

DISPLAY

MULTI-FUNCTION DISPLAY

A1415-[]-CE: 6.5 INCH

The OctoPlex® A1415-CE Multi-Function Display allows the users to control and monitor the OctoPlex system. The heart of the Touch Screen Display is a 500 Mhz single board computer running Windows CE 5.0. The single board computer is used to interface with the dual CAN bus network, to process user input and to display system status. The Multi-Function Display is well suited for use in high ambient light environments.

In addition to the dual CAN bus interface, supplementary connections are provided for an external audible alarm, external LCD backlight control and an external reset input. The configuration of the A1415-CE Touch Screen Display is accomplished using the OctoPlex Network Configuration (ONC) utility. The Touch Screen Display comes with a convenient mounting bracket as well as a cover to keep the LCD area protected when not in use.



Product Highlights:

- ◆ Fanless
- ◆ Included mounting bracket
- ◆ 6.5” TFT LCD with LED Backlight:
 - Widescreen 5:3 Aspect Ratio
 - 800 x 480 pixels



Configuration

The configuration of the OctoPlex MFD is accomplished via the Octoplex Network Configuration (ONC) utility. This Windows-based program will provide the tools for building and/or editing pages, buttons, monitors, etc. in order to achieve the visual architecture you desire. Please consult the ONC User’s Guide for a full description of ONC’s capabilities and operation.

Memory Card Access

Touch Screen configuration information is maintained on a CompactFlash memory card located inside the unit. Physical access to the memory card is available through the access plate on the bottom of the unit. Access to the files located on the memory card may also be made through the USB port (if available) located on the lower right front of the unit. Microsoft ActiveSync (XP) or Mobile Computing (Vista) may be used to copy/delete files to/from a PC and the memory card. The following table lists the required and typical optional files utilized by the Touch Screen

*Manufacturer reserves the right to change product specification without prior notice. Please refer to our website for the latest details.

Software Files

File	Description
NK.nbo	Touch Screen binary image file
Octflash.bin	Touch Screen variable definition file
Scp.ini	Touch Screen initialization file
Octplexdata.dat	Touch Screen Configuration file
MANIFEST.TXT	Bootloader Instructions (Deleted after initial boot)
PFSN.TXT	TS Serial number (Deleted after initial boot)
Version 1. xx.xx	TS binary image Version file (optional)
Fuel Xfer disclaimer.bmp	Vendor specific fuel transfer disclaimer (optional)

Touch Screen page layout is maintained on the octplexdata.dat file. Therefore any modifications other than button text changes will require the use of ONC and the replacement of the octplexdata.dat file. If the octplexdata.dat file is updated/replaced, the Touch Screen must be rebooted before the changes will take effect. Each touch screen must be updated independently. Octplexdata.dat file information IS NOT propagated to other Touch Screens as is the case with Button Text changes. Depending on the model of the Touch Screen rebooting may be accomplished by one of the following procedures.

1. Reset button located just above the USB port, if available.
2. Disconnect/reconnect both (at the same time) CAN interface cables located on the back of the Touch Screen.
3. Cycle Network Power on both CAN busses (A & B) via Network Power Supply Circuit Breakers.
4. Remove ALL inputs (1 AC and 2 DC) to Network Power Supply by powering down the ships AC and DC systems.

Standard Screen Layouts:

AC Power Distribution Unit

The AC Distribution Power Unit screen shows the AC Breaker Label and the current state of the AC Breakers. State of the breaker options include: ON, OFF, Trip, Group Control (ON or OFF), Load Shedding (ON or OFF) or Locked Status (Locked ON or Locked OFF). The user can also scroll forward or backwards to select a specific AC Distribution Power Unit (Example AC Panel #3). See [AC Power Distribution Unit section](#) for additional information.

DC Power Distribution Unit

The DC Distribution Power Unit screen shows the DC Breaker Label and the current state of the DC Breakers. State of the breaker options include: ON, OFF, Trip, Local Override, ECB Error, or Locked Status (Locked ON or Locked OFF). See [DC Power Distribution Unit section](#) for additional information.

