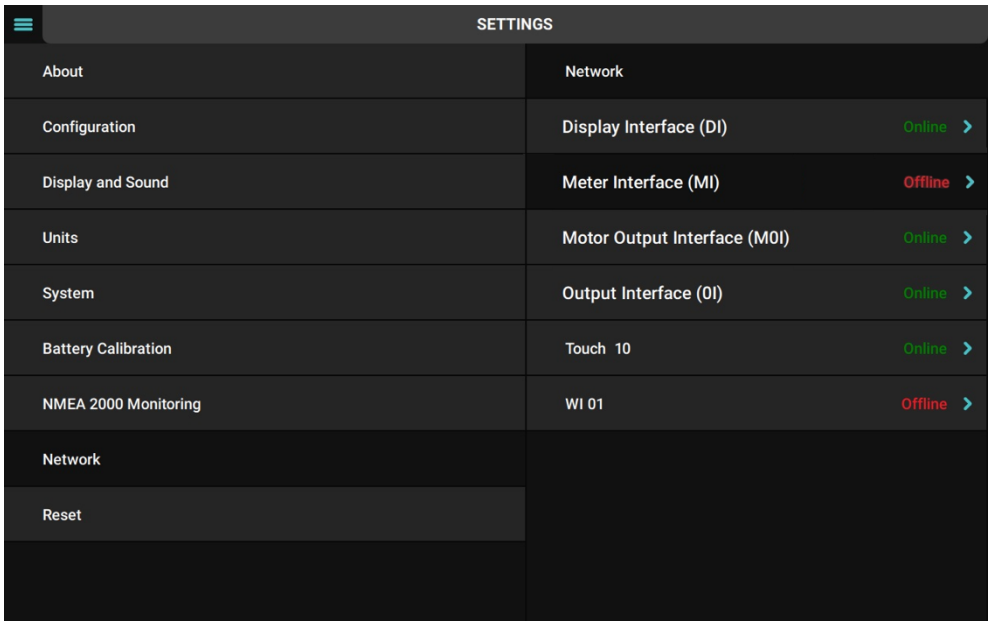
4. Select the virtual dipswitch from the list of configured CZone devices. For new installations the dipswitch can be set by selecting Dipswitch from the Settings ⇨ System page.

5. If Favourites pages have been pre-installed then they will be shown. For details of how to create a favourites page refer to the CZone Favourites Configuration Tool Instructions, available for download from the CZone website.

6. In a new installation without Favourites configuration, the display will boot in to the Modes page as shown. Note the actual list of modes available will depend on the vessel's configuration.



7. To ensure network connections are good and that Touch 10 can see the rest of the CZone devices, go to the Settings ⇨ Network page and check configured modules are showing Online.



8. Update software on Touch 10 if a newer version is available. Current software version can be checked by selecting About from the Settings page. Refer to section 4.4 on Page 27 for the software update process.

9. Touch 10 is now ready for use.

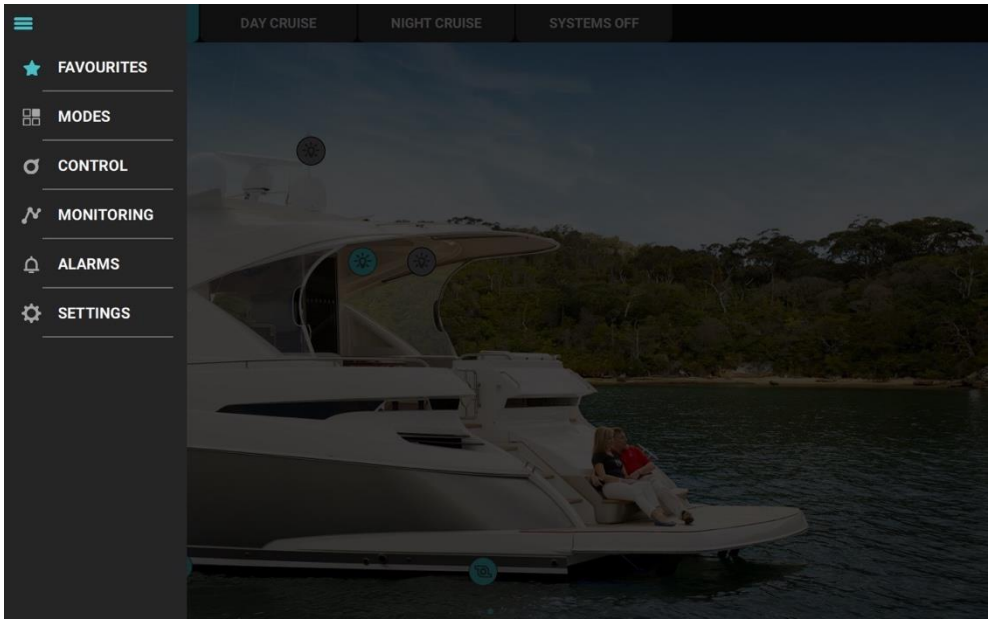
4 Operations in Detail

4.1 Accessing a Function Within its Group

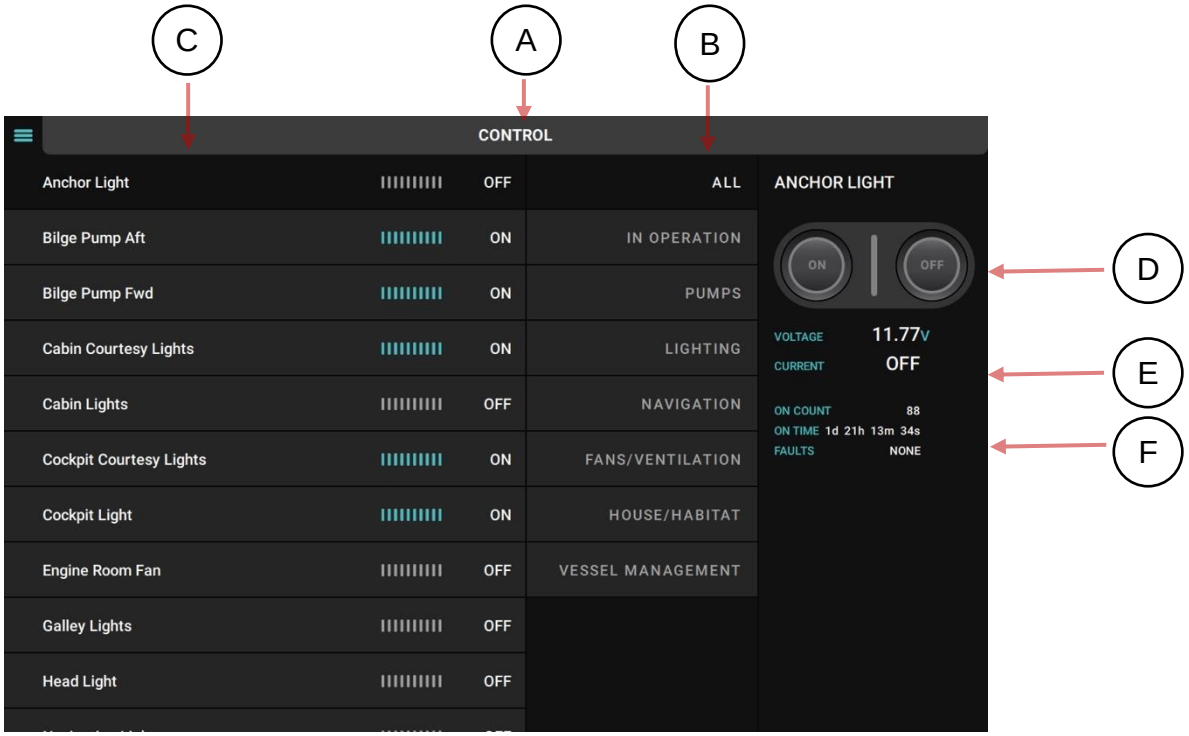
CZone operations are divided into six functional groups, each with their own slide-out menu page:

1. **Favourites** – pre-configured pages showing favourite modes, controls and monitoring items
2. **Modes** - complete setups for operating the vessel in a consistent way: for example, when docked; cruising at night or in daylight; at anchor; and so on
3. **Control** - individual control of the vessel's equipment, such as pumps, lights, and power isolators
4. **Monitoring** - measurement of the vessel's devices and subsystems, including tank levels, AC and DC power sources such as batteries and inverters, alarms and others
5. **Alarms** – Display any system alarms or warnings, and these can be filtered by severity
6. **Settings** - set CZone parameters, rather than other on-board equipment. This includes units of measurement, backlight settings, time zones, network settings etc.

Touch 10 offers a slide-out main menu which auto-hides to display as an icon in the top left corner of the screen. Tapping on this causes the full menu to slide out with a tab for each of the above functional groups. The menu auto-hides when one of the main tabs is selected, or when the icon is tapped.



To access any function in a group, start by tapping its menu option. The unit will display a list of items under the group, with specific details of the selected item on the right of the page.



A. Title, showing name of current functional group (Control).

B. Filter option. Tapping this allows items to be filtered by category.

C. List of items. The number of items in this list of this will be determined by what has been configured on the network.

D. Touch control for the current circuit. In this example, the anchor light is shown, and there are touch buttons for turning this on or off.

