CONTROL TECHNOLOGY CORPORATION

qMon User's Guide

⚠ **WARNING:** Use of CTC Controllers and software is to be done only by experienced and qualified personnel who are responsible for the application and use of control equipment like the CTC controllers. These individuals must satisfy themselves that all necessary steps have been taken to assure that each application and use meets all performance and safety requirements, including any applicable laws, regulations, codes and/or standards. The information in this document is given as a general guide and all examples are for illustrative purposes only and are not intended for use in the actual application of CTC product. CTC products are not designed, sold, or marketed for use in any particular application or installation; this responsibility resides solely with the user. CTC does not assume any responsibility or liability, intellectual or otherwise for the use of CTC products.

qMon is not password protected. It is up to the network and system administrators to establish security measures that prevent unauthorized access to controller data via qMon.

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[1] SYSTEM REQUIREMENTS AND INSTALLATION

Introduction to qMon

qMon is a free app that enables you to receive status updates from your controller via Apple iPad, iPhone, or iPod Touch devices. qMon can access Model 2700 and 5000 series controllers. Using qMon, you can reset counters, change setpoints, set/clear flags, or monitor production data. This makes qMon a powerful tool not only for remote access, but also provides a portable, hand-held diagnostic tool for start-up and maintenance.

Currently, qMon provides access to Digital and Analog I/O, Registers, Flags and Motor Position/Error. It can be used on Wi-Fi and 3G phone networks; for best performance, CTC recommends Wi-Fi connection.

System Requirements

Apple Devices

qMon runs on the following Apple devices:

- iPad 1, iPad 2, the new iPad
- iPhone 3GS, 4, 4S
- iPod Touch 3G, 4G

qMon requires IOS5.1 or greater.

CTC Controllers

qMon supports Model 2700 and 5000 series controllers. Model 2700 controllers must have a Model 2717 Ethernet card installed.

Installation

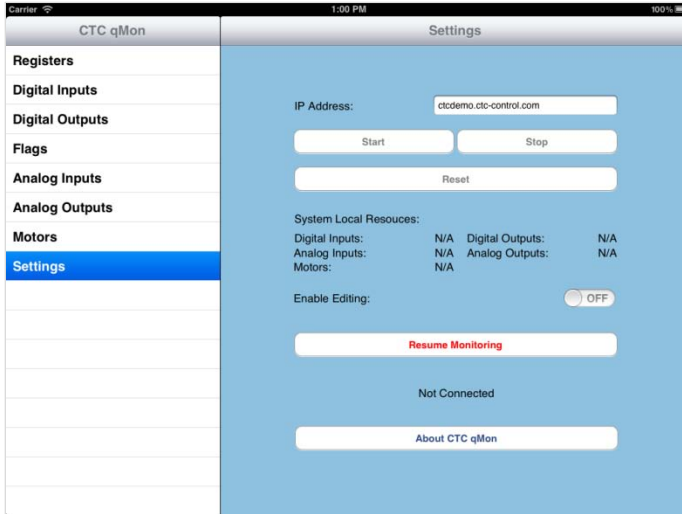CTC qMon

◄ qMon may be downloaded and installed from the App Store app on your iPad or iPhone display.

Once installed, the qMon app will appear on your display.

Tap the app button to launch the application and display the **qMon Nav Menu** screen.

The qMon Nav Menu Screen and Settings View

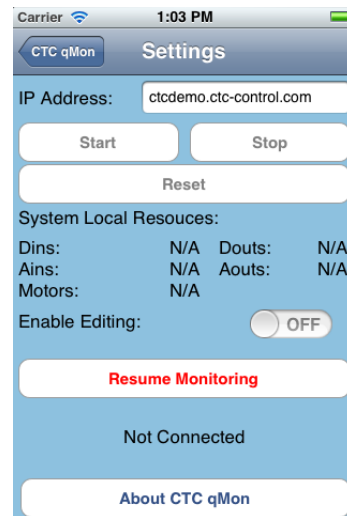The **qMon Nav Menu** screen and **Settings** view are displayed on iPad when the qMon application starts:

On the iPhone, the **qMon Nav Menu** screen displays when the application loads:

Select the **Settings** menu item to display the **Settings** view.

qMon Nav Menu Screen

qMon currently supports the following controller resources:

1. Registers
2. Digital Inputs
3. Digital Outputs
4. Flags
5. Analog Inputs
6. Analog Outputs
7. Motors (Model 5300 controllers read only)

There is also a **Settings** menu item at the bottom of the **qMon Nav Menu** screen, which returns you to the **Settings** view.

