

Voltage Change Procedure with DEC 4000 & Without a Voltage Selector Switch (500REOZT) TP-6860 2/17a

The DEC 4000 configuration files for 208 VAC or 480 VAC will need to be loaded into the DEC 4000 first before attempting this change. If you are not certain of what parameters are set in your DEC 4000 configuration files, please follow the download procedure in TP-7080 to extract all configuration files. Once you have these configuration files, please place them in a zipped (compressed) format and email or use a file transfer site send to: generatorfieldservice@kohler.com

Our service department can review the parameters in these configuration files and modify as needed for your voltage output application. After you have confirmed or received the configuration files for the applicable voltage operation, please follow the upload procedure in TP-7080. Also reference wiring diagram manual TP-6898. **Note: Save a copy of each profile for specific voltage operation (480 or 208 VAC). You will need to upload the specific profile for either 480 VAC or 208 VAC after reconnection is performed.**

Change from 208 VAC to 480 VAC

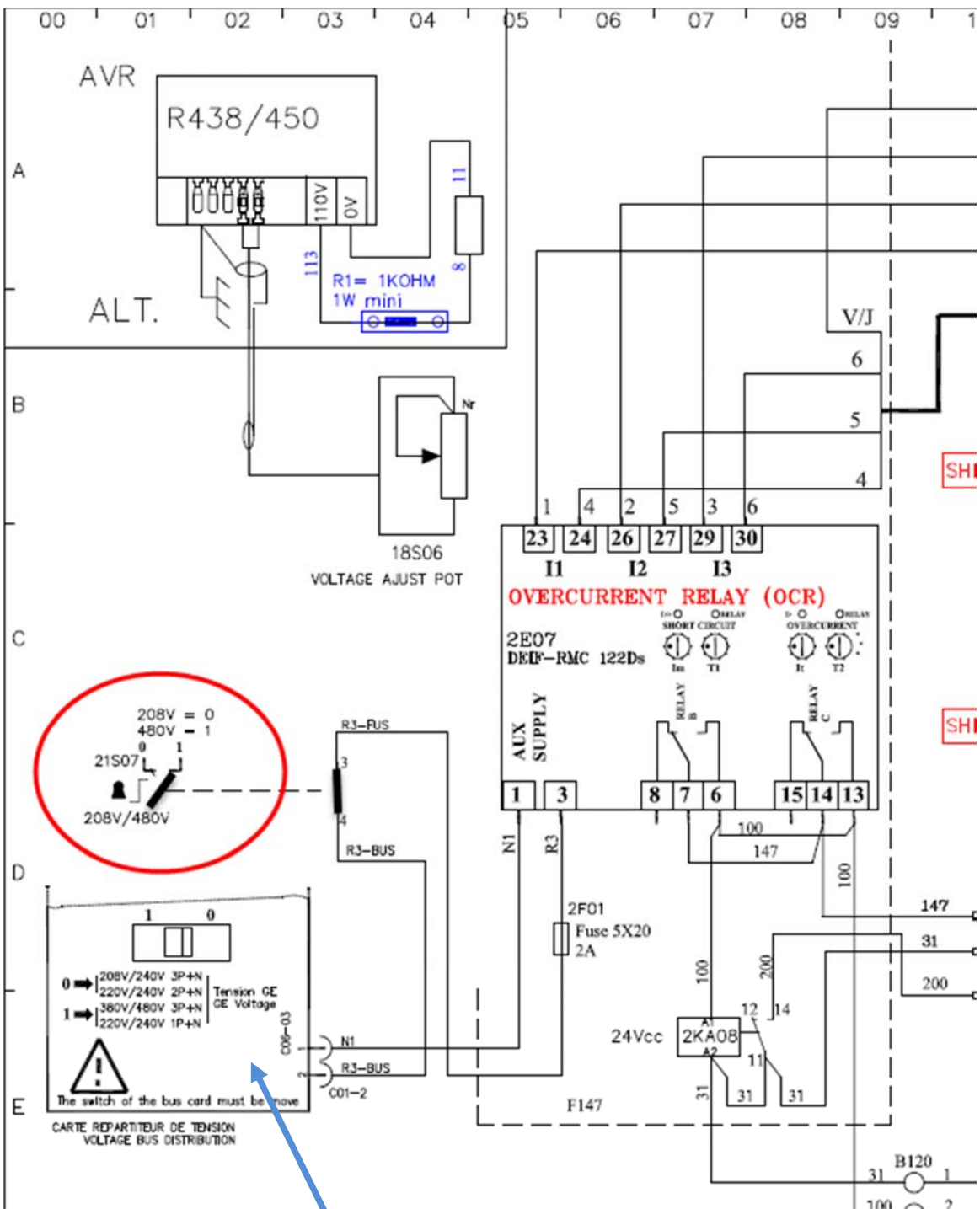
- The emergency stop button must be engaged.
- Move the key switch located beside the DEC 4000 panel to the 480 voltage position. This is the current sensing switch which enables the DEIF over current protection relay. **Note: Do not change the current sensing key switch position while the unit is running!**





Current Sensing Selector Switch in the 480 VAC position

- o In the diagram below, reference 21S07 on the “1” position. This is the current sensing switch which enables the DEIF over current protection relay. The purpose of the relay is to protect the generator against “overload.”



