MISHIMOTO

INSTALLATION GUIDE

Universal Pulse-Width Modulated (PWM) Fan Controller

SKU: MMFAN-PWM-UBK

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RESOURCES & CONTACT

CALL 1.877.466.4744
CUSTOMER SERVICE HOURS: MON-FRI 8:30AM-5:00PM EST

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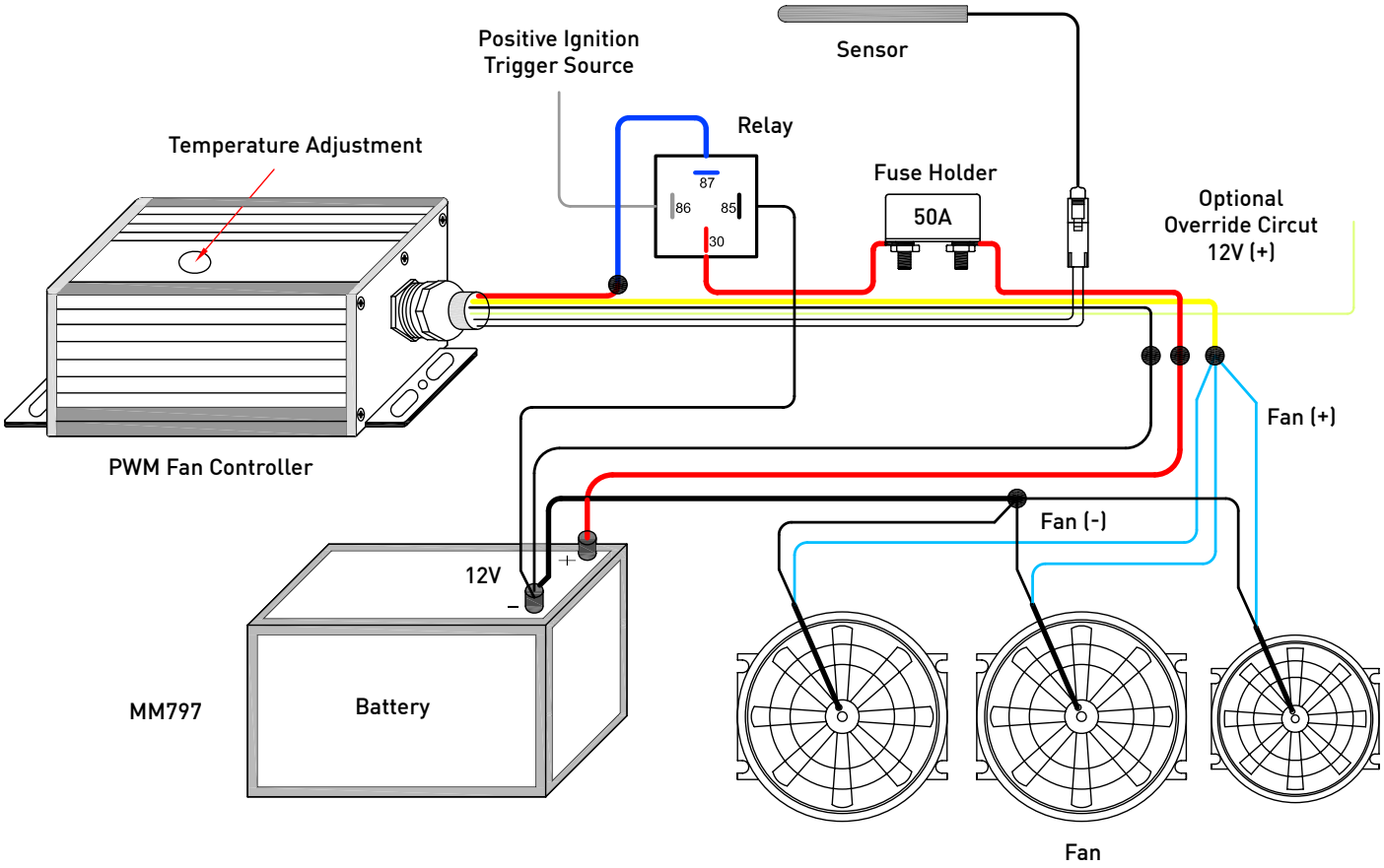
UNIVERSAL PULSE-WIDTH MODULATED (PWM) FAN CONTROLLER