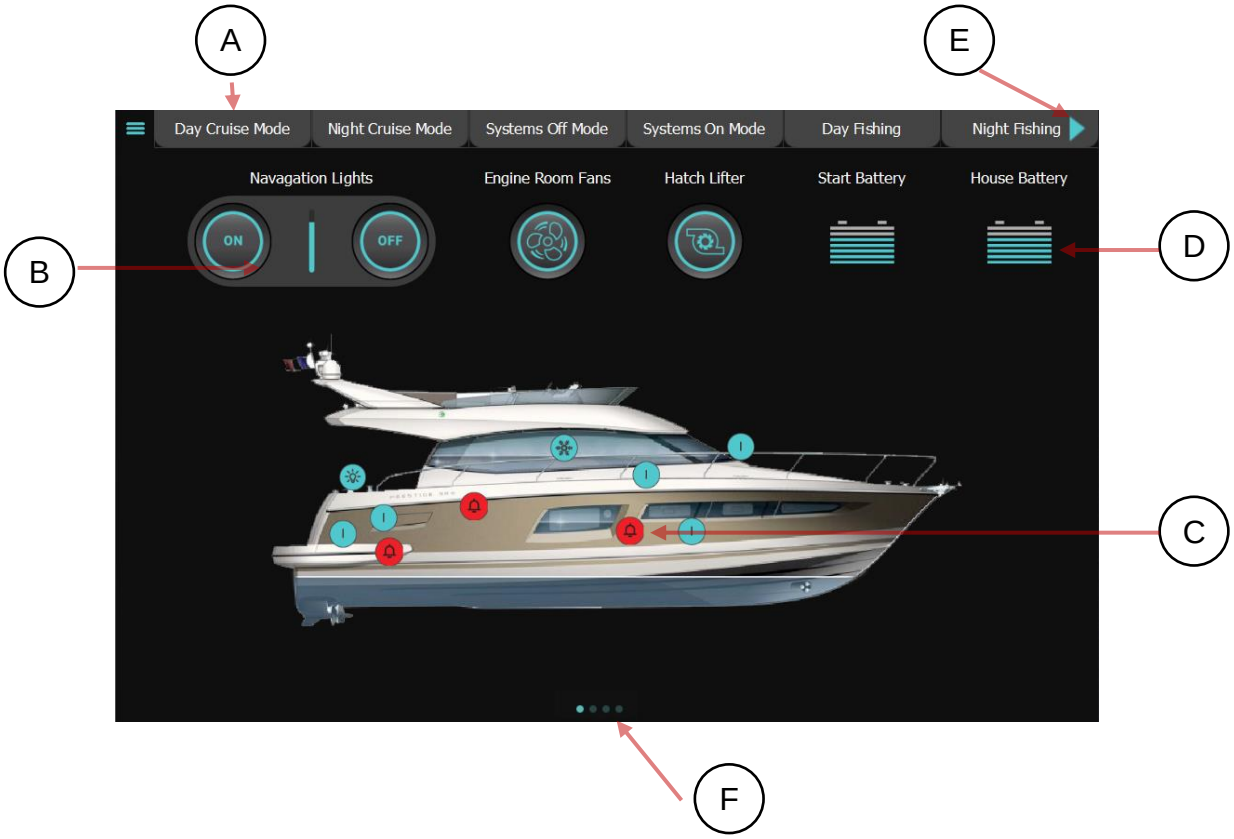
E. Further information about the circuit is displayed, such as the voltage, current state, length of time it has been turned on etc.

F. The state of each of the circuits is shown (on and off) and, if the circuit has a variable level (such as a fan which can run at lower speed or a light which can be dimmed), then the current level is shown.

4.2 CZone Favourites Pages

The Favourites pages are a quick and easy way for the user to visualize where circuits and alarms are located, and take action directly from that visual interface. Favourites pages are created using the CZone Favourites Tool, and are loaded into the Touch 10 through a USB memory stick. If Favourites pages have been loaded into the Touch 10 then the first page of that set of Favourites will display when the unit is turned on.

Since every vessel will have a different layout and different graphics, this document can only give indications of how the Favourites page will have been created and what functions will appear there. Multiple favourites pages can be created, and the user swipes left and right between them to access the page they require.



A. Modes, allowing quick control of groups of functions. See Section 4.3.1

B. Controls, allowing individual items to be turned on or off. See Section 4.3.2

C. Alarms, showing items that need attention. Note that important alarms will also pop up a window over the display. See Section 4.3.4

D. Monitoring of specified levels, such as batteries or tank levels. See Section 4.3.3

E. Indication that there are further modes. Swipe left and right to scroll to these.

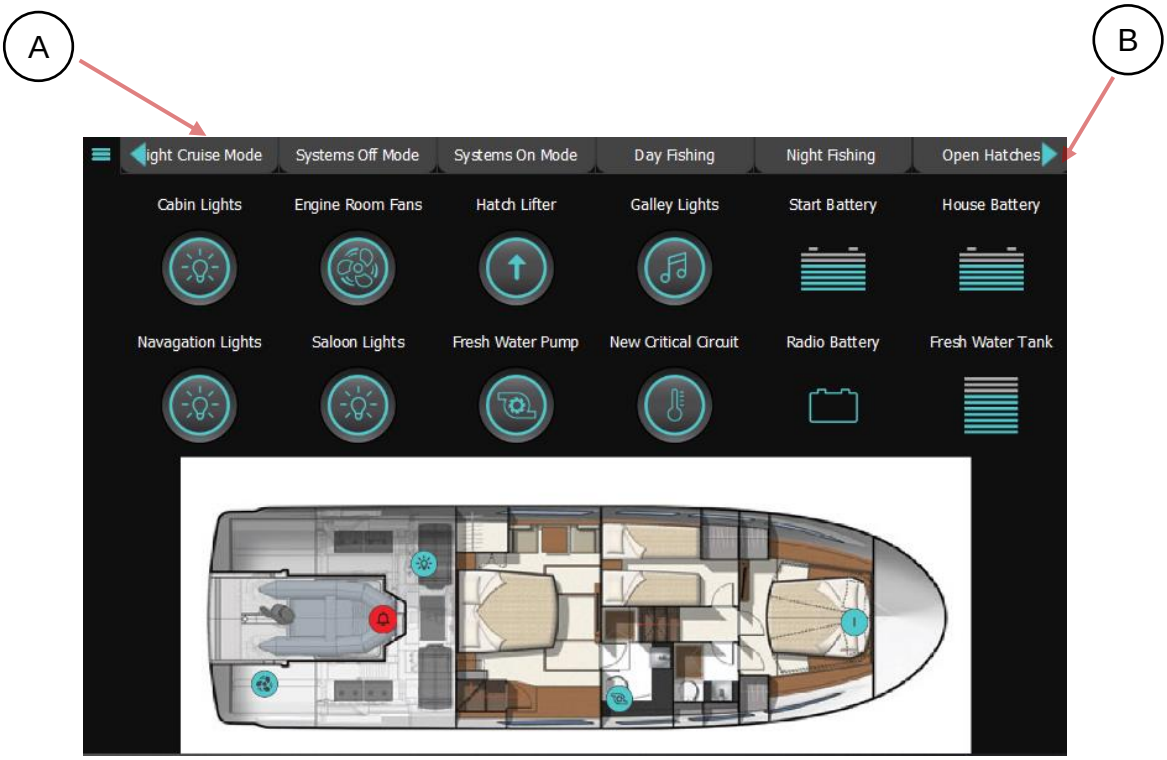
F. Indication that there are multiple favourites pages, Swipe left and right anywhere on the display to switch between pages.

4.3 CZone Functions by Group

4.3.1 Modes

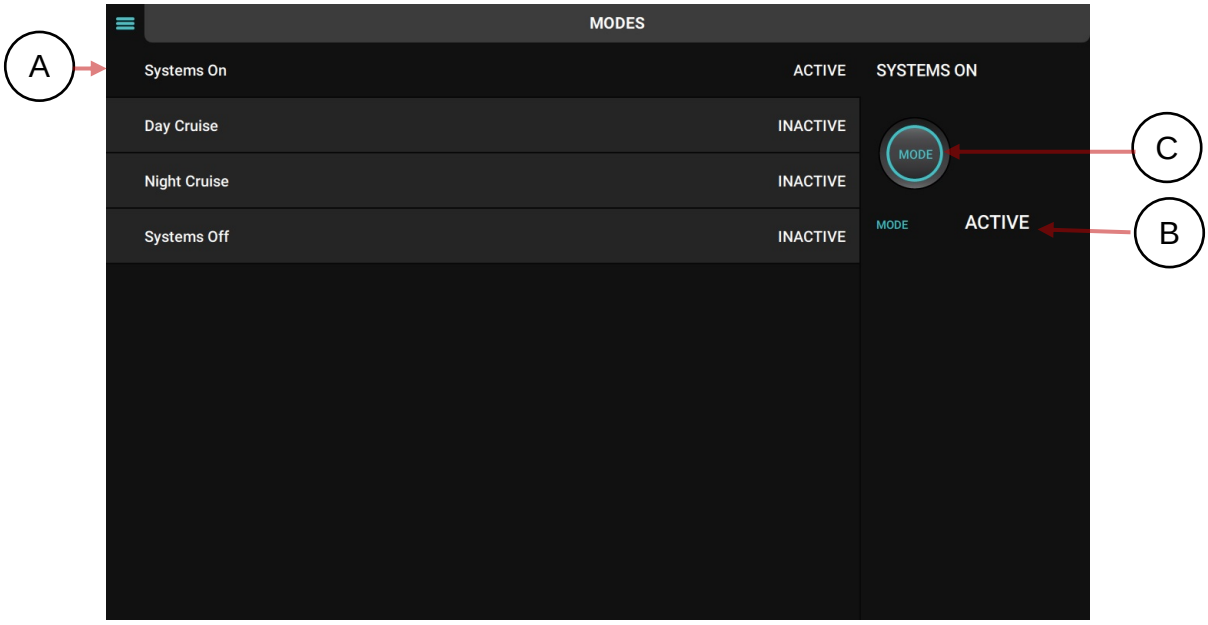
The Modes group is very simple to navigate because it has only one level. This is deliberate: changing modes is intended to reconfigure the systems operation as easily as possible. Modes will vary between vessel or vehicle and are usually configured by the builder, although can be modified later with the CZone Configuration Tool.