Note: The electrical schematic shows a dip switch “0/1” on the voltage distribution board which is no longer exists and has been replaced by the use of the jumpers. Please see next page.

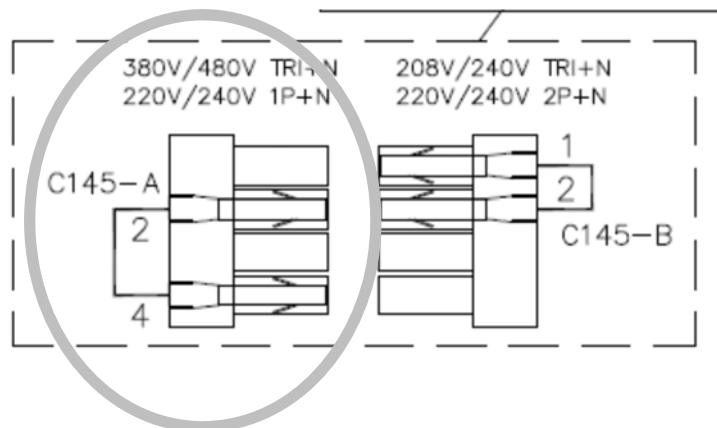
- Connect the jumper that is equipped with the “grey” wire at C145 of the voltage bus distribution board.



Voltage Bus Distributor Board

Note: The voltage bus distribution board has a connection labeled C145 with is used to select the AC supply.

- Jumper “grey” color when operating at 480 VAC
- Jumper “red” color when operating at 208 VAC



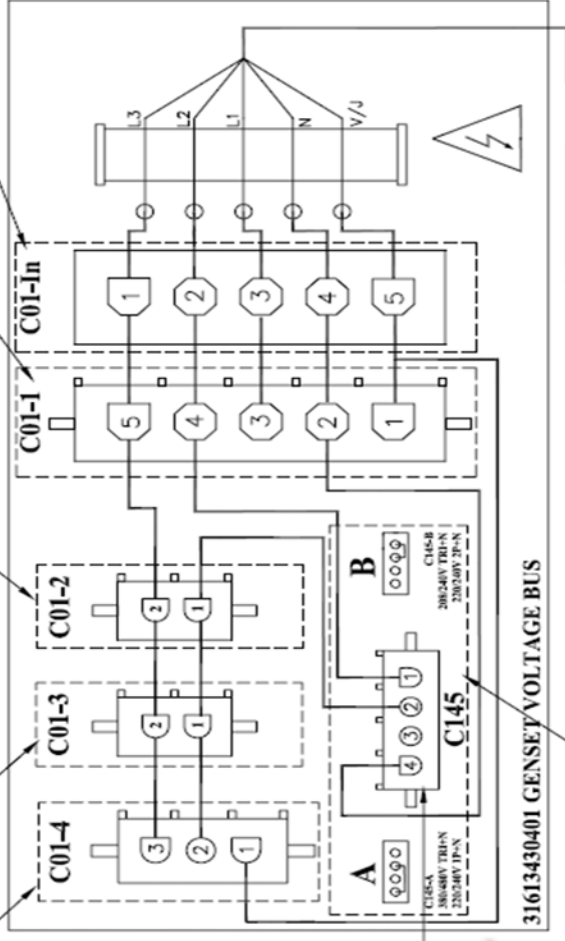
Optional output for supplemental electric fuel pump

Differential relay power supply

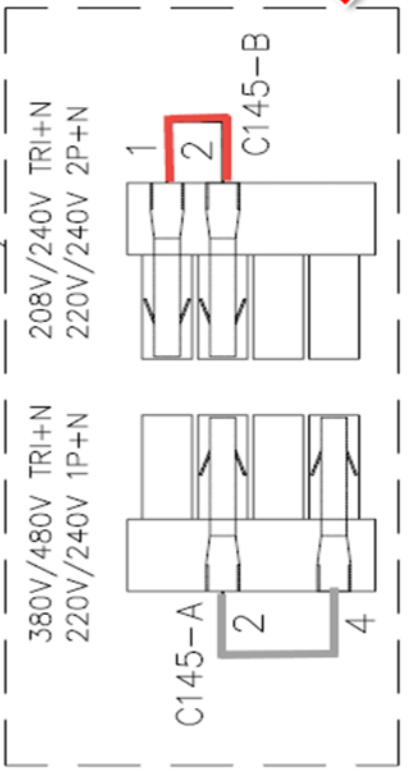
Optional power supply output for a motorized circuit breaker

