OCS3xx Demonstration Case
Product Specifications and Installation Data

1   INTRODUCTION

The OCS3xx Demonstration Case (HE500OCS390) serves as a visual tool to demonstrate various functions that an OCS3XX can be programmed to perform.

2   HARDWARE SETUP

2.1   Demonstration Case Contents

The OCS390 Demo Case contains the following items:

1 OCS350 in a display panel	1 power cord
1 Fiber Optic Base FOX404	1 I/O Simulator (contains switches and LEDs)
1 DIQ616 SmartStack I/O Module	1 bundled cable consisting of Fiber Optic cables and a Power Cable
1 Built-in AC Power Supply	

2.2   Initial Setup

a.   Plug the I/O Simulator Board into the SmartStack DIQ616 Module. The DIQ616 is already plugged into the Fiber Optic Base (FOX). Be sure the boards are seated to make a good connection.

b.   Connect the FOX to the OCS350 using the bundled Power Cable and the Fiber Optic Cables.

Power Cable

Plug the Power Cable Plug into the barrel connector located on the lower left front panel of the OCS350 display panel. (Note that the Power Cable Plug juts out a bit from the jack.) Insert the 3-pin connector in the FOX base and the 2-pin connector into the I/O Simulator, which contains switches and LEDs.

Fiber Optic Cables: The cables and jacks are conveniently color-coded to assist in the setup.

Starting with the Fiber Optic Cables that located on the same side Power Cable Plug, insert the cable with the white band into the OCS350 display into the IN jack, which is white color-coded. Then insert the black cable into the OUT jack on the OCS350 display, which is black color-coded. Next, insert the cable with the white band into the FOX OUT jack (white color-coded). Then insert the black cable into the IN jack on the FOX (black color-coded).

c.   Plug the power cord into the power supply, which is located under the OCS350 behind the front display panel. Apply power by plugging the other end into 110 to 240 volts AC.

2.3   Main Menu

Note: Do <u>not</u> use sharp objects to select options on the display screen. Doing so can scratch and damage the display screen. Use a touch screen stylus or a finger or other non-sharp objects to make selections.

Upon applying power, a self-test screen appears. If all the self-tests pass, a message appears stating so, and the FIBER OK, RUN, and PWR lamps are lit green. The main menu screen then appears, which contains a number of buttons that can be pressed to jump to different screens. Each of these screens are designed to show one or more aspects of the OCS350's capabilities. Each screen contains a button to return to main menu screen. The following sections describe each screen in detail.
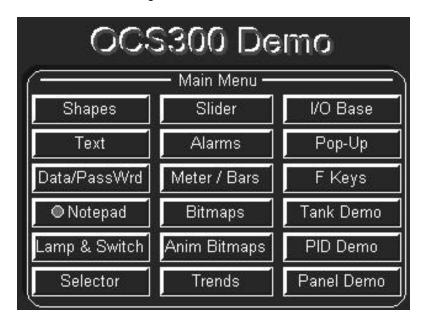

Figure 1 - Main Menu Screen

Note: Most screens have the following attributes buttons. To optimize the demonstration, become familiar with the following attributes, which are controlled by the viewer.

- **Visible/Invisible –** Be sure to press the *Visible* button to view all demonstrations created for each screen.
- **Solid/Flashing –** Displayed text can be adjusted to use a solid or flashing cursor based on the preference of the viewer and to allow dynamic viewing.
- **Enable/Disable –** This button allows the viewer to turn options and features ON and OFF.

a.   Shapes
This drawing tool allows rectangles, circles, lines and rounded rectangles to be drawn to enhance the appearance of objects or to create new objects. The line color, line width and fill color are selectable. Pressing the color scale button shows a standard color test pattern to show the full range of producible colors.

b.   Text
The OCS350 has 4 built-in fonts as shown on this screen when the **Visible** button is pressed. The character set follows an ISO standard to cover most needs in South America and Europe. Downloadable fonts are planned in a future upgrade. By pressing **Font Demo**, text foreground and background color can be set to any of the 16 colors or transparent. Font attributes allow the fonts to appear sunken, raised, and can be static or dynamically set for flashing or visibility.

c.   Data
This screen shows the different ways data can be displayed and entered. First switch between the supervisor and operator modes by pressing the buttons labeled **Supervisor** and **Operator** in the top center of the screen. When **Supervisor** is tapped, a password screen appears. Tap the * * * * field, and a keypad is displayed. Enter the supervisor password, which is **1234**. Pressing **?** (Help) indicates the proper password. Notice when in operator mode some of the objects disappear, and some objects lose their 3D-effect. When an object is not editable it does not have a 3D-effect. This shows how the objects visibility and ability to be edited can be controlled dynamically.