WIRING DIAGRAM



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IMPORTANT SAFETY INFORMATION

- Mishimoto recommends you use safety glasses and protective gloves during the installation of our products
- Raise vehicle only on jack stands or on a vehicle lift
- Allow vehicle to cool completely prior to attempting installation
- Do not run the engine or drive the vehicle while overheating; serious damage can occur
- Please dispose of any liquids properly
- Mishimoto is not responsible for any vehicle damage or personal injury due to installation errors, misuse, or removal of Mishimoto products
- If you need any assistance while installing our products, reach out to our Customer Service Team at 1-877-GOMISHI

SUPPLIED PARTS

(1) PWM FAN CONTROLLER
(1) PUSH PROBE TEMPERATURE SENSOR
(1) NPT PROBE TEMPERATURE SENSOR
(5) #10 SCREWS
(2) #6 SCREWS
(1) RELAY

REQUIRED TOOLS

DRILL
5/32" DRILL BIT
7/64" DRILL BIT
SMALL FLATHEAD SCREWDRIVER
WIRE CUTTER/STRIPPER/CRIMPER
WIRE TERMINALS/CONNECTORS
ELECTRICAL TAPE OR HEAT SHRINK
TEFLON TAPE (IF USING THE NPT PROBE TEMPERATURE SENSOR)

INSTALL TIME: 1-2 HOURS

INSTALL DIFFICULTY:

INSTALLATION INSTRUCTIONS

NOTE: Before beginning the installation, disconnect the negative (-) cable from the vehicle's battery.

1. Install wire terminals or connectors appropriate for your specific application to the ends of the red, yellow, and black wires. Be sure to protect the connections with heat shrink or electrical tape.

2. Wiring the supplied relay into the circuit is recommended. This will only allow the fan controller to be powered on when the ignition is on. To install the relay into the circuit, the red 12V (+) input wire from the controller will need to be cut between the controller and the self-resetting circuit breaker. Then, connect the end of this cut wire from the self-resetting circuit breaker to terminal 30 on the relay. Next, connect terminal 87 from the relay to the other end of the cut wire going to the fan controller. Connect terminal 85 of the relay to the battery negative (-) or to a chassis ground. Connect terminal 86 of the relay to a positive (+) ignition trigger source. Use appropriate connectors and heat shrink or electrical tape on all connections. See the wiring diagram on page 2 for relay wiring. **Note:** If the relay is not used, the fan controller and fans can still function even when the vehicle is off. This can lead to battery drain if the fans run for an extended period of time when the vehicle is not running.

3. Determine an appropriate mounting location for the fan controller. The controller should be mounted away from extreme heat sources, such as exhaust headers. Using the brackets as templates, mark the location of the mounting holes and drill four (4) holes with a 5/32" drill bit. Mount the fan controller with four (4) of the supplied #10 screws.

4. Determine an appropriate mounting location for the self-resetting circuit breaker. The circuit breaker should be mounted away from extreme heat sources, such as exhaust headers. Using the bracket as a template, mark the location of the mounting holes and drill two (2) holes with a 7/64" drill bit. Mount the circuit breaker with the two (2) supplied #6 screws.

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5. Determine an appropriate mounting location for the relay. The relay should be mounted away from extreme heat sources, such as exhaust headers. Using the bracket on the relay as a template, mark the location of the mounting hole and drill one (1) hole with a 5/32" drill bit. Mount the relay with the remaining one (1) supplied #10 screw.