Optional power supply output for a fuel cooler

AC sensing voltage input

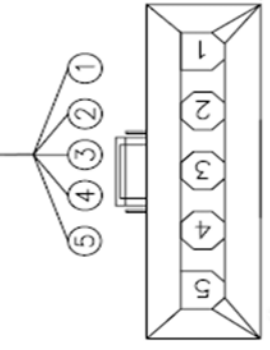


C145
AC sensing voltage input



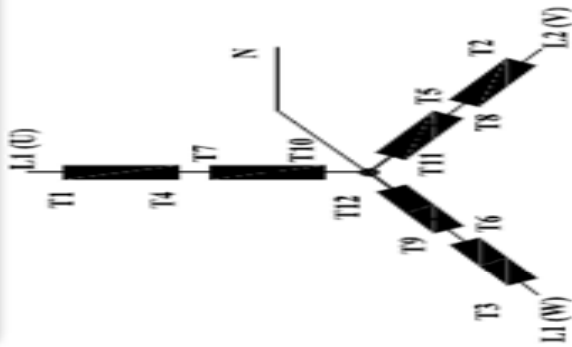
AC sensing voltage input jumpers

C01-Out
AC sensing voltage output from alternator

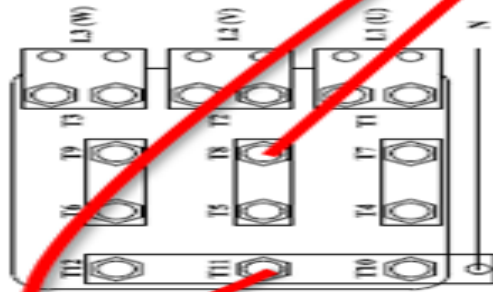


- o Manually reconnect the stator bus bars and AVR sensing leads for 480 VAC.

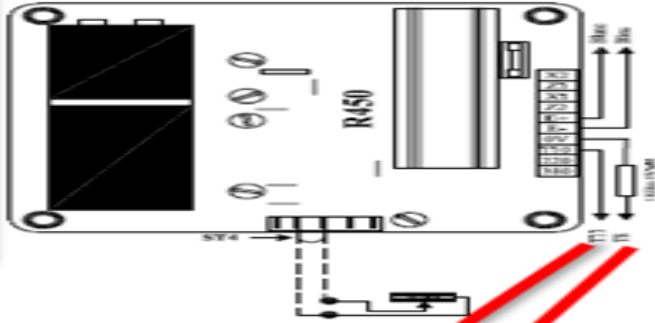
Voltage Connection Schematic



Stator Connection Illustration



AVR Type R450



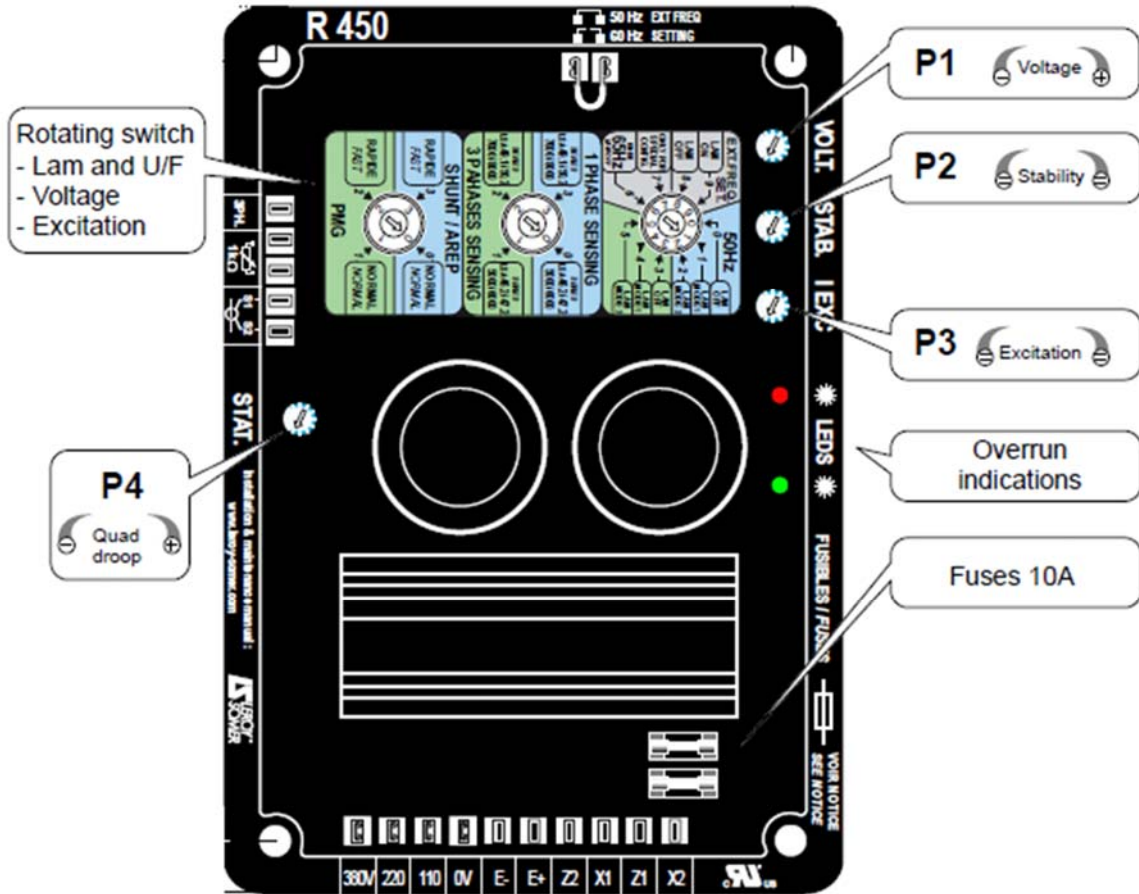
Voltage L-L



For 480 VAC Operation

It is important to make sure the sensing leads from the R450 AVR land on T8 and T11