Network Power Supply

The NPS screen shows Status of the input power, Source of power (AC, DC1 DC2), CAN A and CAN B status, CAN A and CAN B Voltage and Current readings, and the internal box temperature. See [Network Power Supply section](#) for additional information.



NOTE

The indicated temperature will turn red when the measured temperature inside the NPS goes above 50° C (122° F). In most cases a reported temperature of up to 55° C is normal. If the reported temperature goes above 55° C for a sustained period of time, service may be required.

Battery Monitor

The Battery Monitor screen shows the status (voltage, current, temperature & state of charge) of the battery banks being monitored. Specific configuration and installation of the battery monitor is defined by the boat builder. See [Battery Monitor section](#) for additional information.

AC Power Monitor

The AC Power Monitor page shows the status (voltage, current and frequency) of all AC line inputs. Specific configuration and installation of AC monitors are defined by the boat builder. See [AC Power Monitor section](#) for additional information.



NOTE

The indicated temperature will turn red when the measured temperature inside the AC Monitor goes above 60° C (140° F) for a sustained period of time indicating service may be required.

System Interface Unit Monitor (SIU)

The SIU screen shows the 34 Discrete I/O indicators that are being monitored by the SIU. These indicators cannot be acknowledged by the user; up to Qty. 10 also appear on the bottom of most pages. See [System Interface Unit Monitor section](#) for additional information.



NOTE

These pages can vary between installations, as format is determined and/or customizable by the boat builder or owner. The screenshots shown are standard layout pages.

Breaker Configuration:

AC and DC circuit breaker settings can be changed directly from the Touch Screen Display(s). This can be done by pressing the “Config” button on the display and then pressing the button for the circuit breaker to be configured.

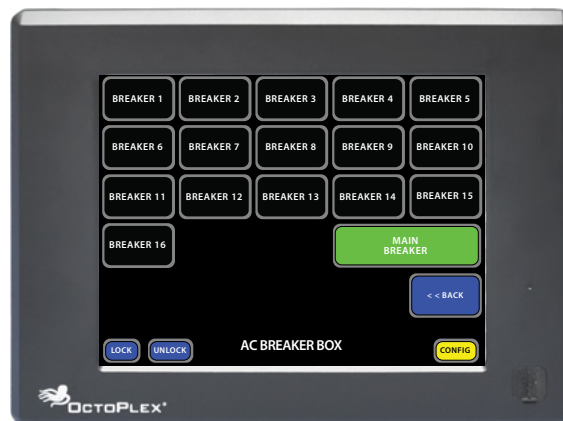
AC Breaker Configuration

The configurable parameters are divided into Basic and Advanced levels. Each of these levels can be password protected with passwords created in the ONC application. The following section illustrates the parameters of each level, brief descriptions, and their valid ranges.



NOTE

Configuration of an AC circuit breaker can be enabled or disabled by ONC or by adjusting the parameter in the Advanced Configuration section. If configuration is disabled the parameter will be displayed, but adjustment will not be allowed. To re-enable configuration, adjust the Configuration Allowed parameter in the Advanced Configuration section.



AC Breaker Configuration: Basic Level Parameters

Default State

This parameter defines the state in which a circuit breaker should be set to upon power up. Available options OFF, ON, or LAST KNOWN STATE.

Default Lock State

This parameter specifies whether a circuit breaker should be locked or unlocked upon power up. Available options UNLOCKED, LOCKED.

AC Breaker Configuration: Advanced Level Parameters

User Configuration Allowed

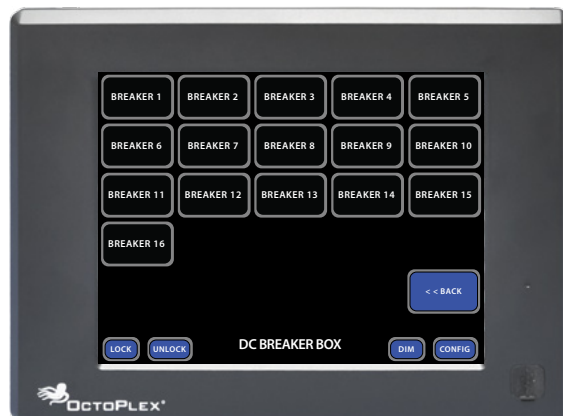
This parameter specifies whether circuit breaker parameters can be configured from the flat panel configuration interface. Available options NO, YES. ONC has full configuration capability whether this parameter is enabled or disabled.

