

Lesson 18 Water Level Detection Sensor Module

Overview

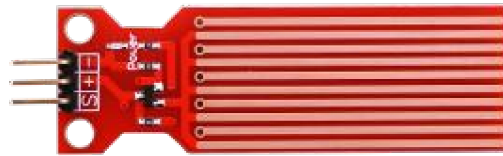
In this lesson, you will learn how to use a water level detection sensor module. This module can perceive the depth of water and the core component is an amplifying circuit which is made up of a transistor and several pectinate PCB routings. When put into the water, these routings will present a resistor that can change along with the change of the water's depth. Then, the signal of water's depth is converted into the electrical signal, and we can know the change of water's depth through the ADC function of MEGA2560 R3.

Component Required:

- (1) x Elegoo Mega2560 R3
- (3) x F-M wires (Female to Male DuPont wires)
- (1) x Water level detection sensor module

Component Introduction

Water sensor:



A water sensor brick is designed for water detection, which can be widely used in sensing the rainfall, water level, even the liquefaction leakage. The brick is mainly composed of three parts: an electronic brick connector, a 1 MΩ resistor, and several lines of bare conducting wires.

This sensor works by having a series of exposed traces connected to ground.

Interlaced between the grounded traces are the sense traces.

The sensor traces have a weak pull-up resistor of 1 MΩ. The resistor will pull the sensor trace value high until a drop of water shorts the sensor trace to the grounded trace. Believe it or not this circuit will work with the digital I/O pins of your MEGA2560 R3 board or you can use it with the analog pins to detect the amount of water induced contact between the grounded and sensor traces.

This item can judge the water level through with a series of exposed parallel wires stitch to measure the water droplet/water size. It can easily change the water size to analog signal, and output analog value can directly be used in the program function, then to achieve the function of water level alarm.

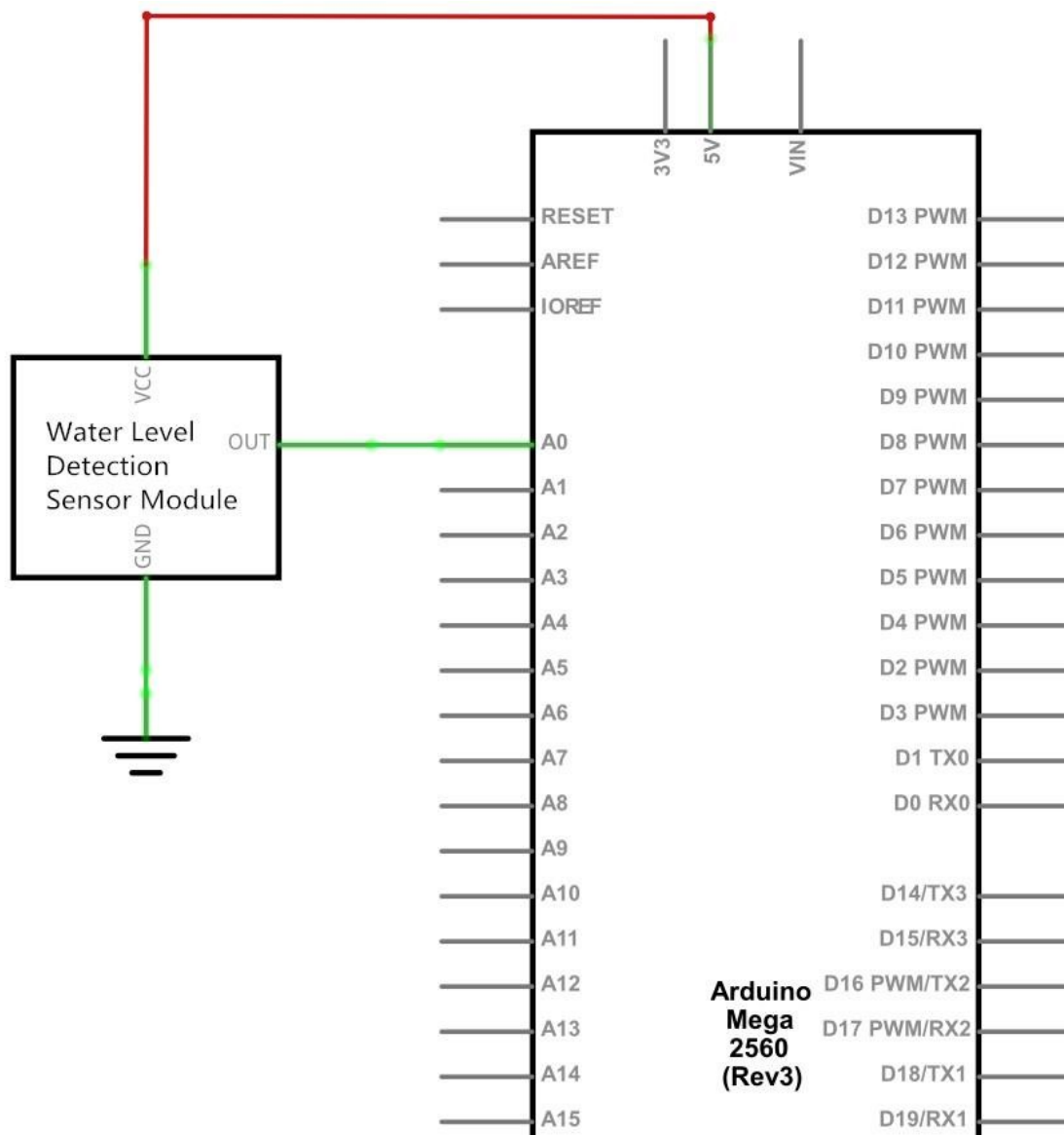
It has low power consumption, and high sensitivity.

