



## PWM Controller

Thank you for purchasing our American made PWM Controller. Please read these instructions fully prior to installation.

Like all electrical control systems, we recommend that the controller is wired directly to the battery and the appropriate size circuit protection is required per your load.

This controller was designed to control cooling fans, blowers, fuel pumps and other devices in automotive and industrial applications. The system features customizable software or can be preprogrammed by our staff for your application. If you have had your unit preprogrammed follow the wiring instructions below prior to installation.

### Wiring

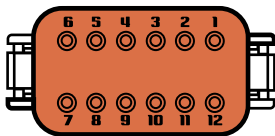
Wiring our PWM Controller is extremely straight forward. Follow the below pinout for the Studs and Deutsch connector.



### Stud connectors

- M+ Motor Positive
- M- Motor Negative
- B+ Battery +
- B- Battery - or ground

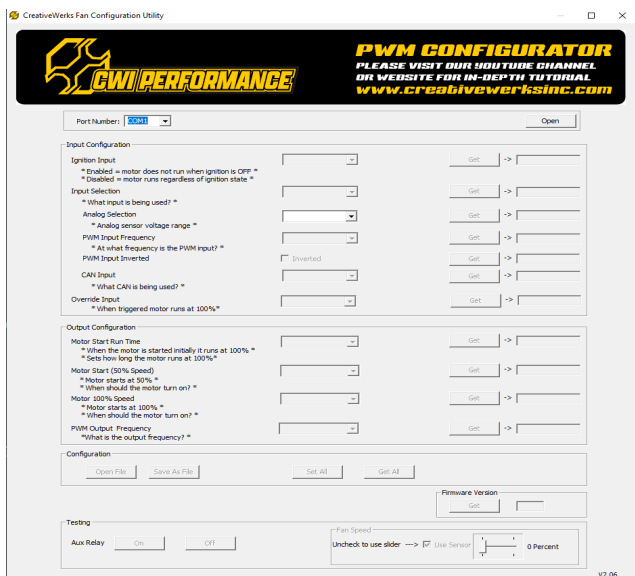
### 12 pin connector



- Pin 1 RS485- for programing via USB GUI
- Pin 2 RS485+ for programing 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

### Software: visit our youtube channel for in-depth tutorial.

Looking to customize your PWM controls? Simply Download our free PWM Configurator on our website at : <https://creativeworksinc.com/product/pwm-controller> This configurator allows you to enable/ disable input signals, customize sensor inputs between analog sensor, (temp sensor or pressure transducer) pwm, or can-bus. Additionally you can customize PWM input frequency allowing your controller to work with ANY ECU, as well as over ride input for manual switch or air conditioning (positive or negative selectable). Want to have soft start or hard start? You can select that too!



**Port Number:** This is the communication between controller and ecu [check com port under device manager for USB in Windows]

**Open:** Establishes communication between Configurator and Device

**Input Configuration**

**Ignition Input:** Enable this if you'd like the motor to turn off with Ignition

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

**Analog Selection:** Select Type of Analog Selection: CWI Temp Sensor, GM Temp Sensor, 0-5V Sensor.

**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

**Output Configuration**

**Motor Start Run Time:** Select for start 100% time: .25 secs, .5 secs, .75 secs, 1.0 secs.

\* The following selections are based on the input selection above\*

**Motor Start (50% Speed):** Set for 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 [ Please reference PWM Frequency of motor manufacturer]

**Configuration**

**Open File** Open saved configuration file

**Save As File** Save current configuration to file

**Set All** Sends opened saved config file to controller

**Diagnostic LED:**

Our PWM Controller features an externally visible LED to help aid in diagnostics. The following color code can be used for reference.

- Steady Red** Motor Off
- Slow Blinking Green** Motor 50%
- Medium Blinking Green** Motor 65%
- Fast Blinking Green** Motor 85%
- Alternating Green // Blue** Motor 100%
- Solid Blue** Override input activated