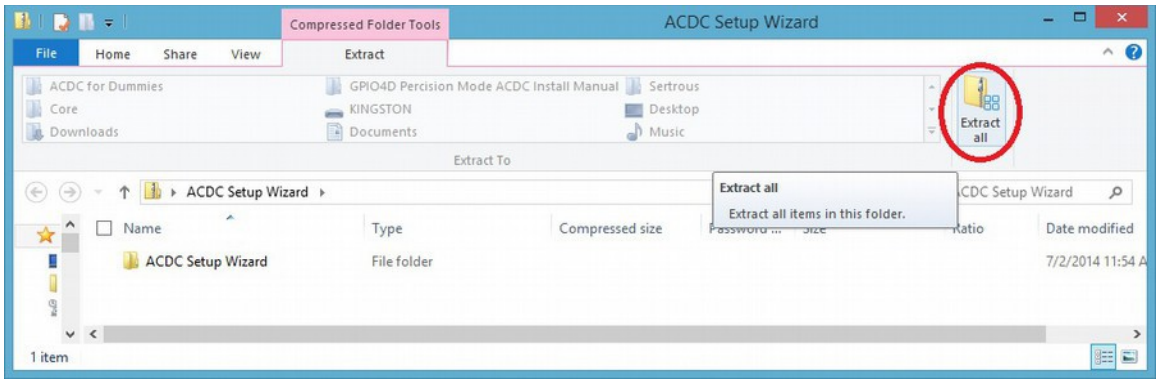
TB277 (Rev2) - AC/DC Setup Wizard

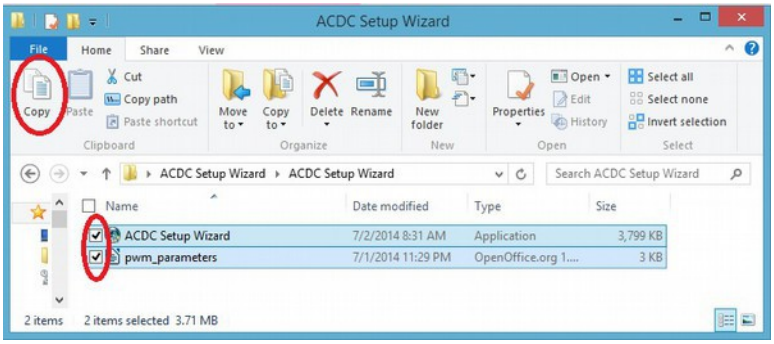
The Centroid AC/DC Setup Wizard simplifies setting up an AC/DC. Alternatively, an AC/DC can be setup without using the tool by referring to the tables listed in your AC/DC documentation.

1. **Download the latest version of the AC/DC Motor Setup Wizard.** Click on the link below to download the latest version of the wizard: AC/DC Motor Configuration Tool (www.centroidcnc.com/usersupport/support_files/acdc/acdc_setup_wizard.zip)

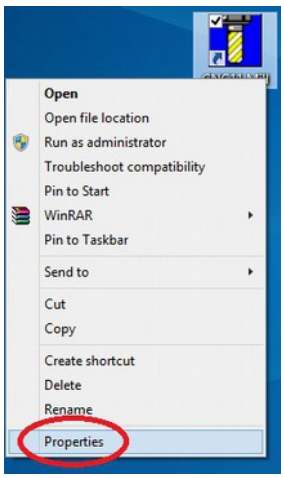
2. **Extract/Decompress the downloaded file**. Double click on the downloaded file. Extract the compressed file. On Windows 8 extraction is done by clicking on the "Extract all" button as shown below.



