

Nano-Brewer

Nano Brewer Home
Nano Brewer Down Under
Nano Brewer Dual

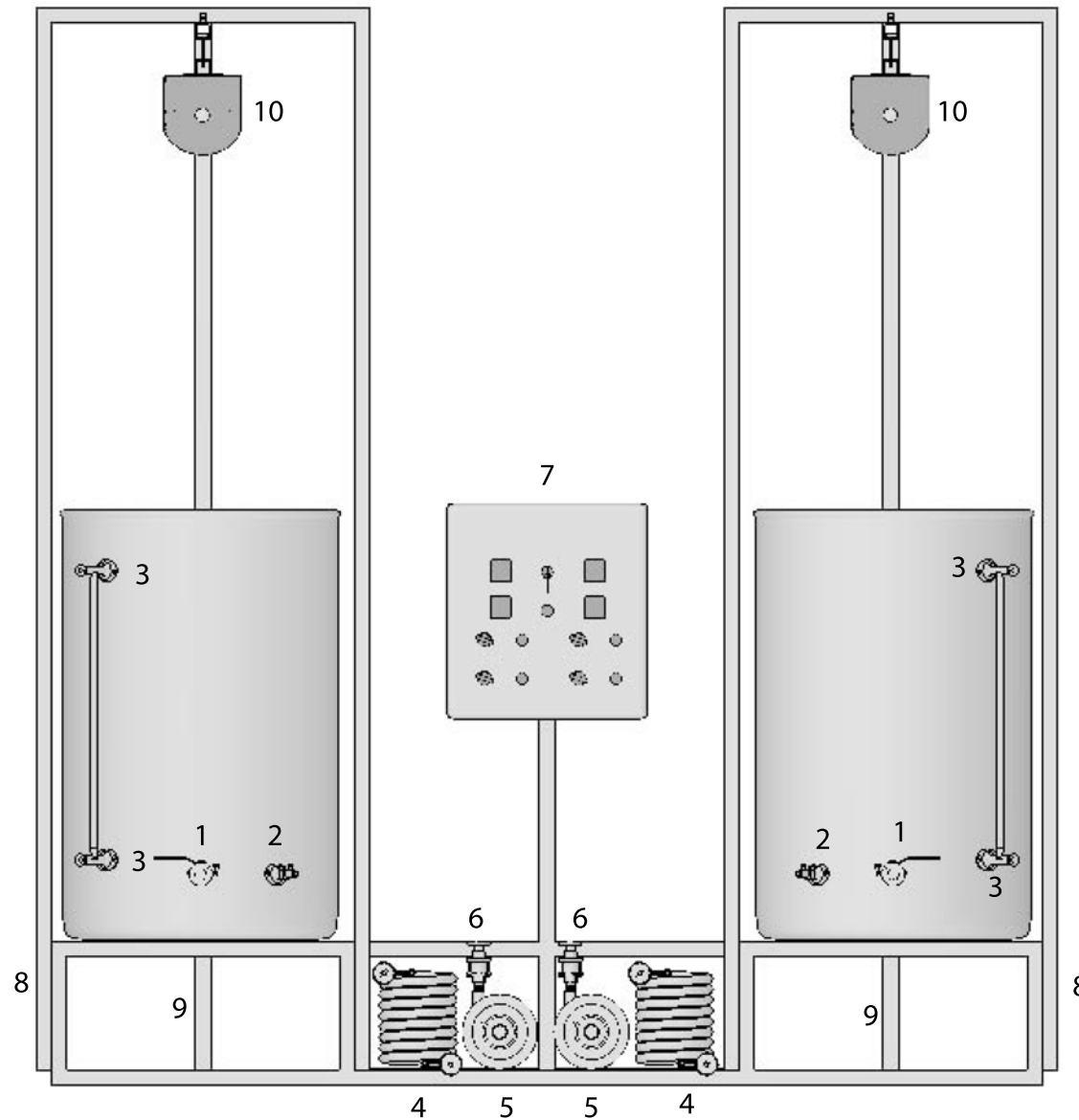
Manufactured By:



Colorado Brewing Systems

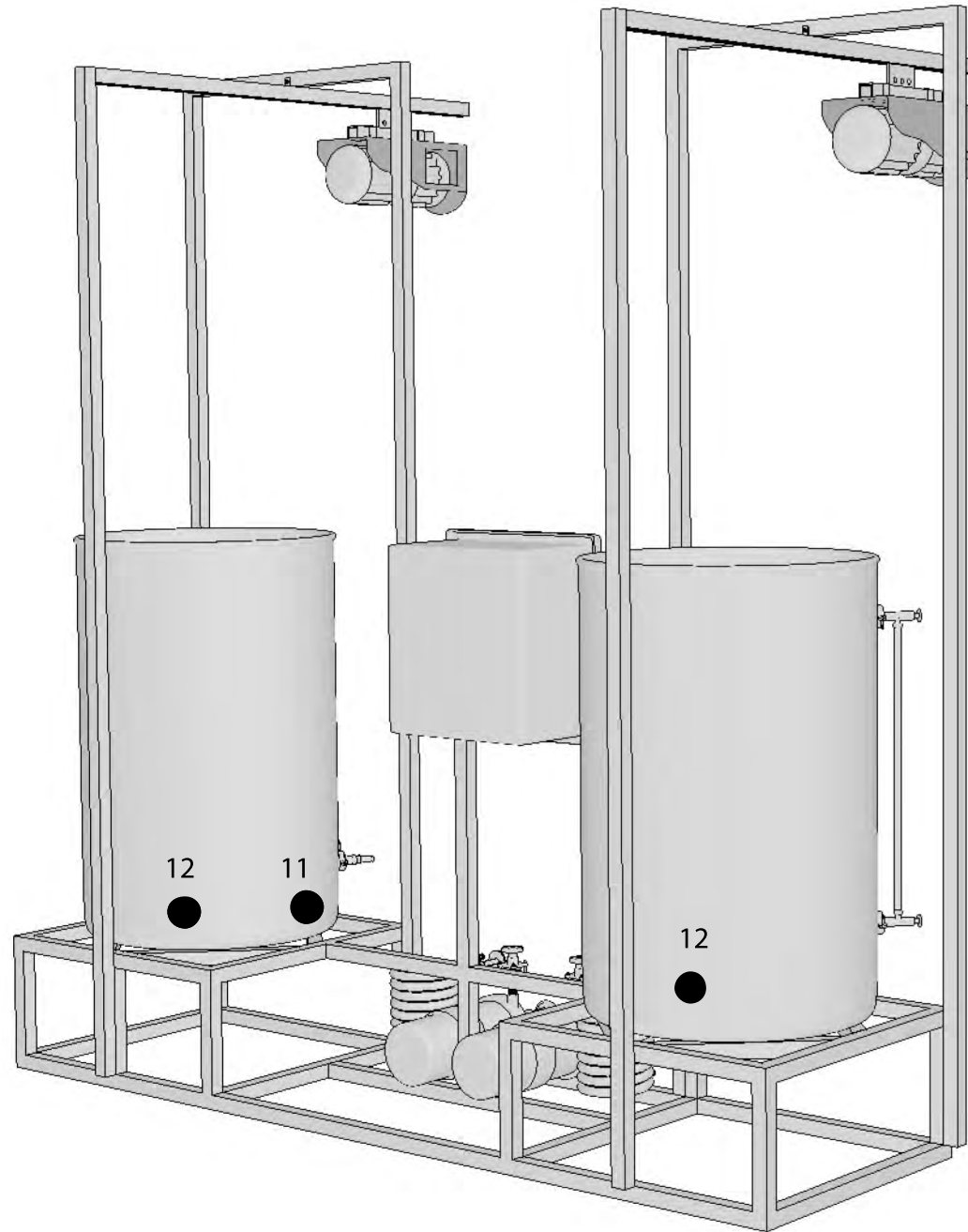
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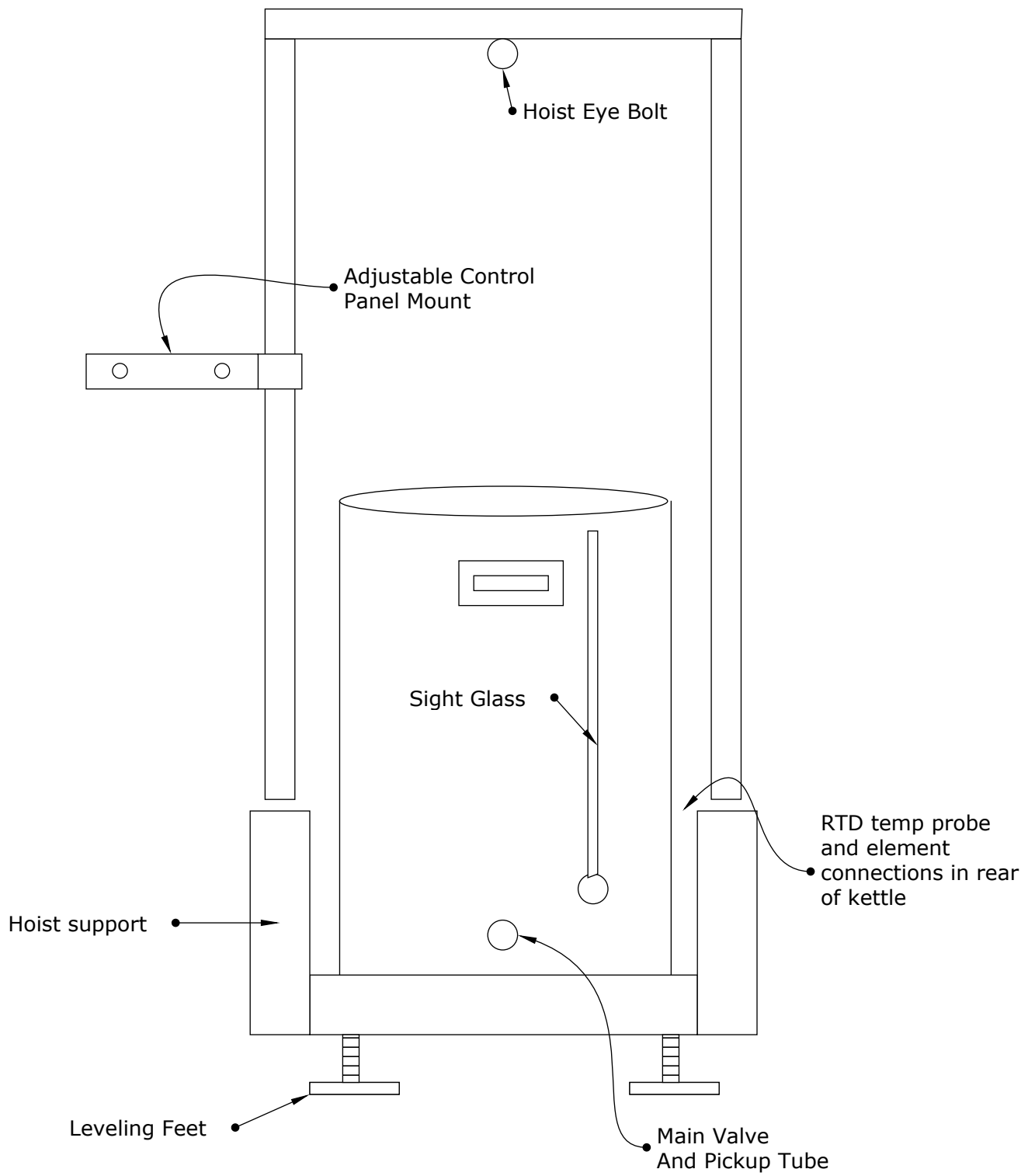
- 1.) Pickup tube and Main Valve.
- 2.) Whirlpool Fitting and Valve
- 3.) Sight glass
- 4.) Counterflow chiller
- 5.) Pump.*
- 6.) Pump output valve*
- 7.) Control Panel
- 8.) front hoist mounts
- 9.) rear hoist mount
- 10.) electric hoist assembly.



