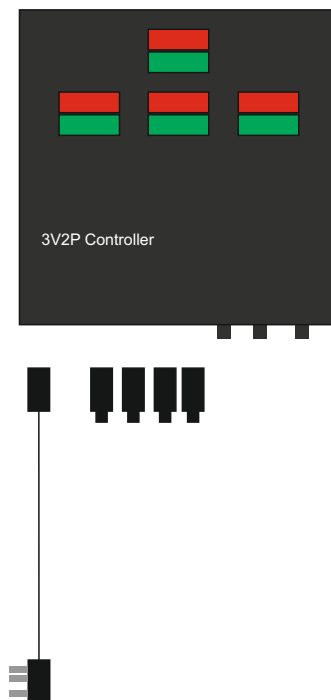# EINBREW 3V2P (16A) What you get.

3V2P Controller

1 x Control Panel wall mountable.
1 x IEC C19 power input lead for controller.
2 x IEC C14 power output plugs for pumps.
2 x IEC C20 power output plugs for elements.
3 x PT100 temperature sensors with leads and 'flight connectors'.
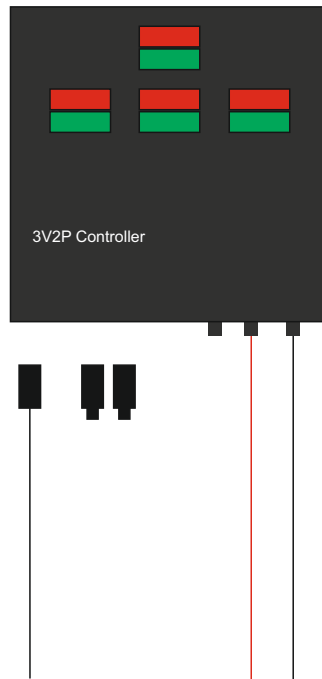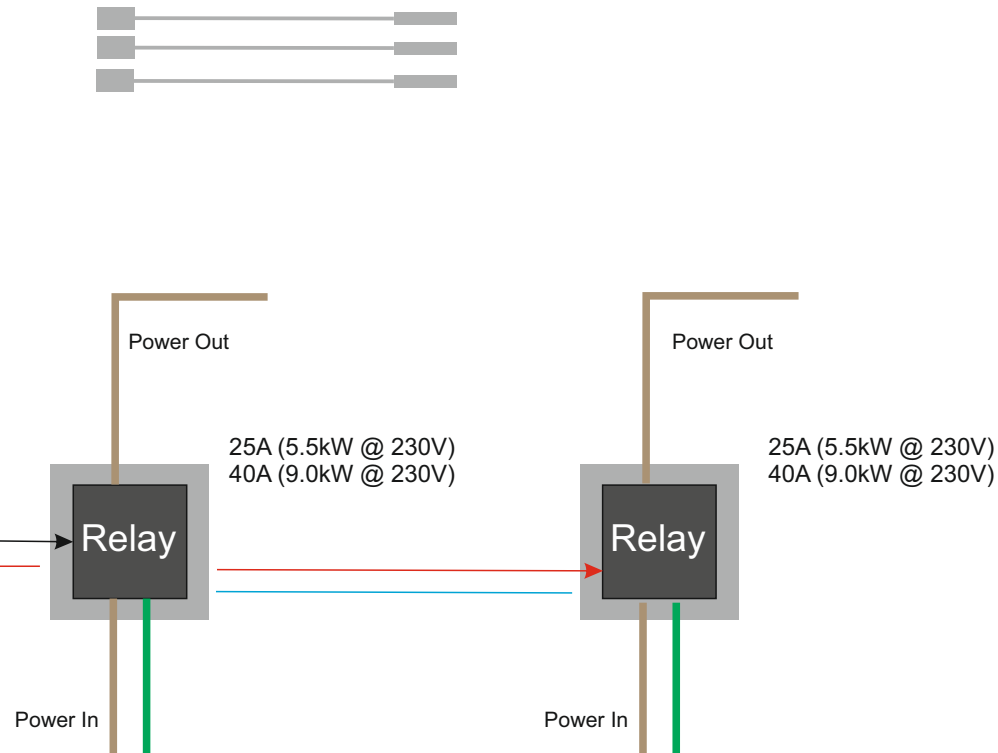1 x User guide.