NOTES:

1. Controller resource menu items do not become functional until a controller is connected. Refer to the following chapter, [Connecting qMon to the Controller](#), for additional information on connecting your controller.
2. If the iPad/iPhone for qMon goes to sleep while it is on a resource screen – such as the Register Screen or Digital Inputs Screen – that resource screen will remain active when the device wakes up. However, because qMon disconnects the controller when its device goes to sleep (to conserve battery life), you must reconnect the controller to obtain current data. To reconnect the controller, select the **Settings** menu item from the **qMon Nav Menu** screen to return to the **Settings** view. Tap the **Resume Monitoring** button to re-establish communications.

Settings View

The **Settings** view enables you to:

- connect to the desired controller
- start, stop and reset the controller
- enable/disable editing of controller resource values
- resume and suspend monitoring

Refer to the following chapter, [Connecting qMon to the Controller](#), for additional information on connecting your controller.
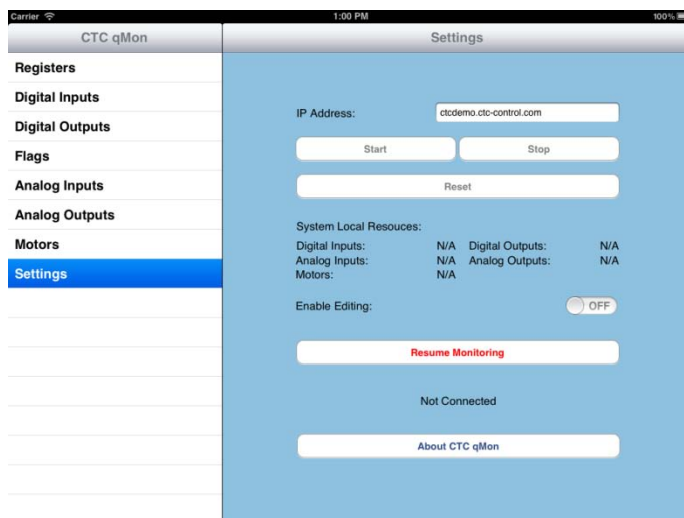
[2] CONNECTING QMON TO THE CONTROLLER

Connecting qMon to the Controller

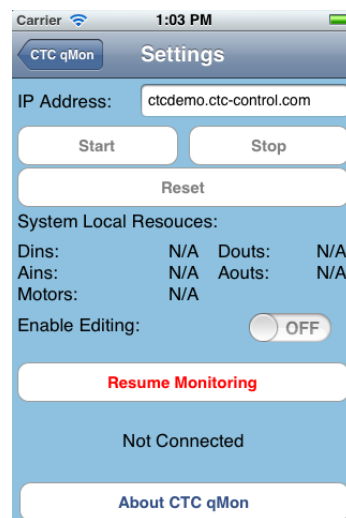1. Start the qMon application by tapping the qMon icon on the display:

   CTC qMon

   The **Settings** view displays.

| iPad | iPhone |

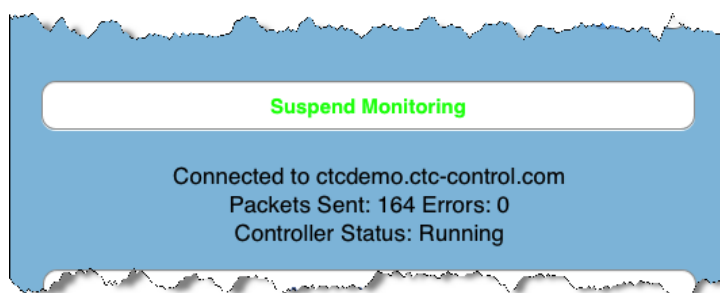2. Configure the following controls:

   1. IP Address

      Enter controller address as IP address dotted decimal format (e.g., 192.168.1.53) or DNS name (e.g., ctcdemo.ctc-control.com). ctcdemo.ctc-control.com may be entered in this field to test the connectivity of your network.

