



DETAILED WIRING INSTRUCTIONS V1.0

Please read these instructions carefully before installing our PWM Controller. It's important to wire the controller directly to the battery with appropriate circuit protection for your load. This controller is suitable for controlling brushed cooling fans, blowers, fuel pumps, and other devices in various applications, and it can be customized using software or preprogrammed by our staff. If your unit has already been preprogrammed, please refer to the wiring instructions on the back of this instruction sheet.

SOFTWARE

To connect to our software, you first must connect the controller to PC via RS485. Once plugged in you will need to **select the port number** that matches your USB connection. (you will find this info in your hardware manager) Once completed you will click the open button to establish communication. You can confirm this with the current firmware version being displayed.

Port Number: This is the communication between controller and ecu.

[check com port under device manager for USB in Windows]

Firmware Version: Current firmware version on controller

Open: Establishes communication between configurator and device

Input Configuration

Once connected you will then be able to configure your inputs. These will then change the available settings in the output configuration area.

Ignition Input: Enable this if you'd like the controller to turn off with ignition

Input Selection: Select Input Type: Analog Sensor, PWM or CAN-bus.

Analog Selection: Select analog sensor you will be using: CWI Temp Sensor, GM Temp Sensor, 0-5V Sensor. [grayed out if using PWM or CAN input]

PWM Input Frequency: Select Input Frequency [Frequency the ECU is sending to controller]

PWM Input Inverted: Select this to Invert PWM Signal [if signal from ECU is decreasing as temp Increases]

Override Input: Select either: +12V or Ground, can be used for A/C override or manual switch [Runs Motor at 100%]

Output Configuration

Now that you have set up your input settings the corresponding output options will be available.

Motor Start Run Time: Select for start 100% time: .25 secs, .5 secs, .75 secs, 1.0 secs. (this is set up to clear out any debris and make sure fan /pump is running correctly before coming back to 50% speed)

Motor Start (50% Speed): Set when motor turns on at 50%

Motor 100% Speed: Set for when motor turns on at 100%

PWM Output Frequency: Frequency of PWM Output to motor, Cooling fans usually run at 14Khz. [Please reference PWM Frequency of motor manufacturer]



The screenshot shows the software interface for configuring the PWM controller. It features a 'Port Number' dropdown set to 'COM7', a 'Firmware Version' field showing 'v3.06', and buttons for 'Get' and 'Close'. The main configuration area is divided into 'Input Configuration' and 'Output Configuration'. The 'Input Configuration' section includes fields for 'Ignition Input' (set to 'Disabled'), 'Input Selection' (set to 'Analog Sensor'), 'Analog Selection' (set to 'CWI Temp Sensor'), 'PWM Input Frequency' (set to '14Khz'), 'PWM Input Inverted' (checked), 'CAN Input', and 'Override Input' (set to '+12v'). The 'Output Configuration' section includes fields for 'Motor Start Run Time' (set to '0.25s'), 'Motor Start (50% Speed)' (set to '150 degrees'), 'Motor 100% Speed' (set to '200 degrees'), and 'PWM Output Frequency' (set to '14Khz'). There are 'Verify' buttons and arrows next to each field. At the bottom, there is a 'Testing' section with 'Aux Relay' (On/Off) and 'Motor Speed' (Use Sensor) options.

Configuration

This area allows you to save and open a previously configured software file, allowing you to flash multiple units quickly with the same configuration. To program a connected unit, first establish a connection between the computer and device. Next, click on "Open File" and select the config file you have previously saved. Once opened, click "Set All" and the unit will automatically load the configuration.

Open File: Open saved configuration file

Save As File: Save current configuration to file

Set All: Sends opened saved config file to controller

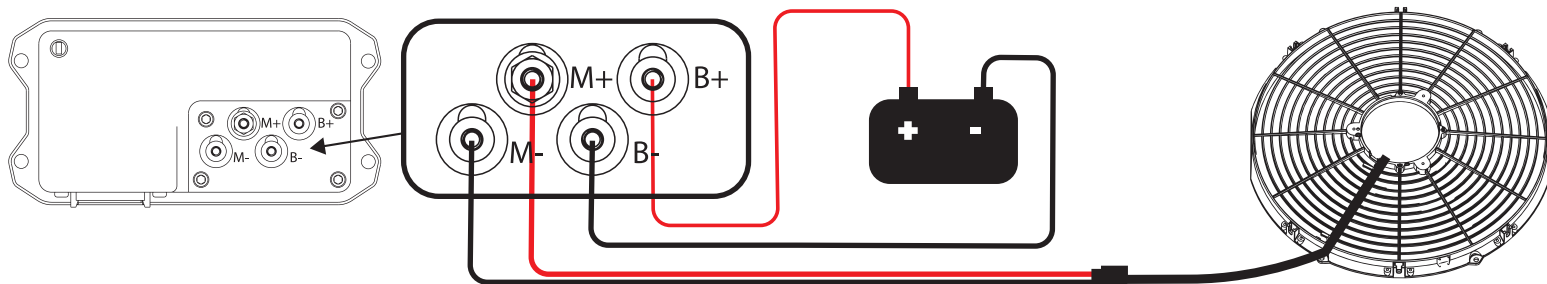
Get All: Acquires the settings currently configured in the controller

