

Dear Customer,

Thank you for ordering the High Resolution Twin Motor Kit.

### **We're improving our technology all the time**

In the event of any minor updates to the firmware occurring in the future, we'll keep you posted by email.

As this is a test kit designed for you can evaluate our technology and its capabilities, we'd be grateful if you could take advantage of this and send us your findings or any suggestions you may have.

This kind of feedback is valuable to us and often instrumental in improving our kits – and ultimately your applications – in the long run.

Naturally, we'll upgrade or replace your kit should you find any major bugs.

When you purchased the Twin Kit, you should also have received Termite: a simple RS232 communication program. The program is easy to install and operate and controls the kit directly via your PC using the controller's built-in command language. The program is freeware and comes in a zipped file.

Also included is our own software package (Twindemo) that fully demonstrates the different possibilities available with the High Resolution Twin Motor Kit.

### **Contact me directly**

If you need further assistance with the kit, or have any application-specific questions regarding your project, please email me at [ej.pcbmotor@gmail.com](mailto:ej.pcbmotor@gmail.com) or call me directly on +45 2061 9642.

We're continually working to improve the High Resolution Twin Motor Kit as well as our documentation, so please report any issues or discrepancies to us at [info@pcbmotor.com](mailto:info@pcbmotor.com)

Kind regards,  
Eivind Johansen

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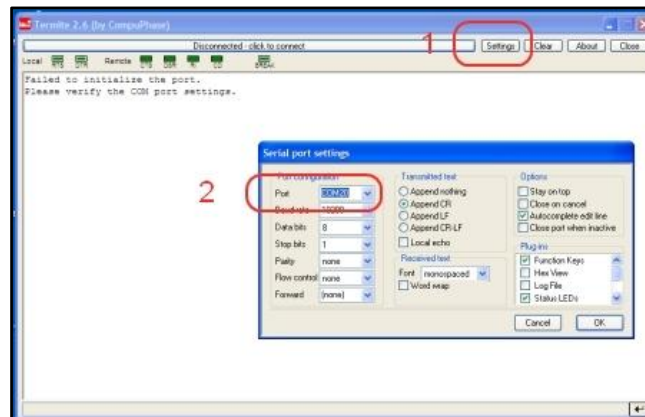
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## USER DOCUMENTATION – TERMITE

### Quick Guide for High Resolution Twin Motor v1.1

1. Copy the Termite directory to your PC. It's not necessary to install the program, simply run `termite.exe` directly from the supplied files to take advantage of the existing configuration file.
2. Start Termite. Go to *Settings* then *Ports* and click the down arrow '↓' to see which ports are in use. Click *Cancel* to get back to the main page.



3. Connect the High Resolution Twin Motor kit to a USB port and wait (a few minutes) until the PC installs the drivers and reports that the unit is ready. You'll need to be connected to the internet if the FTDI drivers are not installed on your PC.

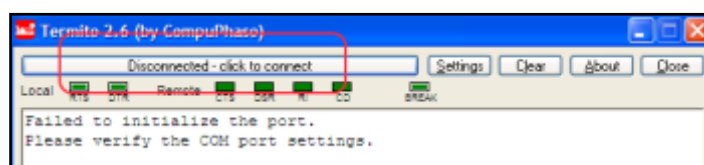
**Note:** The kit is designed to communicate with any PC and operating system with an RS232 serial line and 19200 Baud.

#### Installing the drivers on Windows

If Windows doesn't automatically find and install the required drivers:

- a. Disconnect the kit from your PC.
- b. Go to [FTDIChip's website](http://www.ftdichip.com/Drivers/VCP.htm) - <http://www.ftdichip.com/Drivers/VCP.htm> - and download the driver that corresponds to the Windows operating system on your PC.  
Save and unpack the zip file locally to your PC.
- c. Reconnect the kit (USB) to your PC and when the Windows XP *Found New Hardware* driver installation wizard appears, select "Specific location" - pointing to the location where you unpacked the FTDIChip zip-file.
- d. Click OK and let the wizard install both (two) drivers.

**Note:** After disconnecting the kit, you will need to reconnect to it in Termite by clicking twice on the "blue handshake bar" (*Disconnected – click to connect*) at the top of the window. See image below.



4. Go back to *Settings, Ports* and click the down arrow ‘↓’ to see the number of the port that was assigned to the High Resolution Twin Motor Kit. Select the corresponding port and click *OK*. Termite will now display “Termite is initialized and ready.”  
Click on list to see the list of ports available.

5. In the command line at the bottom of the screen, type ‘h’ (help) for a complete list of the commands.

6. Type ‘p’ to *power up* the motor driver. Observe that the motor does a calibration sweep and nearly a half-turn before returning to the starting point.  
The motor is now ready.

### Commands

Do **not** use white spaces when entering commands.

*Example:* Type `s100,s-100,x5` – This is equivalent to “Step100,Step-100,Xrepeat5”

### Function keys

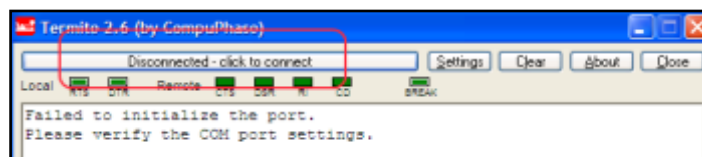
The function keys F1 to F12, have a set of pre-programmed macros for you to test.

### IMPORTANT

1. Do not exceed a motor current of 450 mA when changing the voltage setting or the memory positions. This has an impact on the voltage, such as the CW/CCW scaling and ramp up/down.
2. Be gentle with the shafts and rotor springs, you can damage the springs with excessive force. We are aware of this and will improve the mechanical safeguarding of the construction.

### Note:

1. Auto-completion is switched ON by default in Termite to help you complete your commands. Simply type the first character and then use the down-arrow to get to the last command starting with that character.
2. If you run a command that takes forever, click twice on the DTR signal at the top of the Termite window to stop the execution and get back to the command prompt ‘>’.
3. After disconnecting the kit, you need to reconnect to it again in Termite by clicking the “blue handshake bar” (*Disconnected – click to connect*) at the top of the window. See image below.



UPDATED: 1 JUNE, 2012