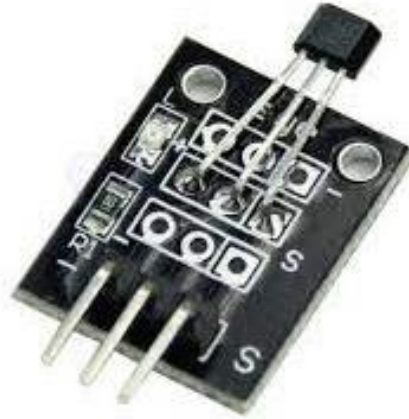


KY-003 Hall Magnetic Sensor Module

Introduction:



The KY-003 Hall Magnetic Sensor module is a switch that reacts to the presence of a magnetic field, turning itself on or off. With this small Hall magnetic field sensor, it can detect the magnetic fields, using the sensor's digital output and the integrated status LED. This transistor interconnects if the module is position in a magnetic field

Features: -

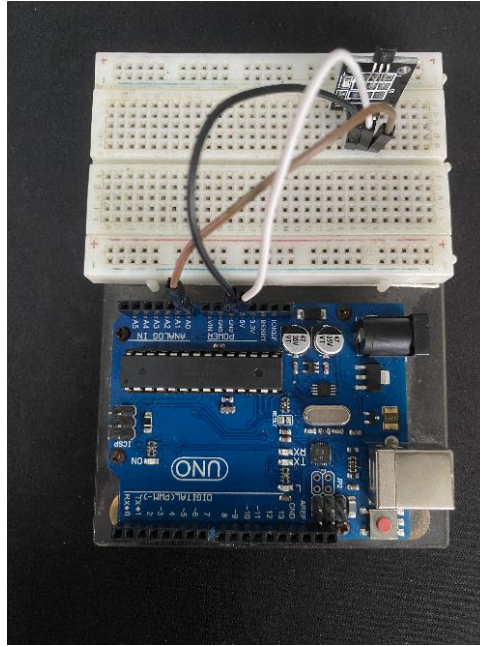
- Reverse Battery Protection
- Activate with Small, Commercially Available Permanent Magnets
- Solid-State Reliability
- Small Size
- Resistant to Physical Stress
- Compatible with Arduino

Specifications: -

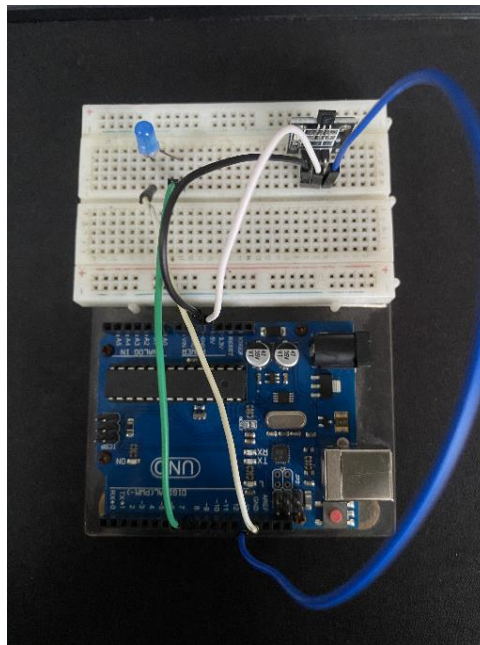
- Operating Voltage: 4.5V to 24v
- Operating Temperature:-40C to 85C
- Board Dimensions:18.5mm x 15mm

Procedures: -

Step 1: Hall magnetic has three pins: GND, Signal analog, and VCC. The GND pin is connected to ground, the signal analog connect to 13pin, and the VCC is the power supply.



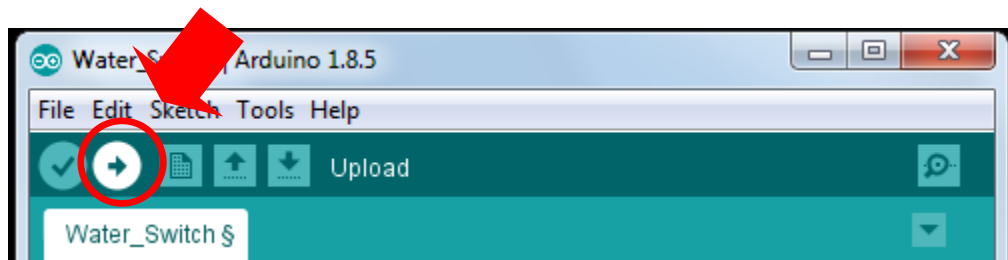
Step 2: LED pin out cathode is connected to ground, pin out anode connected to 8.



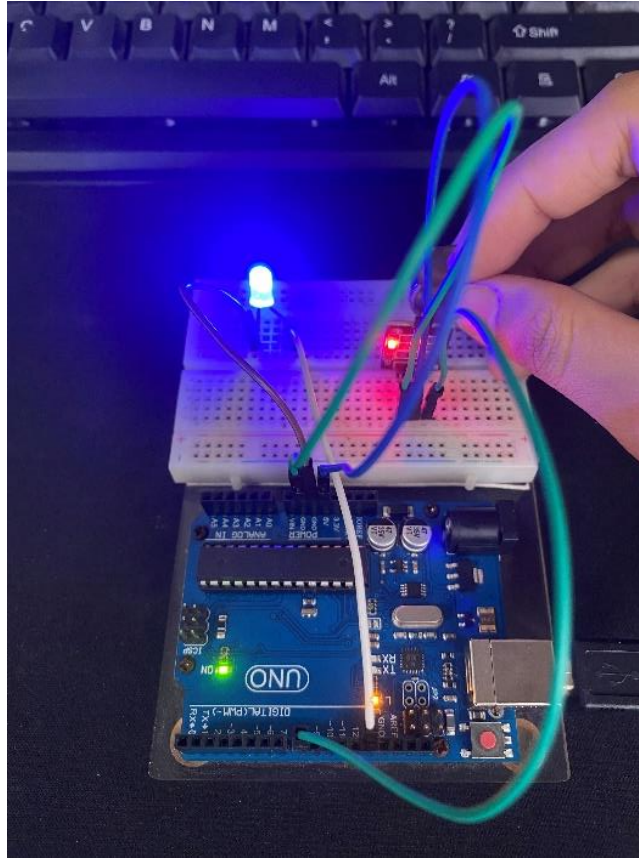
Step 3: Open Arduino IDE on PC and insert the given code below.

```
int led = 13;//LED pin
int sensor = 8; //sensor pin
int val; //numeric variable
void setup()
{
  pinMode(led, OUTPUT); //set LED pin as output
  pinMode(sensor, INPUT); //set sensor pin as input
}
void loop()
{
  val = digitalRead(sensor); //Read the sensor
  if(val == LOW) //when magnetic field is detected, turn led on
  {
    digitalWrite(led, HIGH);
  }
  else
  {
    digitalWrite(led, LOW);
  }
}
```

Step 4: After that, connect to Arduino UNO to the PC. Then click upload to start compiling and uploading program to the board.



Step 5: The hall magnetic sensor module will detect any magnetic field and led will light up to show that magnetic was detected.



Application:

- Speeds control
- Security systems
- Alignment controls
- Micrometers
- Mechanical limit switches