EINBREW 3V2P (25A or 40A) What you get.

3V2P Controller

1 x Control Panel wall mountable.
1 x IEC C19 power input lead for controller.
2 x IEC C14 power output plugs for pumps.
3 x PT100 temperature sensors with leads and 'flight connectors'.
2 x 25A or 40A Relays with 4mm^2 or 6mm^2 Live & Earth, control signal leads, heatsinks and covers.
1 x User guide.

Power Out

Power Out

25A (5.5kW @ 230V)
40A (9.0kW @ 230V)

25A (5.5kW @ 230V)
40A (9.0kW @ 230V)

Relay

Relay

Power In

Power In

EINBREW 3V2P Control Panel General Information.

The 3V2P is 3 interconnected controllers, an HLT controller, an MT controller and a BK controller. The 3V2P is designed to work where you may have a limit on the supply current. The panel is designed to only ever use one element at a time, it will never power both elements simultaneously!

The displays on the left show the HLT vessel status, it uses the temperature from the HLT probe and controls the relay output to that vessel. Pump 1 output is designed to control the circulation through a HERMS or RIMS heater or coil to the MT, mash tun.

The top middle screen is displays timer information for the active vessel.

The middle lower display shows information for the MT. It also controls the heat to the HLT, but uses the MT probe to measure the temperature. The MT controller controls pump 1, to facilitate grain resting. Pump 1 is more closely tied to the MT controller, pump 1 will be stopped by the controller if you stop or pause the MT controller, if you subsequently restart the MT controller pump 2 must be manually started. The controller will not initially start pump 1, it will however turn it off and on for grain resting, should you have originally started it.

