

Raspberry Pi Fan Controller User Manual

Table of Contents

Software Un-Install.....	2
Firmware Update.....	2
Firmware Recovery.....	2
List of Commands.....	2
-help.....	2
-board_info.....	2
-status.....	3
-speed <AUTO / 0-16>.....	3
-target <temp in C or F>.....	3
-restart.....	3
-i2c_find.....	3
-i2c_change_addr <new_addr>.....	3
-sw_rev.....	3
-read_conf.....	4
-fw_update <file_name>.....	4
-clear_errors.....	4
Document Revisions.....	5

Quick Start Guide

1. Turn off the Raspberry Pi and disconnect power.
2. Before attaching the heatsink to the CPU, make sure the surface of the CPU is clean of any dust and oils. Use an alcohol based cleaner if necessary, and allow the area to fully dry before attaching the adhesive.
3. Connect the Fan Controller board to the Raspberry Pi with the supplied hardware.
4. Connect power, the fan should begin to spin at full speed.
5. **Optional** : Follow the Software Install instructions below to install the control software, without it the fan will always spin at full speed regardless of temperature.

Software Install

1. Download software from the product page(<http://www.rpigea.com/raspberry-pi-fan-controller/>), copy it to any folder on the Raspberry Pi.
2. Unzip the .zip file, for example ***sudo unzip <file_name>***
3. Go into the unzipped install directory, ***cd fan_linux_1.0/install***
4. Make install.sh executable with ***sudo chmod 777 install.sh***
5. Run ***sudo ./install.sh -install***

6. Run ***fan.sh -board_info*** to read the board information and verify access
7. Run ***fan.sh -help*** to see a full list of commands
8. The .zip file and unzipped folder are not used any more, feel free to delete them.

Software Un-Install

1. Run ***sudo /opt/fan/install.sh -uninstall***
2. If /etc/rc.local was modified to include start up scripts, these entries should be removed manually.

Note:

The default software install consists of the files stored inside /opt/fan folder as well as fan.sh inside /usr/local/bin.

Firmware Update

1. Download the new firmware from the website
2. unzip it, ***sudo unzip <file_name>***
3. run ***fan.sh -fw_update <file_name>***

Firmware Recovery

If something like a power loss during a firmware update “bricked” the unit, follow the steps below to recover it.

1. Power off the Raspberry Pi and disconnect power.
2. Connect pins 2 and 3 together as shown in Image_1 with anything conductive like a paper clip or wire. Then connect power to the Raspberry Pi.
3. Wait for the Pi to finish booting.
4. Follow the regular Firmware Update instructions, if the board is not found on the i2c bus use the ***fan.sh -i2c_find*** command to first find it.
5. Disconnect the two shorted pins after completing the firmware update.



Image_1

List of Commands

-help

Result : Prints a list of commands.

Example :

fan.sh -help

-board_info

Result : Prints the board information such as PCB revision.

Example :

fan.sh -board info

-status

Result : Shows all the real time information like fan speed, stuck rotor alarm, etc.

Example :

fan.sh -status

-speed <AUTO / 0-16>

Result : Sets the fan speed. AUTO will automatically adjust fan speed to keep the Raspberry Pi's temperature below TARGET(variable inside .conf file). 0 will turn the fan off, and 1 – 16 will progressively increase the fan speed.

Example :

fan.sh -speed AUTO

fan.sh -speed 3

-target <temp in C or F>

Result : Updates the target Raspberry Pi temperature the controller needs to maintain.

Note: This change will only have an effect if the SPEED variable inside the .conf file is set to AUTO.

Examples :

fan.sh -target 58.8

-restart

Result : Reloads the fan controller with the contents of the .conf file. Called automatically on power up, and can be called by the user after changing the settings in the .conf file.

Example :

fan.sh -restart

-i2c_find

Result : Finds the device on the I2C bus, and updates I2C_ADDR variable inside the .conf file.

Example :

fan.sh -i2c_find

-i2c_change_addr <new_addr>

Result : Changes the I2C address, and updates I2C_ADDR variable inside the .conf file.

Example :

fan.sh -i2c_change_addr 25

-sw_rev

Result : Reads the Linux software revision

Example :

fan.sh -sw_rev

-read_conf

Result : Prints the .conf file

Example :

fan.sh -read_conf

-fw_update <file_name>

Result : Updates firmware

Example :

fan.sh -fw_update <file.bin>

-clear_errors

Result : Clears any warning and errors, such as a stuck rotor history flag.

Example :

fan.sh -clear_errors

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Document Revisions

Rev 1.0 :

- Original

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