



Update the Inverter or CIM Firmware using the Motor Control Software

Terms:

CIM- Control Interface Module in Infinitum Aircore EC motors
Motor Control Software (MCS)- Software used for motor configuration, motor readback, motor control, and firmware updating of Infinitum Aircore EC motors
Inverter- Processor used for Motor Control
Kernel- Binary used to update firmware on the Inverter processor utilizing the CIM processor

Setup: (Windows Only)(Modbus TCP only)

1. Download the CIM and Inverter Binary files as well as the Inverter Kernel binary from the Infinitum support page: [here](#) Download the file(s) onto the Desktop or some other easily accessible (local) location.

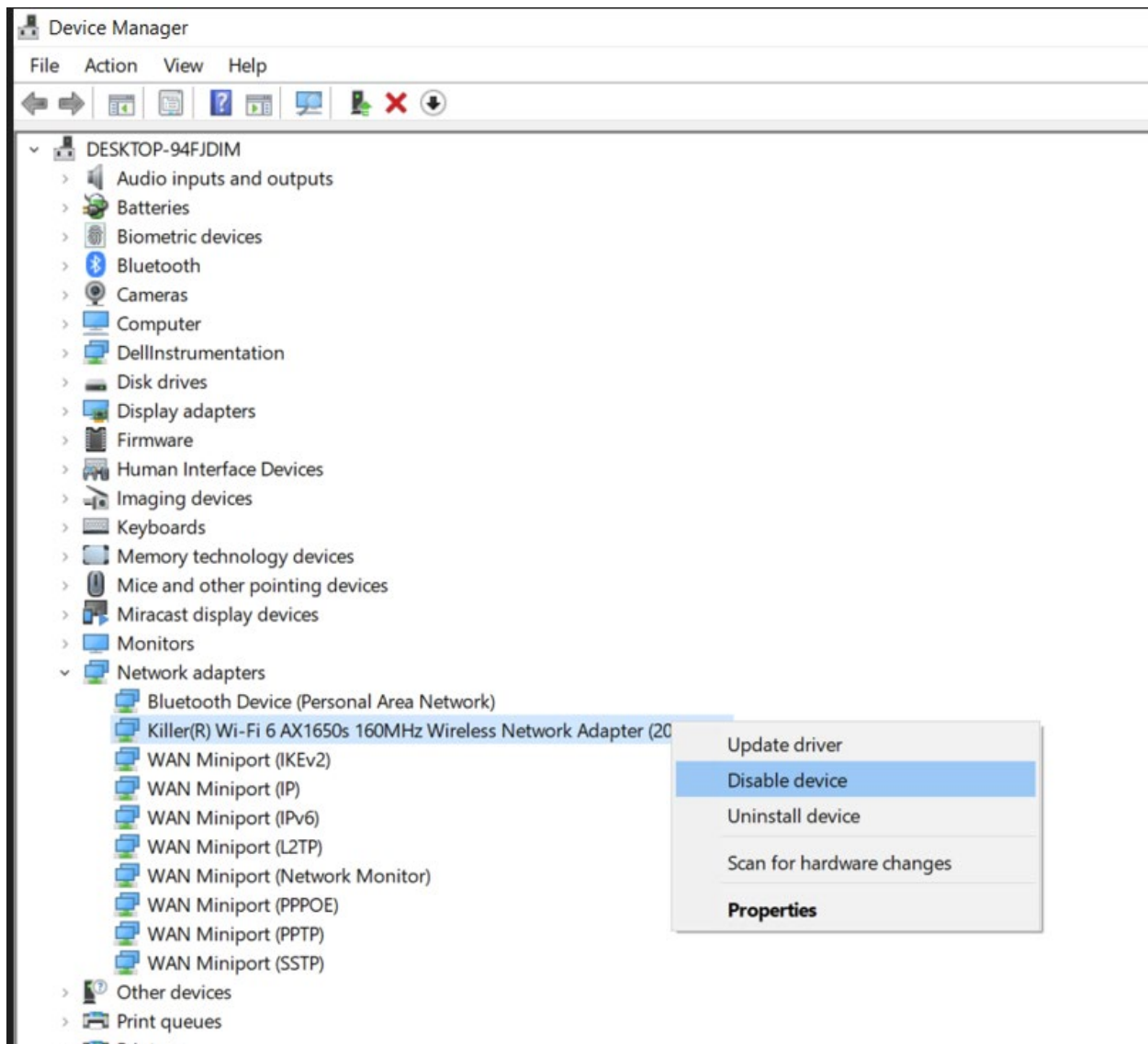
Note: An Inverter update requires a Kernel binary file as well. A CIM update does not require a Kernel binary file.