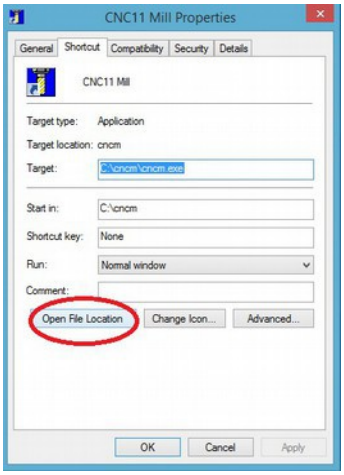
3. **Copy and Paste into the CNCM / CNCT directory.**
   1. Select the extracted files "***ACDC Setup Wizard (.exe)***" and "***pwm_parameters (.xml)***".
   2. Copy both files.
   3. **Right click** on your **CNC11** desktop shortcut.
   4. Select **properties**
   5. In the shotcut tab, click on "**Open File Location**"
   6. Windows explorer will open up in a new window showing the contents of your CNC11 directory *(The directory will be called "CNCM" or "CNCT" depending on weather you have a mill or a lathe)*. Paste both files into your CNC11 directory.



Steps 1 & 2. Select and copy the extracted files.



Step 3 & 4. Right click on your CNC11 software selecting properties



Step 5. Click "open file location"

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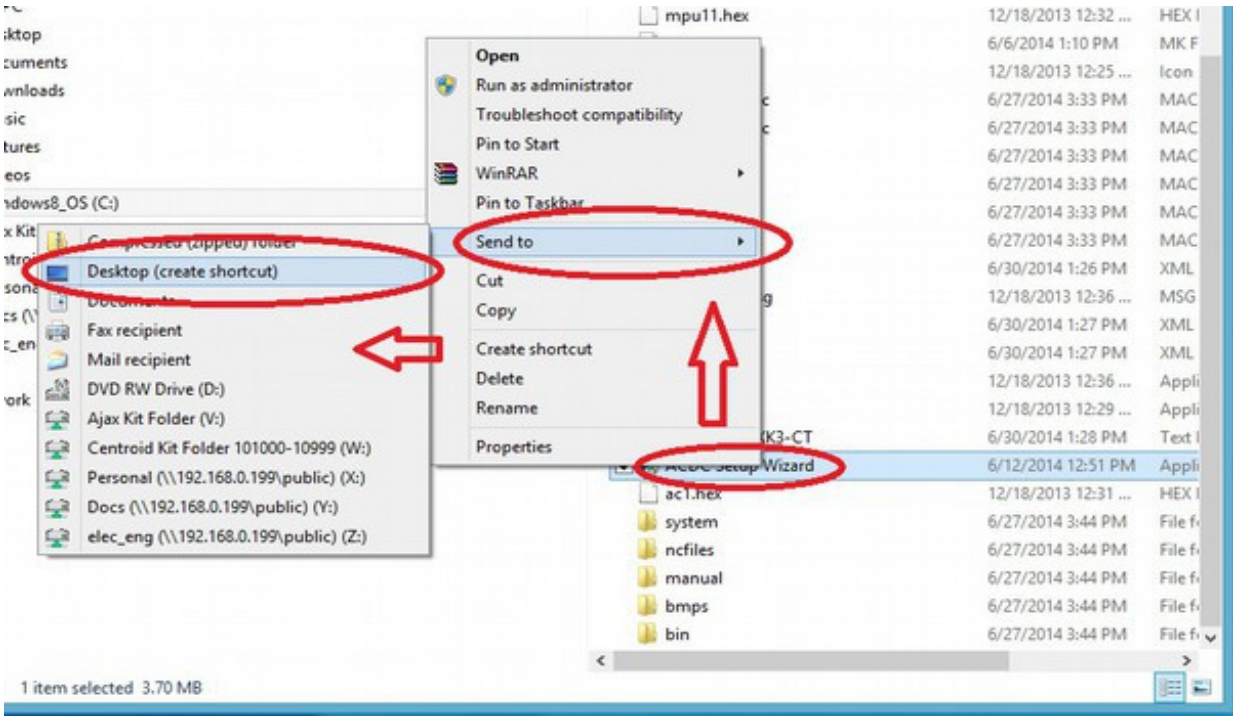
4. **Create a desktop shortcut.**
    1. Highlight just the ***ACDC Setup Wizard (.exe)*** inside your CNC11 directory.
    2. Right click on the application. A drop down menu will come up.
    3. Select "**Send To**" on the drop down menu
    4. Select "**Desktop (Create Shortcut)**" as shown below.
    5. Exit Windows File Explorer. On your desktop you should now have a shortcut to CNC11 and to the ACDC Setup Wizard.