Select Modes as the second option from the menu. If a favourites page has been configured then the modes will be listed in a bar along the top of the screen. Although the display depends on how the favourites have been configured, their operation is the same.



A. To activate a Mode on the Favourites pages, hold the desired Mode button for half a second. The button will illuminate white, and then change to blue indicating that Mode is now active.

B. If there are more than six modes, blue arrows will display on one or either end of the mode bar. Tap these to scroll left or right until the required mode is listed, then tap and hold that button for half a second to activate that mode.



A. To activate a Mode on the Modes page, select the desired Mode from the Mode list.

B. The Mode information panel will display the current state of that mode (Active or Inactive) and any other relevant information.

C. Press the button to activate the Mode.

Modes are configured by the builder using the CZone Configuration Tool. Only one mode from a 'mode group' can be selected at a time; most systems have only one mode group.

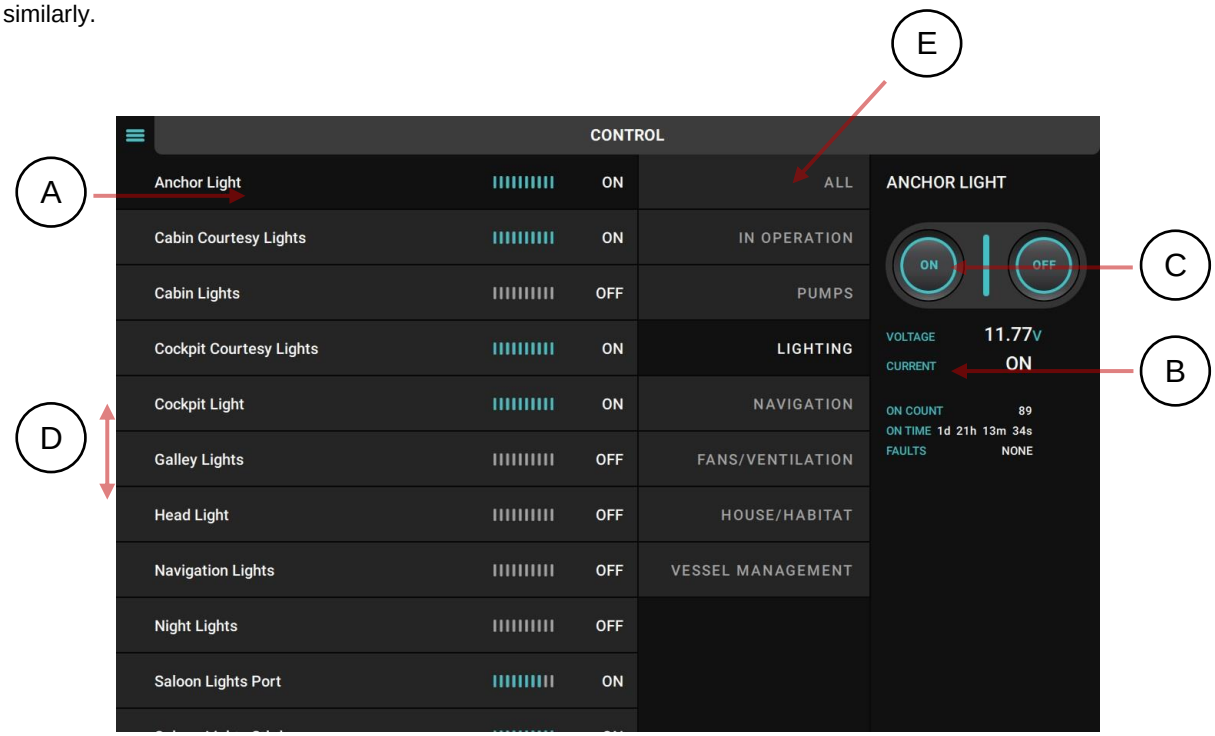
If the Modes page shows two or more modes Active then the system has more than one mode group. In that case, multiple modes can be in force at a time, one from each group, and an Off button may appear beside the On button shown above.

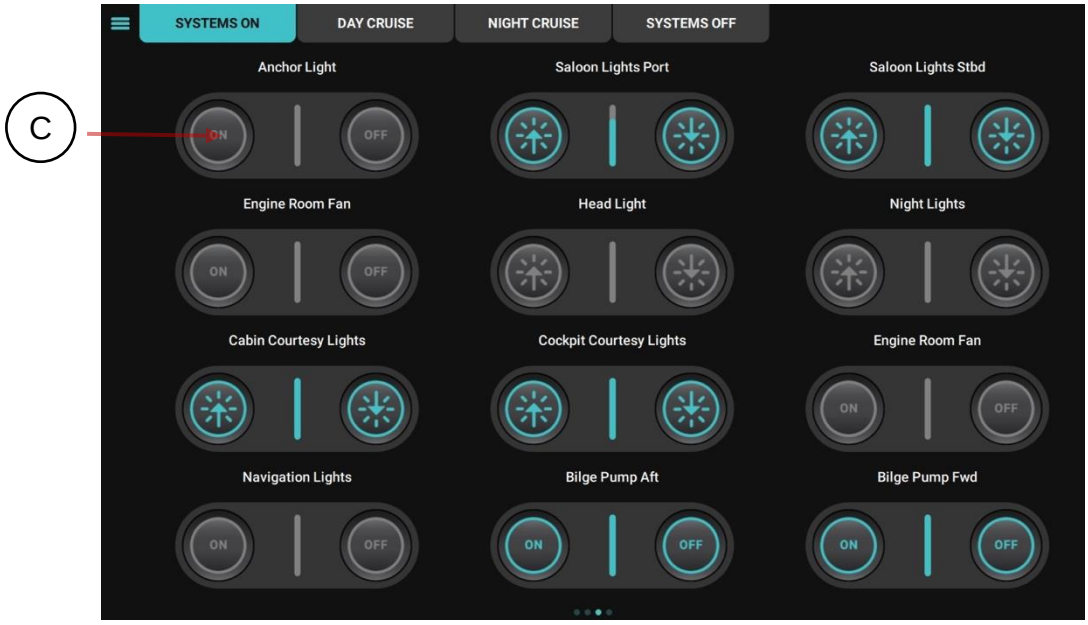
Below is an example which summarises the effect that selecting a mode has on the vessel's systems. The boatbuilder should supply a similar summary for each of the modes configured for your particular vessel.

	Modes Configuration			
	Systems On	**Day Cruise**	**Night Cruise**	**Systems Off**
Backlight Zone 1	On	On	On (30.0%)	Off
Cabin Lights	On	Off	On (2.0%)	Off
Charger	Not Used	Not Used	Not Used	Not Used
Courtesy Lights Blue	Off	Off	On	Off
Courtesy Lights White	On	On	Off	Off
Fan	Off	On	On	Off
Fresh Water Pump	On	On	On	Off
Galley Lights	On	Off	On (2.0%)	Off
Hatch Lifter	Not Used	Not Used	Not Used	Not Used
Navigation Lights	Off	Off	On	Off
Saloon Lights	On	On	On (2.0%)	Off

4.3.2 Control

The main menu's Control option accesses all configured circuits on the CZone network. Note that individual controls can also be placed onto the favourites page as shown in the second image, where they will behave similarly.





A. Select the circuit you wish to control

B. The Control information panel will display the current state of that circuit (On or Off) and any other relevant information.

C. Press the On or Off to buttons to toggle the circuit on or off. Some circuits allow variable controls. For examples, certain lights can be dimmed. For these circuits, touch and hold the control to adjust the level.