2. Download and Install the Motor Control Software (MCS) from the Infinitum support page: [here](#). The MCS is located at C:\Program Files (x86)\Infinitum-MotorControlGUI after the install.

Note: Install x86 64-bit version of .net Core v.31
<https://dotnet.microsoft.com/en-us/download/dotnet/3.1>

Note: The old motor control software will need to be uninstalled before updating to the new motor control software.

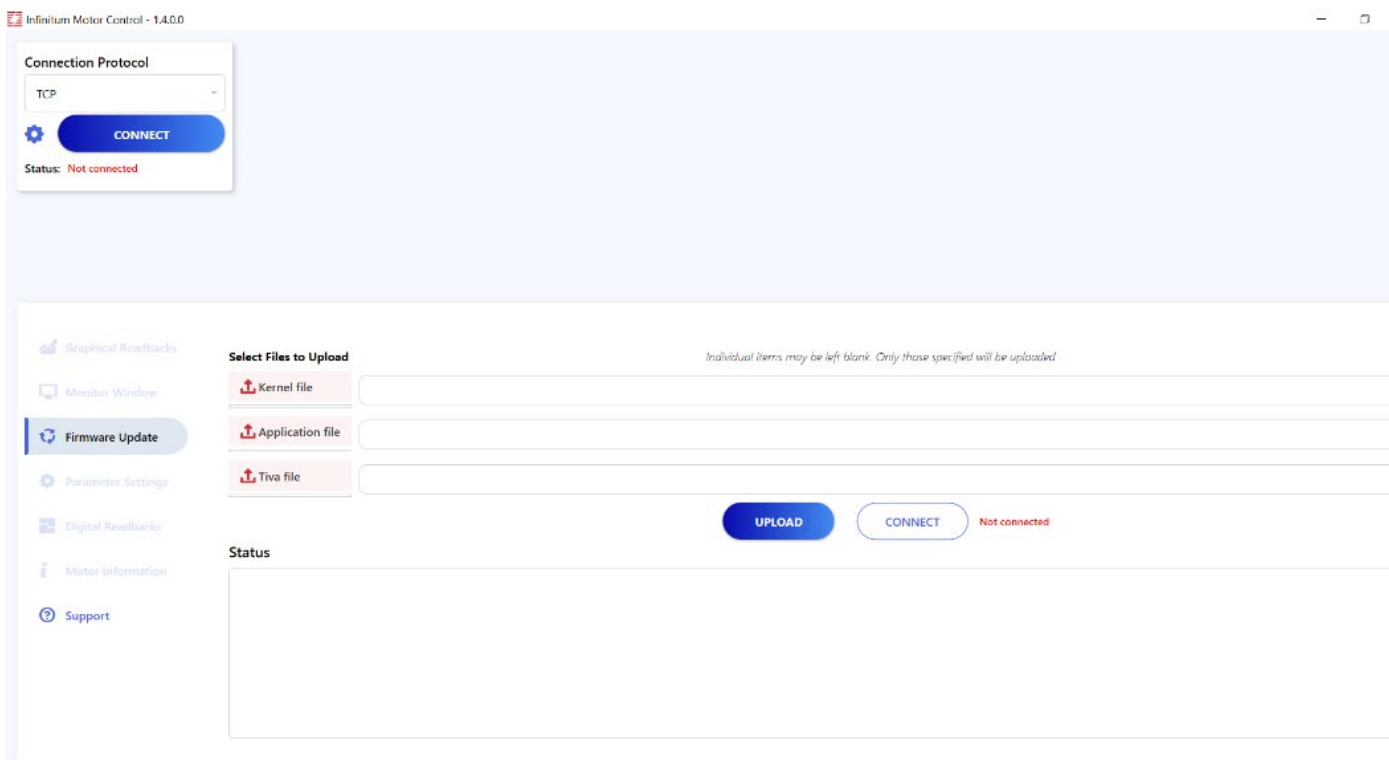
3. The PC/Laptop to motor communication method must be Modbus TCP. This requires a static IP Ethernet address on the PC/laptop. See the [Motor Control Software manual](#) for details.
4. PC/Laptop Wi-Fi and Ethernet connections need to be disabled for the firmware update process to connect to the correct TFTP server on the Motor.
 - Go to “Device Manager”
 - Expand “Network adapters”
 - “Right click” and ‘Disable’ the Wireless Network Adapter and all Ethernet adapters except the Static IP Ethernet connection (see screenshot below as example)
 - After completing the firmware updates, be sure to “re-Enable” these adapters to restore internet connectivity



Note: The Inverter Firmware Update and CIM Firmware Update can be performed at the same time.