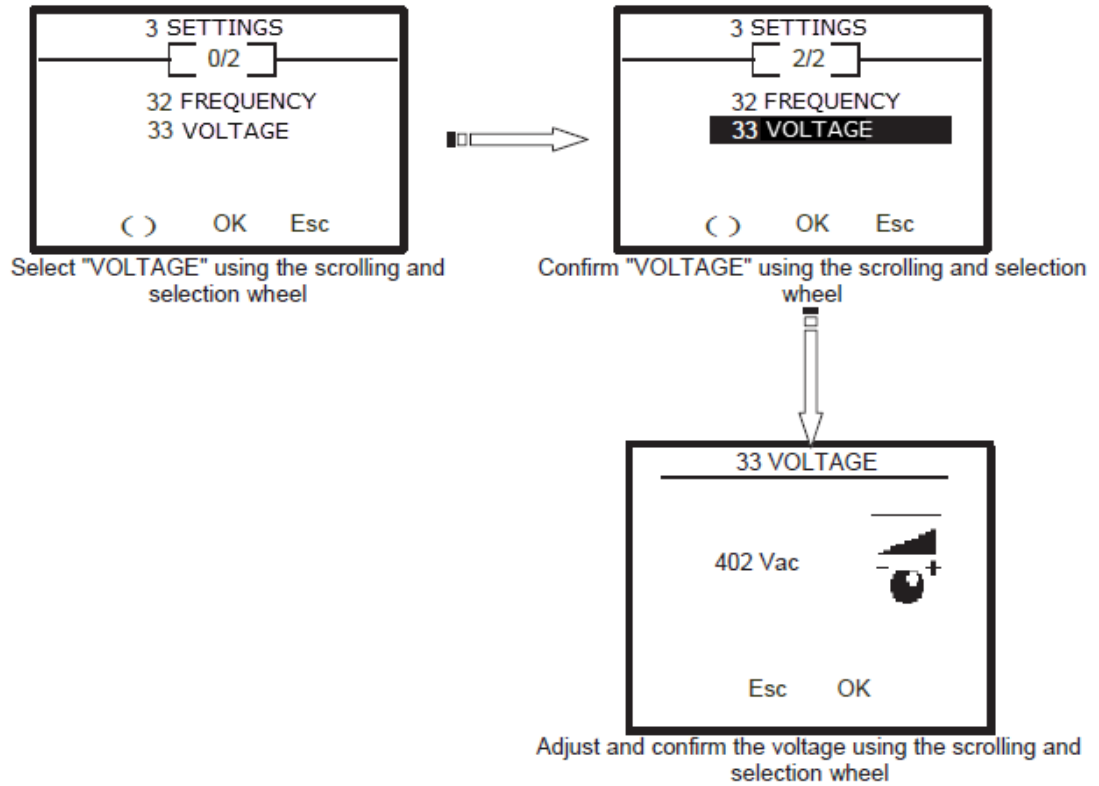
- Release the emergency stop button
- Manually start the generator and perform coarse voltage adjustments the alternator AVR to 480 VAC. Please reference AVR R450 information in 500REOZT Operations Manual TP-6665.



- Fine voltage adjustments can be performed from Menu 33 in the DEC 4000 if necessary. Please reference DEC 4000 User Manual TP-6934.