ECB (DC Breaker) Configuration

The configurable parameters are divided into Basic and Advanced levels. Each of these levels can be password protected with passwords created in the ONC application. The following section illustrates the parameters of each level, brief descriptions, and their valid ranges.



Configuration of an ECB can be enabled or disabled by ONC or by adjusting the parameter in the Advanced Configuration section. If configuration is disabled the parameter will be displayed, but adjustment will not be allowed. To re-enable configuration, adjust the Configuration Allowed parameter in the Advanced Configuration section.



ECB Configuration: Basic Level Parameters

Default State

This parameter defines the state in which an ECB should be set to upon power up.

Available options OFF, ON, or LAST KNOWN STATE.

Default Lock State

This parameter specifies whether an ECB should be locked or unlocked upon power up.

Available options UNLOCKED, LOCKED.



Current Rating

This parameter defines the maximum current rating for an ECB. Exceeding this current will initiate a trip. Available options ECBs 1-8: 0-30 Amps; ECBs 9-16: 0-15 Amps.



Setting Current Rating to 0 Amps will cause an immediate trip if the ECB when turned ON

Default Dim Value

This parameter specifies the Dim value that an ECB should use upon power up. Available options 25-100%.



This Dim value will only be applied if Dimming is enabled for the ECB (see Advanced Configuration Parameters on the next page).

ECB Configuration: Advanced Level Parameters

Factory Max Current Rating

This parameter specifies the maximum value that the Current Rating (Basic Level parameter) can be set to. This value should be determined by the maximum nominal current for the wire gauge of the circuit and the load requirements.

Available options ECBs 1-8: 0-30 Amps; ECBs 9-16: 0-15 Amps.

Trip Delay

This parameter specifies the delay, in milliseconds, between detection of an over current condition and the tripping of the ECB.

Available options 0-750 milliseconds in 50 millisecond intervals.

In-Rush Delay

This parameter specifies the delay, in milliseconds, between an ECB turning ON and the activation of the over current detection logic. This allows for a brief period of current in-rush, preventing the circuit from inadvertently tripping when energized. Available options 0-1500 milliseconds in 100 millisecond intervals.

Dimming Enabled

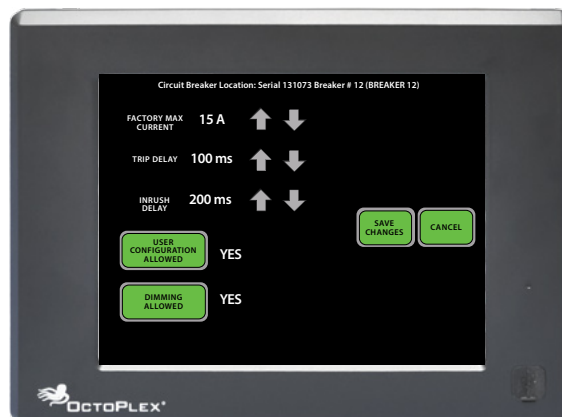
This parameter specifies whether dim values other than 100% can be applied to an ECB.

Available options NO, YES.

User Configuration Allowed

This parameter specifies whether ECB parameters can be configured from the flat panel configuration interface.

Available options NO, YES.



NOTE

- ONC has full configuration capability whether the "User Configuration Allowed" parameter is enabled or disabled.
- All breaker settings (default state, trip settings, etc.) are stored within their respective breaker box. It is irrelevant which display is used to make any changes or updates to breaker settings.
- In most configurations, all spare breakers will be given a button on the display pages. If the spare is used at a later time, the text of the button can be changed, as well as the breaker settings so that the displays will reflect the use of the spares.
- It is possible for the configuration settings to be password protected. There are two levels to the configuration pages, Basic and Advanced. The passwords for these pages could be different or the same. If a password is required, the user will be prompted after pressing the "Config" and breaker buttons. The password protection is enabled and set by the boat builder and/or Carling Technologies, Inc.