LOOKING TO CUSTOMIZE YOUR PWM CONTROLS? SIMPLY DOWNLOAD OUR FREE PWM CONFIGURATOR ON OUR WEBSITE AT : [HTTPS://CREATIVEWORKSINC.COM/PRODUCT/PWM-CONTROLLER](https://creativeworksinc.com/product/pwm-controller)

HAVE QUESTIONS? EMAIL US HERE: WWW.CREATIVEWORKSINC.COM/CONTACTS/

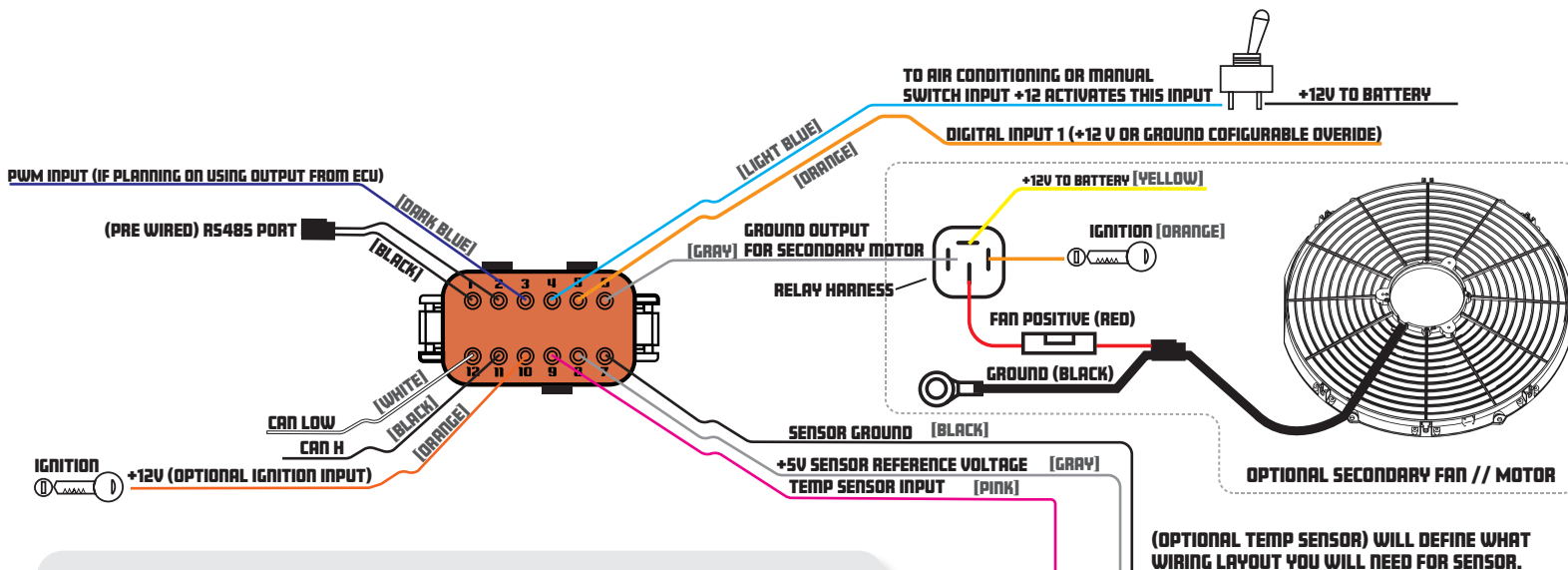
MAIN POWER INPUTS // OUTPUTS

CONNECT THE B+ AND B- TO THE BATTERY POSITIVE AND NEGATIVE. CONNECT THE MOTOR + AND - TO THE MAIN BRUSHED MOTOR YOU ARE WANTING TO CONTROL. (BRUSHED FAN OR PUMP)



MAIN CONNECTOR PINOUT DETAILED

THE MAIN 12 PIN CONNECTOR COMES STANDARD WITH HARDWARE AND BLANKING PINS. DEPENDING ON YOUR APPLICATION SOME CONNECTIONS MAY NOT BE USED. *PLEASE NOTE, THESE WIRE COLORS ARE NOT REPRESENTATIVE OF WIRES INCLUDED*



MAIN CONNECTOR PINOUT

- PIN 1** — RS485- for programming via USB GUI
- PIN 2** — RS485+ for programming via USB GUI
- PIN 3** — PWM Input to control motor from ECU
- PIN 4** — Air Conditioning or manual switch input (+12 activates this input)
- PIN 5** — Digital Input 1 (+12V // Ground Configurable Override)
- PIN 6** — Ground output (Secondary Motor Relay)
- PIN 7** — Sensor Ground
- PIN 8** — Temp Sensor input
- PIN 9** — +5 Sensor reference voltage
- PIN 10** — +12 Optional Ignition input
- PIN 11** — CAN H
- PIN 12** — CAN L