* NOTE: On System versions #1 and #2 the pump mounts to the frame. In Nano-Brewer Version #3 systems the pump mounts directly to the main valve (systems with the newer high efficiency brushless pumps)

11.) RTD Temperature
Probe
12.) Electric Element
Ferrules.





Nano-Brewer Home

Nano-Brewer Assembly Instructions

Thank you for your order! Please be sure to read the instruction manual prior to operating your new system.

Assembly

Step #1: Screw in leveling feet.

Step 2: For systems with a removable hoist, slide hoist supports into the 1 ½” hoist support tubes. Ensure that the supports are seated at the bottom of the support tube. Using ¾” bolts secure the hoist supports into the support tube. Do not over tighten! For larger systems equipped with a front stabilizer support, attach that to the center of the frame and tighten.

Step 3: For systems that utilize a manual rope hoist, insert the I bolt through the hole at the top of the hoist support.

For systems that use a track and trolley system, mount the electric hoist to the trolley, slide it onto the track and insert the stop bolt at the end of the track. Slide the hoist to the rear of the system.

Step 4: Mount the control panel to the control panel mount using the included ¼” mounting bolts and nuts.

Step 5: Mount your pumps and chiller(s) to the mounting pads if equipped (see diagram for placement.. Your ½” threaded valve should attach to the flow output side of the pump to allow you to throttle back the water/wort flow.

Step 6: Assemble and attach your tri-clamp hardware to the kettle. See diagrams for default fitting placement. See included packing list for required hardware and qnt. Of clamps needed. Any threaded fittings will require teflon tape prior to tightening to insure leak free operation.

Step 7: Install your main power plug. On 208/240V control panels the system ships without the power plug on the panel to allow you to match the plug to your outlet. On our “Nano Brewer Home” system the panel will require a 4 prong plug. On pro models a 3 prong plug is required as we do not need the neutral wire, however a separate 120V GFCI outlet is required for control circuit power. Refer to your plugs documentation for proper wiring.

Step 8: Connect you RTD temperature probe to the panel and the RTD probe by lining up the pins and gently pushing in. Do not twist the cable. To remove gently pull down on the outer ring of the cable and it will release.

Step 9: Insert your heating element(s). On system that have multiple heating elements there may be a bend in the elements to prevent overlapping and touching of the elements which can create a hot zone within the kettle. Ensure that the elements are not overlapping. Never turn you element(s) on without water in the kettle covering the elements. Dry firing can lead to burning out the element.

Step 10: Refer to the operating instructions and prepare for your initial water test/first brew session.

“Nano Brewer Home”™ Brewing System

“Nano Brewer Down Under” and

“Nano Brewer Dual”™ Professional Brewing System

Operating Instructions

Thank you for your purchase. Our patent pending Nano Brewer™ line of professional brewing systems has been designed to be the easiest to use, most cost effective, reliable and versatile brewing system on the market today. The following describes the basic operation of your Nano-Brewer™ Professional Brewing System.



Caution: This is a high voltage control panel and must be connected to a GFCI power outlet(s) for your safety. 208V/240V Heater circuits can not exceed 60A. If a separate 120V circuit is present for the pump circuit that must be connected to a GFCI outlet not exceeding 20A.



Caution: This product may have multiple power feeds and means of disconnect. All power must be disconnected prior to opening or servicing the panel.



Caution: To comply with UL 508a (on UL listed products) the panel must be locked at all times to prevent unauthorized access to the internal panel wiring. It is the responsibility of the end user to provide the lock and ensure that the panel is secure.



Caution: Water temperatures over 125°F (52°C) can cause severe burns instantly or death from scalding. Use caution and personal protection when working with and around the brewing system.



Caution: This is a high voltage appliance, never open the control panel unless power has been fully disconnected (plugs removed and/or main breakers shut off). Servicing of the equipment should only be performed by a licensed professional or Colorado Brewing Systems.



Caution: Never stand under or in close proximity to the hoist and always wear protective clothing. Refer to your hoist documentation for more information and safety guidelines.

Your system ships without a power plug to enable you to install the plug of your choice. Ensure the plug that you choose is rated at a compatible amperage and voltage matching your system's power requirements and must be connected to a GFCI protected circuit.

The operating voltage and amperage are listed below;

10, 15 and 20 gallon Nano Brewer Single 208/240V 30A

40 and 50 gallon Nano Brewer Single 208V/60A , 240V/50A

100 gallon Nano Brewer Single 208V/80A, 240V/75A (requires multiple feeder circuits)

40 gallon Nano Brewer Dual 208V/60A, 240V/50A

80 and 100 gallon Nano Brewer Dual, **two** feeder circuits of 208V/60A, 240V/50A

200 gallon Nano Brewer Dual, **three** feeder circuits of 208V/60A, 240V/50A

After assembling your system we recommend filling your kettle with water to check for any leaks around your element, any threaded fittings and tri-clamp fittings. Should you find leaks, tighten the tri-clamp clamps until the leak stops. Do not over tighten your electric element in the housing, overtightening can over compress the gasket and result in leaks.

Prior to plugging in the system make sure that all of the switches are in the off position, for all 2 way switches the off position is to the left, three way switches are off in the center position.

After plugging the system in, turn the main power switch to the ON position. Your PID controller should power up at this time. If your temperature probe is not connected the PID will display an error code of EEEE.

The top line of your controller will display the present value or current temperature, the second line displays the set temperature. To change the set temperature use the arrow keys on the controller.

To Brew;

Nano Brewer™ Single Vessel Systems And Nano Brewer Dual™ (*using each side independently*)

Step 1.) Fill your kettle with the desired amount of initial water. There are several options you can choose.