Installation

The Multi-Function Display was designed to be installed in an environmentally protected, non-explosive area of the vessel. Take precautions to mount the display in an area that will be away from direct exposure to the weather and combustible fumes. Multi-Function Displays should be installed such that the removable oval shaped panel on the bottom of the unit is accessible. Access to this panel is required for configuration purposes on models that do not have a bezel accessible USB connection.

CAN Connections

Two male Micro-C connectors are provided on the back of the Multi-Function Display (MFD) for connection to the primary (J1) and secondary (J2) CAN bus via drop cables. One female Micro-C connector (J3) is provided for connection to the audible alarm and auto/remote backlight ON/OFF control. The alarm output provides 12 VDC, 50mA max.



NOTE

Use the shortest drop length possible when connecting the Multi-Function Display to the CAN backbone. NMEA 2000 spec is maximum 6 meters for drop cables. Do not connect standard drop cables to J3. Carling Technologies recommends the use of a Piezo Buzzer for the audible alarm.

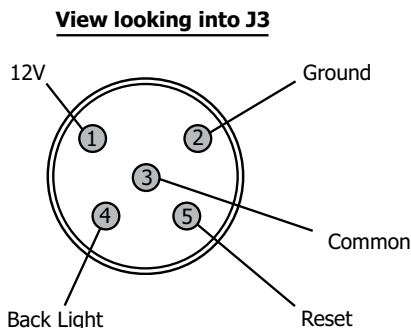
Power Connector Pin Out

Pinout for J3	
1...	12V (normally open)
2...	GND (normally open)
3...	External Reset
4...	Back Light Switch
5...	Common

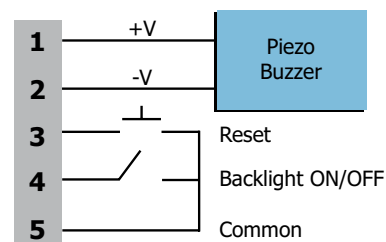


NOTE

RECOMMENDED: Mallory Sonalert
www.mallory-sonalert.com
Part #: SC628EJR



Typical J3 Connections



Operation

Function

The display is used for control and monitoring of the OctoPlex system and its components. It provides an interface for controlling the state of AC and DC breakers and displaying their status, along with features for monitoring System Input Unit (SIU) signals, Battery Monitor data, and AC Power Monitor data and status. Additional controls are provided to gain access to configuration pages for: Switch/Breaker (Lockout, Status, Groups), ECD Diming (DC Only), Touchscreen Dimming, Display Power Save/Backlight Off, Alarm, Clean Screen.

Standard Pages

Standard display pages are accessed from the HOME Page. The HOME Page is defined as the page that is initially displayed when the system is powered-up.

Home Page

On the HOME page of the display is a banner, which indicates the status of the system. Typically found across the bottom of the page the following are messages that may appear in this area:

System Normal

No alerts or tripped breakers.

Breaker Tripped

Circuit breaker tripped - a path of red should lead to the page with the tripped breaker. The Touch Screen may be configured such that when the “Breaker Tripped” message is touched the display will take the user directly to the breaker that has tripped.

Battery Alert

The battery monitor is indicating an abnormal voltage or temperature.



NOTE

The configuration of the Home Page and Sub-pages can vary between installations as the format is determined by the boat builder and selected OctoPlex Options.

Basic Touchscreen Navigation

The display interface is designed to be user intuitive and easy to navigate. Hot buttons are clearly marked to provide the user required control & status. Switches and breakers are defined with rounded sides and traditional breaker graphics with pre-defined color schemes.





Switch / Breaker Button Indicators

OctoPlex Switch/Breaker Buttons are displayed as indicators with a pre-defined color scheme. Touching a Breaker button will change the state of the load.

