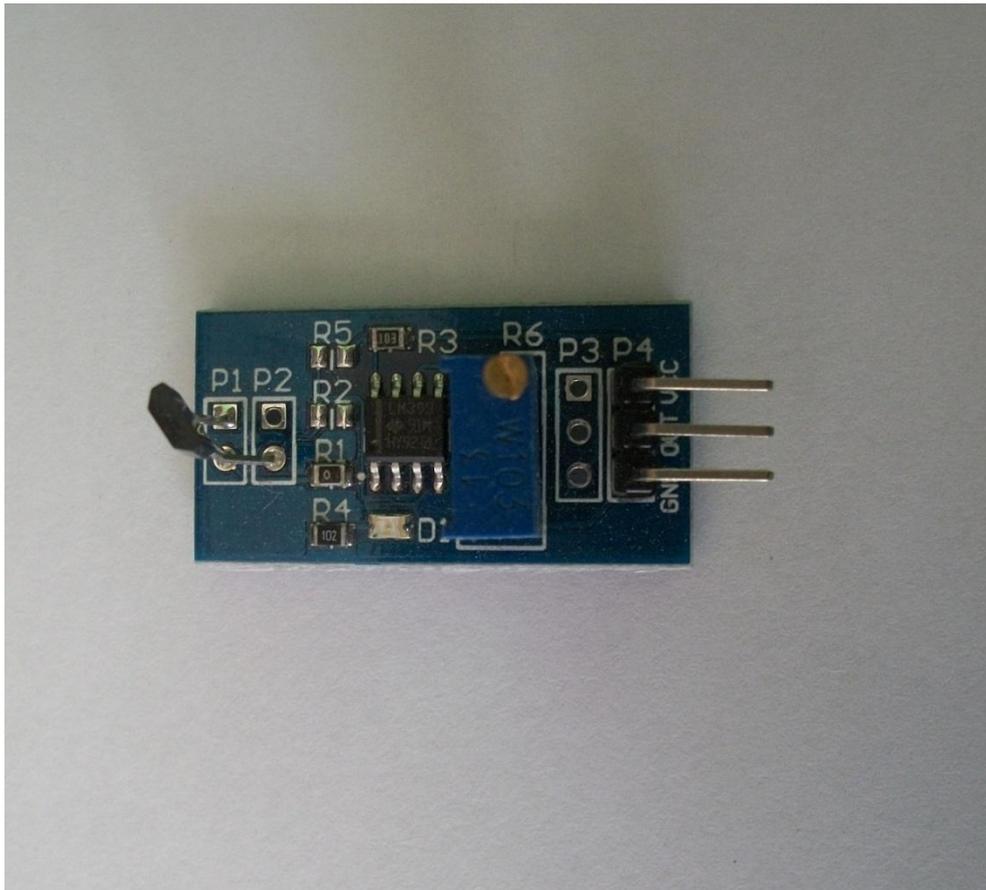


LM393 Hall Effect Magnetic Detector Sensor Module



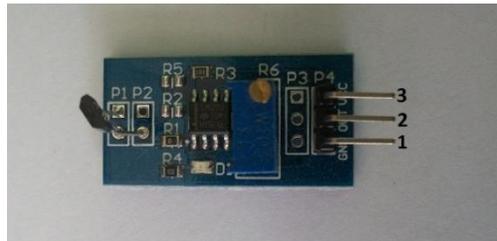
General Description

The LM193 series consists of two independent precision voltage comparators with an offset voltage specification as low as 2.0 mV max for two comparators which were designed specifically to operate from a single power supply over a wide range of voltages. Operation from split power supplies is also possible and the low power supply current drain is independent of the magnitude of the power supply voltage. These comparators also have a unique characteristic in that the input common-mode voltage range includes ground, even though operated from a single power supply voltage.

The LM193 series was designed to directly interface with TTL and CMOS. When operated from both plus and minus power supplies, the LM193 series will directly interface with MOS logic where their low power drain is a distinct advantage over standard comparators.

Specifications:

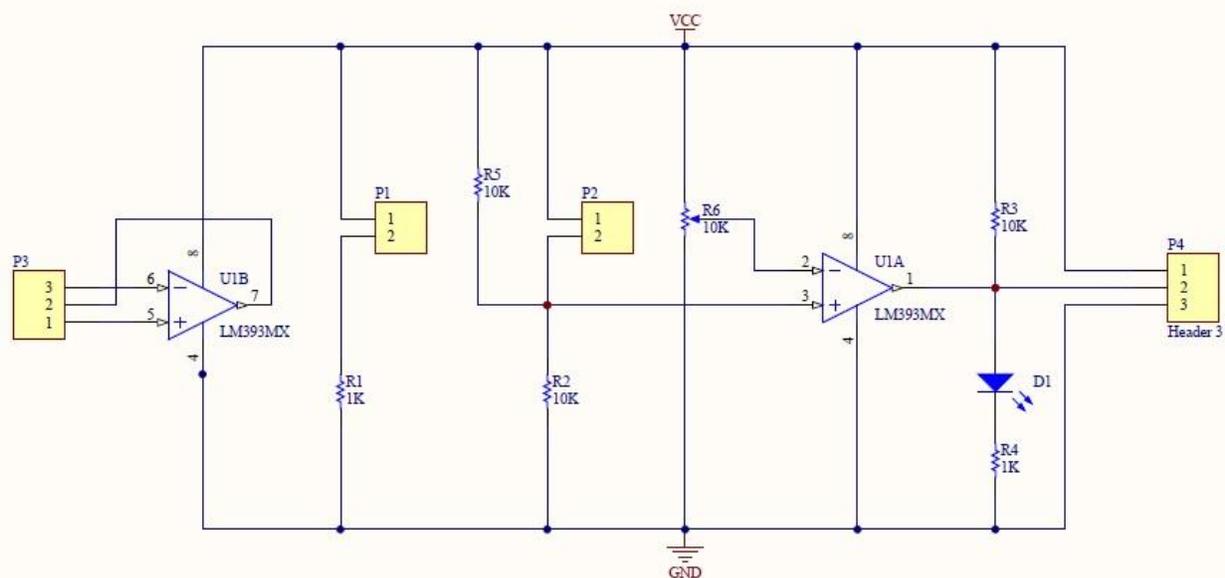
- With output instructions
- Single output
- The output valid signal is low
- Sensitivity adjustable (fine tuning)
- There is a magnetic signal output cut
- The output switches circuit boards (MCU can be connected directly)
- Size: 20 x 32 x 11mm
- Main chip: LM393, 3144 Hall sensor
- Operating voltage: 5V DC