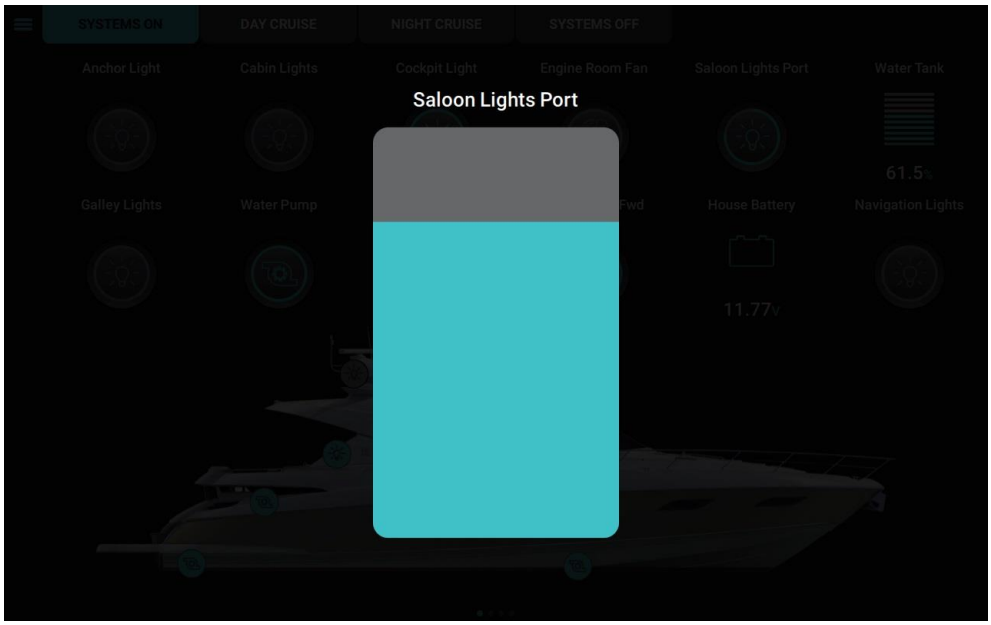
Note that on the Favourites page the buttons can be customised, with single or double throw buttons and different icons.

D. Swipe up or down to scroll between controls, if the list is too long to fit on the screen.

E. Alternatively, the controls can be filtered. Tap on the desired category to limit the list of controls to only those in that category. Note that controls on a favourites page cannot be filtered.

Controls are configured by the builder using the CZone Configuration Tool. Depending on which CZone modules are on the network, you may have one or more of the following four circuit types:

- **DC Control** - 12V or 24V DC loads, such as LED lights and fresh-water pumps. Some light circuits may be dimmable, and if the control is held down a full-page slider will appear. Hold and slide inside that to reach the desired level, then press outside the box to exit the slider. The level indicator will now show the current output level as a % of the status indicator bar.



- **AC Control** - 120V or 230V AC loads, such as air conditioning and AC outlets.
- **AC Mains Control** - a page for controlling/monitoring AC mains supplies (e.g. generator and/or shore power). (Note: Requires a CZone AC Mains Interface.)
- **Inverters/Chargers** - a page for controlling/monitoring Mastervolt Inverter/Chargers.

All AC and DC circuit types are accessible through the Controls category, although the information displayed about the circuit will change. Circuits may also be assigned a group category such as Lights or Pumps which allows multiple circuits on large systems to be accessed quickly. Controls may also be dropped onto the Favourites Page, either as individual controls on the page or as icons indicating their locations on an image of the boat.

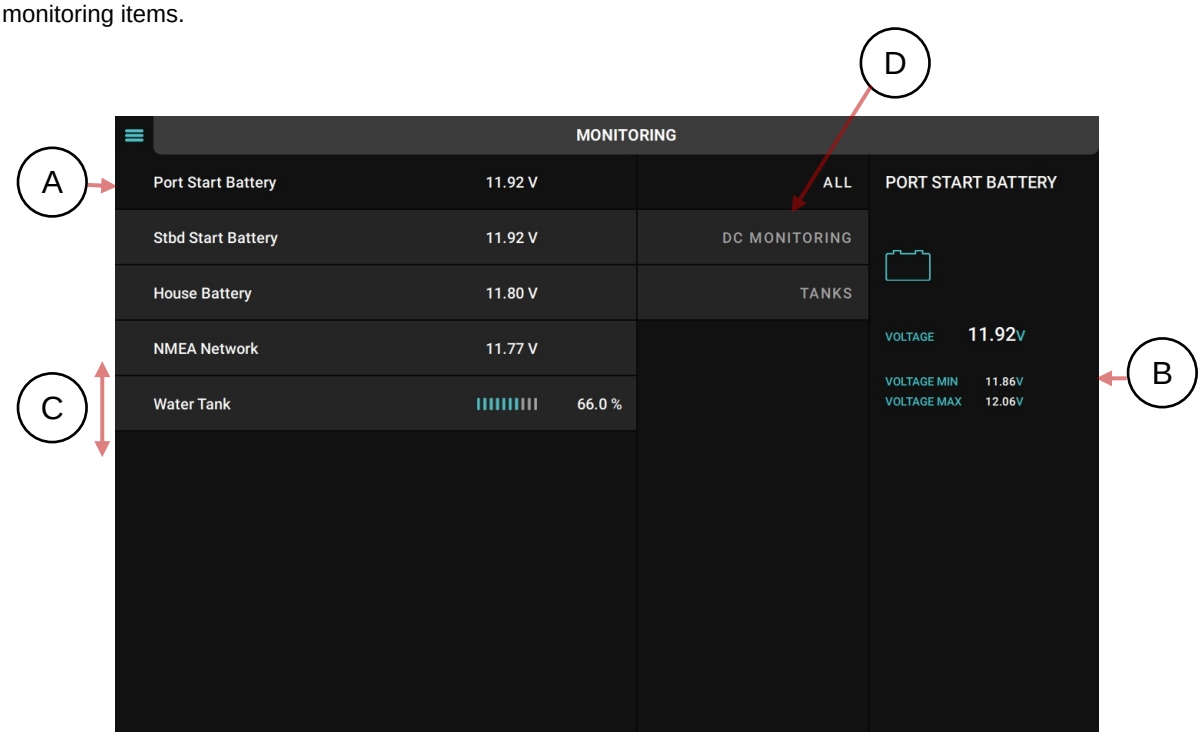
4.3.3 Monitoring

The main menu's Monitoring option accesses all configured meters on the CZone network.

Depending on which CZone modules are on the vessel, you may have one or more of the following four monitoring types:

- **DC Monitoring** - 12V or 24V supplies such as house or starting batteries, and chargers
- **AC Mains** - 120V or 230V AC sources, such as shore power supplies, on-board generators and inverters
- **Tanks** – levels for tanks such as fresh-water, fuel, black water or grey water
- **Temperatures** – such as coolant or engine room temperatures

There may also be a Favourites page which will be configured by the builder for fast access to essential monitoring items.



A. Select the sensor you wish to monitor. The menu item lists the current value of each monitored item.

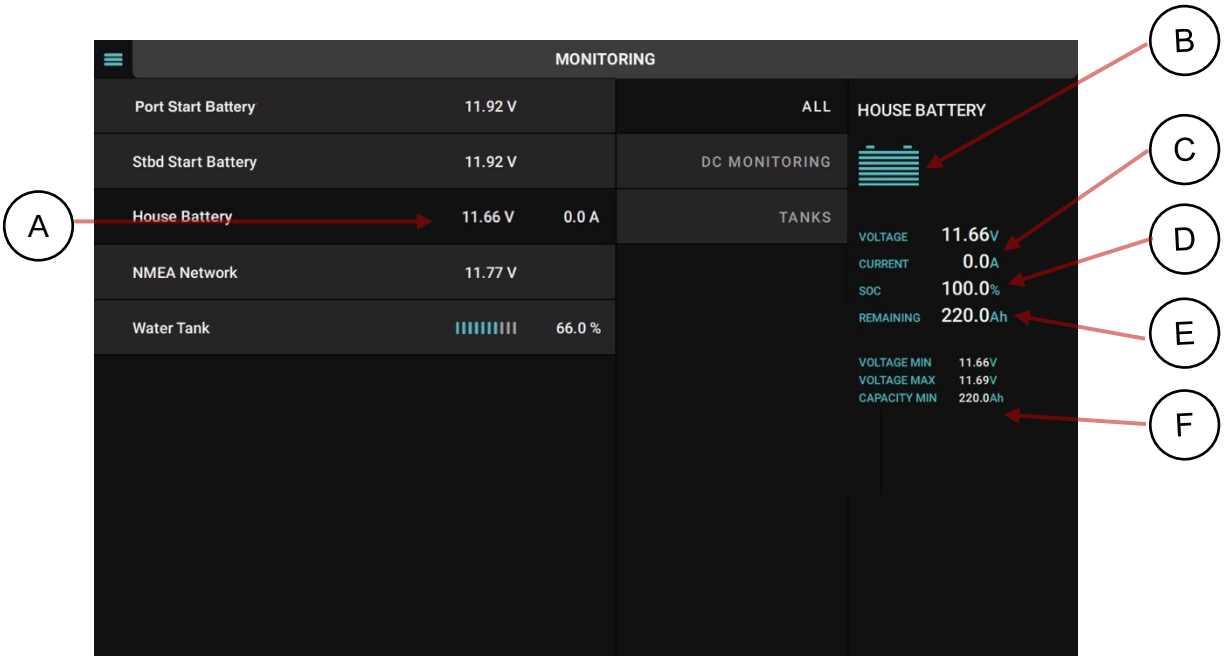
B. The information panel will display more detail about the current state of that sensor (Voltage, tank level, temperature etc). Mins and Max levels are also monitored for AC and DC power.

C. Swipe up or down to scroll between items being monitored, if there are too many to fit on the screen.

D. Alternatively, the controls can be filtered. Tap on desired category to limit the list of sensors to only those in that category.

