

# INTERFACING A LASER LED With Arduino

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This project turns on and turns off a laser LED after every second. It can also monitor its own supply voltage level. The circuit can be extended for use as an audio-visual alarm system for security applications.

Keyes KY-008 laser transmitter module is available at [www.ebay.com](http://www.ebay.com). But there is a lot of confusion regarding this particular module; it is impossible to find its datasheet or any kind of related document from the Internet.

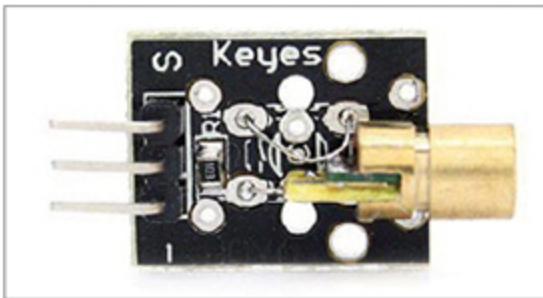


Fig. 1: KY-008 laser LED module

KY-008 laser LED module has three pins, as shown in Fig. 1. The pins are labelled (from left to right) as: pin 1 as S, pin 2 (centre) with no label and pin 3 with - (minus sign). Pin 2 outputs the exact same voltage as the supply voltage, which is connected at pin 1. Pin 2 can be used in the following ways:

1. To monitor incoming power supply or voltage level.
2. To use as triggering input to alarm circuit when voltage at pin 2 drops (such as when someone cuts the power supply of laser LED, or when voltage drops below an acceptable level for an application). In short, this module provides an option to monitor its own power supply.

When you connect a 5V power supply to the laser module, a red-dot laser beam appears.

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## Circuit and working

Circuit diagram for interfacing of KY-008 laser LED module with Arduino is shown in Fig. 2.

Connect pins 7 and Gnd of Arduino to pins 1 and 3 of KY-008 module, respectively. Run the first sketch (onoff.ino) to turn the laser on and off every second. Next, connect pin A0 (ADC channel 0) of Arduino to pin 2 of the laser module. The second sketch (laser\_status.ino) outputs the voltage status on pin 2 of the module to Arduino's serial monitor. The author's prototype is shown in Fig. 3.

## Software

Circuit operation is done using the software loaded into the internal memory of Arduino Uno R3. The program is written in Arduino programming language. Arduino IDE 1.6.4 is used to compile and upload the program/sketch. ATmega328P on Arduino Uno comes with a pre-programmed bootloader that allows you to upload a new code to it without using an external hardware programmer. Connect Arduino to the PC and select the correct COM port in Arduino IDE.

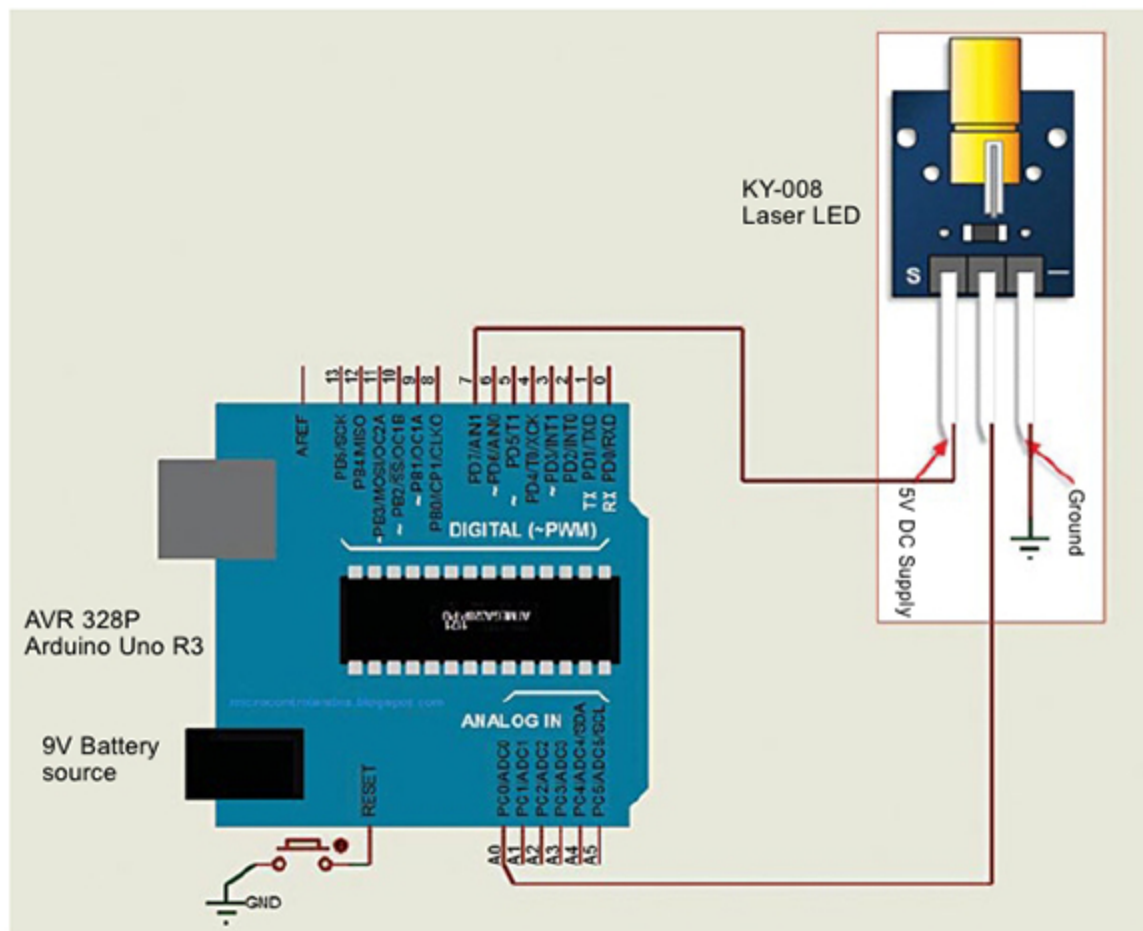


Fig. 2: Circuit diagram for interfacing laser LED module with Arduino