EZboil Controller

The EZboil controller is one of the simplest controllers to manage the electric brewing process out of the box. It shouldn't take any longer than a few minutes to set up the controller's parameters for your brew day. Auber makes a manual which is more in depth, and it can be viewed at http://auberins.com/images/Manual/DSPR120_manual.pdf This manual is to discuss the most relevant features that work with the Bräu Supply product line and single vessel brewing.

When you plug in the controller the display lights up. The top display shows the current sensor temperature reading. Depending on the mode that the EZboil is in, the bottom display will show the set temperature in Mash mode. In Boil mode, the bottom display will show the current output in % of maximum output. If the controller is in Mash mode, an amber light will be lit on the top left corner of the display. If the controller is outputting power, the green light on the left side of the display will light.

First you want to set up the main parameters of the EZboil and they are detailed below.

Always plug your EZboil Controller into a GFCI protected circuit.

1. Plug the controller into a standard Nema 5-15 wall outlet. Maximum element wattage is 1650W.

2. Plug in the probe into the back panel probe receptacle. The connector on the probe must be held near the strain relief, and the groove of the probe, and the receptacle lined up. Gently push the connector on to the receptacle, allowing the knurled ring to freely move. The knurled ring is spring loaded and will lock into place.
The controller will become give 4 short beeps and become operational when the probe is plugged in.

3. Ensure that the **Element** switch is in the off setting. Plug up to a 1650W element into the L6-30R receptacle.

4. If you are using a pump, you ca plug it into the pump outlet at the back of the controller. Plug the pump in here and do NOT exceed 5 amps. **Never plug a brewing element in this plug.**

Caution: The probe receptacle can loosen over time and should never be twisted from the outside to tighten. If this happens with your controller, remove the 4 top screws on the controller and remove the cover. Inside you will see the lock nut. Holding the outside of the receptacle, twist the locknut on the inside, taking care not to twist the delicate wires soldered to the receptacle.

Mash Mode Setup:

 1. Press and hold the knob for at least 5 seconds. The top display will show **Goto**. **Mash** will light up in the bottom display. Press   the knob in and a **t** will light up in the top display. This is the Mash timer setting. The default setting is **1:00** and represents the mash time set value of 1 hour. Leave as is or increase to the mash time you prefer by turning the knob.
2. Press the knob in again and you will see **tSP** on the top display. This is the Mash timer start temperature. When the temperature reaches this set point, the timer will automatically start to count down. It's factory set to **151**. Turn the knob to change to your ideal strike temperature based on recipe requirements.

3. Press the knob again and the top display shows **Eo**. This is the mash ending power option. It's factory set to **OFF**. Turn it to **ON**.

4. Press the knob a fifth time and the top display shows **oScr**. This is overshoot correction. It's factory set to **0** and only after you use the system a few times will you be able to determine exactly how many degrees the temperature overshoots once the strike temperature has been reached. If it overshoots by 4 degrees, you would set this to **4**. This should remove the overshoot. This setting has no effect after the temperature reaches the set point.

5. Press the knob a last time and the top display shows **AttE**. This is attenuation constant. What this means is the stability of the temperature during mashing. This setting is to maintain constant mash temperature after the mash set point has been reached. The value can be set from **-2** to **+2**. The default value is **0**. If the temperature fluctuates more than 1 degree, you can increase the value. If the controller takes too much time to correct

a temperature drop you can reduce the **AttE** to make the system more responsive.

6. Press the button again and you are back to the display mode.

Boil Mode Setup:

1. Press the knob for at least 5 seconds and **Goto Mash** lights up in the display.

2. Turn the knob to the right one click to **Goto boil**. Press the knob.

The top display shows **bASt**. This is boiling acceleration set temperature. It is factory set to **200**. **bASt** is the threshold temperature at which you can slow down the output of the controller to reduce the likelihood of a boilover. Get to know your system before raising the factory setting from 200 degrees.

3. Press the knob again and the top display shows **bout**. This is boiling acceleration output power. This is determined by a percentage of the total output. it's factory set at **100** percent. This means the controller will put out 100% of power until the **bAST** temperature has been reached. When the temperature has been raised to the **bAST** setting, it automatically reduces power output to a lower level to prevent a boil over.

Note: The boil settings mentioned above only work in systems where the temperature probe is mounted inside the kettle! If you have a system such as the Unibräu system, where the temperature probe is inline and mounted on the lid or on the output of the ball valve, the best thing to do is change the bASt setting to 0. This changes the controller into a manual controller while in Boil mode. The boil alarm, and timing mode are still active.

4. Press the knob again and the top display shows **bt**. This is boil time. It's factory set to **1:00** or 1 hour. Increase or decrease the timer by rotating the knob.

5. Press the knob a fourth time and the top display shows **btSP**. This is boil timer start temperature. The factory value is **208**. When the timer function is enabled, the timer will be started by the timer start temperature or **btSP**.

6. Press the knob a fifth time and the top display shows **bALH**. This is boiling alarm set temp. It's factory set to **200**. The alarm will generate four short beeps every time the temperature rises from below **bALH** to higher than **bALH**. It's there to notify you that you are approaching boil.

7. Press the knob again and the top display shows **bEo**. This is boiling ending option. It's factory set to **oFF**.

8. Pressing the knob again returns you to the main menu.

Operation:

Mash Mode:
To enter the mash mode press the knob momentarily. Rotate to the right until you see **ModE MASH** on the display. Press the knob and the mash indicator will light up on the top left corner of the display. The top line of the display shows the measured temperature and the bottom line displays the mash set temperature. To change the mash set temperature, rotate the knob, and press in to set the temperature. When the tSP (Mash timer start temperature) has been reached, the timer will start and the top display will rotate between the time remaining and the measured temperature.
Tip: Set the tSP to your desired mash in temperature. The alarm will sound and you can mash in the grains. This will take a few minutes as you stir the grains in to the mash tun. Reset the timer as described below.

Step Mashing and Mashout:
For step mashes, the timer will be set for the current step only. When the alarm sounds after countdown is complete, you can reset the timer for the next step in your schedule, but you must also reset the tSP as described in Mash Mode Setup. The tSP begins the timer count down when the set temperature is reached and an alarm sounds when the step is finished.

Boil Mode:
To enter the boil mode press the knob momentarily. Rotate the knob to the right until you see **ModE Boil** on the display. Press the knob and the controller will enter Boil mode. The top display shows the measured sensor temperature and the bottom display shows the percent of power output once the **bAST** has been reached.

 In most cases, the desired power output is set to 100% until the **bAST** temperature has been reached, then output % defaults to the lower value

setting displayed in green. The setting in green is the desired output to reach and maintain a rolling boil without a messy boil over.

Start with a setting of 50 if you are unsure about this. The power output desired after **bAST** has been reached will depend on the volume of liquid, and the power of the element used.

Manual Boil Mode:

If you prefer to just have a rotating knob to set your power output in percentage you can use the manual boil mode. To do this, set **bAST** to **0** as described in Boil Mode Setup.

In manual mode, the bottom display shows the power output in percentage, and it is regulated by the knob. Simply turn the knob to change power output.

Timer Reset:
Press the knob momentarily and the top display shows rSt. This is to reset a timer that may have started. Rotate the knob to the right and the bottom display shows y. Press the knob momentarily and the timer will reset.