- A. Full volume brewing: For full volume single vessel brewing simply fill your kettle with the entire volume of water needed for your recipe. For water volume calculations please see the "water volume calculator on the download section of our website.
- B. Mash Rinse: For a quick rinse of the grains after the mash period, simply hold back 10% -20% of the water that your recipe initially calls for. After the mash period is complete and the mash basket has been raised from the kettle, replace the recirculation hose and fitting with our optional sparge arm. You will rinse the grains with this remaining 10% of the water to release the remaining sugars from your mash.

Step 2.) Heat your water. to your initial strike temperature by setting using the up and down arrows on your PID controller and setting the SV value to your desired strike temperature. Once your temperature is set, turn your element to the on position by turning the 2 way switch on the control panel to the right. The indicator light will illuminate alerting you to the fact that power is being supplied to the element(s).

Step 3.) lower the **empty** mash basket into the kettle. Do not have your grain in the basket at this time.

Step 4.) Add your grain. Slowly pour your grains into the mash basket allowing time for the grains to become hydrated. after all grains have been added gently stir in the grains. (for Nano Brewer Dual when brewing one larger batch of beer see page 5)

Step 5.) Begin your mash period. Insert your top recirculation fitting. Attach your main valve to the pump input and the top recirculation port to the pump out. Open your valves and begin the kettle recirculation from the main valve back to the top of the mash basket. It is important to control your flow rate to prevent wort from being pumped out faster than it can drain through the basket. Once recirculation has been started, adjust the PID to your desired mash temperature using the up and down arrows. Turn your element switch to the ON position. The system will maintain your temperature for the entire mash period. For recipes that call for step mashes, set your timer for the time until the next step and once time has expired the system will alert you that it is time to raise the temperature to the next step.

Step 6.) Mashout. After your mash period is complete, we recommend raising your mash temperature to between 168 and 170 degrees for a mashout period while continuing the recirculation. Once your set temperature is reached, hold for 10 minutes to allow the remaining

sugars to be stripped from the grains. Once the mashout is complete shut off the pump and main kettle valve.

Step 7.) Remove the mash basket. Connect the lifting assembly to the mash basket and SLOWLY raise your mash basket from the kettle. The wet grains will initially be extremely heavy. By lifting the basket slowly or in steps you allow the water time to drain from the basket and the grains.

Step 8.) *This step is optional for those wishing to do a grain rinse/mini sparge.* Replace the recirculation fitting with the optional sparge arm. Connect your hot water source to the pump inlet and rinse until your kettle reaches your desired pre-boil volume. NOTE: stop the water flow prior to getting to full pre-boil volume to allow time for the water to flow through the grain and into your kettle.

Step 9.) Switch to manual mode for the boil. Once your kettle is above the wort, begin bringing the wort to boil temperatures. The basket can continue to drain during this period. Place your PID in manual mode by pressing and HOLDING the SET key until the manual mode symbol appears in the left side of the display. initially set your output to 100 using the up and down arrow keys (100% output).

Step 10.) Remove the basket. Once you are close to a boil, carefully remove the mash basket from the system. For systems not on a track and trolley system we recommend having 2 people assist in remove the basket.

Step 11.) Set your timer. Using the control panel timer enter in your total boil time and hop addition times. The system will alert you at your pre determined times. See timer documentation for setup instructions.

Step 12.) Reduce your power output. Once a boil is reached it is important to reduce the output of the element(s) to prevent excessive boil off rates. Reduce the output using the up and down arrow keys on the PID to just enough to maintain a good rolling boil, in most all electric systems this can be as low as 50% power output. For gas versions manually reduce your flame to maintain the boil using the gas valve.

Step 13.) Whirlpool. After your boil is complete, turn off your element switch and connect the main valve output of your system to the pump input, Connect the pump output to the counterflow chiller (also connect your cold water source to the chiller). Connect the counterflow chiller output to the kettle whirlpool port. turn on your cold water into the counterflow chiller and open your kettle valves to begin the cooling and whirlpool process. Whirlpool for 10-15 minutes or until you are satisfied with the wort temperature or perform a final cooling pass while transferring to your fermenter by using a plate chiller (not included)

Step 14.) Transfer. Once your whirlpool is complete you can now transfer to your fermenter.

Step 15.) Cleanup. Completely clean your system using a product such as PBW after each brew day. Ensure that your element is clean after each use. Use caution and ensure that your element has had sufficient time to cool off prior to removal (If needed) for cleaning. Elements can be cleaned by simply wiping down with a scotchbrite pad (blue non scratch version recommended)



Caution: Your element will remain hot after it is turned off for an extended time. Never touch the element unless you are certain that it has had sufficient time to cool off and power is disconnected or turned off to the control box.

Nano Brewer Dual™ When brewing one large batch of beer

With our Nano Brewer Dual™ you can choose to brew 2 different beers simultaneously (using the instructions above) or brew one larger batch of beer.