The right display is the BK status it uses the temperature from the BK probe and controls the BK heating output. Pump 2 is loosely tied to the BK controller, pump 2 will be stopped by the controller if you stop or pause the BK controller, if you subsequently restart the BK controller pump 2 must be manually started. It will also be stopped at the end of the cooling stage (when set temperature is reached).
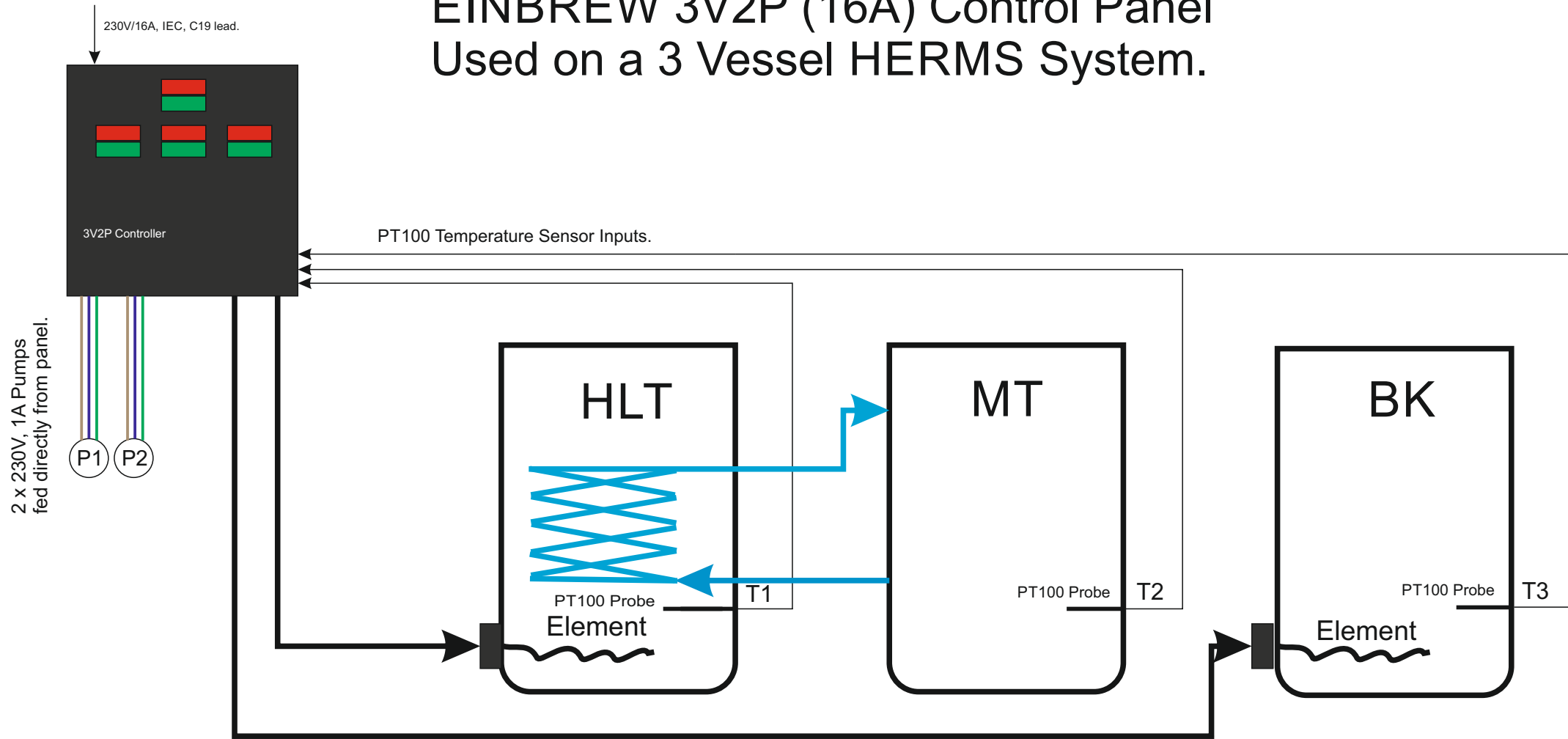
Pumps can be started and stopped at any time from their respective buttons. Pumps are all subject to the set max pump run temperature.

Systems with heat exchange components, particularly HERMS coil systems can be subject to temperature overshoots, due to the time lag inherent in these types of systems. Ensure the pump rate is high, MT temperature probe is positioned to very near the in-flow from the coil. Where possible, use a pump to mix the contents of the HLT. Ensure large water volume in the HLT to submerge the coil, keep the lid on at all times.

In RIMS systems, the MT temperature probe must be positioned on the out-flow of the RIMS heater; good circulation must be ensured at all times. When the 3V2P performs a grain rest, the RIMS heater Or any heater controlled by the MT controller is turned off in advance of pump 1 being turned off, this it to dissipate any latent heat in the RIMS element, likewise the heater will only come on after the pump venting has finished.

The BK controller has automatic 'Boil Detect', which senses the wort boiling and ramps the power down to a simmer, to stop boiling over. You can then adjust the set power manually. For Boil Detect to work consistently we advise the pump to be turned off at 93C and the lid to be kept on the BK until the controller has alarmed that the boil has been detected. Note there is a pre-boil alarm at 95C, this is simply to alert you that the boil is getting close.

EINBREW 3V2P (16A) Control Panel
Used on a 3 Vessel HERMS System.

230V/16A, IEC, C19 lead.

3V2P Controller

PT100 Temperature Sensor Inputs.

2 x 230V, 1A Pumps fed directly from panel.

P1 P2

HLT

MT

BK

PT100 Probe

Element

T1

PT100 Probe

T2

PT100 Probe

Element

T3

Probe T1 is used to control the temperature of the strike water, which will generally be hotter than the mash-in temperature because of the heat exchanger in a HERMS system and the thermal mass of the grain. Once you move to mash-in and mashing it is no longer used.