4.3.3.1 DC Monitoring

All DC Monitoring meters behave in the same way. An example is shown below:



A. The Voltage and Current drawn are shown alongside the menu item for quick reference.

B. An icon shows the type of DC monitoring item (Battery). Some DC batteries also include State of Charge monitoring, for these systems the battery symbol will double up as a State of Charge % level indicator.

C. The present voltage and current draw are displayed.

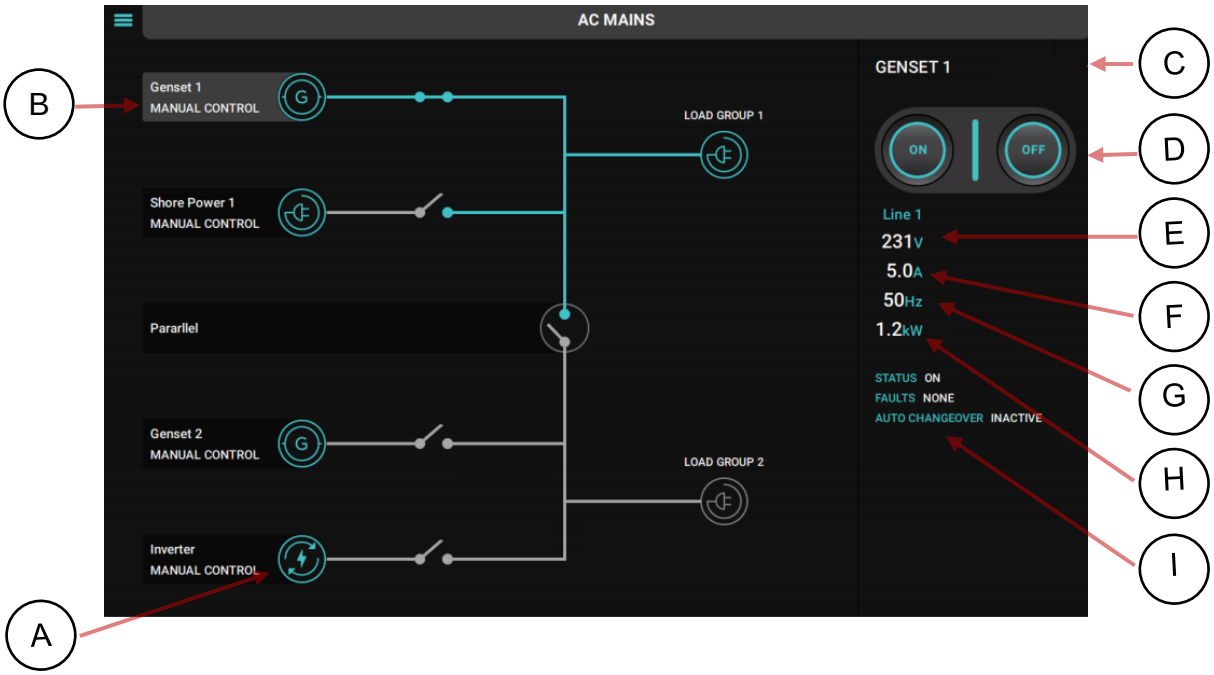
D. The calculated state of charge is shown as a percentage of full charge (For batteries with SOC monitoring)

E. The calculated remaining capacity is shown, in ampere-hours.

F. The maximum and minimum recent states of the battery are reported.

4.3.3.2 AC Mains

The AC Mains page will appear if an AC Mains Interface (ACMI) is configured on the system. It provides a graphical interface for directing power between AC mains sources e.g. on board generators or shore power connections, and AC Loads e.g. air conditioners and power outlets. An example with 4 AC Inputs and 2 AC Outputs is shown below



A. The AC Power state is shown for each source. Icon is highlighted if there is power available.

B. The highlight shows the currently selected AC source.

C. The name of the selected power source is displayed.

D. The source can be controlled through touch switches.

E. The status of the RMS voltage of the selected AC Mains source is shown.

F. The total amperage being delivered from the power source is shown.

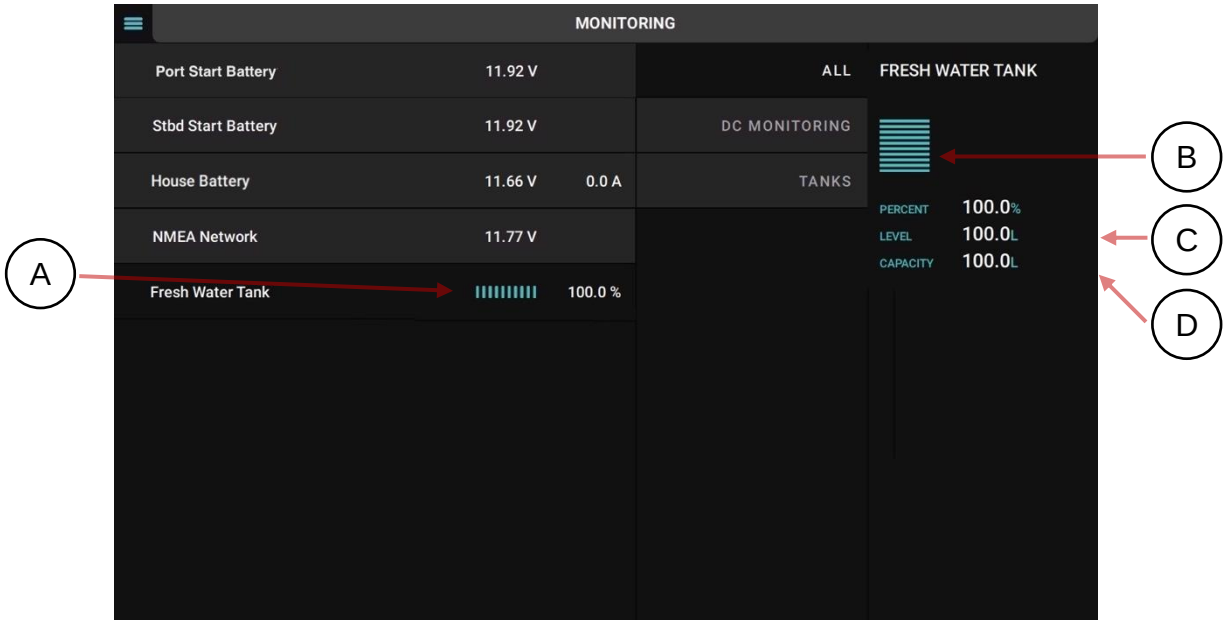
G. The frequency of the power source is shown.

H. The real power being supplied to all load groups supplied by the source is shown

I. Status and faults of the power source is shown.

4.3.3.3 Tanks

All Tank monitoring meters behave in the same way. An example is shown below.



A. The current level in the tank is displayed visually and as a percentage in the menu.

B. The large gauge shows the tank level %

C. The tank's level is reported as a percentage and in the units of measure.

D. The capacity of the tank is shown in the configured units.

4.3.4 Alarms

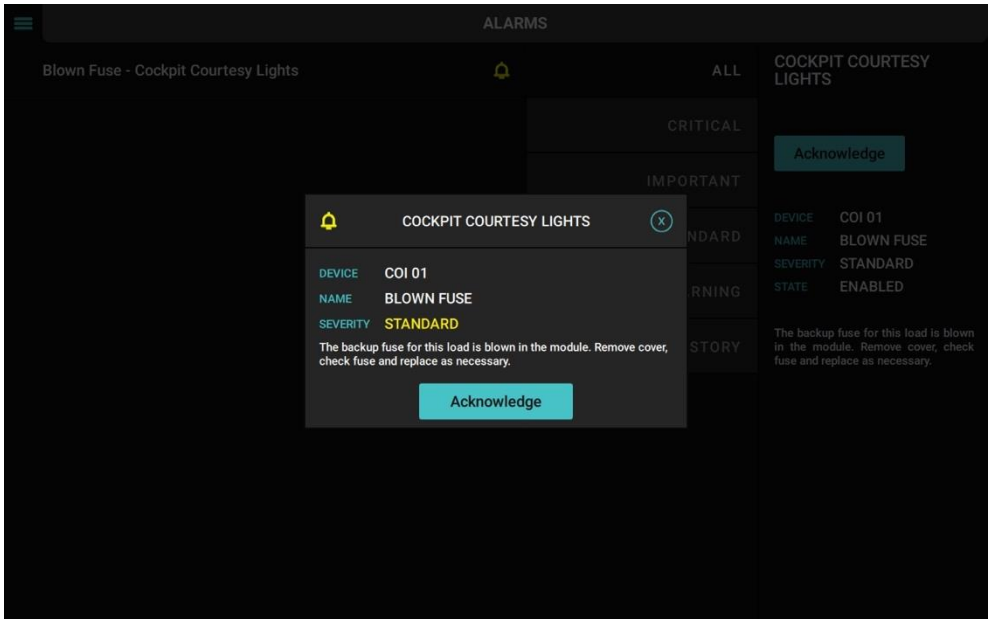
Alarms are configured to specifically draw attention to an item that needs immediate attention. The Menu option accesses all alarm items configured on the CZone network. Alarms can also be dropped onto the vessel image, to provide a visual indication of where the alarm is located as well as the detail of it.