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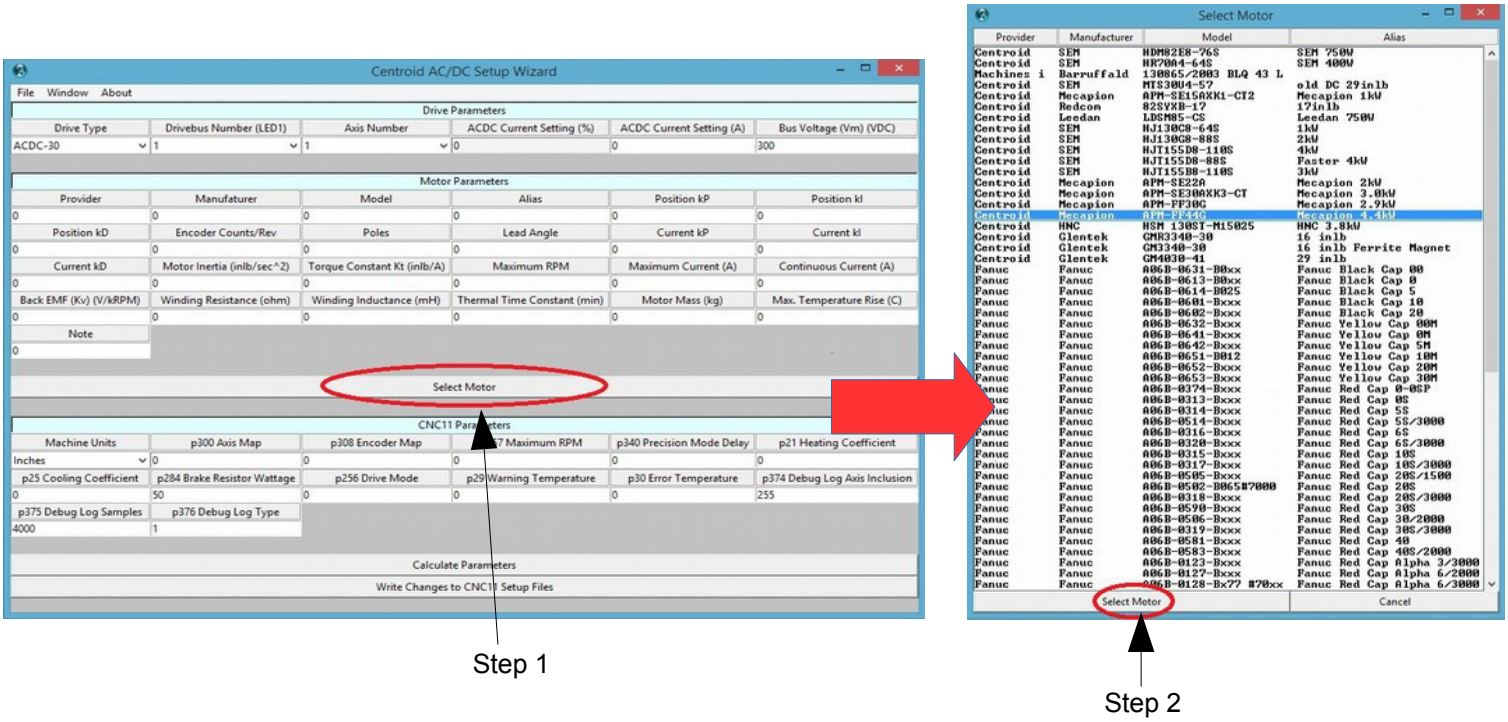
5. Using the Centroid AC/DC Setup Wizard

1. On your desktop, double click on the ACDC Setup Wizard. The tool should looks like the figure shown below.

    1. **NOTE:** Some of the information provided in the wizard is used for calculating values for unknown/unapproved motors. In this manual we will **not** be covering these advanced uses of the tool and can ignore the extra information.