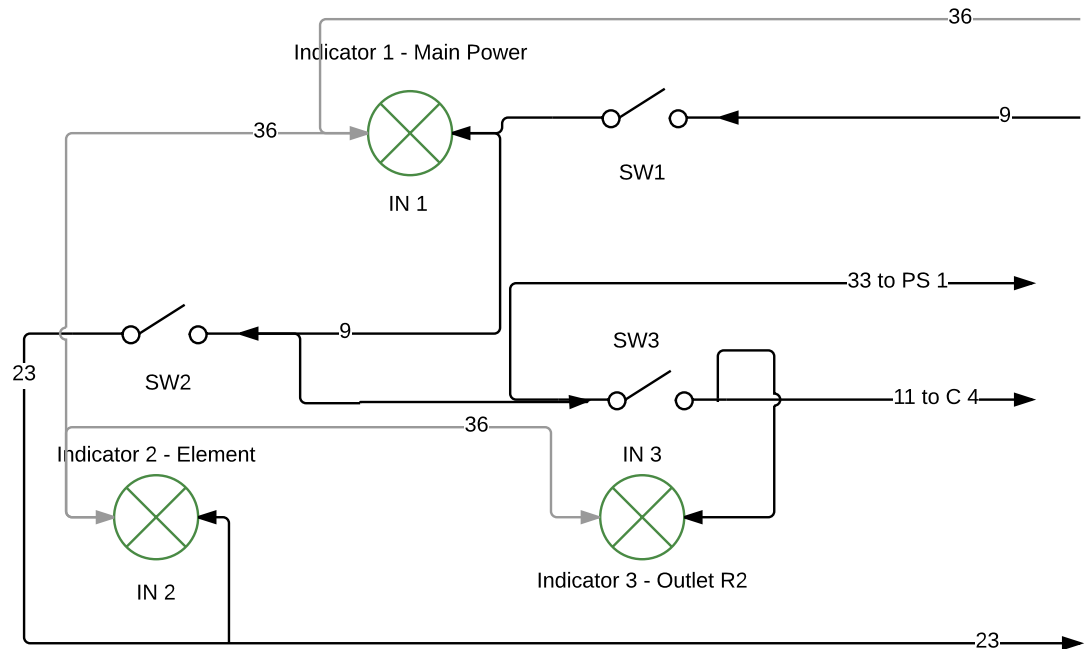
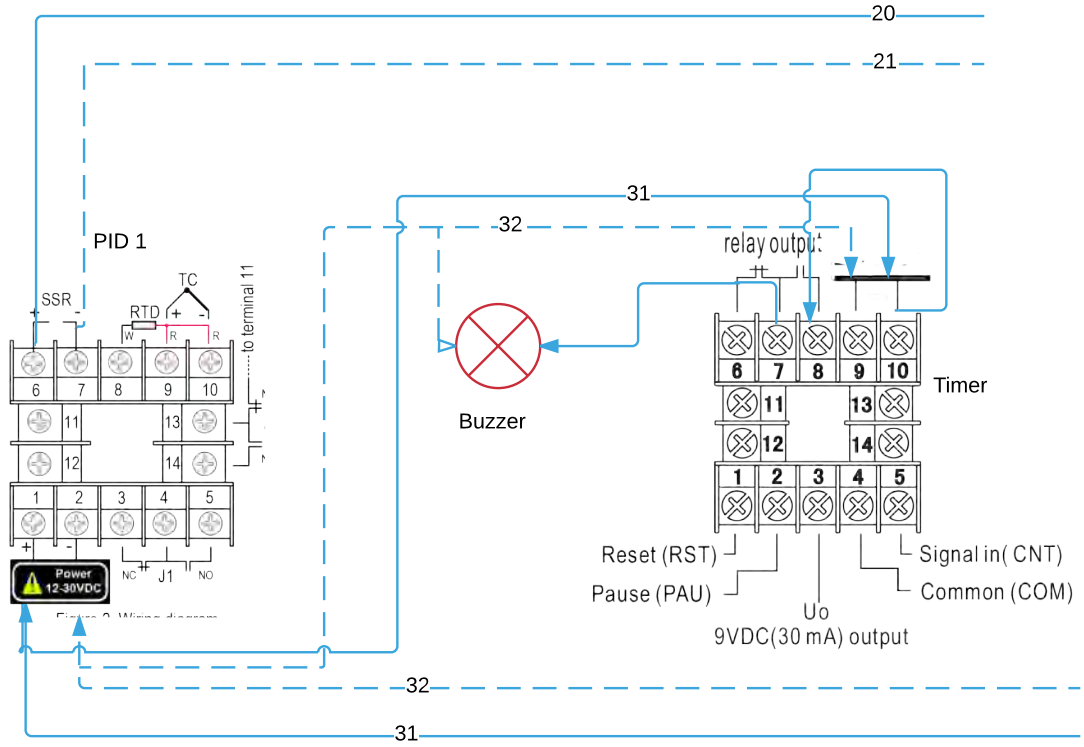
To Brew One batch of beer on our Dual system, during step 4 above you will split the grains for your recipe between the 2 mash baskets. You do not need to evenly split the grain bill. You can fill one basket with base malt and the other with specialty grains with no adverse affects to your recipe.

For your mash period you will connect the main valve of **kettle 1** to the pump inlet and connect that to the top recirculation fitting of **kettle 2**, and the main valve of **kettle 2** to its pump inlet and out to the top recirculation port of **kettle 1** forming a cross recirculation between the kettles. At the end of the mash period you will have wort that is the same consistency and gravity in both kettles.

