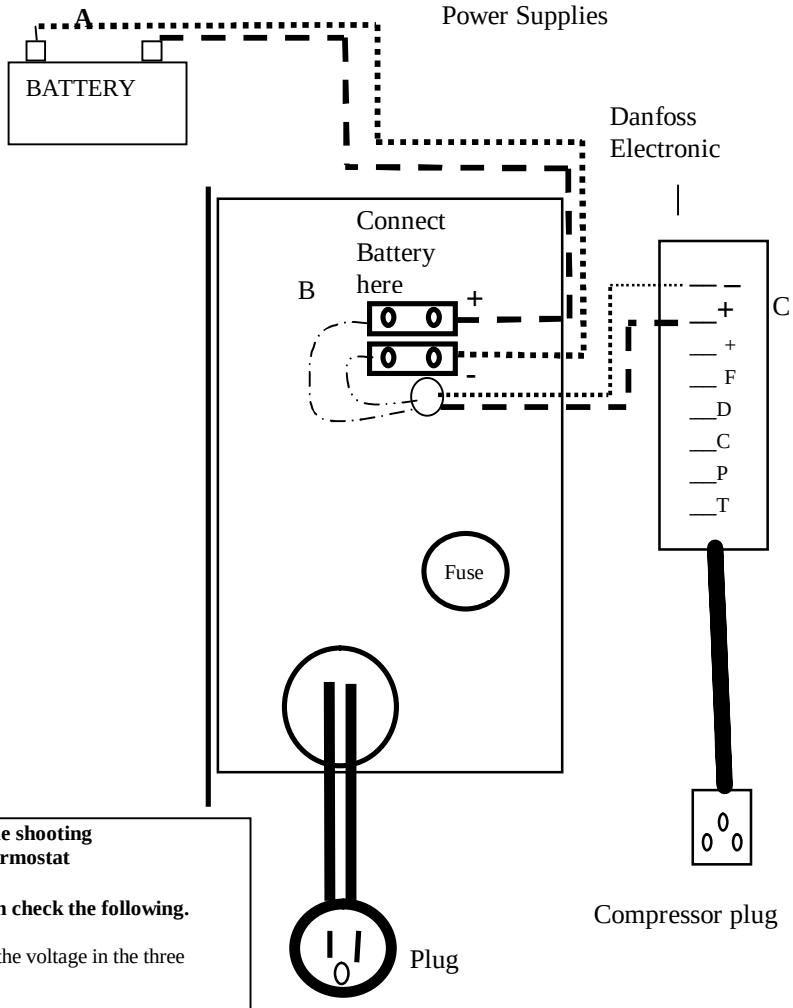
Trouble shooting the Electrical on a Nova Kool

PS110, PS220
Power Supplies



To Test Voltage on a Nova Kool

Using a voltage meter check the following.

I. place the meter across the two terminals on the battery (A) Mark down the voltage here _____

II. place the meter across the two terminal on the terminal block (B) Mark down the voltage here _____

III. place the meter across the terminals on the electronic control marked (-) (+) (C) Mark down the voltage here _____

IV. There should be no more than 3% drop in the voltage between A & B and .6 volts between B & C

V. It is important that the battery voltage is between 12.8 & 12.5 as our unit has low voltage protection

Perform the same test with the unit running or trying to start

Trouble shooting
Thermostat

If unit will not run check the following.

I. What is the voltage in the three locations

II. If voltage is ok, jumper between C & T on the electronic Danfoss board. This will check out the thermostat.

III. If it runs when jumped then replace thermostat.

IV. If the unit does not run when the C & T is jumped, and the voltage is between 13.5 and 12.4 then the Danfoss electronic control may be faulty.

Trouble shooting
Fan (optional)

I. The positive lead (red) on the fan connects to (+) on the Danfoss electronic control

II. The negative lead (black) of the fan connect to (F) on the Danfoss electronic control

III. When the compressor is running the fan should be running

IV. If it is not check the voltage between (+) and (F) if the voltage is above 12 the fan may need replacing

To change the unit so it will run on a lower voltage

The compressor is designed to cut out on low voltage at 10.4 vdc.

To allow the compressor to run down to 9.6 before it cuts out add a jumper wire between P and C.
After adding the jumper the thermostat wire will still need to be on the C and the T terminals

To change the speed of the compressor

Add a low wattage resistor in series with thermostat wire connected to C on the module.
1500 ohm is high speed
No resistor is low speed
Speed is variable between 0-1500 ohms

Trouble shooting
Power supply

The unit runs on battery power but not on A/C power.

I. Check the A/C receptacle.

II. If you have power, check the fuse on the power supply.

III. If the fuse is ok the power supply may need replacing.

The unit runs on A/C power but not on D/C power.

I. Check the voltage on (B) the terminal black located on the power supply.

II. Check the voltage on (C) the Danfoss electronic control between the (-) & (+) terminals the voltage must be no lower than .6 volts different than the reading on (B).

III. If it is the power supply may need replacing