2. Motor Configuration
    1. Click the large "**select motor**" button in the center of the screen.
    2. A new window will pop up. Click on the motor you are using for this axis.
    3. With your motor highlighted, click "**select motor**" at the bottom of the screen to finalize your selection.



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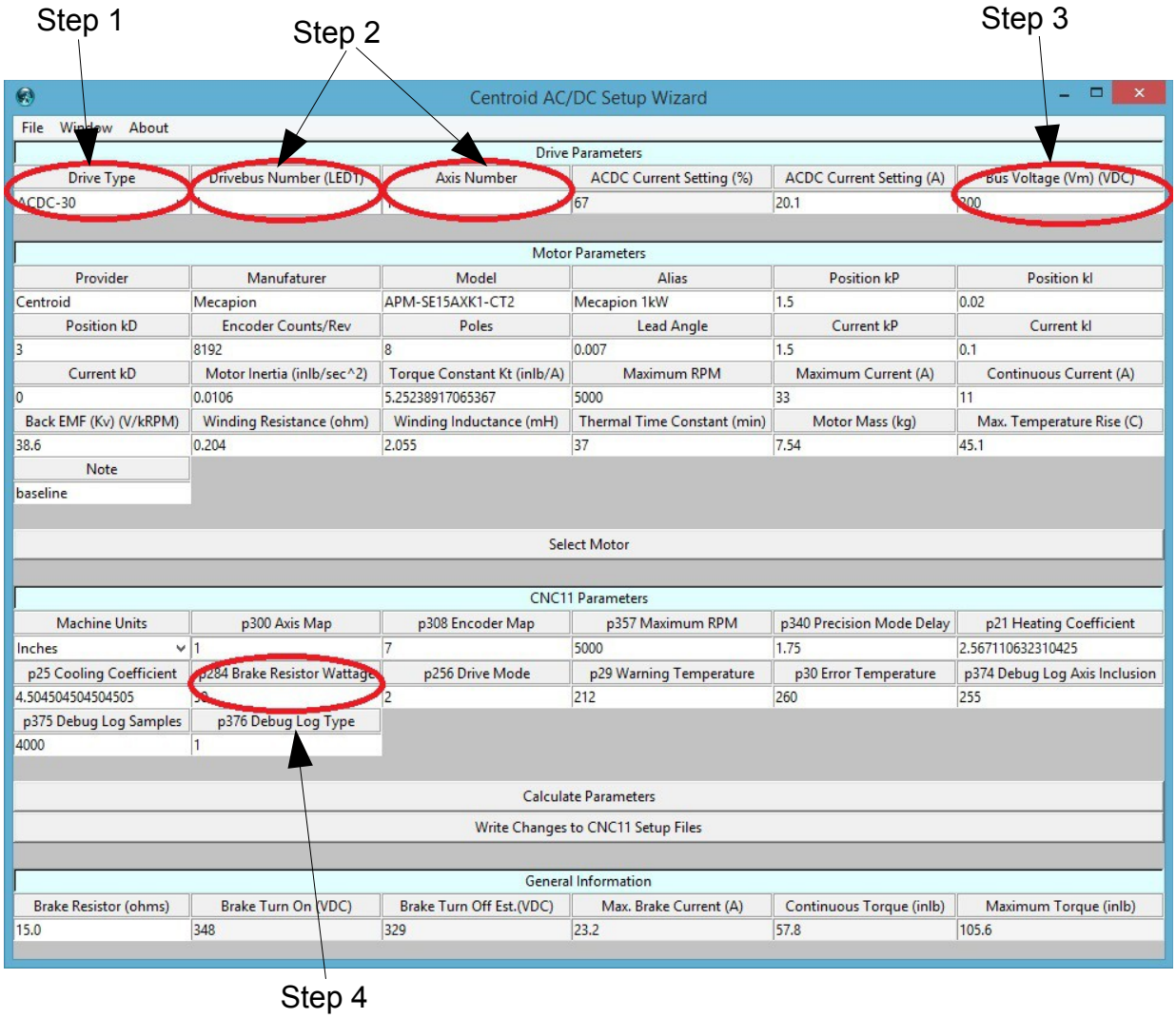
3. Drive parameters
    1. Under "**Drive Parameters**" use the "**Drive Type**" dropdown box to select your model of AC/DC.
    2. Under "**Drive Parameters**" set the "**Drivebus Number (LED1)**" and the "**Axis Number**". For the first axis, set the Drivebus Number to 1 and the Axis Number to 1. If you have multiple AC/DCs connected together, the first axis is defined as the AC/DC that is farthest away from the MPU11. For most applications you want the drive bus number to be the same as the axis number.
    3. Under "**Drive Parameters**" enter the motor voltage supply value in the "**Bus Voltage (Vm) (VDC)**" field.
    4. Under "**CNC11 Parameters**" enter your brake resistor wattage into "**p284 Brake Resistor Wattage**". In most system an AC/DC 30 will use 300 watts, and an AC/DC 60 will use 600 watts.