Alarm monitoring behaves in the same way for all levels of severity. On selecting Alarms from the Menu, you can select historical alarms, or active alarms of any severity.

4.3.4.1 Alarm Activated

Alarms that are activated will display as a pop-up over any other active screen. Only higher level alarms will pop up – warnings will still be reported in the system but will not pop over other displays.

The user only has one option, to acknowledge the alarm and close the popup.



Note that alarms may be configured in the system with an explanation of how to resolve the issue. An example is shown above, where a seldom-occurring alarm has some information telling the user how to sort out the problem.

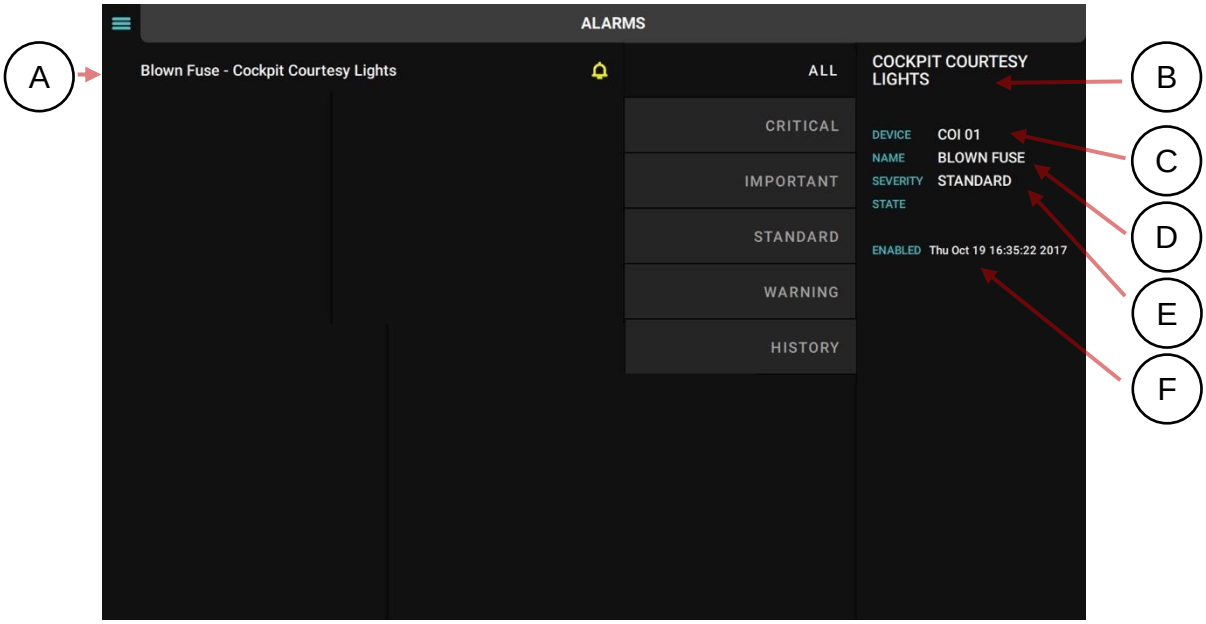
4.3.4.2 Alarms of a Selected Severity

Below is a list of the different CZone alarm severities and their behaviour:

Alarm Level	Bell Colour	Action on Trigger	Additional Note
Critical	Red	Full-Screen Dialog, Audible Tone	Acknowledgement times out after 10 minutes then re-alarms
Important	Orange	Full-Screen Dialog, Audible Tone	Acknowledgement times out after 10 minutes
Standard	Yellow	Full-Screen Dialog	Full-screen dialogue disappears once alarm is acknowledged
Warning	Blue	Bell Appears	Bell disappears once alarm is acknowledged

4.3.4.3 Alarm Page

Below is an example of the current alarms page.



A. A list of active alarms appears, all with their severity level. More-recent alarms are listed first. (In this example, the Blown Fuse for the Cockpit Courtesy Lights is the only alarm currently active.)

B. The name of the input that raised the alarm is shown in the display pane

C. The CZone module that detected the alarm is shown

D. The name of the alarm is displayed

E. The severity is shown.

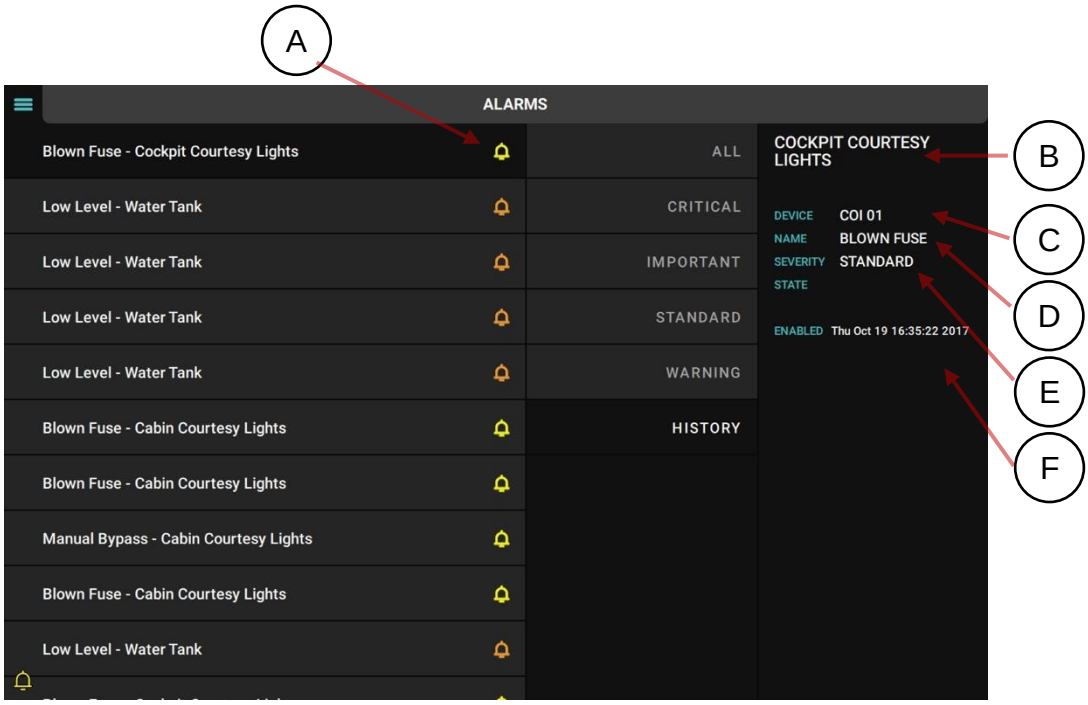
A. The date/time stamps for the alarm are:

- when it was raised (i.e. enabled).
- when it was acknowledged.
- when it was cancelled (i.e. disabled).

.

4.3.4.4 Alarm History

Selecting Alarm History from Alarms page displays the most recent alarms (up to 100). Alarms are listed according to when they were raised, with the most recent first. Alarm history includes all alarms above Warning severity by default. The minimum severity saved in history can be changed from the Settings ⇨ System ⇨ Alarm Log Severity page.



A. The alarm severity is indicated with a bell-shaped icon of the appropriate colour.

B. The name of the input that raised the alarm is shown.

C. The CZone module that detected the alarm is shown.

D. The name of the alarm is shown.

E. The severity of the alarm is reported in words.

F. The date/time stamps for the alarm are:

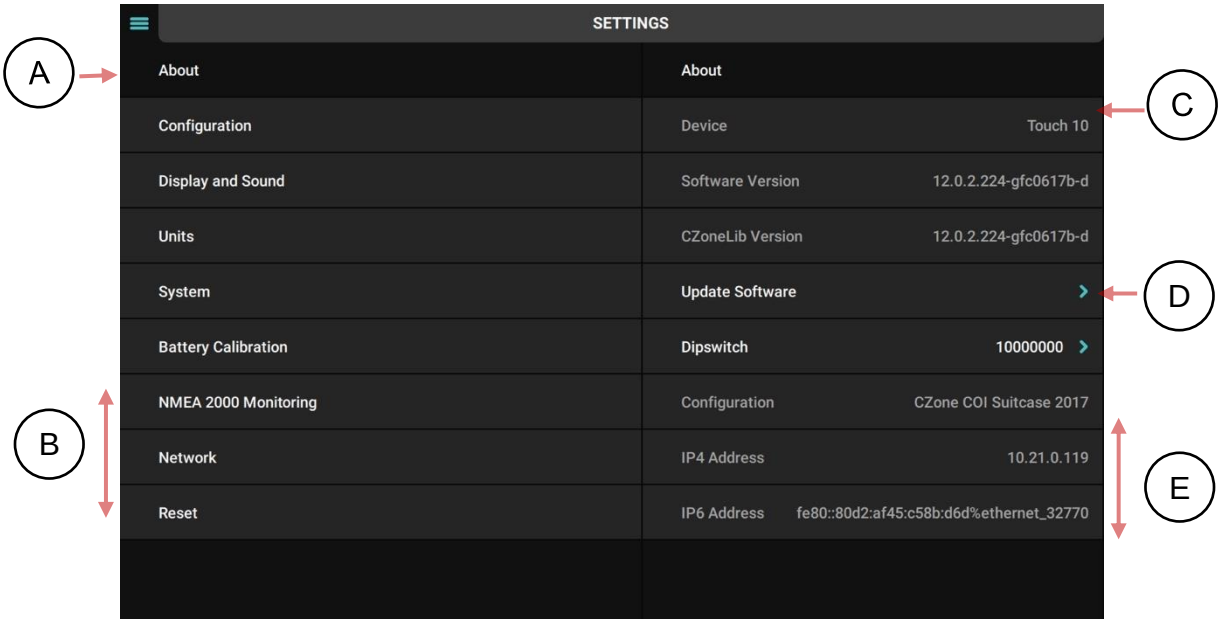
- when it was raised (i.e. enabled).
- when it was acknowledged.
- when it was cancelled (i.e. disabled).