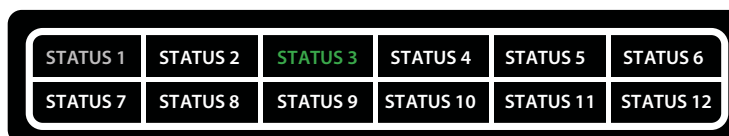
Color Code Guide	Breaker Status	Description
	ECB Not Active; Unavailable	This is an ECB that is currently not active. The distribution panel is most likely not receiving any DC power or the distribution panel's main breaker is in the OFF position (DC Only).
	ECB Active; OFF	This is an ECB that is active, but currently in the OFF position. Pressing the button will turn the ECB ON (DC Only).
	ECB Active; ON	This is an ECB which is active and currently in the ON position. Pressing the button will turn the ECB OFF (DC Only).
	ECB Active; TRIPPED	This is an ECB which is active and currently in the ON position. The blue text indicates that the breaker is turned ON but there is little or no current being drawn (DC Only).
	ECB Active; Locked OFF	This is an ECB that is active, but has been tripped by an over-current situation. Pressing the button will bring will reset the breaker, and then turn the breaker back ON with an additional press (DC Only).
	ECB Active; Locked ON	This is an ECB that is active, but has been tripped by an over-current situation. Pressing the button will bring will reset the breaker, and then turn the breaker back ON with an additional press (DC Only).
	ECB Active; Group OFF	This is an ECB that is in an Error State. Use the Config function for the button to gain access to the breaker status page which will indicate the actual error reason (DC Only).
	AC Breaker, Not Active	This is an AC Breaker which is currently not active. The distribution panel is most likely not receiving any AC power or the distribution panel's main breaker is in the OFF position.
	AC Breaker, Active, OFF	This is an AC Breaker which is active, but currently in the OFF position. Pressing the button will turn the breaker ON.
	AC Breaker, Active, ON	This is an AC Breaker which is active and currently in the ON position. Pressing the button will turn the AC Breaker OFF.
	AC Breaker, Active, Tripped	This is an AC Breaker which is active, but has been tripped by an over-current situation. Pressing the button will reset the AC Breaker, which can then be turned back ON with an additional press.
	Active; Locked OFF	This is an AC or DC breaker (ECB) that has been locked in the OFF position. The 'unlock' button can be used to unlock this breaker.
	Active; Locked ON	This is an AC or DC breaker (ECB) that has been locked in the ON position. The 'unlock' button can be used to unlock this breaker.

Status Indicators










Status Indicators are indicators that appear on the bottom of the screen or on selected pages. These are NOT buttons that the user can acknowledge; they are status indications from the System Interface Unit Monitor (SIU) that are transmitted on the OctoPlex[®] system.

Color Code Guide	Breaker Status	Description
	Inactive	This is a system status indication that is currently inactive.
	Active; OFF	This is a system status indication that is currently active, but is not ON or in an alert condition.
	Active; ON	This is a system status indication that is currently active, and is ON.
	Active; ALERT	This is a system status indication that is currently active, and is in an alert condition.

The display on the right is commonly found at the bottom of each page in the Touchscreen. In this situation, STATUS 1 is inactive, STATUS 2 is active but 'off', STATUS 3 is active and 'on'. All others are active and 'off'.



General Button Indicators

Color Code Guide	Breaker Status	Description
	Lock	This button is used to lock breakers in either the ON or OFF position. Press once to put the display in "LOCK" mode, then press any breakers to be locked. Press again to place the display back into a normal mode of operation. Locked breakers will have a yellow border.
	Unlock	This button is used to unlock breakers. Press once to put the display in "UNLOCK" mode, then press any breakers to be unlocked. Press again to place the display back into a normal mode of operation. Locked breakers will have a yellow border.
	Dim	This button is used to dim DC breakers from the Touchscreen (if enabled). Press the DIM button, then press the breaker to be dimmed. A '+' and '-' button will be displayed allowing the breaker to be dimmed up or down.
	Configuration	This button allows a user to view and/or change (if enabled) the settings of an AC or DC breaker. Pressing the button, and then pressing a breaker button will display the breakers settings. A password may be required.
	ECB Active; Locked OFF	Pressing this button will cause the Touchscreen to ignore "touches" for approximately 10 sec to allow the screen to be cleaned without inadvertently turning breakers OFF or ON.
	ECB Active; Locked ON	Pressing this button will select a page which provides diagnostic tools for basic troubleshooting of the network.
	ECB Active; Group OFF	Pressing this button will turn the backlight OFF in the Touchscreen. Touching any part of the screen will turn the backlight ON.
	AC Breaker, Not Active	Pressing this button will decrease the brightness of the screen for night time viewing
	AC Breaker, Active, OFF	Pressing this button will increase the brightness of the screen for day time viewing.