   2. Resume Monitoring

      Tap the **Resume Monitoring** button to establish communications.

When qMon has connected to the designated controller, the **Resume Monitoring** button will toggle to **Suspend Monitoring** and a message will appear at the bottom of the **Settings** view indicating success:

NOTES:

1. qMon supports Wi-Fi and 3G networks. For best performance, CTC recommends Wi-Fi connection. Consult your Apple documentation for additional information on setting up the network for your device.

2. If you are setting up your controller for 3G, it must be accessible via the Internet. Refer to the following documentation to set up network connections for your controller:

   - Model 5300: Model 5300 Communications and Logging Guide

   - Model 5200: 5200 Communications Guide

   - Model 5100: Model 5100 Communications Guide

   - Model 2700: Model 2717 Ethernet Communications Module Installation Guide

   Consult your network administrator to establish an Internet connection between the network and the Internet.

3. To conserve battery life, qMon disconnects communication and suspends monitoring the controller when the iPad/iPhone goes into sleep mode. Simply tap **Resume Monitoring** to re-establish communications and begin retrieving values again from the controller.

3. Enable Editing (opt.)

Swipe this button to the right to turn on editing, which enables you to edit values in the controller. If editing is turned off, you may view but not change controller values.

NOTES:

1. **qMon is not password protected. It is up to the network and system administrators to establish security measures that prevent unauthorized access to controller data via qMon.**

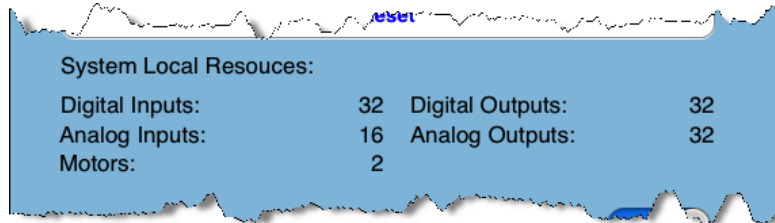2. Default state for this button is OFF (editing disabled).

Additional Controls on the Settings View

Start, Stop and Reset Buttons

These buttons respectively send Start, Stop and Reset commands to the controller. The buttons work independently of dedicated inputs.

System Local Resources

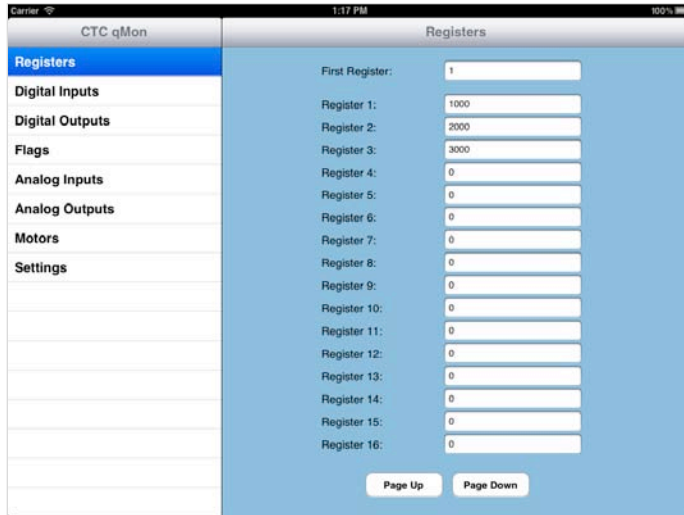This message displays the controller resources that are currently active for the connected controller:

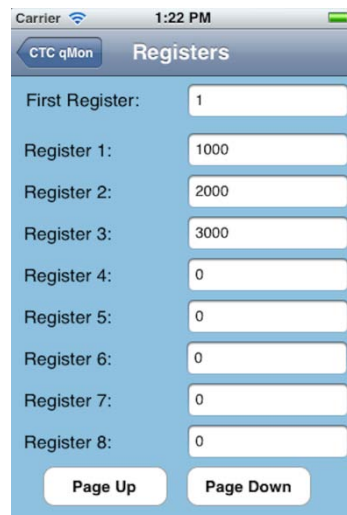### About CTC qMon

Provides version information for qMon.