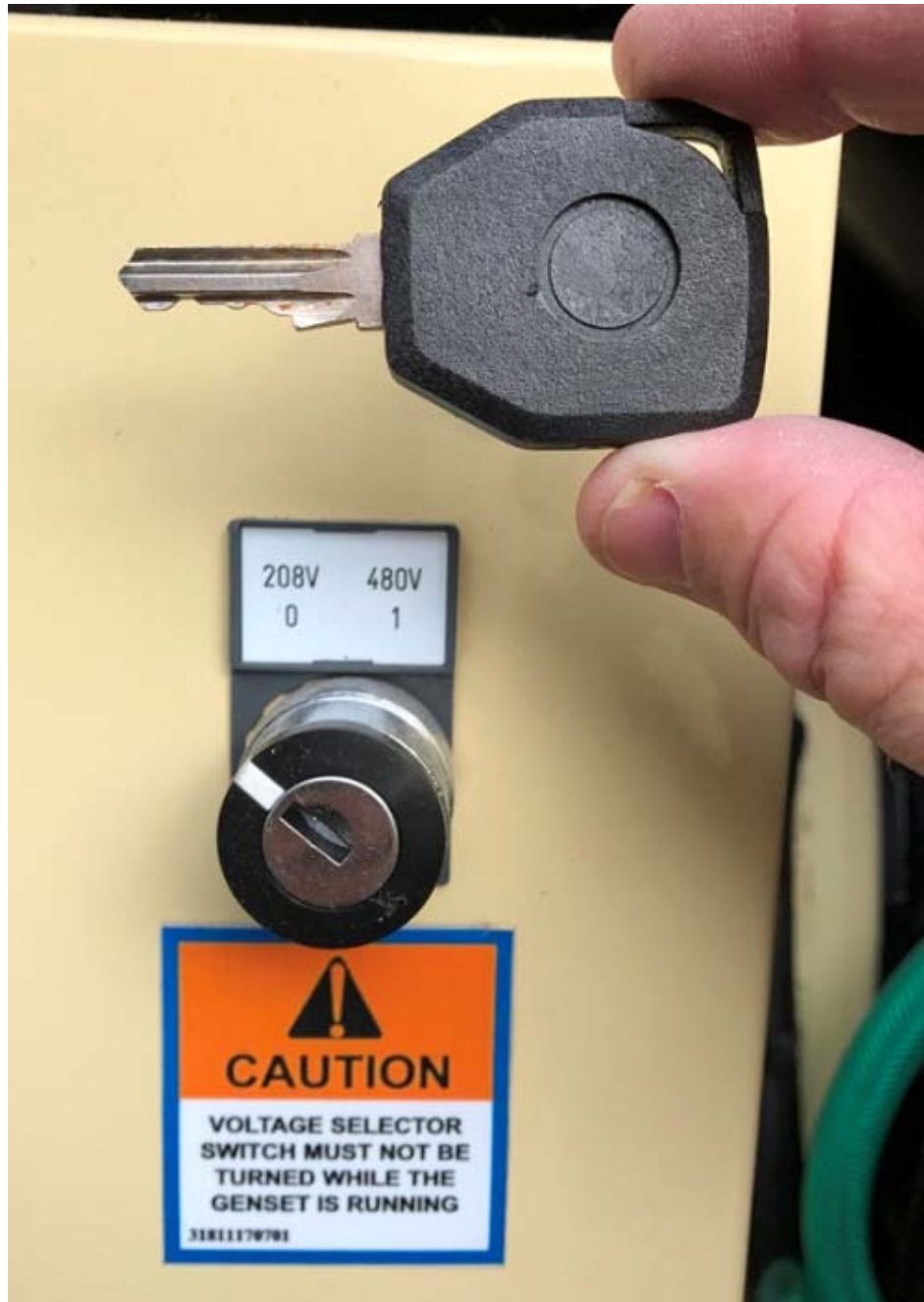
Voltage adjustment

This menu allows adjustment of the current voltage supplied by the generator set.
The menu tree is as follows:



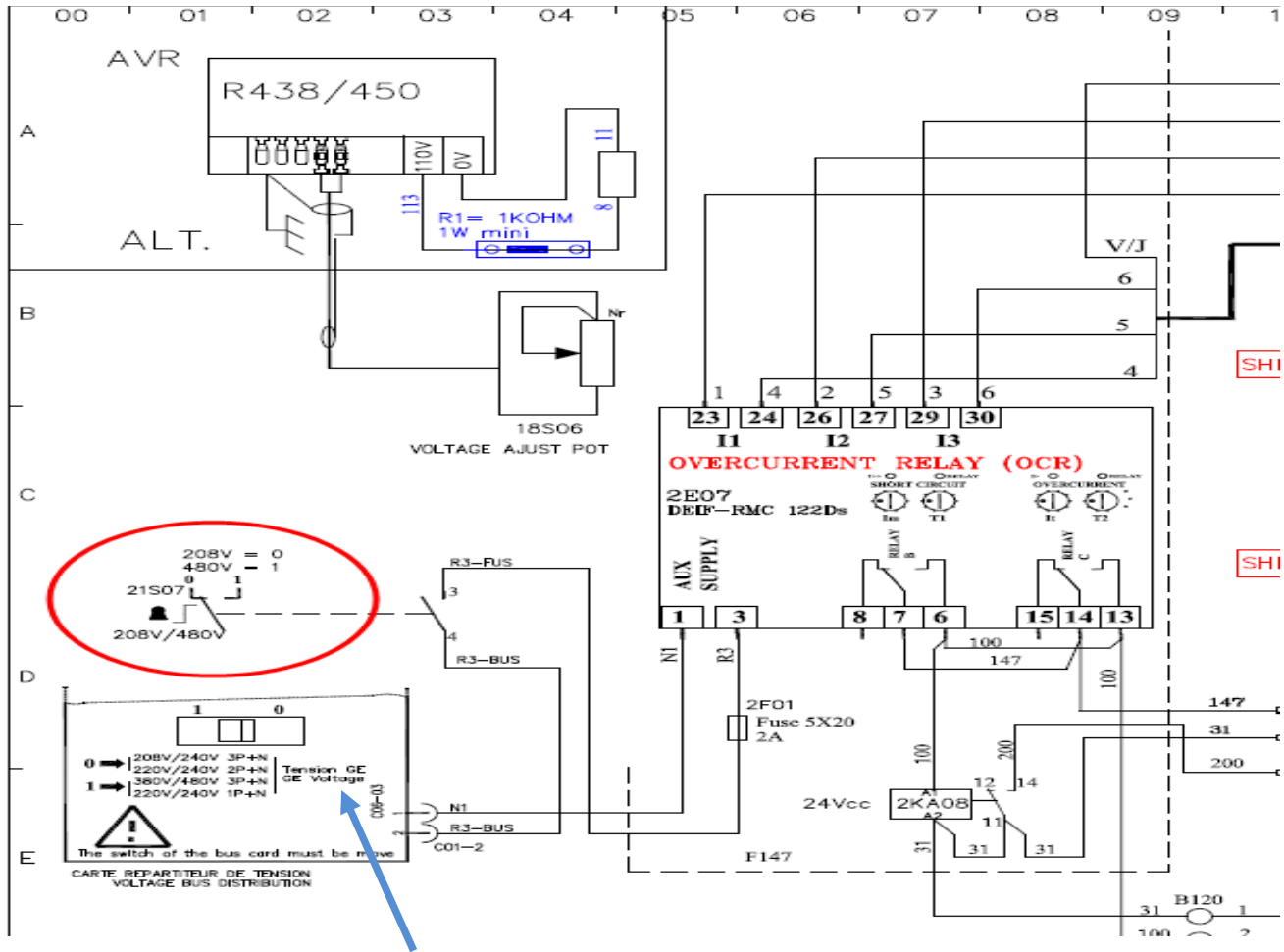
Change from 480VAC to 208VAC

- The emergency stop button must be engaged
- Move the key switch located beside the DEC 4000 panel to the 208 voltage position. This is the current sensing switch. **Note: Do not change the current sensing key switch position while the unit is running!**



Current Sensing Selector Switch in the 208 VAC position

- In the diagram below, reference 21S07 on the “0” position. For 208 VAC operation, the overload protection is carried out by the alternator output breaker.



Note: The electrical schematic shows a dip switch “0/1” on the voltage distribution board which is no longer exists and has been replaced by the use of the jumpers. Please see next page.

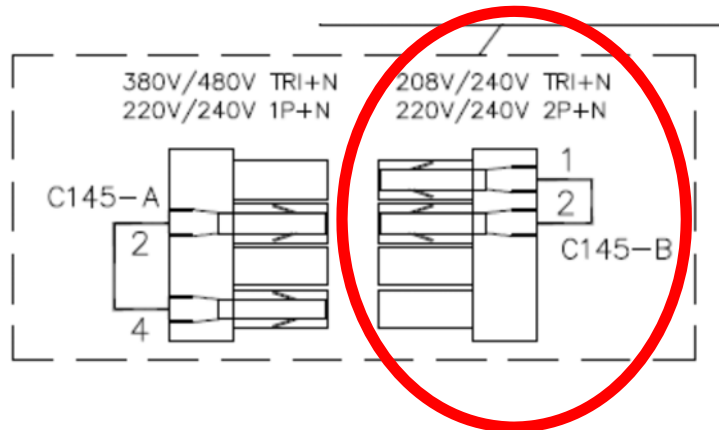
- Connect the jumper that is equipped with a “red” wire at C145 of the voltage bus distribution board.