4.3.5 Settings

The Settings tab lets you query and change various parameters of the Touch 10, including measurement units (gallons, litres, etc.), the network configuration, date/time and others.

4.3.5.1 Settings Menu

The settings menu provides access to all the system settings. It is important to note that some options may contain more items than can fit on the screen, so you may need to swipe up or down to scroll to see other items.



A. The currently selected menu category.

B. Swipe up or down to access more menu items (if there are more than can fit on the screen).

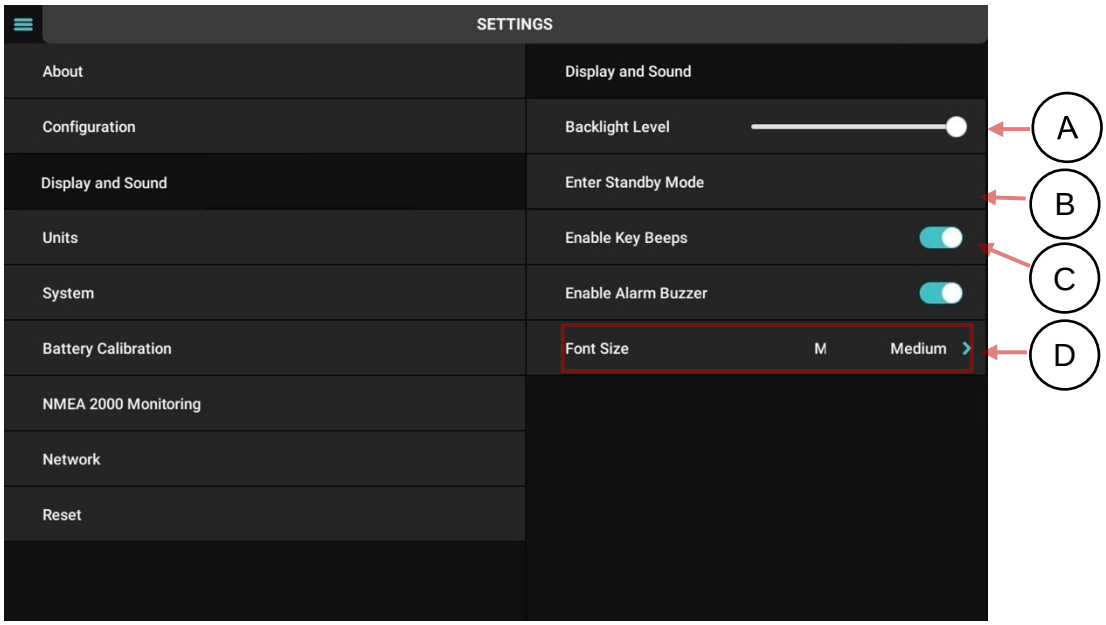
C. Select the item you wish to set. Various actions are possible (See section 4.3.5.2)

D. A blue arrow indicates there are further options for this item. Tap on this item to access these options.

E. Swipe up or down for more options for this menu item, if there are more than can fit on the screen.

4.3.5.2 Settings screens

Most of the settings screens are self-explanatory, and hence only the Display and Sound and System screens are shown here for illustration.

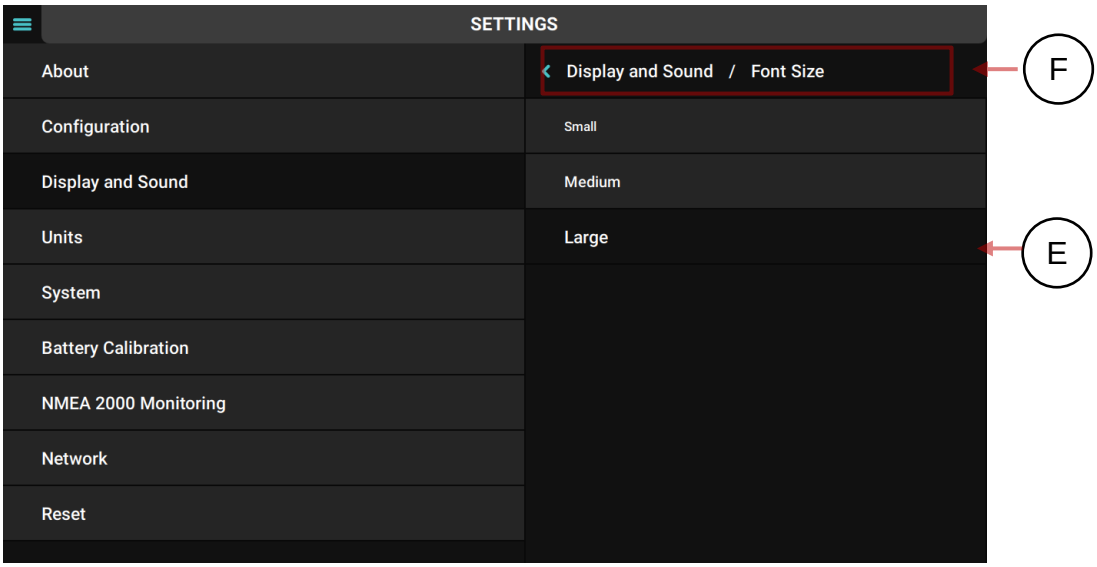


A. This is a slider, which allows continuous variation of the value. Slide your finger along the bar to set a value.

B. This enters a specific mode, and the only option is to tap the mode name to activate it.

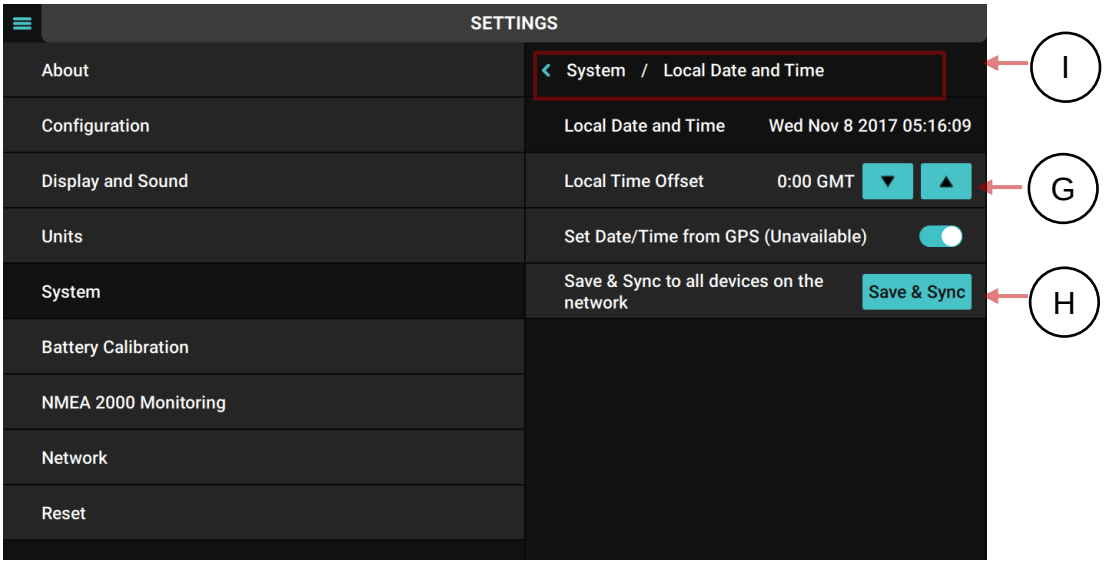
C. This sliding button sets a value to either on or off. Tap to toggle between the values.