When a Hex value is displayed, the object also allows a legend and engineering unit to be added to the display. The legend can be positioned anywhere around the value (above, to the left, to the right…). When a value is shown with the 3D-effect, it can be pressed to edit the value.

d.   Notepad
This screen demonstrates the Note object. This unique object allows operators / supervisors to leave notes to others that use the equipment at a later time. Notes can be handwritten using a finger or touch screen stylus or other non-sharp objects. Four colors are available to write notes by tapping on the desired color – blue, red, green, or black. When the **Save** button is pressed, a register in the controller is set to indicate a message is waiting. By returning to the main menu, the indicator next to the word **Notepad** has a blinking lamp. To clear the register and stop the message indicator from flashing, return to the message screen and press the **Delete** button.

e.   Lamp & Switch
This screen shows some of the varieties of switches and indicators (lamps). For a dynamic view of switches and indicators, press the **Flash, Enable and Visibility** attribute buttons on and off. Depending upon which attributes are selected, pressing the switches and indicators produce a beep or a chirping sound. Examples of switches shown are Momentary (the button in the upper left corner), Toggle(the rocker switch), and Force ON or Force OFF (the RUN/STOP buttons).   Round or square indicators or switches can optionally display the simulated retaining nut or bezel to enhance the 3D appearance.

As the indicator object is scaled it changes slightly. Larger indicators appear with concentric circles to simulate a lamp lens as seen in the upper right portion of the screen. Smaller indicators are only filled circles or rectangles to simulate the look of LEDs as seen in the center right portion of the screen. The bottom of the screen includes a simulated status bar. This is a collection of standard objects. The viewer can select different styles of indicators and color combinations.

f.   Selector
On this screen various types of selector objects are shown.   One selector object allows selecting one, two, three, or four options. Notice examples of selectors that are arranged horizontally and vertically. Selectors can also be setup to only show a single button. Pressing the attribute buttons cycle through examples of selector objects (Visible, Flash, Enable).

g.   Slider
The slider object allows an analog value to be quickly modified using a simulated analog slide pot and/or trim buttons. As shown on this demo screen, the slider portion and the trim buttons can be turned off. A slider object without the "slider" only displays the trim buttons (increment / decrement buttons) that can be used to quickly edit a value. Slider objects can also display tick marks, high and low values and can have a legend positioned at the top or bottom of the slider.

h.   Alarms
This screen demonstrates the graphical **Alarm Manager**. The buttons at the top labeled 1, 2, 3 and 4 can be toggled to activate an alarm. The button below these buttons labeled **Alarm Indicator** is an alarm object setup to display only a button. Pressing the button opens the **Alarm Manager** screen that allows the operator to view and acknowledge alarms. This button can change to a user selectable color to indicate the state of the alarms. In this example, the colors used by the Alarm Manager indicate:

Green = no active or acknowledged alarms
Yellow = active but acknowledged alarms
Red = unacknowledged alarms

The object labeled **Alarm History** (Log) is an alarm object setup to display a historical list of the alarm events. Touching this object opens the alarm manager to allow a supervisor to view and clear alarm entries. This log shows when an alarm went active, when it was acknowledged or when it returned to normal.

The object labeled **Alarm Summary** is an alarm object setup to display the summary of alarms for active and unacknowledged alarms. Touching this object opens the alarm manager to allow an operator to view or acknowledge the list of active and acknowledged alarms.

This screen gives a good overview of the alarm capabilities but does not show all the options of the graphical alarm manager.

i.   Meter / Bars
The meter and bar graph objects allows the user to set the number of tick marks shown, display high and low values, and display of a legend. The foreground, background and fill/needle color can be selected. Bar graphs can be display vertically or horizontally. This screen also shows how objects can be layered. There is a numeric value display object on the meter showing the numeric representation of the value the meter is displaying. There is a slider object on the right side of the screen. Normally the meter and bar graph display a value ramping from 0 to 100 and back, but it can be changed by moving the slider. Some of the 3D effects were added to the meter and bar graph using blank text objects with the raised or sunken attribute turned on.

j.   Bitmaps
Standard bitmap files can be loaded into the editor and added to any screen. Bitmaps can be easily scaled or cropped to any size in the editor by dragging the edges. Bitmaps with more than 16 colors are automatically converted by the editor to 16 colors. Bitmap objects are transferred and stored using a special compression technique that does not degrade the image but significantly reduces their storage requirements.

k.   Anim Bitmaps
This screen shows an animated bitmap. This animation is controller by timers running in ladder logic. Use the UP and DOWN arrows (a trim only slider) to adjust the speed of the animation. Animations can be up to 50 frames and can be scaled to any size by the editor. These can be used to create unique switches or indicators or can be used to show the dynamics of a complex process.

l.   Trends
Pressing this button jumps to a sub menu that allows selecting the type of trend to view.

