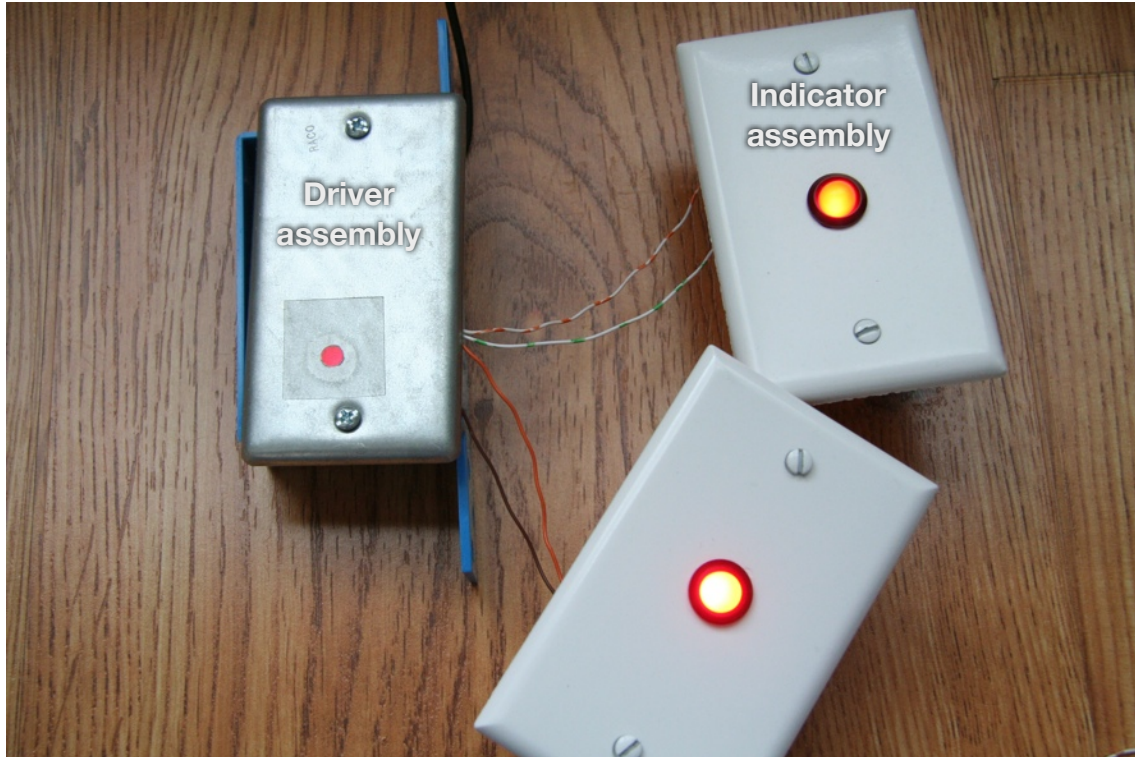


Garage door sensor

Installation suggestions



This kit has the components needed to turn on one or two indoor indicators when the garage door is open.

Driver assembly

- 5V DC wall mount power supply
- Single gang blue wall box with blank steel cover plate
- Driver assembly board with 6 position 0.200" screw terminals

Sensor

- Magnetic panel switch, Digi-Key #[CKN6007-ND](#)