Probe T2 is used for the control of the whole mashing stage until you move to boil, as which time it is no longer used.

Probe T3 is only used during the boiling and cooling stages.

EINBREW 3V2P (16A) Control Panel Used on a 2 Vessel System.

230V/16A, IEC, C19 lead.

3V2P Controller

PT100 Temperature Sensor Inputs, HLT probe not used.

2 x 230V, 1A Pumps fed directly from panel.

P1 P2

MT

BK

PT100 Probe T2
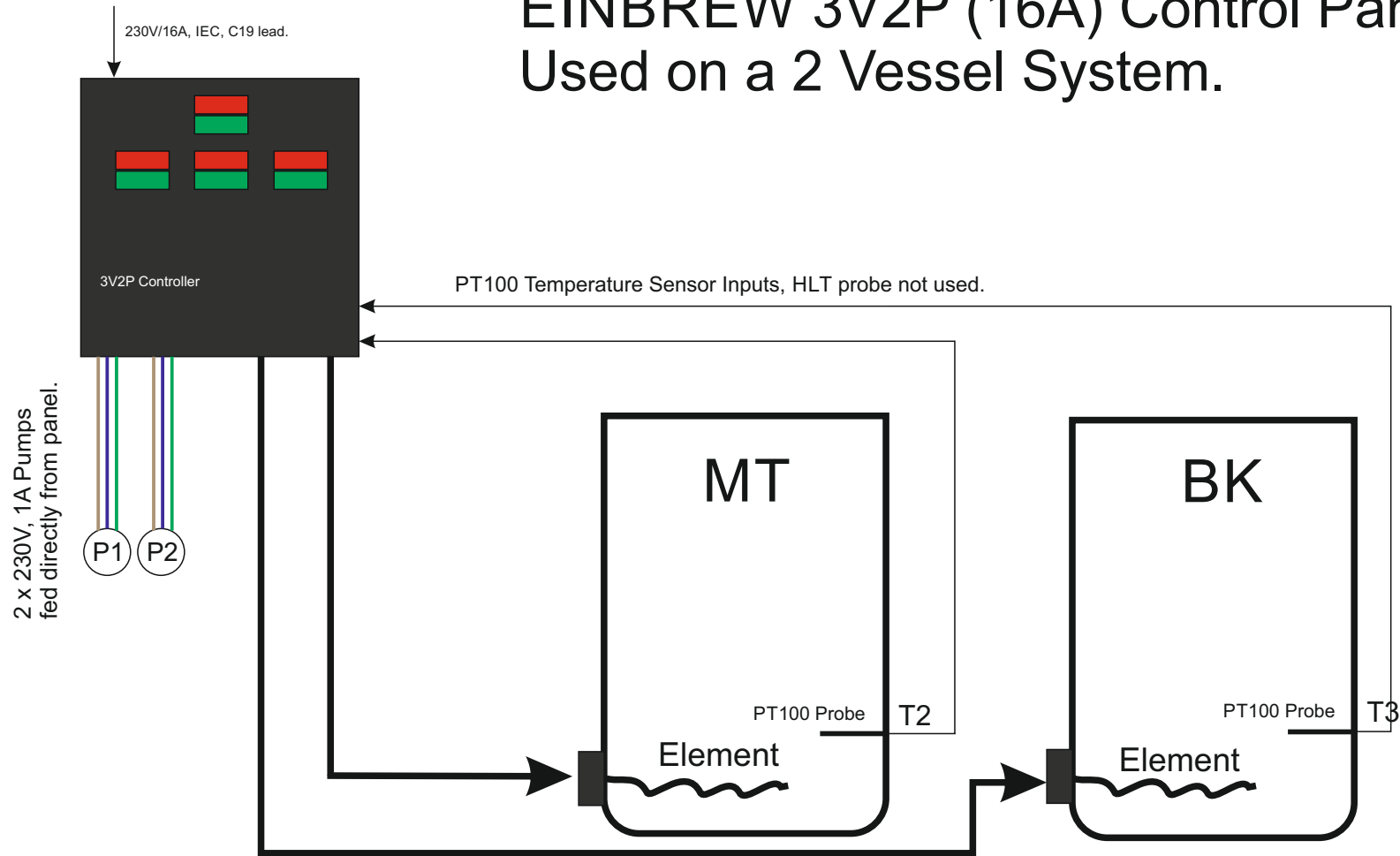
PT100 Probe T3

Element

Element

Temperature probe T1 is (only) used to control the temperature of the strike water, which will generally be hotter than the mash-in temperature because of the thermal mass of the