[3] MONITORING REGISTERS

To view or edit registers, tap on the **Registers** menu item in the **qMon Nav Menu** screen to display the **Registers** screen:

| iPad | iPhone |

First Register: This field defines the first register to display at the top of the list on the screen. To jump to a different group of registers, tap on the field to display the keyboard, enter the number for the first desired register in the list and press **return.** Default value for this field is 1.

Register 1 – x: Each field displays the current value for its register.

Page Up, Page Down: Tap these buttons to manually scroll through the full range of registers available.

From the **Registers** screen you can do the following:

- View the values stored in registers
- Store a new value in a register
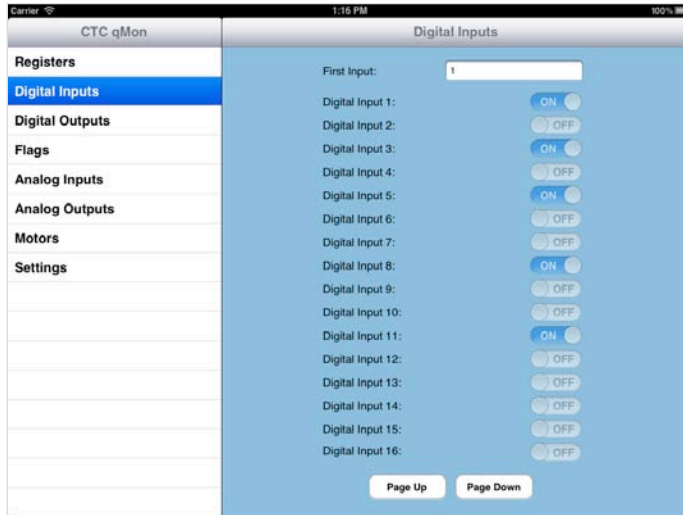- Store a value in an empty register

Editing Register Values

To edit a register value:

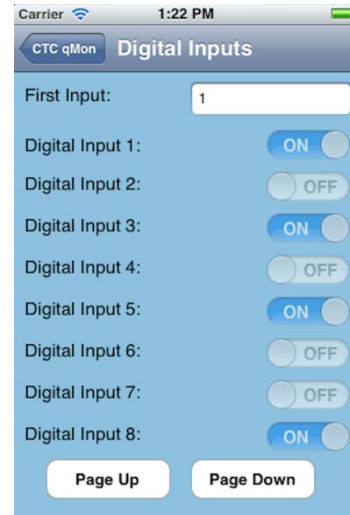1. Tap the **Registers** menu item on the **qMon Nav Menu** screen. The **Registers** screen displays.
2. If necessary, enter the number of the register in the **First Register** field and press **return**.
3. Select the field for the desired register by tapping it. The online keyboard will display.
4. Enter the new register value and press **return**.
5. qMon downloads the new value to the controller.

[4] MONITORING DIGITAL INPUTS

To view digital inputs, tap on the **Digital Inputs** menu item in the **qMon Nav Menu** screen to display the **Digital Inputs** screen:

| iPad | iPhone |

First Input: This field defines the first input to display at the top of the list on the screen. To jump to a different group of inputs, tap on the field to display the keyboard, enter the number for the first desired input in the list and press **return.** Default value for this field is 1.

Digital Input 1 – x: Each two-state button displays the current state for its input.