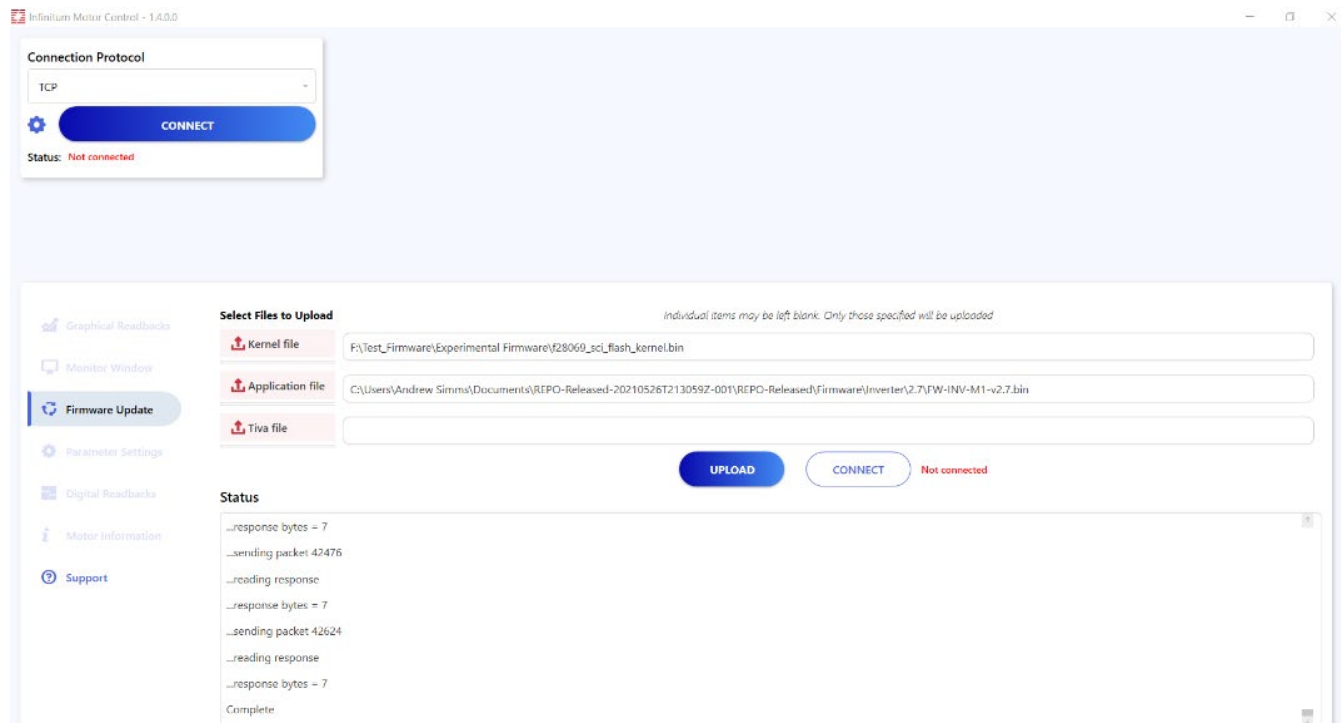
Inverter Firmware Update: (Inverter Update requires a Kernel as well)

1. Start the Motor Control Software by running the application “MotorControl.Engineer.exe”
2. “Connect” to the motor using TCP via the blue “Connect” button. See the Motor Control Manual for help if needed.
3. Disconnect” from the motor using the “Red” button in the upper left of the MCS
4. Select the “Firmware Update” tab on the MCS



5. For the “Kernel file”, use the f28069_sci_flash_kernel.bin file downloaded previously.

6. For the “Application file use the Inverter Binary File downloaded previously.
7. Click the “Connect” button to the right of the “Upload” button. The connection status should be “Connected” in green font.
8. Select the “Upload” button. Select “Allow Access” if a firewall Window request pops up.
9. The final dialog in the “Status” box should say “Complete” as seen in the image below.



10. Note: If you do not see “Complete” as the final word in the Status box, then the firmware failed to update, and you will need to repeat steps 1-9. If this step fails on multiple attempts, contact Infinitum at support@goinfinitum.com

11. To confirm that the firmware has been updated, select the “Connect” button in the upper left corner of the Motor Control Software. Once connected to the motor, select “Motor Information” where it will list the current firmware version for the Inverter on the motor.