grain. Once you move to mash-in and mashing it is no longer used. You can either install probe T1 in the vessel you will use to preheat the strike water or omit T1 and swap the connections on the existing probe in that vessel for the preheat stage. For example, if you want to use MT for preheat of the strike water, then temporarily connect probe T2 to the HLT input for the preheat stage, swapping it back for mashing.

Alternatively you can omit the preheat stage and set mash step 1 to the strike temperature.
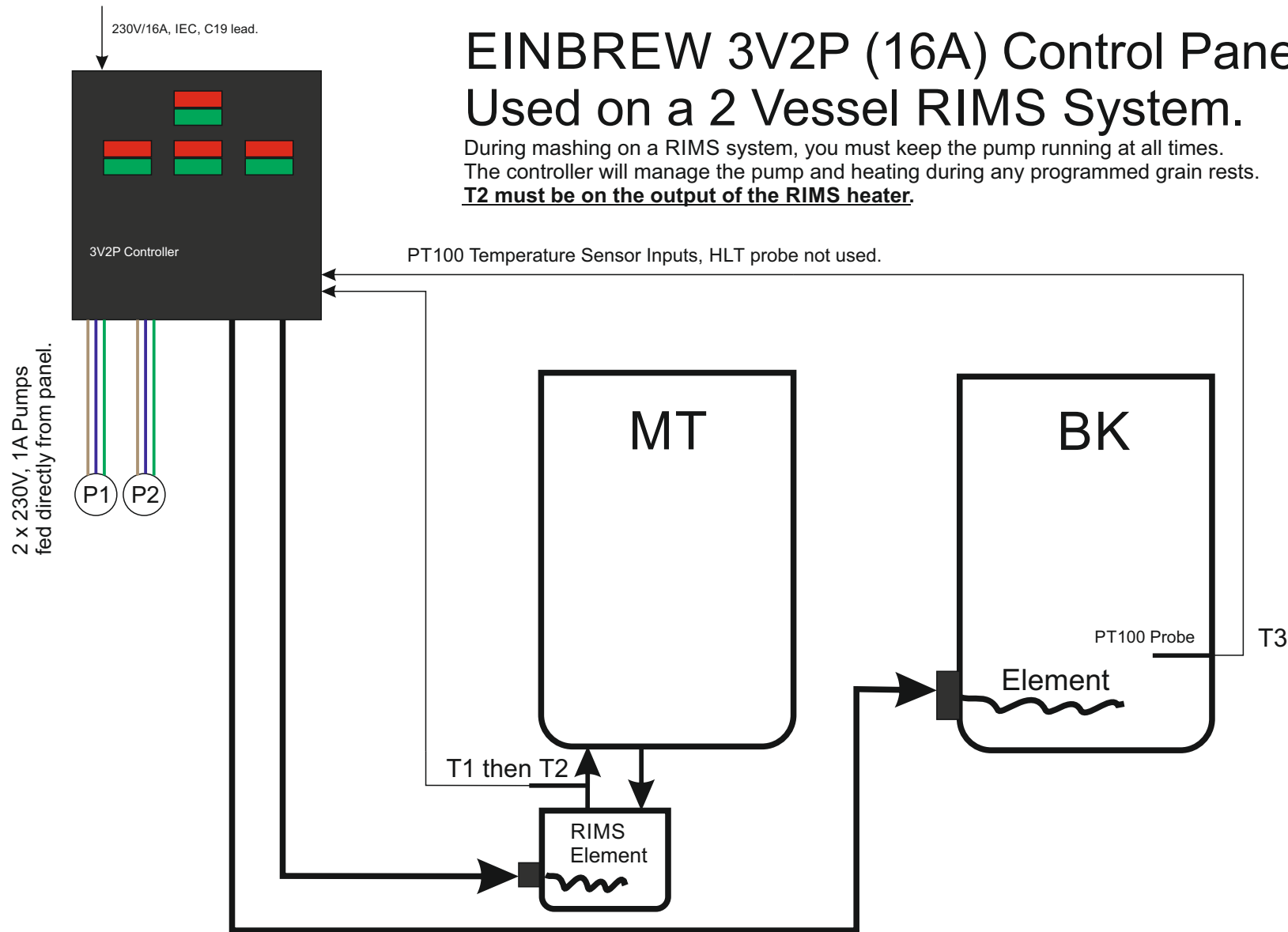
Probe T2 is used for the control of the whole mashing stage until you move to boil, as which time it is no longer used.