D. This indicates a further slide-out menu of options. Tap anywhere on this line to cause the sub-menu to slide out from the right



E. Select the required value (in this case the Large Font Size has been selected)

F. Tap anywhere on the heading to revert to the previous menu level.



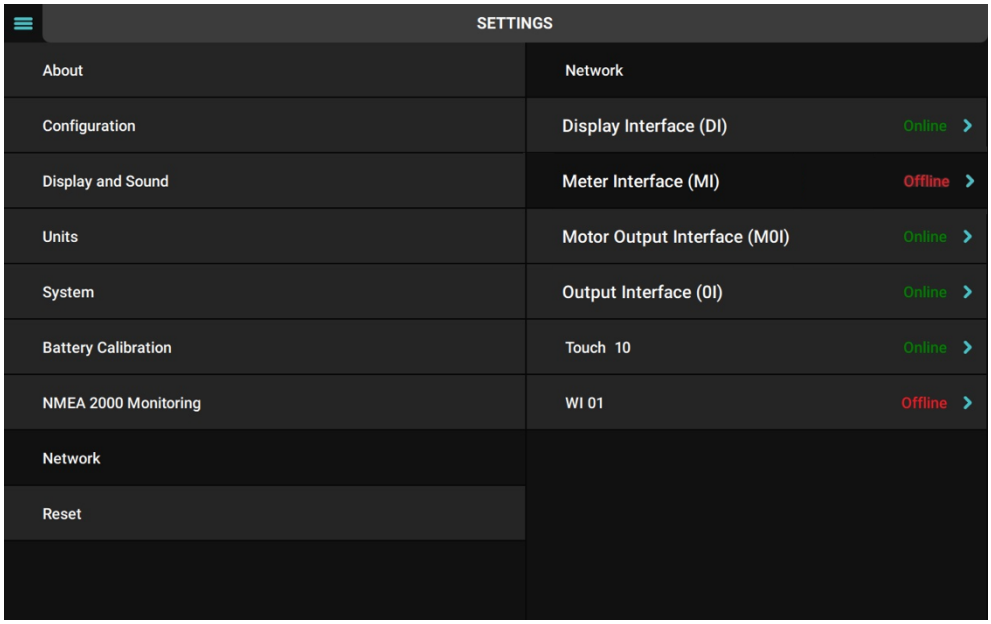
G. Some values require specific values which are hard to enter without a keypad, so a set of buttons allow you to incrementally increase or decrease the value by a pre-set amount. Press and hold either of the buttons to scroll quickly through the values.

H. This option allows you to save your settings and sync them across all the CZone devices on the network. Use this option when you have loaded a new CZone configuration through the USB port and wish to update other devices.

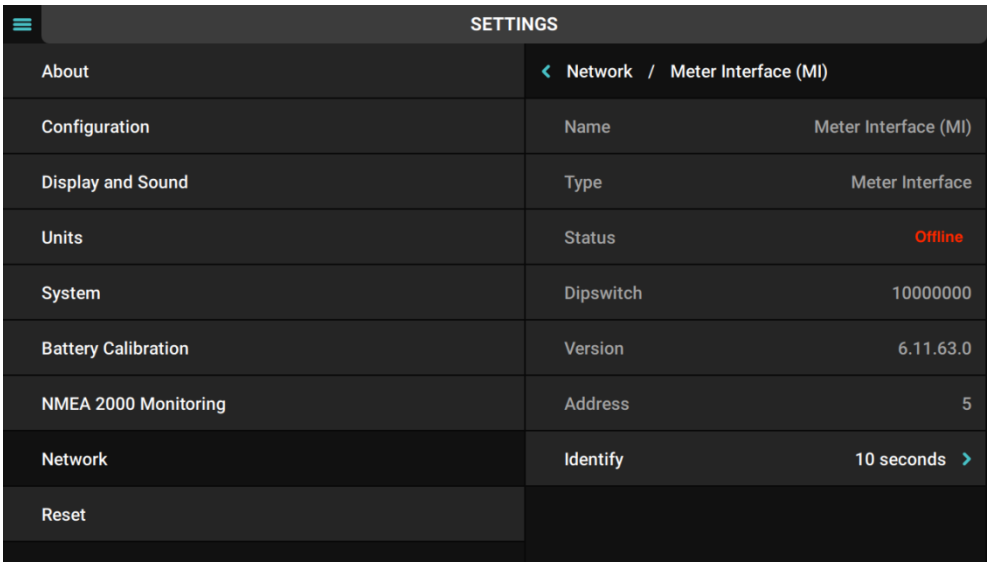
I. Note how the top line always indicates whether this is a sub-menu. Tapping anywhere in this line reverts to the higher-level menu option.

4.3.5.3 CZone Network status

Occasionally you need to check that status of the CZone network and the devices on it. You access this from the Settings ⇨ Network menu, and each interface device that has been configured for your installation will be listed. Note these are the interfaces, not the individual circuits connected to that device.



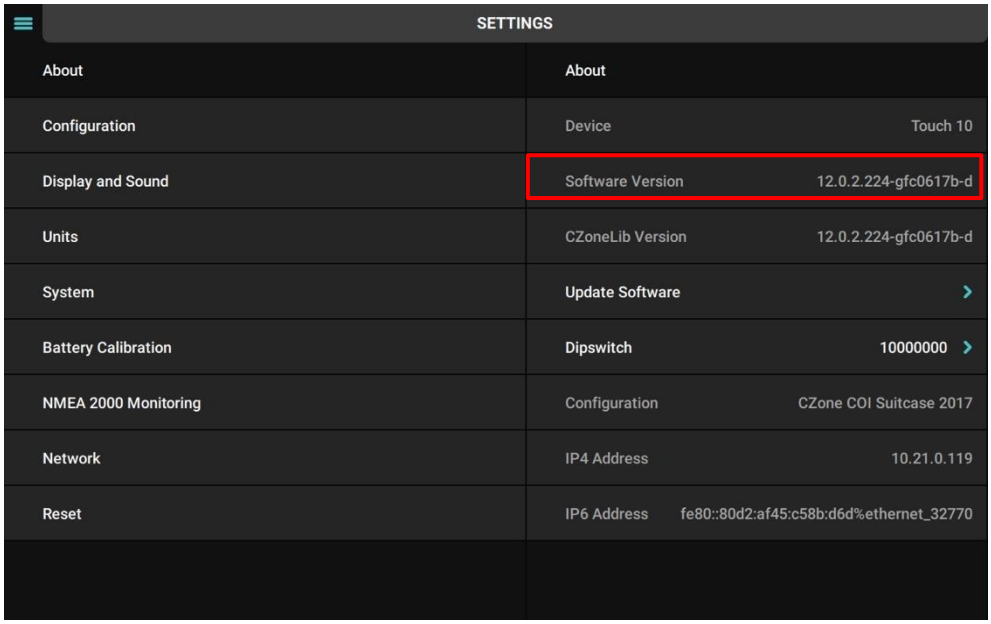
If you wish to check more details of a specific network device, touch the blue arrow next to the interface and the details of that device will slide out from the right. Notice how the title of the right-hand side of the menu indicates this is a sub-menu. Tap on the blue arrow to return to the higher-level menu.



4.4 Updating Software

To keep the Touch 10 up to date with the latest software refer to www.czone.net . It is recommended to update the entire CZone system when updating the Touch 10 to ensure the system operates correctly. The Touch 10 can be updated via the USB slot using a USB memory stick, see process below:

4.4.1 Checking Current Software Version



To check the current software version on the Touch 10, go to Settings ⇨ About.

The current software version is listed below the device name. To install a newer version, follow the below steps.

4.4.2 Updating Software via USB Flash Drive

1. Copy the Touch 10 firmware file (extension .upd, previously downloaded from the CZone web site) onto the root directory of a USB memory Stick
2. Insert the memory stick into the USB slot on the rear of the Touch 10.
3. Press the ‘Update Software’ button on the Settings ⇨ About page and press ‘Yes’ when prompted
4. The display will reboot and start installing the new software, this process may take a few minutes.
5. When complete the display will boot up to the main screen. Go to Settings ⇨ About to confirm the new Software Version.
6. You may now remove the memory stick from the rear of the Touch 10.

5 Appendices

5.1 Technical Specifications

Model	CZone Touch 10
Article numbers	80-911-0100-00
Manufacturer	BEP Marine New Zealand
Type	LCD TFT
Touch Screen	Projected Capacitive Multi-Touch
Glass	1.1mm
Brightness	500cd/m^2
Resolution	1280 x 800 pixels, WXGA
Aspect Ratio	Widescreen (16:10)
Backlight	LED
Colour	18-bit RGB
CPU	Freescale ARM Cortex-A8 1GHz
Memory	SDRAM - 1GB DDR, Flash -4GB eMMC
Peripherals	Battery-backed real time clock
Power Supply	8-32VDC
Power Consumption	1A @ 12V, 500mA @ 24V
Ingress Protection	IP66
Operating Temperature	0°C - 50°C
Storage Temperature	-20°C - 60°C
Interfaces	NMEA 2000, USB 2.0, 10/100Mbps Ethernet, GPIO
Weight	800g (1lb 12oz)
Dimensions (H x W x D)	278mm x 199mm x 41mm (10⅞” x 7¾” x 1⅝”)
Certification	CE, FCC Class B, NMEA

6 EC DELCARATION OF CONFORMITY

We,

Power Products LLC

CE

Mailing Address:
BEP Marine LTD
PO Box 101-739 NSMC
Auckland 0632, New Zealand

Street Address:
42 Apollo Drive
Rosedale,
Auckland, 0632, New Zealand

Declare under our sole responsibility that the products:

- 80-911-0100-00 CZone Touch 10

To which this declaration related, is in conformity with the following standards or other normative documents:-

EMC : EN 60945:2002, IEC 60529:2013, ES150602012SE-1, ES150602013E-1, ES1506030453E-1 &
FCC Part15:2015, Subpart B, Class B & FCC/ANSI C63.4-2009

And therefore conforms with the protection requirements of Council Directives 2004/108/EC relating to electromagnetic compatibility.

Albany, New Zealand, 18 September 2015

Chris Wilkins
R & D Manager

BEP Marine Ltd

42 Apollo Drive
Rosedale, Auckland
New Zealand

Tel:64-9-415-7261