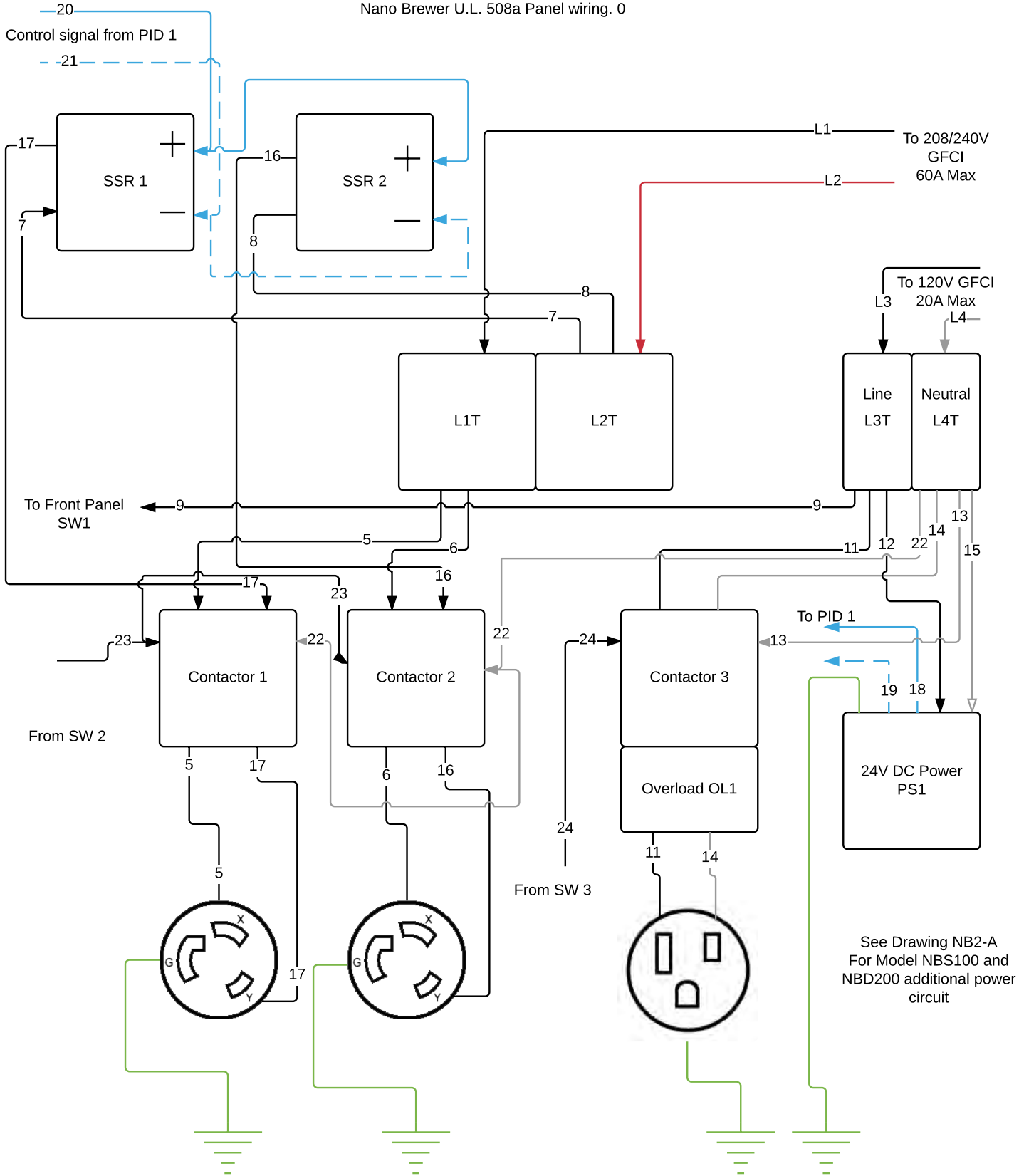
All other steps remain the same.

Notes;