The screenshot displays the Infinitum Motor Control software interface. The top section includes a 'Connection Protocol' dropdown set to 'TCP', a 'DISCONNECT' button, and a 'Status' indicator showing 'Connected'. Below this, there are buttons for 'START LOGGING' and 'SAVE STATE'. The main 'Motor Control' panel features a 'Set Speed (RPM)' input field with a value of 1500, an 'Actual Speed (RPM)' field showing 0, and an 'RPM Range' slider from 720 to 3000. A 'Motor Direction Selection' dropdown is set to 'CW', and a 'START' button is at the bottom. On the right, a 'Faults List' panel shows 'None' for 'Gate Drive Fault' and 'Over Temp Fault'. The bottom section, 'Motor Information', contains a table with the following data:

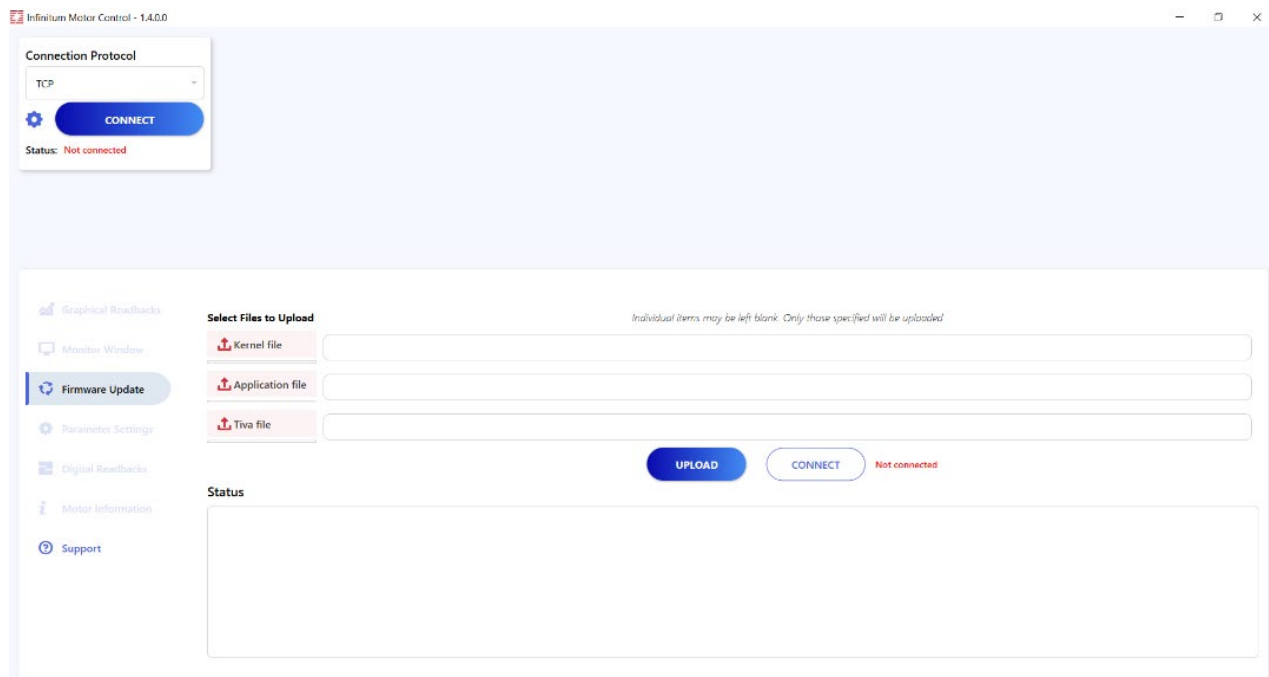
Motor Serial No.	D36A000467
Motor Voltage (V)	480
Rated Speed (rpm)	2400
Tiva Version	2.10
Inverter Version	3.4

Two blue arrows point from the 'Inverter Version' and 'Tiva Version' values in the table to labels below: 'Inverter Version' and 'CIM Version'.

CIM Firmware Update:

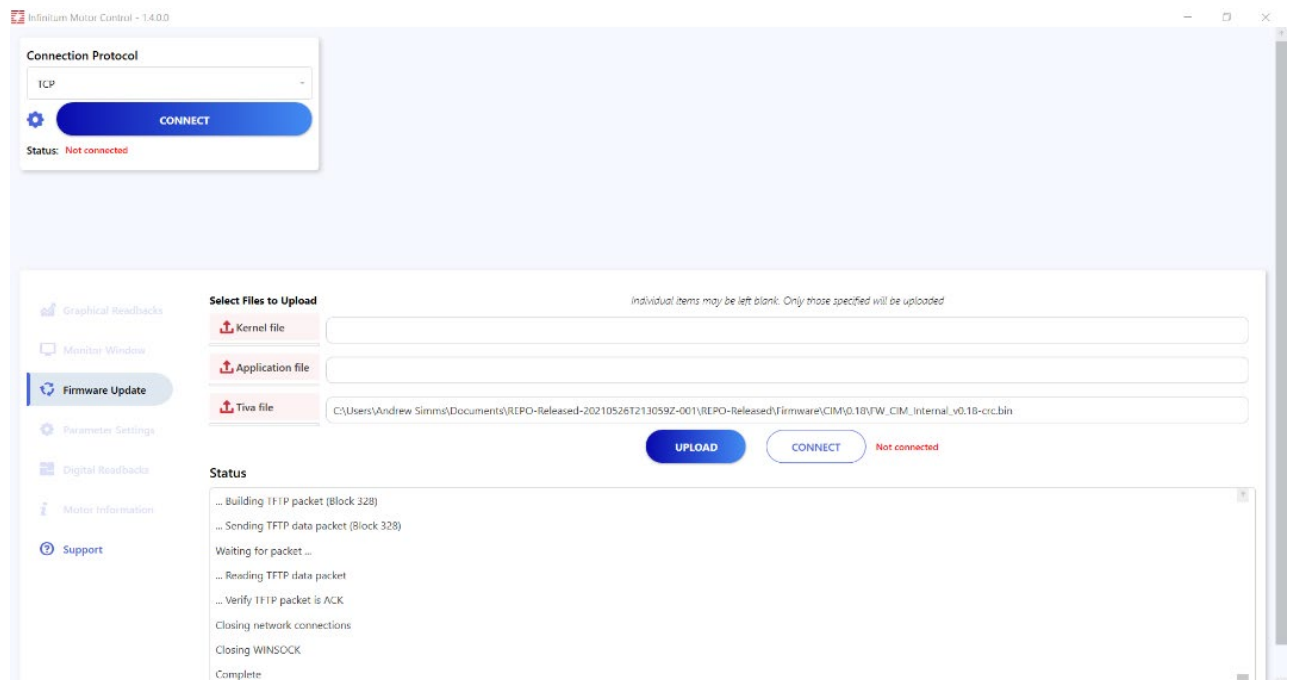
Note: The MCS CIM Firmware update procedure does not support motors running Tiva Version 2.8.00005. If your motor has this version of the Tiva (CIM) firmware, contact Infinium for assistance.

1. Start the Motor Control Software by running the application “MotorControl.Engineer.exe”
2. Connect” to the motor using TCP via the blue “Connect” button. See the Motor Control Manual for help if needed.
3. “Disconnect” from the motor using the “Red” button in the upper left of the MCS
4. Select the “Firmware Update” tab



5. For the “Tiva File” select the Binary File that you want to use to update the CIM firmware

6. Click the “Connect” to the right of the “Upload” button. The connection status should be “Connected” in green font
7. Select the “Upload” button. Select “Allow Access” if a firewall Window pops up.
8. The final dialog in the “Status” box should say “Complete” as seen in the image below.



9. Note: If you do not see “Complete” as the final word in the Status box, then the firmware failed to update, and you will need to repeat steps 1-8. If this step fails on multiple attempts, contact Infinitum at support@goinfinitum.com

10. To confirm that the firmware has been updated correctly, select the “Connect” button in the upper left corner of the MCS. Once connected to the motor, select “Motor Information” where it will list the current firmware version for the CIM (Tiva) processor on the motor.

The screenshot displays the Infinitum Motor Control software interface. On the left, a sidebar contains navigation options: Graphical Readbacks, Firmware Update, Digital Readbacks, Analog/Digital Config, Temperature Sensors, Parameter Settings, Parameter Monitor, Motor Information (highlighted), and Support. The main area is divided into two sections. The top section, titled 'Motor Control', includes a 'Set Speed (RPM)' input field set to 1500, an 'Actual Speed (RPM)' field showing 0, an 'RPM Range' slider from 720 to 3000, a 'Motor Direction Selection' dropdown set to 'CW', and a 'START' button. The bottom section, titled 'Motor Information', contains a table with the following data:

Motor Serial No.	D36A000467
Motor Voltage (V)	480
Rated Speed (rpm)	2400
Tiva Version	2.10
Inverter Version	3.4

A blue arrow points from the 'Tiva Version' row to a callout box below the table.

CIM (Tiva) Version



📍 106 Old Settlers Blvd
Suite D106
Round Rock, TX 78664

✉ info@goinfinitum.com
🖱 goinfinitum.com
💻 support@goinfinitum.com

We reserve the right to make technical changes or modify the contents of this document without prior notice. Copyright© 2022 Infinitum Electric, Inc. All rights reserved.