

Sensa-Trak II™

Sensa-Trak II™ Installation

Please read instructions completely before beginning your installation. For best results, use filtered, regulated, DC voltage.

Do not use the variable output of a throttle control.

Installation is very simple. Drill two, 3/16" holes side by side as close as possible in the center of your track between the rails and through the roadbed. One hole 3/8" in the center of the track will work, if you prefer. Mount the **Sensa-Trak II™** to the plywood using a #4 self-tapping screw, 1/2 inch long (not included). If using the optional plastic standoff, push the standoff into the hole in the center of the **Sensa-Trak II™**. Peel the paper backing off and position the two diodes in the center of the hole and press the standoff (optional) to the bottom of the roadbed. See [Figure 1](#). The standoff (optional) and IR diode height is adjusted for 3/4 inch thick plywood roadbed with 3/16 inch cork.

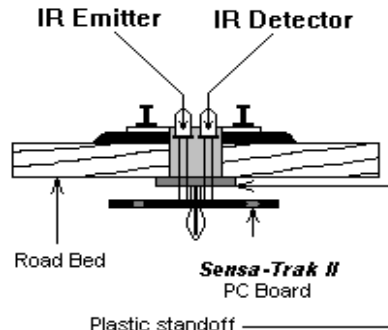


Figure 1.

Included with the **Sensa-Trak II™** is a white housing and three metal terminals to make your wire connections. We recommend using red, black, and white wire. The red wire is for the positive (plus) voltage input. The black wire is for the negative (minus) voltage input. The white wire is for the output. The output will drive a relay, an LED, a signal control, etc. If you are using the output to control an LED, use a 1k ohm resistor in series with the LED. The output is at a positive potential, or high, when there is no train over the diodes. When a train is sensed, the output will go to a negative potential, or low. See [Figure 2](#) for the connections to the **Sensa-Trak II™**.

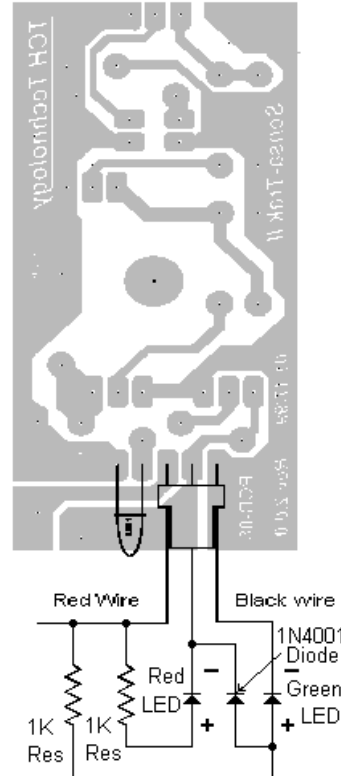


Figure 2.

This system works quite well in hidden areas and areas with average light. If there is too much light or the content of the light has a lot of infrared present, this may cause the **Sensa-Trak II™** to trigger. Using a piece of 1/8" diameter 1/2" long piece of heat shrink tubing slipped over both IR diodes will reduce the effect of the ambient light. This will also reduce the overall sensitivity of the system. We also suggest the inside of the rails next to the IR diodes be painted flat black to reduce the reflections of IR off the rails.

Note: There are two pieces of heat shrink tubing on the IR LED's, make sure they are on the LED's when the installation is complete. The circuit described in this document has been tested under a variety of conditions. However, it is impossible to foresee and test under all circumstances to which the circuit may be subjected. Furthermore, many performance aspects are directly linked to the physical layout of the components and the method of connections.