

# WMR-10 Installation

This document is online at <http://www.wifitrax.com/appNotes/quickStart/WMR-10-Quick-Start.pdf>. Please see our website for information on our limited warranty.

## Package Contents

- 1 x WMR-10 Module in Static Shielding Bag
- 1 x WAL-10 LED Set for use as locomotive front and rear lights
- Getting Started: WMR-10 Installation (this document)
- Getting Started: Loco Operator App

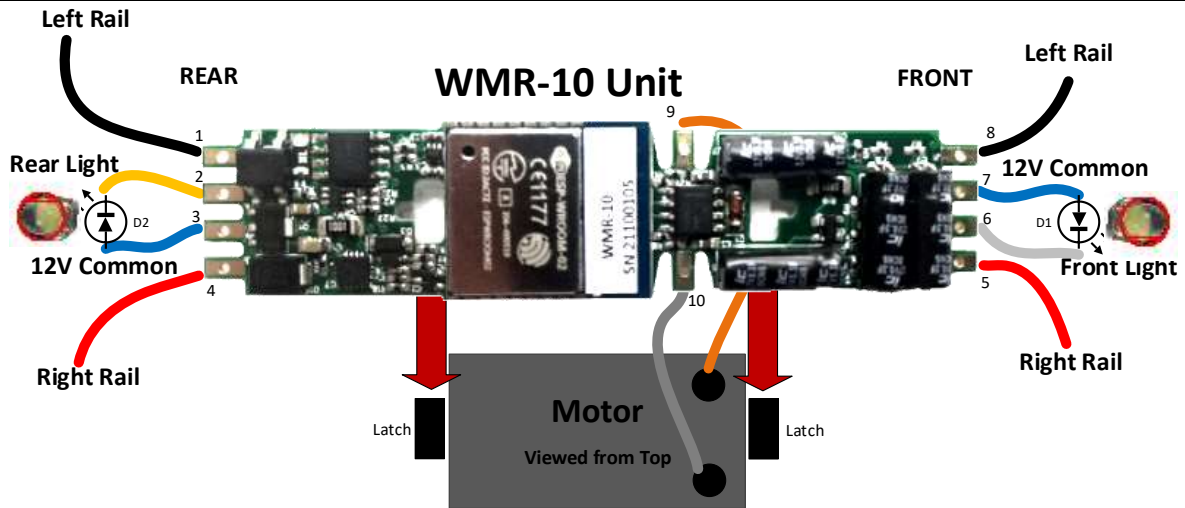


Figure 1 Connection Diagram

Pin Number	Lead Color on Diagram	Function
1	Black	Left Rail
2	Yellow	Rear Light
3	Blue	12V Common
4	Red	Right Rail
5	Red	Right Rail
6	White	Front Light
7	Blue	12V Common
8	Black	Left Rail
9	Orange	Motor +
10	Gray	Motor -

Table 1 Connection Information

## Summary Installation Instructions

For more information please see our website [www.wifitrax.com](http://www.wifitrax.com)

- (1) Ensure your locomotive is working properly. Do not install our unit in locomotives with damaged motors. Remove the plastic shell from your locomotive.
- (2) **Make sure that the motor is isolated from the track power!** This is most important – if one side of the motor is connected directly to the track, possibly through the frame, you will have to re-wire the locomotive before you start.

- (3) Make a note of the wire connections on the original circuit board. Remove all the wires connected to the locomotive circuit board. Keep any plastic clips as you can use these to reconnect the wires to the WMR-10. Alternatively, you can solder them.
- (4) Remove the locomotive circuit board.
- (5) Clip the WMR-10 module over the plastic latches replacing the circuit board you removed.
- (6) Connect the wires to the motor as shown in Figure 1. Note that in the original circuit board, the motor connections are usually on the same side. On the WMR-10, they are on opposite sides. The polarity of the motor connections is not critical since you can reverse it as part of the configuration variables.
- (7) Connect the wires from the trucks that make contact with the left and right rails as in Figure 1.
- (8) Connect the leads to the front and rear lamp LEDs as in Figure 1. Be sure to get them the right way around, so the flats are in the position shown in Figure 1.
- (9) Check everything carefully for correct connection, pinched wires or accidental contacts.
- (10) Place the loco on the track and apply power, the LED lights should flash briefly. If they do not, check to make sure they are the correct way around. They may need to be opposite in polarity compared to the original circuit board. You will not damage anything by connecting them the wrong way around.

## Notes and Cautions

1. The 12V Common is provided by the WMR-10 module. **DO NOT CONNECT THIS TO THE TRACK POWER.** This is used to supply power to the LED front and rear lights.
2. The track voltage must not exceed 18 volts. We recommend 12-14 volts as the unit will run cooler. If you run at 18 volts and full speed, you may overheat some locomotive motors and/or the unit may shut down due to its over-temperature protection. The polarity of the track voltage does not matter.
3. If you use your locomotive's original LEDs and they are too dim, there may be a resistor in series. Our unit includes a 1K Ohm series resistor, so you could remove any additional series resistor or use the LEDs supplied with your WMR-10 unit.

If you need more help please visit our website. There are very detailed application notes for a selection of locomotives.

[www.wifitrax.com/appNotes/howToArticles.html](http://www.wifitrax.com/appNotes/howToArticles.html)



Figure 2 WMR-10 Installed in a locomotive. Here the wires and the LEDs have been soldered to the tabs on the module.



Figure 3 WMR-10 Installed in a locomotive. Here the wires have been attached using the original plastic clips.