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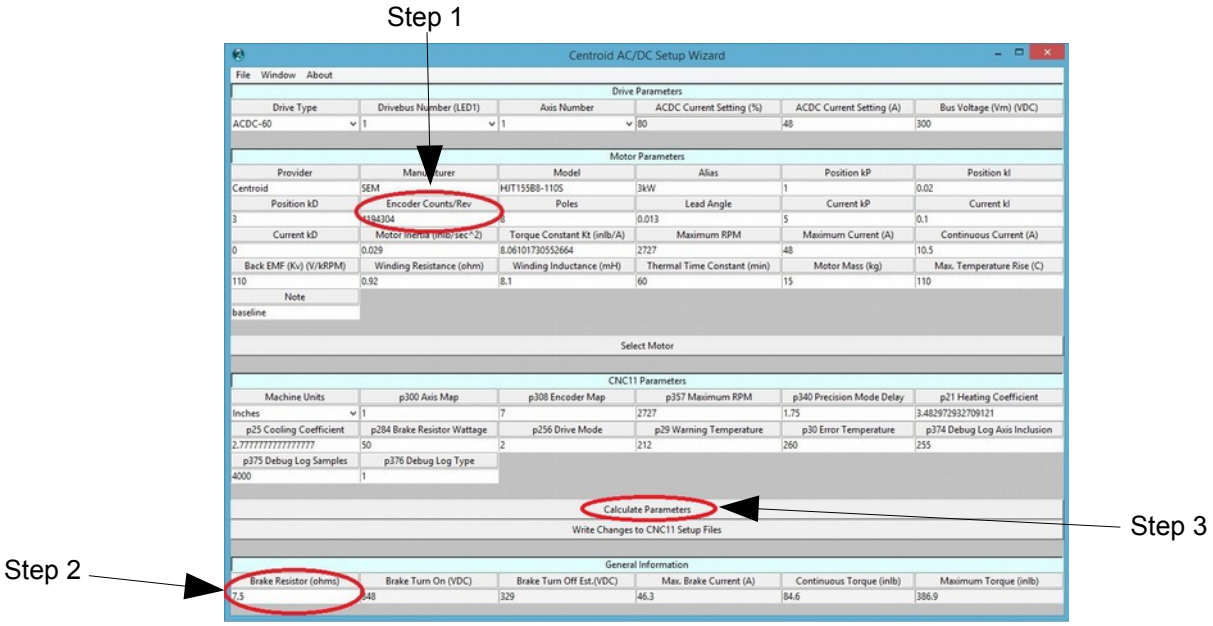
4. Motor Parameters and General Information
    1. Under "**Motor Parameters**" enter your encoder counts in the "**Encoder Counts/Rev**" box.
    2. Under "**General Information**" enter your brake resistor resistance in "**Brake Resistor (ohms)**". For most systems an AC/DC 30 is 15 Ω and an AC/DC60 is 7.5 Ω.
    3. Click "**Calculate Parameters**".



