MICROFLEX BOILER CONTROLLER
QUICK START GUIDE

CONTROLLER OPTIONS:

Match the model number with your controller to ensure you have the correct equipment for your application.

M2B (MicroFLEX 2 relay boiler controller)

BB-IN—Base model includes selectable chemical feed based on a watermeter or % time or blowdown, selectable blowdown control on conductivity, % time or watermeter.

OPTIONS: (Only room for 1 per controller)

CL—Add a 4-20mA output card to provide the conductivity value to a remote device or system

LB—Add an Ethernet port. This allows you to connect directly to the controller with a PC or to connect the controller to the plant network whereby the entire plant will have controller access. (Don't have this option? Place this link in your Internet Browser to **view a MicroFLEX controller live)**. **http://66.146.13.223**

AR—Alarm dry contact. Can be used to turn on a light, horn or as an input to the plant system.

KEYPAD FUNCTIONS:

Apply power (120VAC) to the unit. You should see the POWER UP SCREEN:

Note the serial number. Open the cover panel (two Latches) and compare the displayed serial number with the sticker inside the cover.

Note the Controller has no Clock. It has a Count up Timer from date of startup and is totalized.

THE KEYS: **Enter,**  **Cursor Up,**  **Cursor Down,**  **Cursor Right,**  and **Escape.** 

Note the cursor on the right-hand side of the display.  This cursor indicates the line you are monitoring. If you press the **Enter** key, you will open the sub-menu options for this item.

THE MAIN MENU:

Press the **Down arrow** repeatedly until the display has cycled through the entire menu and returned to the power up screen. Note the line indicated by the cursor. Press the **Enter** key. Note the submenu. Press the **Down arrow** key to view the menu choices. Press **Enter** to open a submenu or activate a command. Press the **Escape** key to exit.

WHAT IS CAPTURED SAMPLE:

Captured Sample is the method by which Aquatrac controllers sample boiler conductivity and consist of a 4 step cycle; Sample, Measure, Blowdown and Re-sample. The values used in this explanation are the defaults and can be changed. Sample: Controller opens the blowdown valve for 30 seconds, long enough to ensure a fresh sample at the probe station. Measure: Close the blowdown valve for 60 seconds allowing the system to provide a stable signal. Blowdown: Open the automatic valve for 60 seconds to reduce the conductivity in the boiler if the sensor reading is above the high setpoint. Controller will skip this step if the conductivity is not high enough. Once the blowdown is complete, a Measure step will be repeated and the new value will again be compared to the low setpoint. The Measure/Blowdown steps will continue to repeat until the low setpoint is reached. Once below the low setpoint, the cycle will move to the fourth step, re-sample. Re-sample will leave the valve closed for 120 minutes, then start a new cycle.

HOW TO:

PRIME THE PUMP OR CYCLE THE BLOWDOWN VALVE:

The pump relay can be primed for 5 minutes. To cancel the prime action, clear the alarm for that relay.

Example: Prime the Inhibitor relay for 5 minutes, then cancel prior to time out;

Use the **arrow keys** to locate the **Inhibitor Pump** relay and press **Enter**.

Use the **arrow keys** to scroll up or down to **Prime Pump**. Press **Enter**.

The relay will turn on for 5 minutes unless the flow switch is OFF. **Relays do not operate when the flow is off.**

To cancel the Prime, **scroll** to **Alarms** and press **Enter twice**. Relay turns off.

Note: Inhibitor and Bleed ON indicators are located inside the controller in the lower right-hand corner.

WHAT IS CONTINUOUS SAMPLE:

The boiler controller can be programmed to operate the blowdown valve in continuous sample mode. The operation is the same as the cooling application; the blowdown valve is opened whenever the conductivity reading is above the limit point.

EDIT THE BLOWDOWN SETPOINT

To edit the blowdown setpoint, scroll down to **Blowdown Valve** and press **Enter**. See **Setpoint** and press **Enter**. See **Turn On** and press **Enter** or scroll down to **Turn Off** and press **Enter**. Use **Up**, **Down** and **Right** arrows to edit the values. When done, press **Enter** then **Escape** two times to return to the top menu.

CALIBRATE THE SENSOR:

To calibrate conductivity, move the cursor **down or up** until you see the sensor. Press **Enter**. You will see **Calibrate/Alarms**. Press **Enter** to edit the current Conductivity value. Notice the cursor under one of the digits. (Number 6 in this picture).

Move this underline using the **Right Arrow** to scroll through the digits to the digit you wish to change and press the **up** or **down** arrow to edit. Move the cursor and repeat as necessary. Press **Enter** when complete.

If a sensor fails the calibration, the value entered is out of range. Press **Enter** to disregard the warning and keep the new value. Or press **Escape** to disregard the new value and reset the input to factory defaults.

You should at a minimum inspect/clean the sensor and re-calibrate. If the value you enter is still out of range, you should consider a new sensor. For more information, see BOILER SENSOR TROUBLESHOOTING GUIDE on our web site.

INHIBITOR CONTROL:

Scroll down to inhibitor control and press **Enter**. You will see two selections. **Setpoints** and **Feed Mode**. Press the **Down arrow** for **Feed Mode** and press **Enter**. The factory default mode is **Feed on Volume**. If using a different **Feed Mode,** enter the Inhibitor pump menu, scroll down to **Feed Mode** and press **Enter**. Scrolling down will give you four **Control Modes**; FEED ON VOLUME, BLEED & FEED, BLEED THEN FEED, PERCENT TIME. The first, **Feed on Volume** is described here.

Selecting **Feed on Volume**. If you are not changing **Control Modes**, press **Enter** to go directly into **Setpoints**. In **Setpoints** you have two points to change. The first is **Measure Volume of Gallons** which will accumulate to setpoint. To edit, press **Enter**, then use the **Up**, **Down** and **Right** arrows to change the value. Press **Enter** to save. Scroll down to **Feed** and press **Enter**. Use **Up**, **Down** and **Right** arrows to edit the values when done, press **Enter**. Then press **Escape** twice to return to the main menu.

Selecting **Bleed & feed** control mode. Press **Enter** from Inhibitor Pump and scroll down to Feed mode and press **Enter**. Scroll down to Bleed & Feed and press **Enter**. Now scroll up to Setpoints and press **Enter** to make changes to Bleed & Feed based on 100% of Blow down each 5 minutes. Press **Enter**. Use **Up**, **Down** and **Right** arrows to edit the values. When done, press **Enter**. Then press **Escape** two times to return to main menu.

Selecting **Bleed then Feed** or **Percent Timer Control** modes follows the same steps as **Bleed & feed** .

HELP!

What does **"?141 Fails Calibrate"** mean?

Throughout the controller menu, there are embedded help references. They are identified by the question mark and a three digit number. The Help document can be downloaded from our web site at **www.aquatrac.com**. Look under the tab for Literature, microFlex and Technical Manuals. The file is entitled **'MicroFLEX_HELP_Definitions'**.

The user manual, AQC2_User, has pictures of sensor wiring on pages 6 and 7.

Call Technical support for other troubleshooting tips. 800/909-9283