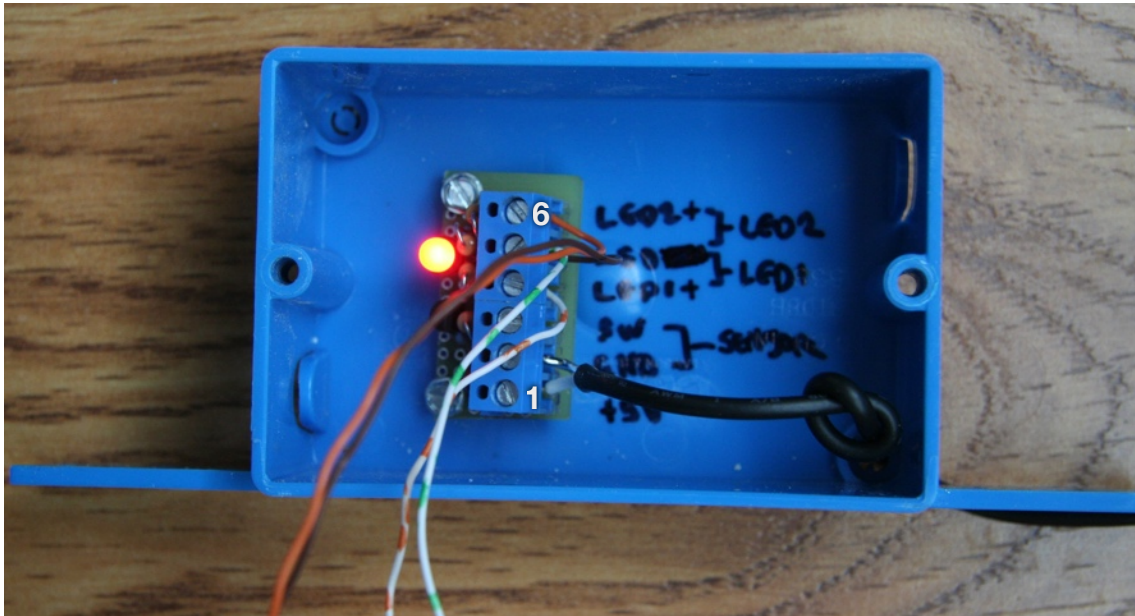
Indicator assembly (2)

- Super red 10mm panel mount LED, Digi-Key #[67-1174-ND](#)
- Old-work low voltage single gang wall box with white blank medium wall plate
- Jumper wire assembly with 2 position 0.200" screw terminals

Driver installation

The driver box may be installed anywhere, but it would probably be most convenient to mount it in the attic near a power outlet. You will have to run a pair of wires to each

indicator and the magnetic switch. The signals are all 5V and low current, so plain phone cord or other equivalent wire would be adequate.



The terminals are numbered 1-6 from left to right, as looking into the terminal block connections, and their functions are labeled on the inside of the box.

Terminals 1 (+5V) and 2 (ground) on the driver board connect to the included power supply. The power supply's outer conductor wire is ground, and the inner conductor is +5V. A self-resetting thermal fuse on the driver board limits current draw in case of a fault.

Terminal 3 connects to one side of the magnetic switch. The other side of the switch connects to ground, terminal 2. Terminal 2 will connect to both the power supply and to the switch. The polarity of the wiring at the switch does not matter. A simple test to verify the circuit is to temporarily short terminals 2 and 3 with a short piece of wire, simulating the closed switch. The LEDs will turn off when terminals 2 and 3 are shorted.

Terminals 4 and 6 connect to the positive side of each LED. Terminal 5 is a shared connection to the negative side of both LEDs. An additional LED is included on the driver board that duplicates the function of the switch panel LEDs. A hole in the cover plate allows the LED to be seen when the driver assembly is installed.

Wiring to the sensor and indicator LEDs can pass through the knockouts. It is suggested to tie a knot in the wires on the inside of the box for strain relief.