6. Make the connections as shown in the wiring diagram (Page 2). **THE RED WIRE** from the controller is the 12V (+) input wire and must be connected directly to the battery's positive (+) terminal. **THE BLACK WIRE from the controller is the controller ground (-) and must be connected directly to the battery's negative (-) terminal.** These wires must be connected directly to the battery to ensure the controller receives a clean signal. **THE YELLOW WIRE** is the output signal from the controller and gets connected to the fan(s) positive wire. The fan(s) may be grounded either directly to the battery negative (-) terminal or to a chassis ground. The total amp draw of the connected fans must not exceed 50A. **THE BLACK WIRE** from terminal 85 of the relay is the relay ground and gets connected to the battery negative (-) or to a chassis ground. **THE WHITE WIRE** from terminal 86 of the relay is the relay trigger and gets connected to a positive (+) trigger source that comes on with ignition or accessory (ACC) power. Connecting the relay to an ignition source will only allow the fans to run when the ignition is on. **THE GREEN WIRE** from the controller is the optional A/C override circuit. If using the A/C override circuit, splice the green wire into the 12V (+) wire from the A/C compressor. This will turn the fans on when the A/C is turned on, even if the coolant temperature is below the controller's activation temperature. Alternatively, the green wire can be connected to a 12V switch to be used as a manual override. When the A/C override circuit is activated, the fan(s) will turn on at 30% speed until the coolant temperature reaches the controller's activation temperature. Once the activation temperature is reached, the fan(s) will then increase from 30% to 100% speed.

7. Connect either the supplied push probe temperature sensor or the supplied NPT probe temperature sensor to the sensor connector plug from the fan controller. Install the temperature sensor as close to the coolant outlet on the radiator as possible. If using the push probe sensor, fully insert the probe into a row of fins. If using the NPT probe sensor, wrap the sensor threads with Teflon tape before installing the sensor.

8. To adjust the activation temperature of the controller, remove the rubber plug on top of the controller and use a small flathead screwdriver to adjust the dial. At the lowest setting, the fan(s) will turn on at 10% speed when the sensor reads a temperature of approximately 110°F. The fan(s) speed will adjust as the coolant temperature changes. The highest setting will turn the fan(s) on at approximately 190°F. The controller's activation temperature can be adjusted within this range by turning the dial. Once the dial is set to the desired setting, replace the rubber plug into the controller.

9. If your vehicle is running too hot, adjust the dial counterclockwise to lower the controller's activation temperature. If your vehicle is running too cold, adjust the dial clockwise to increase the controller's activation temperature.

10. Ensure all wires are routed and securely fastened away from any moving components. Reconnect the negative (-) cable from the vehicle's battery. The installation is now complete.

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DISPOSAL INSTRUCTIONS

- Do not dispose of any product as unsorted municipal waste. Use separate collection facilities. Contact your local authority for information regarding the collection systems available.
- Never improperly dispose of any coolant, oil, or other chemicals

WARRANTY INFORMATION

- All claims must be accompanied with a picture of the Mishimoto product showing the issue for which the claim is being submitted.
- Mishimoto asks that the customer inspect their purchased item for any damage immediately upon arrival.
- Any product deemed dead on arrival (DOA) must be claimed within 14 business days of delivery. Claims outside of this time frame will not be covered under the Mishimoto Lifetime Warranty.
- This warranty does not include payment and/or reimbursement of the cost of labor in connection with the removal of any product returned pursuant to the warranty policy or in connection with the installation of any replacement items provided under the warranty policy.
- Mishimoto has the right to refuse a claim at any time.
- When Mishimoto accepts a claim, Mishimoto retains full discretion to choose if it will: (i) repair or replace purchaser's original Mishimoto product; (ii) replace purchaser's original Mishimoto product with the most current available model; or (iii) provide the purchaser with a gift card redeemable on Mishimoto.com in the amount of the original purchase price of the original Mishimoto product. The provision of a replacement of a Mishimoto product is subject to availability and Borne Off-Road retains the right to substitute any warranty claim item with a comparable item or credit at any time.
- If Mishimoto determines that it will provide a replacement item in connection with a claim under this warranty policy, and such item is out of stock, Mishimoto will place the customer on backorder and ship the replacement product to the purchaser once it becomes available.
- Mishimoto is not liable for incorrect shipments in connection with a claim if a claim form is completed incorrectly, or if a model number is not included in a claim.
- If you have a vehicle equipped with an automatic transmission, please make sure to specify this within the text box on the claim form. Mishimoto is not responsible for incorrect replacement shipments if transmission type is not indicated.

WARNING
Cancer and
Reproductive Harm
www.P65Warnings.ca.gov

- This product can expose you to chemicals which are known to the state of California to cause cancer. For more information visit: www.p65warnings.ca.gov