Pin Configurations:

1. Ground
2. Output
3. VCC

Schematic Diagram:



How to test:

1. Connect your Arduino microcontroller to the computer.
2. Connect the VCC pin of your module to the to the 5V pin of your Arduino.
3. Connect the GND pin of your module to the GND pin of your Arduino.
4. Connect the Output pin of your module to the A0 pin of you Arduino.
5. Enter this program to your Arduino Integrated Development Environment (IDE):

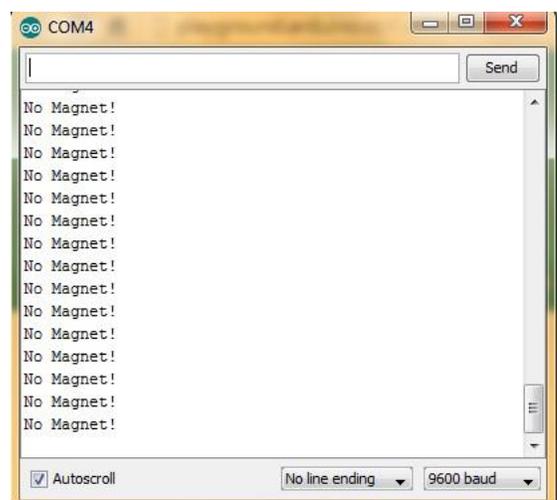
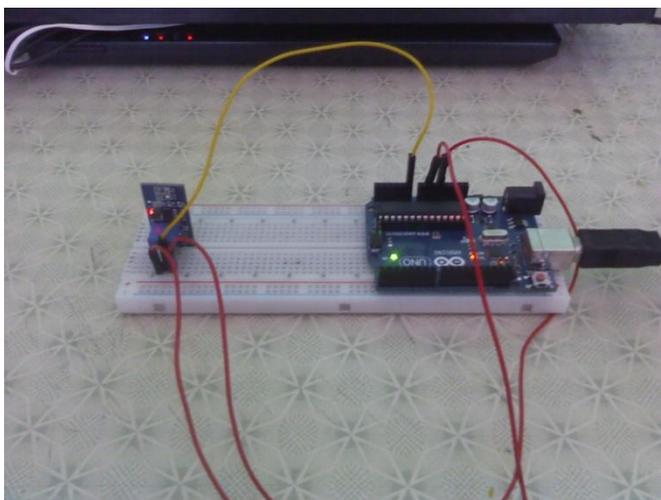
```
void setup()
{
  Serial.begin(9600);
}

void loop()
{
  if (analogRead(A0) > 300) Serial.println("No magnet!");
  else Serial.println("There's a magnet!");
  delay(100);
}
```

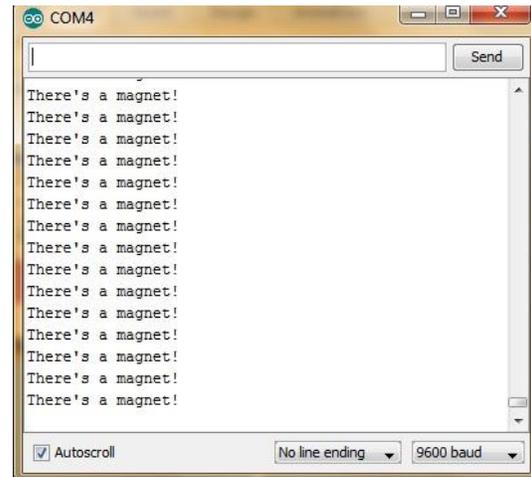
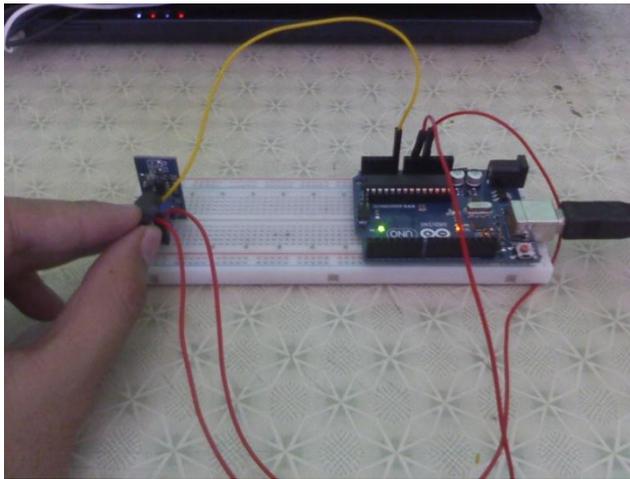
6. Click the Upload Button
7. Lastly, click the Serial Monitor button.

Testing Results:

When there's no magnet:



When exposed to a magnet:



Applications:

- limit comparators
- simple to the analog to digital converters
- pulse, square wave and time delay generators
- wide range VCO
- MOS clock timers
- Multi vibrators
- high voltage digital logic gates