Probe T3 is only used during the boiling and cooling stages.

5

EINBREW 3V2P (16A) Control Panel Used on a 2 Vessel RIMS System.

During mashing on a RIMS system, you must keep the pump running at all times.
The controller will manage the pump and heating during any programmed grain rests.
T2 must be on the output of the RIMS heater.

230V/16A, IEC, C19 lead.

3V2P Controller

2 x 230V, 1A Pumps fed directly from panel.

P1 P2

PT100 Temperature Sensor Inputs, HLT probe not used.

MT

BK

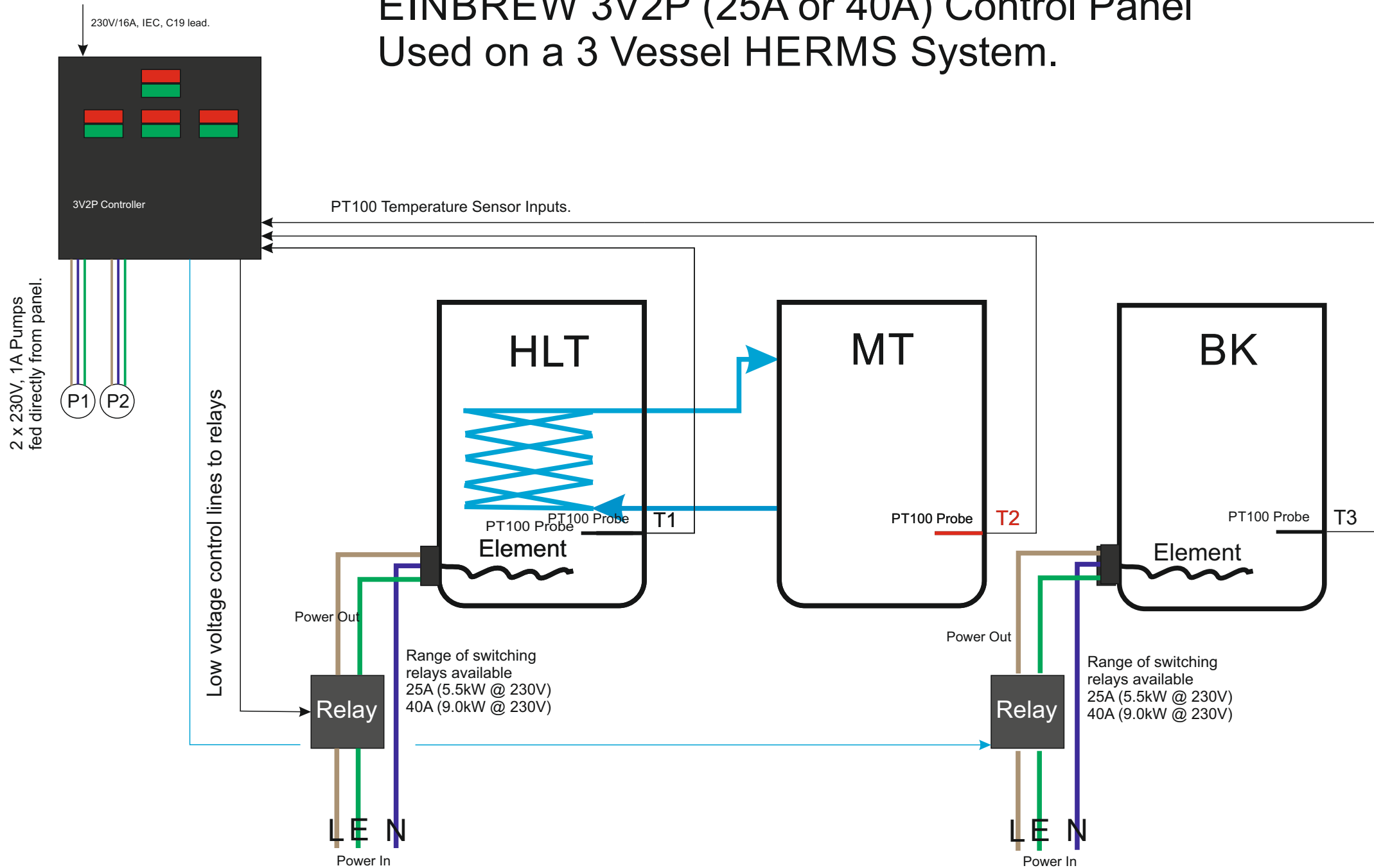PT100 Probe

T3

Element

T1 then T2

RIMS Element

Temperature probe T1 is only used to control the temperature of the strike water, which will generally be hotter than the mash-in temperature because of the thermal mass of the grain, this will lower the water temperature when the grain is added. Once you move to mash-in and mashing T1 is no longer used. You can either place the probe T1 in the vessel you will use to preheat the strike water or swap the inputs to the controller for T1 for T2. Probe T2 is used to control mashing and T3 is used to control the boil.
For a RIMS, immediately after mash-in, swap the T1 connection to the T2 connection on the controller and move to the mash stage on the controller 9which will use T2.