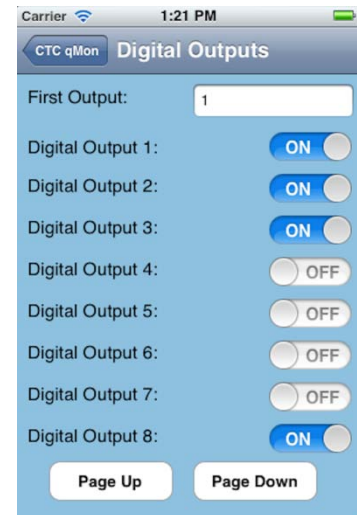**Page Up, Page Down:** Tap these buttons to manually scroll through the full range of inputs available.

NOTE: Digital inputs are read only.

[5] MONITORING DIGITAL OUTPUTS

To view or edit digital outputs, tap on the **Digital Outputs** menu item in the **qMon Nav Menu** screen to display the **Digital Outputs** screen:

| iPad | iPhone |

First Output: This field defines the first output to display at the top of the list on the screen. To jump to a different group of outputs, tap on the field to display the keyboard, enter the number for the first desired output in the list and press **return.** Default value for this field is 1.

Digital Output 1 - x: Each two-state button displays the current state for its output.

Page Up, Page Down: Tap these buttons to manually scroll through the full range of outputs available.
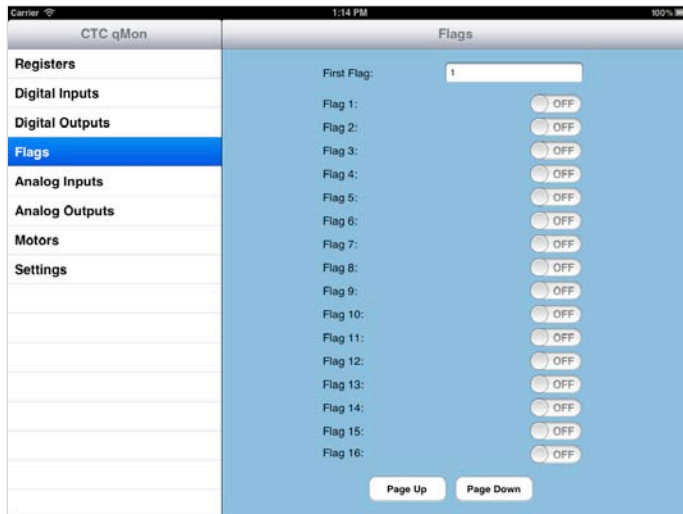
Editing Digital Output States

To turn a digital output on or off:

1. Tap the **Digital Outputs** menu item on the **qMon Nav Menu** screen. The **Digital Outputs** screen displays.
2. If necessary, enter the number of the output in the **First Output** field and press **return**.
3. Swipe the button for the desired output. Swipe right to turn the output on, or left to turn the output off.
4. qMon downloads the new value to the controller.

NOTE: You must enable editing in the **Settings** view to edit digital outputs.

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[6] MONITORING FLAGS

To view or edit flags, tap on the **Flags** menu item in the **qMon Nav Menu** screen to display the **Flags** screen:

| iPad | iPhone |

First Flag: This field defines the first flag to display at the top of the list on the screen. To jump to a different group of flags, tap on the field to display the keyboard, enter the number for the first desired flag in the list and press **return.** Default value for this field is 1.

Flag 1 – x: Each two-state button displays the current state for its flag.

Page Up, Page Down: Tap these buttons to manually scroll through the full range of flags available.
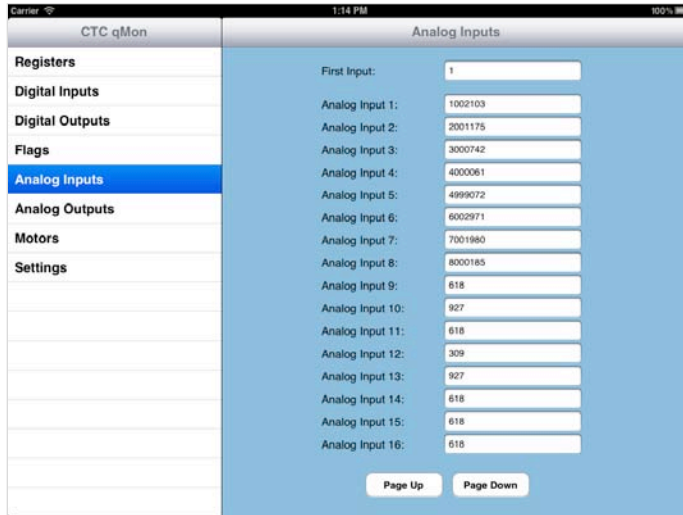
Editing Flag States