Diagnostics

Preconfigured systems ship with a button typically labeled “System Diagnostics”, which will launch the System Diagnostics page when touched. This System Diagnostics page contains six buttons for individual system diagnostics

Accessible areas within the System Diagnostics menu include:

- Network Diagnostics
- Touch Screen Diagnostics
- Run Time Setup
- Software Info
- Password Management



Network Diagnostics

This diagnostic feature will list all devices that the flat panel has established communications with. The following information is supplied for each such device:

- Device Serial Number
- Primary Bus Address
- Secondary Bus Address
- Type of Device
- Device Manufacturer

The Primary and Secondary Bus Addresses will contain one of the following values:

- **Uninitialized:** communication has not been established with the respective device on the particular bus.
- **Inactive:** communication was established with the respective device on the particular bus, but communications have since ceased.
- **Active:** communication has been established and is currently active



NOTE

The active Bus is identified by an "*" character. It is not unusual for different devices to be active on different Busses.

This diagnostic screen also provides two buttons for refreshing the flat panel network display:

Refresh: this button will clear the Network Display and repopulate it with all currently active devices.

System Refresh: this button will clear the Touch Screen Display application’s internal database of network devices and issue device identification commands, essentially performing a complete network census, then refreshing the display to reflect the current data.

Serial #	Primary	Secondary	Product	Manufacturer	Version
252145	6 Active (*)	6 Active	AC (16)	Carlting Technologies Inc.	5mV04
131073	10 Active (*)	10 Active	DC (16)	Carlting Technologies Inc.	1.3.19
196609	1 Active	1 Active (*)	DC (8)	Carlting Technologies Inc.	1.3.19
589825	43 Active (*)	43 Active	Power Supply	Carlting Technologies Inc.	1.1.8



NOTE

Pressing SYSTEM REFRESH will request information from every device on the network causing very high network bandwidth utilization for a short period of time. You may need to press REFRESH, several times after a SYSTEM REFRESH request to get all entries to display due to network traffic and device response times.



Touch Screen Diagnostics

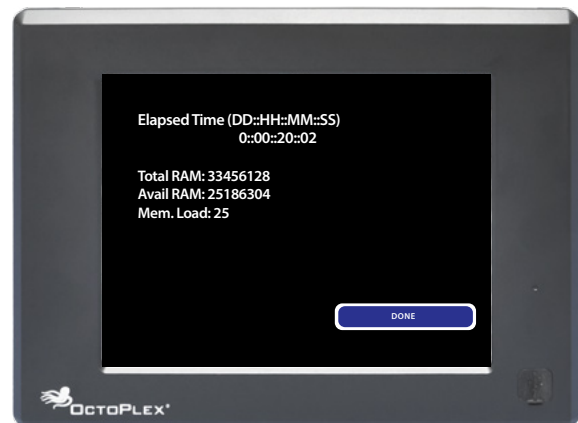
The Touch Screen Diagnostics page provides a way to measure the response accuracy of the touch screen. A small circle labeled with screen coordinates will be drawn wherever a touch is reported.

Run-Time Stats

This diagnostics provides information about the current performance of the Touch Screen Display, including:

Run-Time – elapsed time since boot in Days::Hours::Minutes::Seconds format. This data will rollover after 49 days of run time.

Memory Load – percentage of available memory currently allocated by the Touch Screen Display operating system and application. This value will typically be within a range of 15% to 25% depending on the size of the network and its configuration.

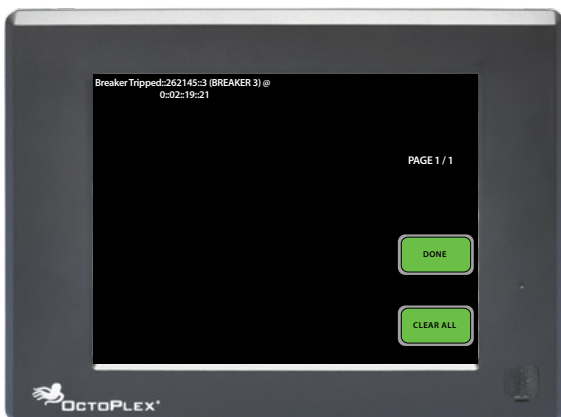


Values higher than 30% may indicate a potential issue with memory utilization.