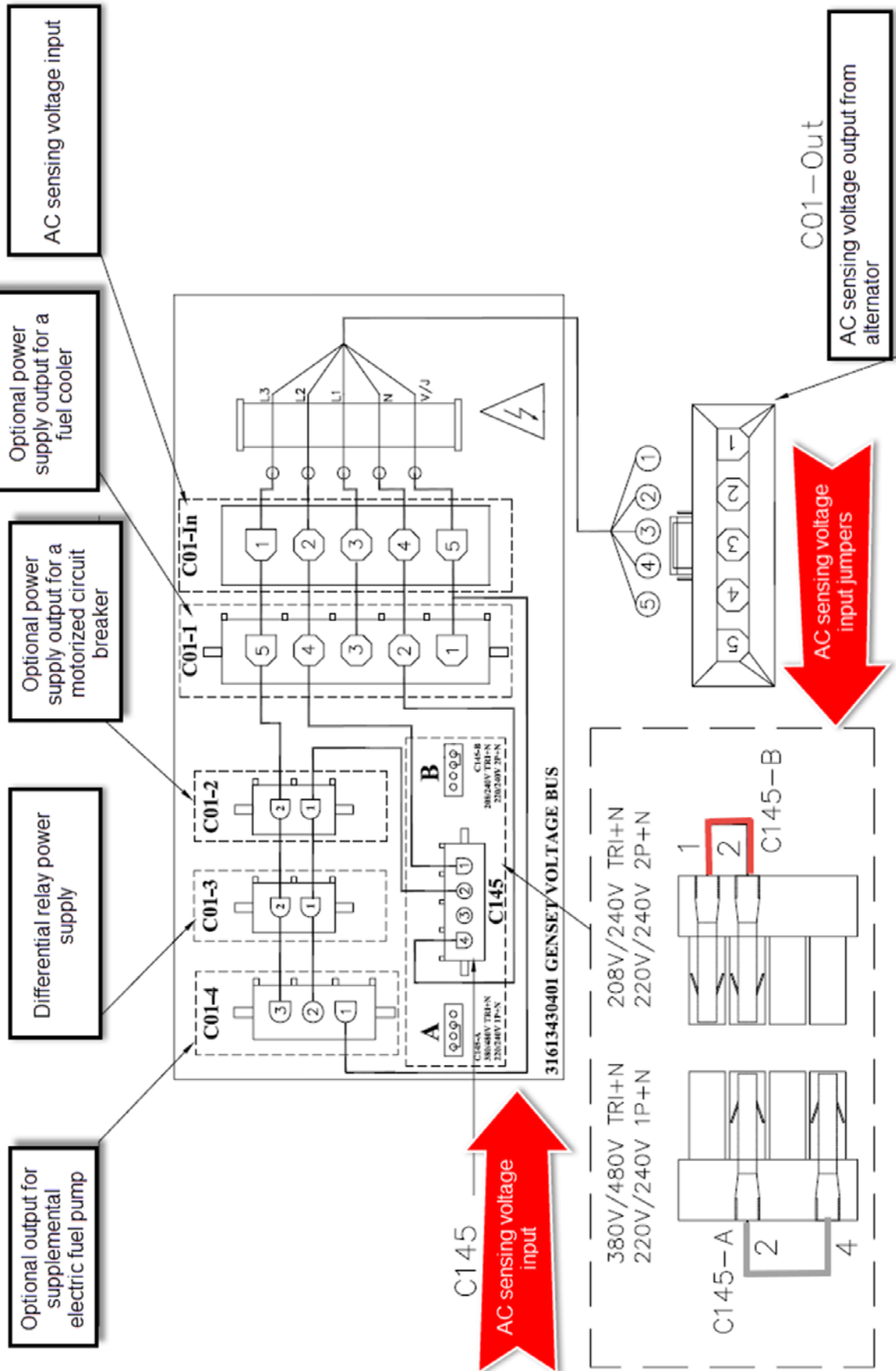


Voltage Bus Distributor Board

Note: The voltage bus distribution board has a connection labeled C145 with is used to select the AC supply.

- Jumper “grey” color when operating at 480 VAC
- Jumper “red” color when operating at 208 VAC





Optional output for supplemental electric fuel pump

Differential relay power supply

Optional power supply output for a motorized circuit breaker

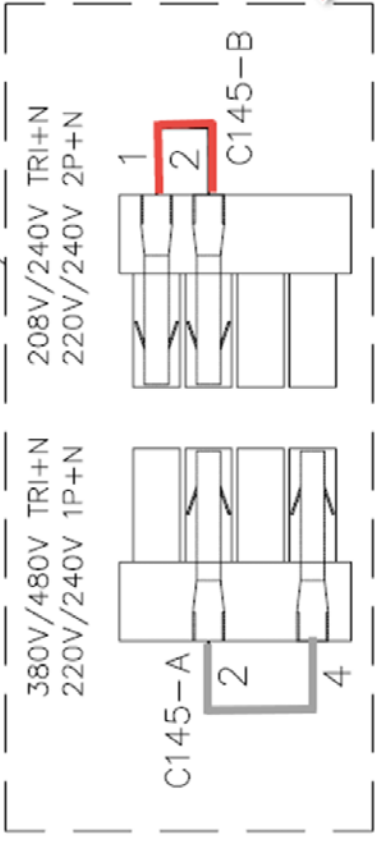
Optional power supply output for a fuel cooler

AC sensing voltage input

C145
AC sensing voltage input

AC sensing voltage input jumpers

C01-Out
AC sensing voltage output from alternator

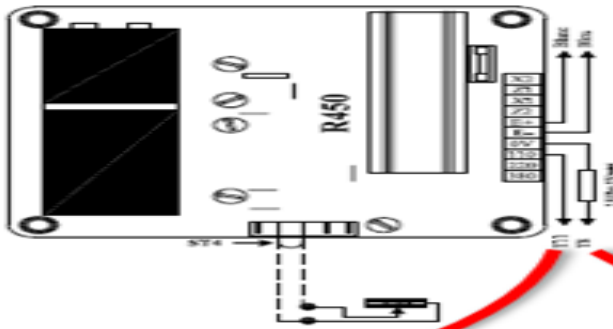


- o Manually reconnect the stator bus bars and AVR sensing leads for 208 VAC.

