



OMNI-3MD

Firmware Update Guide



Three Motors Controller Board

October 2013





How to update your OMNI-3MD to the latest firmware?

Updating your OMNI-3MD to the latest firmware requires you to write an .hex file to the

PIC30F6010A micro-controller flash memory.

The necessary .hex file is available in the product support page:

http://botnroll.com/omni3md_en/

To write the .hex file to the OMNI-3MD it is required:

- The .hex file to be written;
- A PICkit2 or PICkit3 programmer;
- A computer;
- PICkit software installed in the computer.

Where to find the PICkit Software?

You can download the software for PICkit2 from our website using the link: <u>http://www.botnroll.com/omni3md/downloads/PICkit_2_v2.61.00_Setup_A.zip</u> You can download the software for PICkit3 from our website using the link: <u>http://www.botnroll.com/omni3md/downloads/PICkit_3_Programmer_1_0_Setup_A.zip</u>

To install PICkit software on your computer:

- Extract the downloaded .zip file;
- Access the extracted folder and run the setup file to install the software.





Writing the .hex file to the OMNI-3MD flash memory using an PICkit3:

- 1- Connect the PICkit3 to an USB port from your computer;
- 2- Run the PICkit3 software;
- 3- The PICkit3 programmer will be detected and the STATUS LED will lit green;
- 4- Select the **Device** you are programming: dsPIC30F6010A;

🖹 PICkit 3 Programmer			
File Device Family Programmer Tools View Help			
Device Configuration			
Device: C 8 8 3 dsPIC30F6010A			
User IDs:			
Checksum: AD1A BandGap: 0000			
Found PICkit 3, SN: BUR120297823			
Read Write Verify Erase Blank Check Target Power Image: Market descent d			
Program Memory			
Enabled Hex Only Source: None (Empty/Erased)			
0 FF			
0 FF FF FF FF FF FF FF FF 0 FF FF FF FF FF FF FF			
0 FF FF FF FF FF FF FF			
0 FF FF FF FF FF FF FF			
0 FF FF FF FF FF FF FF FF			
0 FF FF FF FF FF FF FF FF 0 FF FF FF FF FF FF FF			
0 FF FF FF FF FF FF FF			
EEPROM Data Auto Import Hex Image: Constraint of the state of th			
010 F. F. F. F. F. F. F. F. F. E. F. Export Hex File			
040 F F F F F F F			

5- Verify that **Program Memory** and **EEPROM Data** check boxes are **Enabled**;





6- Insert PICkit3 programmer to the OMNI-3MD JP1 connector slot according to the following image, making sure that electrical contact between the PICkit3 and OMNI-3MD at all pins is acquired;



7- Power the OMNI-3MD control circuit (5V through the I2C connector);

8- Click "Erase" to blank flash memory and EEPROM memory;

9- Import the .hex file clicking on "File"->"Import Hex" and selecting the downloaded .hex file;

PICkit 3 Programmer	P	
File Device Family Progra	mmer Tools View Help	
Export Hex Ctrl+E	Configuration: (C 8 8 3
Import Device File		3 0 C
Exit Ctrl+Q		BandGap: 0000

10- Click the "Write" button and the firmware will be written to the OMNI-3MD flash memory.

Note!

Make sure you run the calibration routine before you try movement with closed loop PID control.