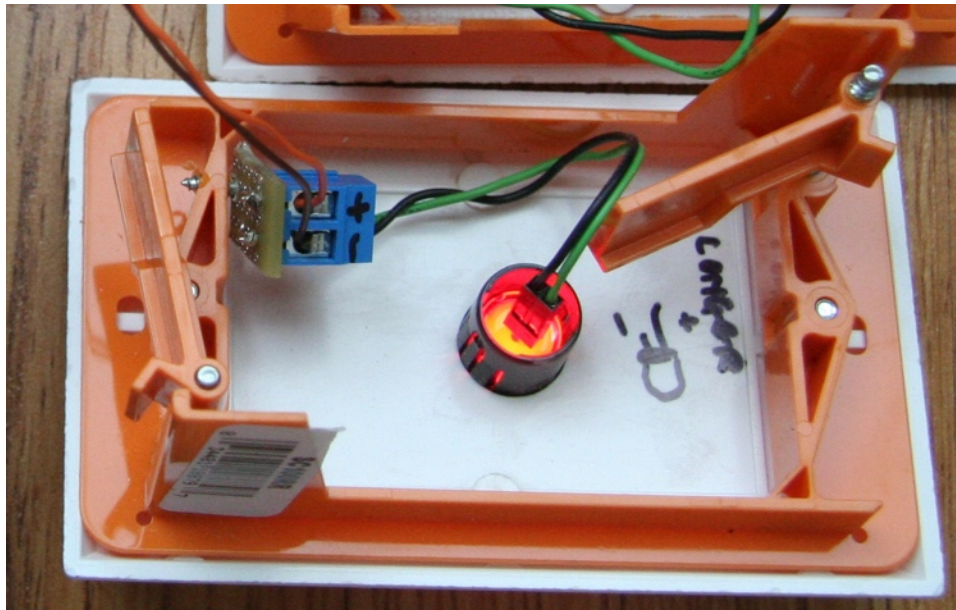
Sensor installation

The sensor comes in two parts, a magnet, which should be mounted to the moving part of the garage door, and a switch, which should be mounted to the door frame. The

switch will activate when brought to within approximately 2" of the magnet. The orientation of the components and proximity to other metal will have some influence on the operation of the switch, so some experimentation will be necessary to determine the optimum mounting position. The polarity of the wiring at the switch does not matter. There is a cover plate included that is intended to go between the wiring terminals and the surface onto which the switch is mounted.

Indicator installation

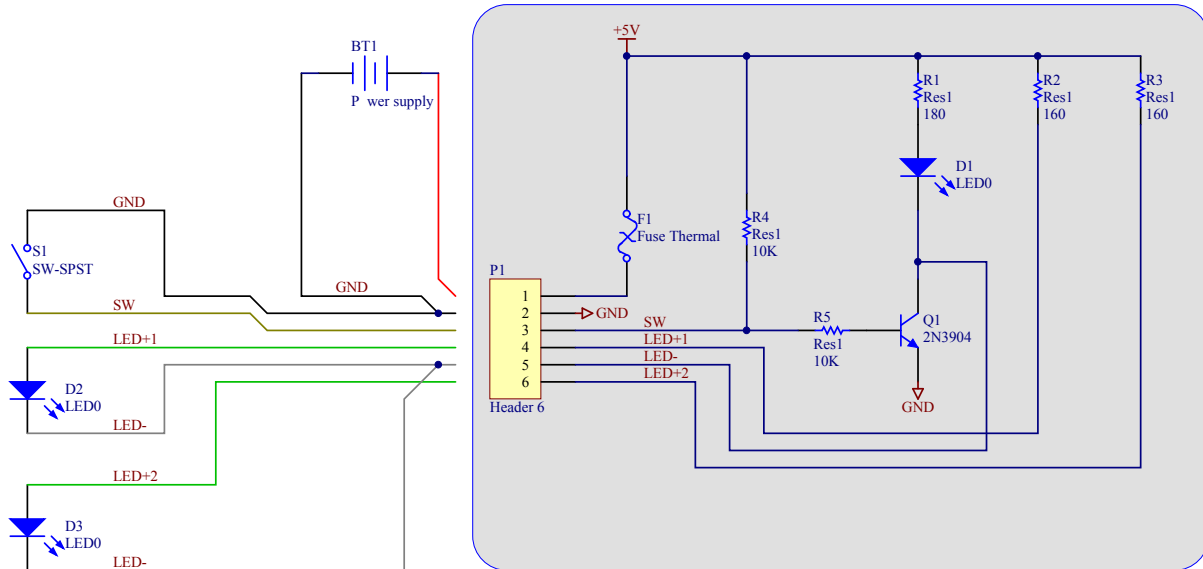
The LED indicators light when the sensor switch is open. The polarity of the wiring at the LED is important: reversed polarity will not damage the LED, but it will not light. The colored wire connects to the positive terminal of the LED, and the terminal block is labeled with the correct polarity. Both indicator LEDs need not be installed, but if both are used, each one needs to use its own positive terminal from the driver board. The negative terminal on the driver board, however, is shared between the LEDs. Because this contraption is low voltage, it is allowable to use the orange open wall boxes. Small boards with a terminal block are attached to the wall box to make attaching the wires a little easier, and to provide some strain relief when pulling wires through walls. The positive and negative terminals are labeled on the terminal block.



The pigtail wire between the panel's terminal block and the LED can be removed from the LED when attaching the box to the wall, but upon reassembly, the polarity of the LED does matter. Connect the colored wire to the longer lead of the LED. The longer LED lead is positive.

Schematic

A schematic of the system is below. The components in the grey box are in the blue driver assembly box.



Power consumption

Power consumption was not measured, but should be less than 1 watt when all LEDs are turned on.