System Alerts

This diagnostic will list the 50 most recent system alert events, including breaker trips, battery tolerance alarms, etc. Each alert supplies a brief description of the alarm and a time-stamp.

Comm Timeouts are a diagnostic alert, and do not necessarily indicate an issue.



The time-stamp is generated based on the time elapsed from the last touch screen power-up.



Software Information

This diagnostic screen will display the following information:

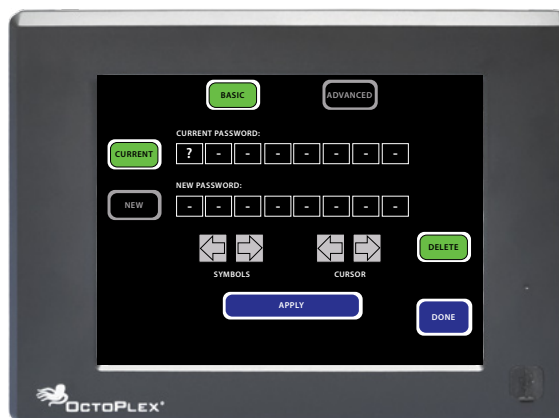
- Touch Screen Display application software version
- ONC file version number
- Screen coordinates (width & height) in pixels

Password Management

This screen will allow you to edit the Basic and Advanced passwords on a Touch Screen Display. You will need to supply the current password (if any) in order to complete the changes.



If required, and a password has already been issued, please contact the boat manufacturer for assistance.



Vessel Status / Monitoring

When a System Interface Unit Monitor (SIU) is included in the installation, indicators may be incorporated into the touch screen configuration to display status of the inputs being monitored. Generally, a red indicator will indicate an “off” or “inactive” state and green will indicate an “on” or “active” state.



This page can vary between installations, as format is determined and/or customizable by the boat builder or owner.

Bilge Monitoring / Control

This page displays the current status of the bilge as well as control of the bilge pumps. Typical layouts include indications, which will show if a bilge pump is running, a float switch is receiving power or whether a high water alarm is being activated.

Builders may choose to control the bilge pumps outside of the OctoPlex system. In this case, the monitoring functions could still exist if connected to the System Interface Unit, but the control functions would not be included within this page.

Tank Level Monitoring

When Tank Level Adapters/Monitors are included in the installation this page will show their status/levels.



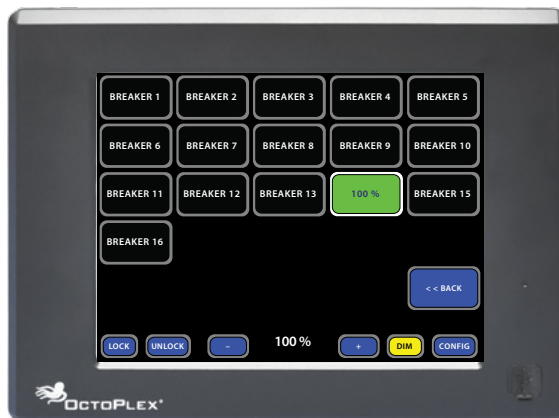
NOTE

The OctoPlex system has the capability to only display the data which is transmitted from the installers NMEA2000 certified tank level adapter. Please consult either the boat manufacturer or component manufacturer should any issues present themselves with regards to tank level monitoring.

DC Circuit Breaker Dimming

The Touch Screen Display provides a mechanism for adjusting the Dim value of an ECB, if enabled. In order to gain access to Dimming commands, the page containing the target ECBs control button must contain a OctoPlex Option Bar with the “Dim” option enabled. If so, the option bar will contain a “Dim” button.