Voltage L-L

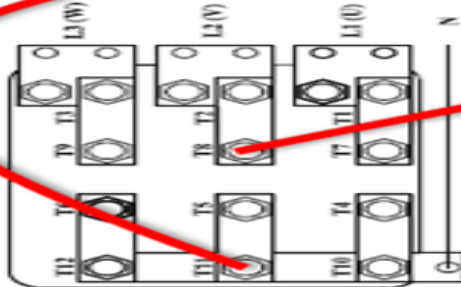


AVR Type R450

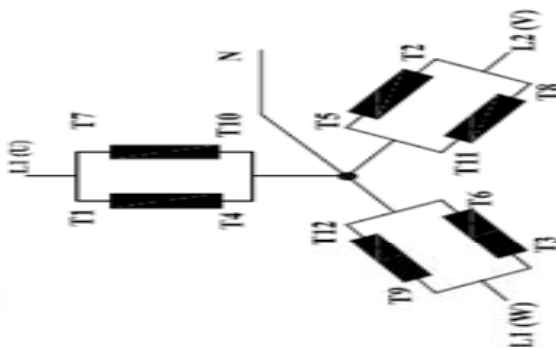


For 208 VAC or 240 VAC operation

Stator Connection Illustration

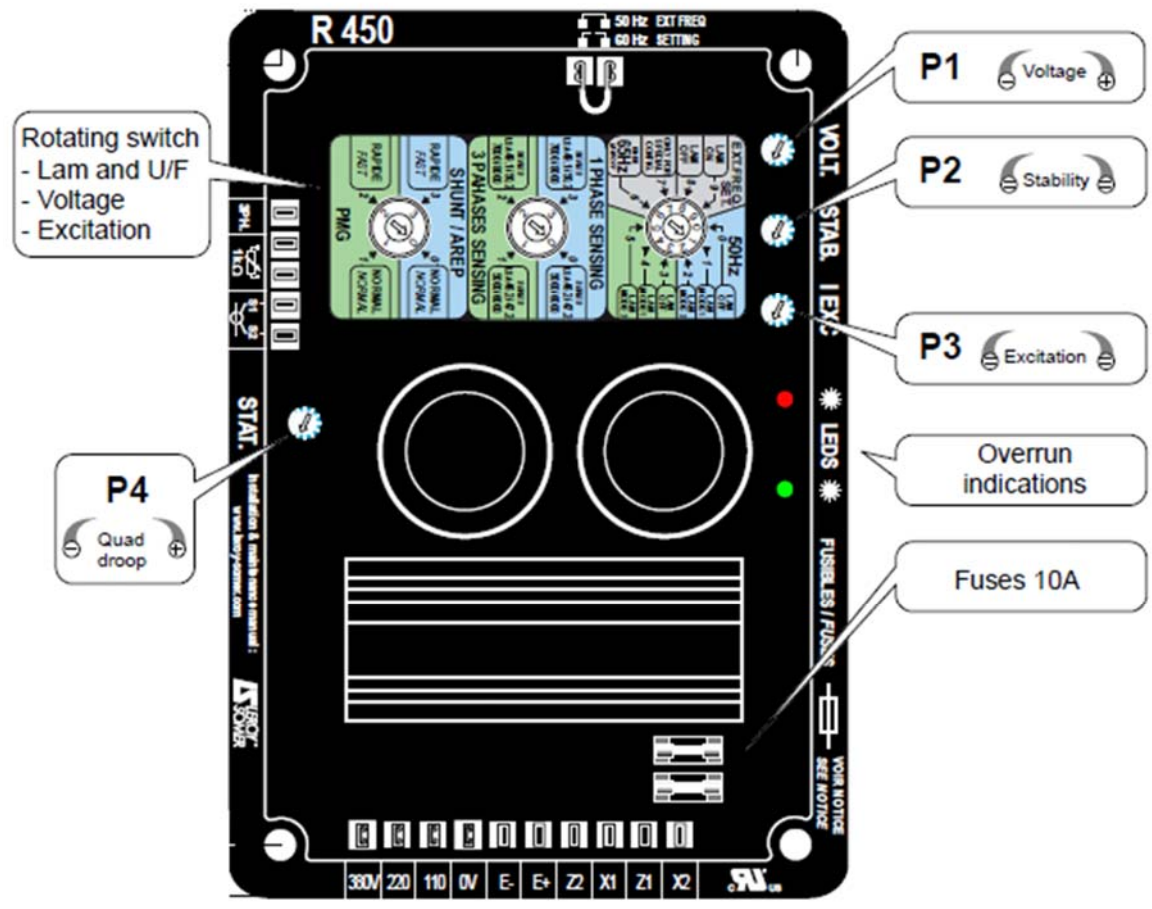


Voltage Connection Schematic



It is important to make sure the sensing leads from the R450 AVR land on T8 and T11.

- Release the emergency stop button
- Manually start the generator and perform coarse voltage adjustments the alternator AVR to 208 VAC. Please reference AVR R450 information in 500REOZT Operations Manual TP-6665.



- Fine voltage adjustments can be performed from Menu 33 in the DEC 4000 if necessary. Please reference DEC 4000 User Manual TP-6934.

Voltage adjustment

This menu allows adjustment of the current voltage supplied by the generator set.
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