Nano-Brewer Control Circuit Wiring



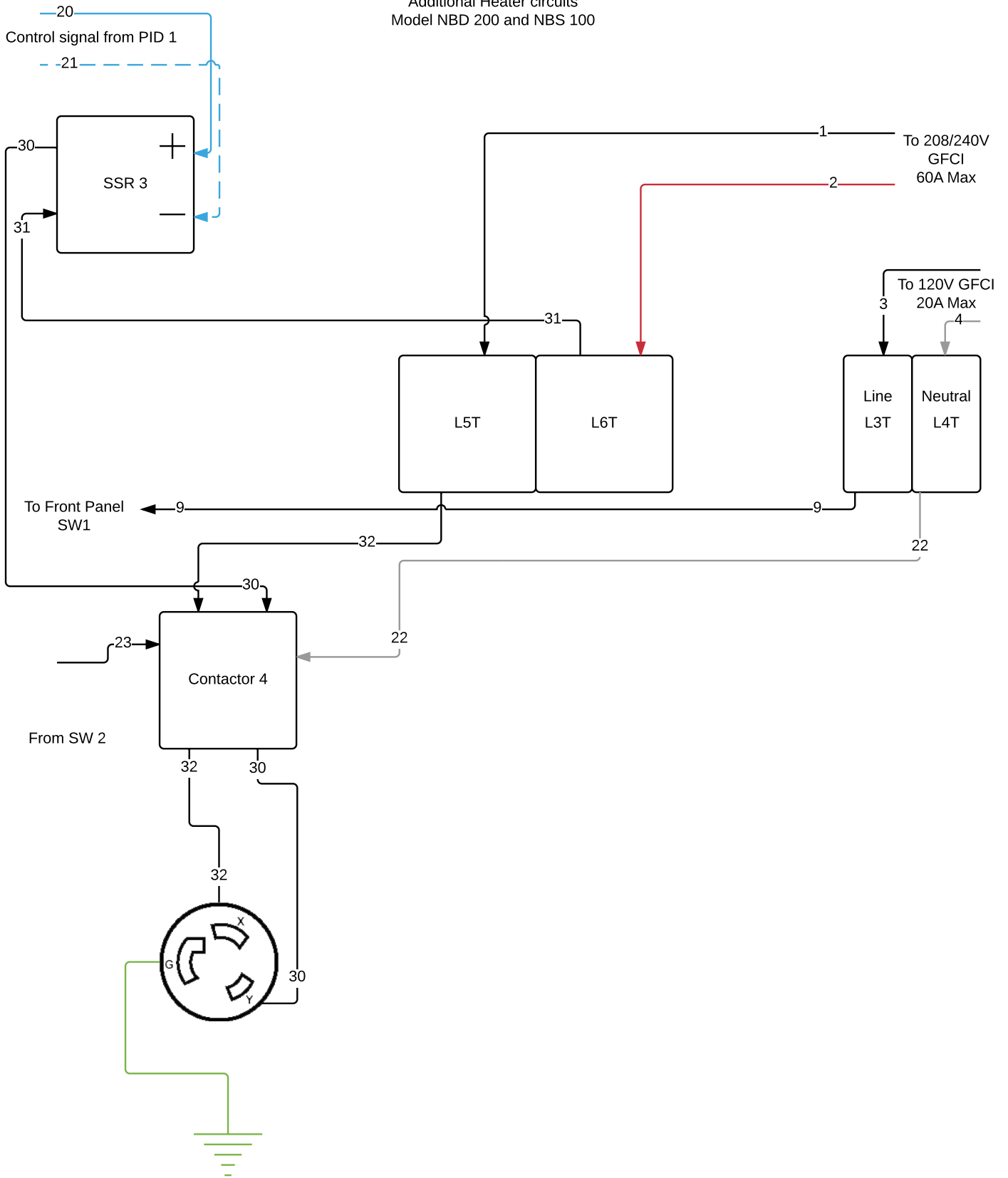
Nano Brewer U.L. 508a Panel wiring. 0



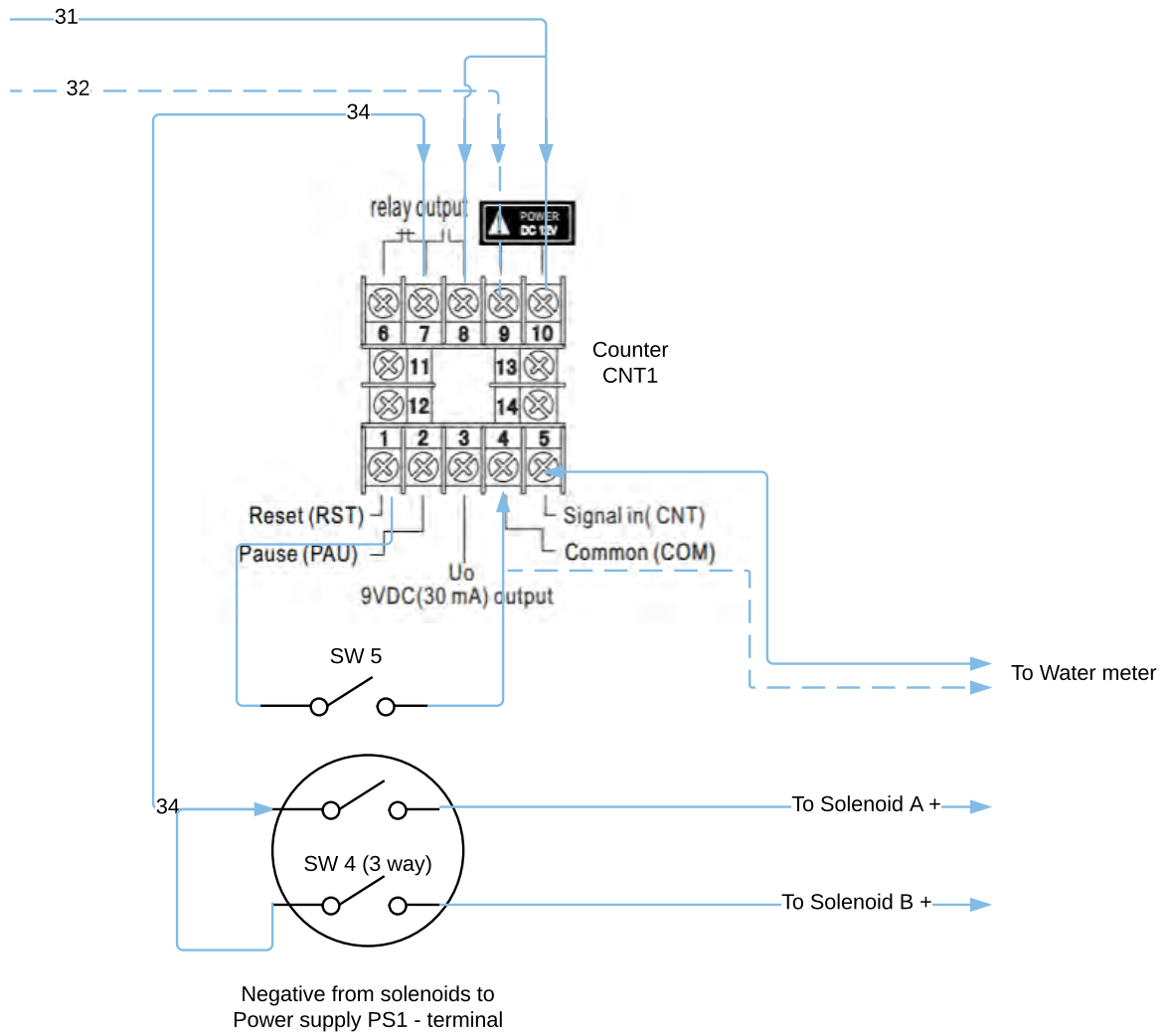
Colorado Brewing Systems

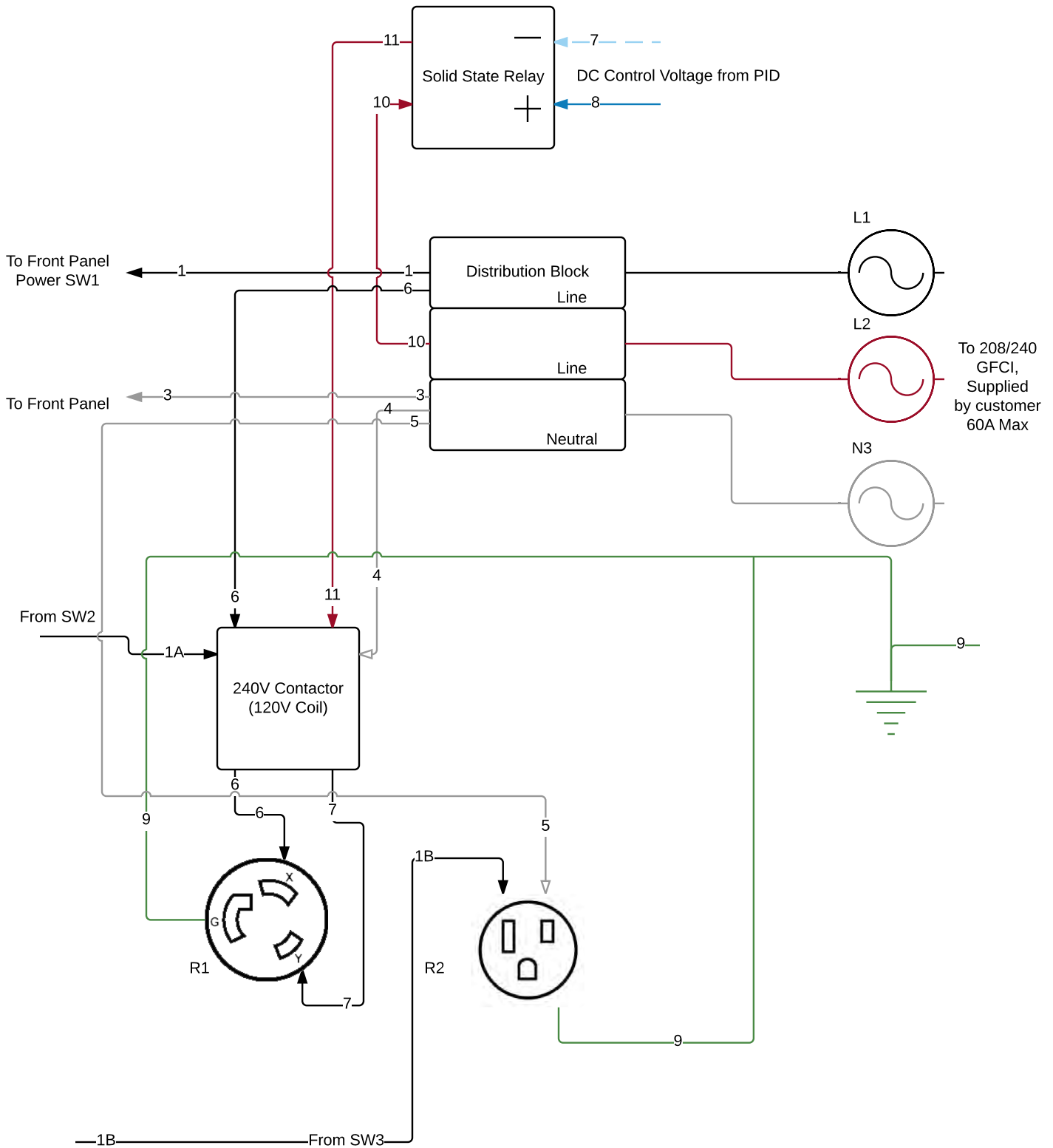
Colorado Brewing Systems, LLC.
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 Nano-Brewer System Control