Alternatively you can omit the preheat stage and set mash step 1 to the strike temperature.

6

230V/16A, IEC, C19 lead.

3V2P Controller

PT100 Temperature Sensor Inputs.

2 x 230V, 1A Pumps
fed directly from panel.

(P1) (P2)

Low voltage control lines to relays

HLT

MT

BK

PT100 Probe   T1
PT100 Probe
Element

PT100 Probe   T2

PT100 Probe   T3
Element

Power Out

Power Out

Relay

Relay

Range of switching
relays available
25A (5.5kW @ 230V)
40A (9.0kW @ 230V)

Range of switching
relays available
25A (5.5kW @ 230V)
40A (9.0kW @ 230V)

L E N

L E N

Power In

Power In

Separate 220-240Vac, supply to each relay & element.

7

EINBREW 3V2P (25A or 40A) Control Panel Used on a 2 Vessel System.

230V/16A, IEC, C19 lead.

3V2P Controller

PT100 Temperature Sensor Inputs, HLT probe not used.

2 x 230V, 1A Pumps fed directly from panel.

P1 P2

MT

BK

PT100 Probe   T2

PT100 Probe   T3

Element

Element

Power Out

Power Out

Relay

Range of switching relays available
25A (5.5kW @ 230V)
40A (9.0kW @ 230V)

Relay

Range of switching relays available
25A (5.5kW @ 230V)
40A (9.0kW @ 230V)

L E N

L E N

Power In

Power In