To edit a flag state:

1. Tap the **Flags** menu item on the **qMon Nav Menu** screen. The **Flags** screen displays.
2. If necessary, enter the number of the output in the **First Flag** field and press **return**.
3. Swipe the button for the desired flag. Swipe right to turn the flag on, or left to turn the flag off.
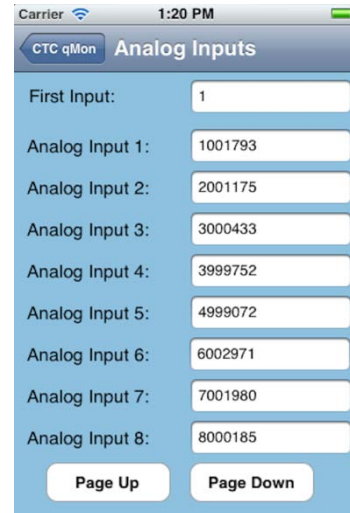4. qMon downloads the new value to the controller.

NOTE: You must enable editing in the **Settings** view to edit flags.

[7] MONITORING ANALOG INPUTS

To view analog inputs, tap on the **Analog Inputs** menu item in the **qMon Nav Menu** screen to display the **Analog Inputs** screen:

iPad   iPhone

First Input: This field defines the first input to display at the top of the list on the screen. To jump to a different group of inputs, tap on the field to display the keyboard, enter the number for the first desired input in the list and press **return.** Default value for this field is 1.
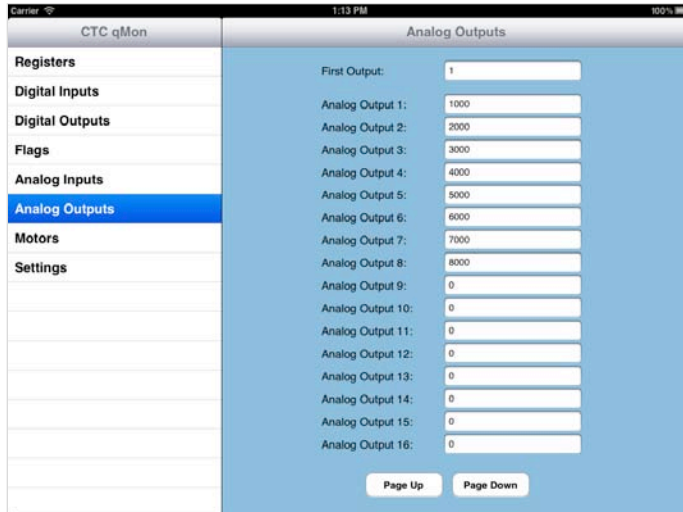
Analog Input 1 – x: Each field displays the current value for its input.

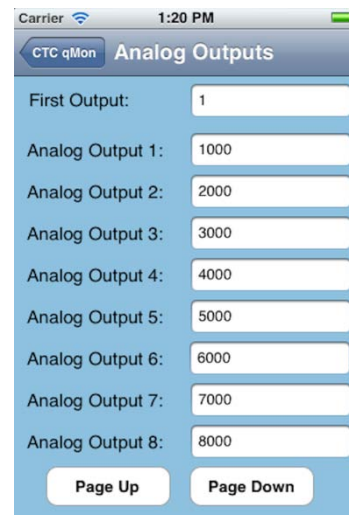**Page Up, Page Down:** Tap these buttons to manually scroll through the full range of inputs available.

NOTE: Analog inputs are read only.