The submenu has the following selections:
- Snap Shot – this high speed trend sample at rates up to every 10 milliseconds. This trend stops sampling once a full screen of data is captured.
- Continuous – this high speed trend samples data at rates up to every 50 milliseconds. This trend scrolls once a screen of data is captured.
- Std Trend – This is a standard trend sampling data at rates up to once per second. This trend scrolls as the screen fills and this trend operates in the background even when the screen is not visible.
- NV Trend – This is a non-volatile or retentive trend. This trend operates like a standard trend but the captured data is stored in battery backed memory so it is retained through a power failure. If a power failure occurs or the controller is stopped and re-started a dotted line is drawn vertically to indicate the interruption in trending.
- Chart – This object allows graphing any set of registers. This can be used to display data captured or created by ladder programming.

All these demo screens have the following in common:

Each trend or graph can show up to four pens of data. The pen color and line (solid, dash, dotted) is selectable. The button on the bottom left corner of the screen is used to start and stop the trend. The trend screens have a slider to simulate the input on one of the pens. To move the slider, press firmly on the button portion of the slider and drag a finger up and down. The slider button should track the finger movements.

m.   I/O Base
This screen shows a bitmap of the fiber optic expansion base with integrated hub (FOX404). This base connects to the OCS350 unit via a short, low-cost fiber optic cable. The base can hold up to 4 smart stack modules. The integrated hub allows up to 4 other bases to be connected for a total of 20 smart stack modules (5 bases x 4 modules per base).

Pressing the Monitor I/O buttons jumps to a screen that allows monitoring inputs and changing outputs. There are 8 indicators to show the state of the first 8 inputs (if your demo has I/O and an input simulator flip the switches to see inputs change). The buttons allow changing the first 8 outputs. Pressing the "Override" button and moving the slider object will change the outputs based on the slide position.

n.   Pop-Up
This screen shows objects that can be dynamically visible by creating pop-up messages or panels. Pressing the button that says "Press Me" shows a pop-up message screen with two buttons and an indicator. This can be quite useful for announcing a special condition or requesting input for a machine exception.

o.   F Keys
The OCS350 has five user definable functions keys. These keys are available in ladder logic as %K contacts and are available when developing screens.

The two left keys show labels attached to the indicators and the Function Keys on the far right side of the OCS350. Pressing the Function keys turns on the corresponding lamps. The keys can be labeled with adhesive labels, custom overlays or can be labeled with text displayed on the LCD as shown on this demo screen.

Using function keys instead of the touch screen for common operation can prevent the LCD screen from becoming dirty or scratched in some environments.

p.   Tank Demo
This demo screen uses a variety of objects to graphically indicate the state of a fictional process. The process shows animated bitmaps, static bitmaps, bar graphs, text tables, and numerical fields. Other numerical and text table fields indicate the state of the process or allow setting to be changed. The alarm object at the bottom of the screen shows the latest alarm generated by this process. Touching this alarm object shows the **Alarm Manager** allowing the full list of active alarms to be viewed or acknowledged.

The alarm log button at the top left changes color to indicate the state of alarm logging.

Green = no alarm event logged
Yellow = alarm event logged
Red = alarm log full

Pressing this alarm log button allows the list of alarm events to be viewed or cleared.

q.   PID Demo
This is a sample screen that shows how the objects can be used to create a typical screen. The sliders allow adjusting 4 values used by the PID controller.

r.   Panel
This screen was designed to show how the OCS350 graphic objects can be combined to create a typical panel. In this simulated panel, the **Jam** indicator flashes if the speed is set above 64 with the slider or numeric entry.

3   INSTALLATION / SAFETY

Warning: Remove power from the OCS controller, CAN port, and any peripheral equipment connected to this local system before adding or replacing this or any module.

1. All applicable codes and standards are to be followed in the installation of this product.
2. Do not use sharp objects to touch the screen such as ball point pen tips or screwdrivers. Doing so can scratch and damage the display screen. Use a touch screen stylus or a finger or other non-sharp objects to make selections.

4   TECHNICAL ASSISTANCE

For assistance, contact Technical Support at the following locations:

North America:
(317) 916-4274 or visit our website at www.heapg.com.

Europe:
(+) 353-21-4321-266