 Schematic # NB3 Rev. 2
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Additional Heater circuits
Model NBD 200 and NBS 100

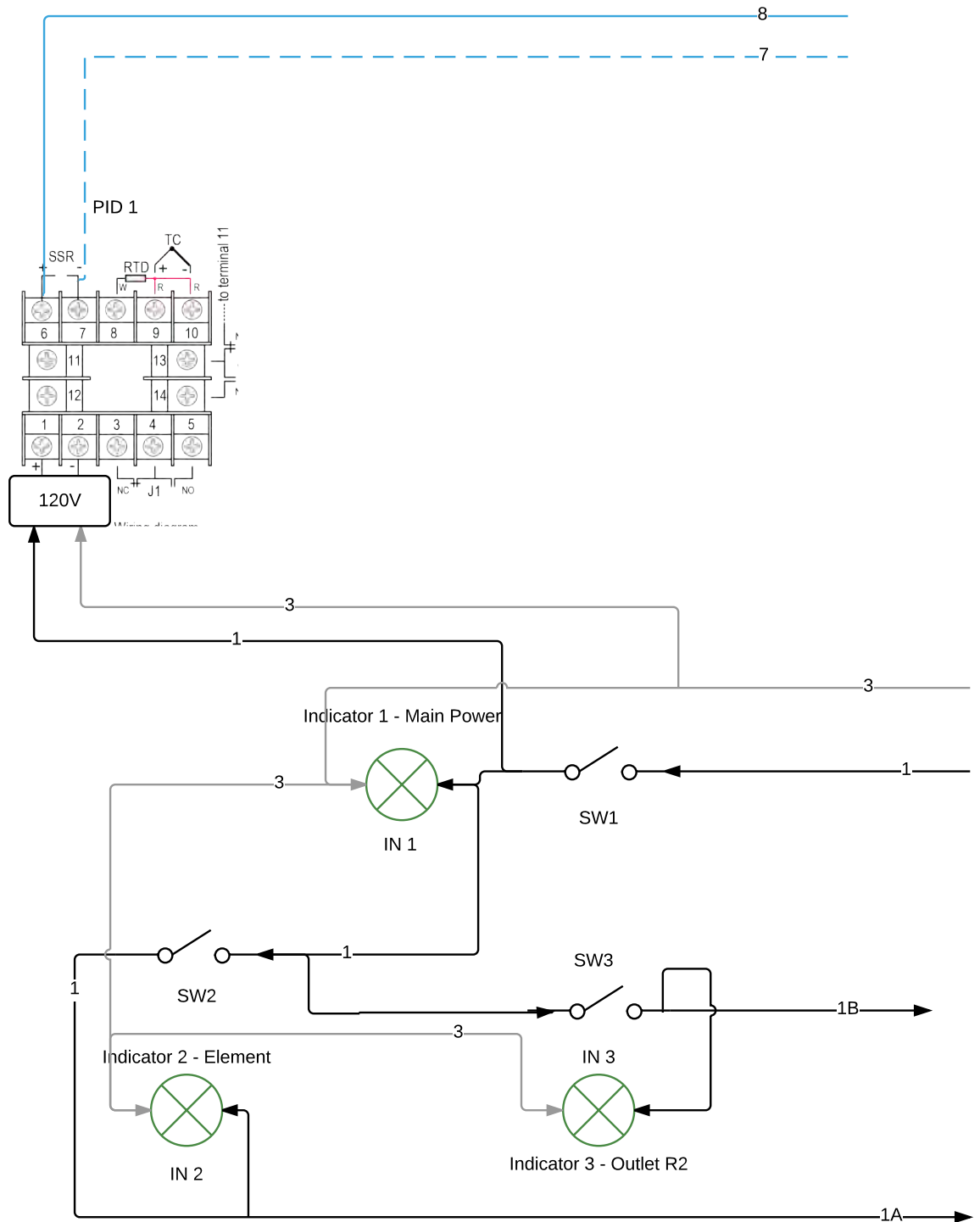


Nano Brewer Flow control





Nao Brewer Home front panel



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 NBH rev. 01
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