[8] MONITORING ANALOG OUTPUTS

To view or edit analog outputs, tap on the **Analog Outputs** menu item in the **qMon Nav Menu** screen to display the **Analog Outputs** screen:

| iPad | iPhone |

First Output: This field defines the first output to display at the top of the list on the screen. To jump to a different group of outputs, tap on the field to display the keyboard, enter the number for the first desired output in the list and press **return.** Default value for this field is 1.

Analog Output 1 - x: Each field displays the current value for its output.

Page Up, Page Down: Tap these buttons to manually scroll through the full range of outputs available.
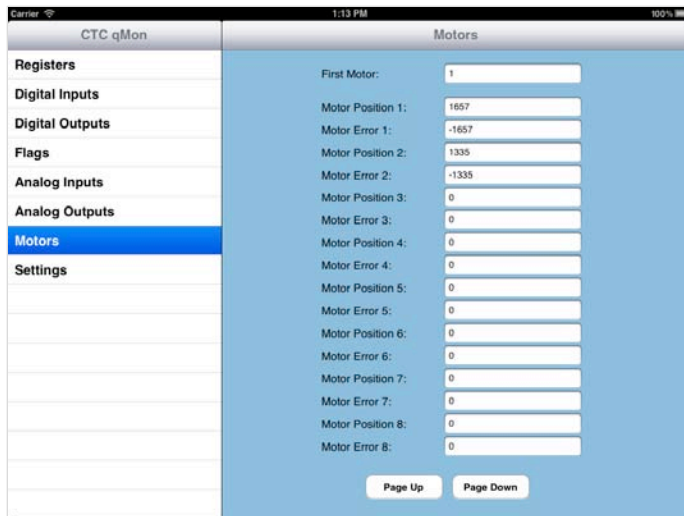
Editing Analog Output Values

To edit an analog output's value:

1. Tap the **Analog Outputs** menu item on the **qMon Nav Menu** screen. The **Analog Outputs** screen displays.
2. If necessary, enter the number of the output in the **First Output** field and press **return**.
3. Select the field for the desired analog output by tapping it. The online keyboard will display.
4. Enter the new output value and press **return**.
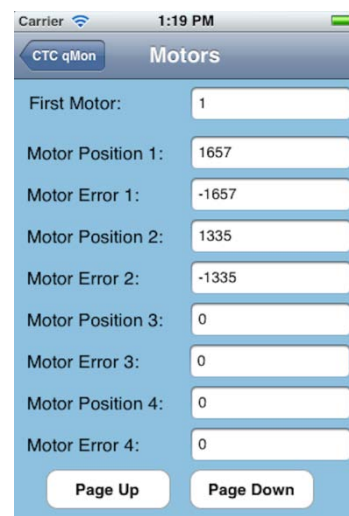5. qMon downloads the new value to the controller.

NOTE: You must enable editing in the **Settings** view to edit analog outputs.

[9] MONITORING MOTORS

The **Motors** screen enables you to view Position and Error for motors. Position may be edited from this screen. To view or edit motor data, tap on the **Motors** menu item in the **qMon Nav Menu** screen to display the **Motors** screen:

iPad   iPhone

First Motor: This field defines the first axis to display at the top of the list on the screen. To jump to a different group of axes, tap on the field to display the keyboard, enter the number for the first desired axis in the list and press **return.** Default value for this field is 1.

Motor Position 1 - x: Each field displays the current position for its motor axis.

Motor Error 1 - x: Each field displays the current error for its motor axis.

Page Up, Page Down: Tap these buttons to manually scroll through the full range of outputs available.

Editing Motor Position

To edit a controller's motor position:

1. Tap the **Motors** menu item on the **qMon Nav Menu** screen. The **Motors** screen displays.
2. If necessary, enter the number of the axis in the **First Motor** field and press **return**.
3. Select the field for the desired motor position by tapping it. The online keyboard will display.
4. Enter the new position and press **return**.
5. qMon downloads the new value to the controller.

NOTE: Position cannot be edited for Model 5300 controllers.