Pressing the “Dim” button will activate Dim Mode. Pressing an ECB will select it as the target for the Dim operation. If dimming is enabled for the target ECB, the button’s text will change to the ECB’s current Dim value. In addition, the current Dim value will appear within the OctoPlex Option Bar, flanked by “-“ and “+” buttons. Pressing these increment and decrement buttons will adjust the Dim value accordingly. The button’s text will change in response to any dimming modifications made. Once completed, press the Dim button again to exit Dim Mode. The button text will revert to its original text and all button presses will execute their normal functionality (circuit breaker toggling, etc.).



ECB Error (DC Only)

An ECB has detected an error condition. Detailed status may be viewed by using the option bar “Config” button on the page that the ECB reporting the error is on. Selecting the Breaker Status option will provide you with the current ECB status.

The table below describes the status reported on the breaker status page.

Status	Description
Tripped	The ECB has tripped from an circuit overload
Open Load	The ECB is on but the circuit is not drawing current
Short Load	The ECB tripped based on a detected short circuit
Fuse Blown	The ECB slot fuse has opened
Fuse Failed	Fuse failed to open
Access Error	Internal ECB address error
Communication Error	ECB has lost communication with the DC processor
Abnormal High	ECB is OFF but voltage is present at the output
Abnormal Low	Reserved for future use.
Disable	Internal ECB A/D Error



NOTE

Once the cause for the ECB error has been ascertained, you may need to cycle the main breaker in the DC box that has the ECB error, or cycle the DC bus power to clear the condition. Refer to the DC Box ECB diagnostic section for troubleshooting ECB error messages and possible corrective actions.

Display Dimming

The brightness of the display can be adjusted using these buttons typically found on the main page.

V

The display can be configured to turn off after a specified duration of inactivity. It is also possible to configure a display to turn off the back light when a certain area is touched (a logo or button). Pressing any part of the display will turn the display back light back on.

Alarm

There are two types of alarms available:

Global : Alarm condition is detected and sounded on all Touch Screens on the network.

Local : Alarm is detected and sounded only on the Touch Screen and page where a specific condition/activity has been activated. Example: Custom Fuel Transfer page.

The alarm can be set to respond to the following conditions:

- Tripped breaker
- Battery values out of tolerance
- Reversed AC polarity
- Configured SIU inputs

When a Global alarm has been activated, touching any button on any page/screen on any Touch Screen will turn it off throughout the system. A Local alarm can only be silenced by touching a reset button on the page/screen that alarm function is configured for.

Clean

This button, if included, will provide a period of time where the Touch Screen is inactive so that it can be cleaned without turning breakers off or on.

Display Menu/Button Configuration

If any button is pressed and held (for approximately 3 seconds) a page with the current button title/text will appear. This allows the user to change the text of any button. This is generally used when a spare location is utilized or load wiring is changed. Button text changes are automatically propagated to other Touch Screens on the network.



NOTE

A button on a page cannot be moved to another page via the Touch Screen interface. Buttons can only be moved between pages with the ONC utility and requires an octoplexdata.dat file update.

Maintenance

The Multi-Function Display requires no maintenance. If the touch screen requires cleaning, use a soft damp cloth and wipe the display gently while utilizing the Clean Button under the Commands & Settings menu. Do not rub aggressively as this may scratch the touch screen area. Any service or repair issues should be handled by a factory authorized technician.



CAUTION!

Do not spray any cleaning solvents directly onto the display area.

General Specifications

Electrical

Operating Voltage 9-16 Volts DC, 15 VDC nominal
 Load Equivalence Number (LEN) 14

Mechanical

Dimensions 7.75" x 7.75" x 2.83"
 (196.85 x 196.85 x 71.88 mm)
 CAN Bus connectors Two (2) Micro-C Male
 J3 Alarm Output Connection Micro-C Female
 Mounting 4 x #6 -32 Pan Head Screws

Environmental

Operating Temperature -10°C to +60°C
 Weight 3 lbs (1.6 kg)

Certifications

NMEA 2000
 CE
 Category B
IEC 60533 Electrical and Electronic Installations in Ships
IEC 60945 Maritime Navigation and Radio communication Equipment and Systems
 Lloyd's Register
 Lloyd's Type Approved, Test Specification #1, ENV2
 Certificate Number: 10/00021

Dimensional Specifications: in. [mm]

6.5 Inch - Multi-Function Display A3415-[]-CE