5. **<u>Take a few seconds to review what the tool calculated.</u>** Look over all the boxes to make sure all values seem reasonable. Check for errors in any of the boxes.

    1. **Troubleshooting and Tips**

        1. If the box labeled "**ACDC Current Setting (%)**" says "**Over 100%**" the drive will still work with the AC/DC. Your motor will not run at max performance due to the AC/DC not being able to provide enough power to the drive.

        2. In the unlikely event that the Wizard does encounters a "**Data Missing**" error, there is usually a box with missing information. In this rare situation you will have to acquire the missing information from the motor manufacturer and recalculate values.

        3. If you click on the "**Window**" button on the top left of the screen a menu will come up with some additional motor related tools. These tools are provided by Centroid for your convenience and are intended for advanced users.

            1. "**Estimate Motor Performance**" will graph your motors estimated performance using the data provided. The tool will create a graph of motor power and torque.

            2. "**Conversions**" will convert from one unit to another

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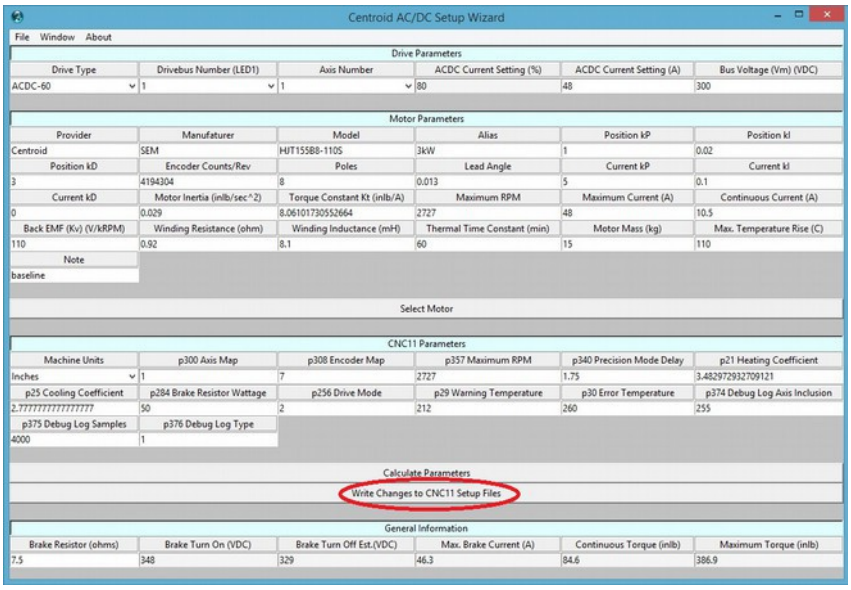
6. With **CNC11 closed**, click "**Write change to CNC11 Setup Files**" and as shown below.



7. If multiple drives are being used, repeat this procedure.
   1. For the second drive, select 2 for the drivebus number and axis number. For the third drive, use 3 and so forth.
   2. If all the axises are the same drive model / motor model keep the other parameters the same and continue to the next step. Otherwise, update any other parameters that need changing (such as a different motor for the second axis.)
   3. Recalculate parameters again.
   4. Write changes again to CNC11 setup files.
   5. **Repeat until all drives axises have been setup.**

8. After all drives have been setup close the AC/DC setup wizard.

Congratulations! Your AC/DC(s) have been configured to work with your motors.