Features:

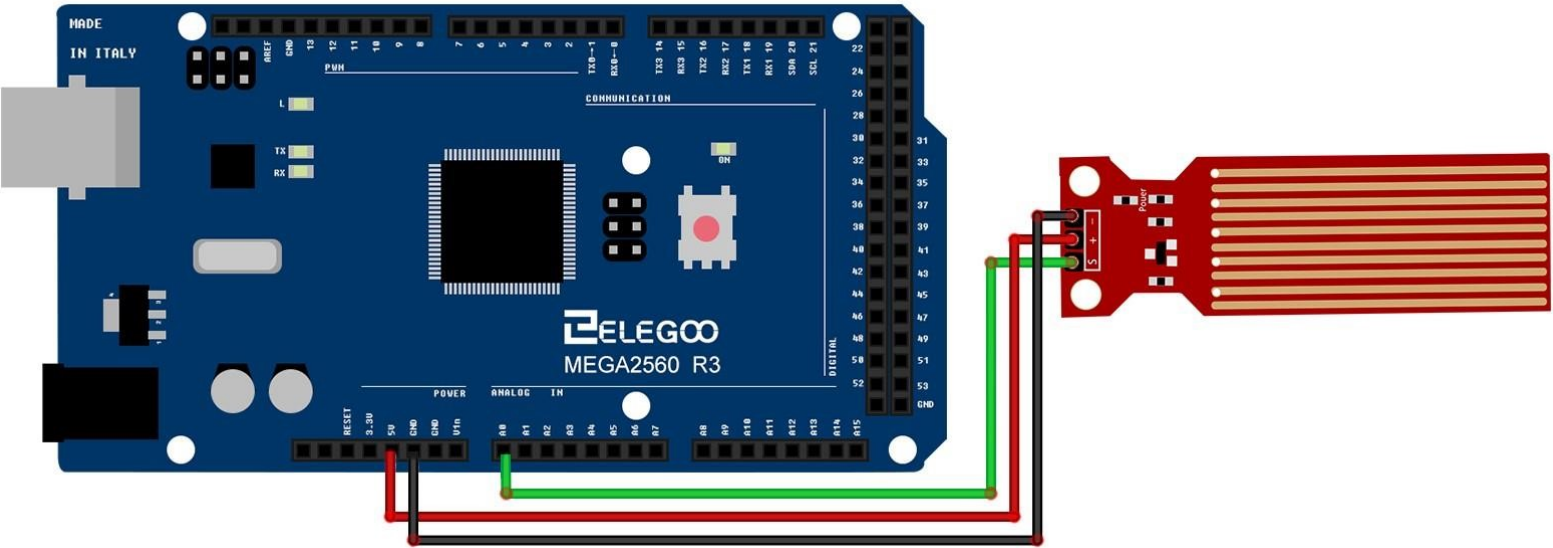
- 1、 Working voltage: 5V
- 2、 Working Current: <20ma
- 3、 Interface: Analog
- 4、 Width of detection: 40mm×16mm
- 5、 Working Temperature: 10°C~30°C
- 6、 Output voltage signal: 0~4.2V

Connection

Schematic



Wiring diagram

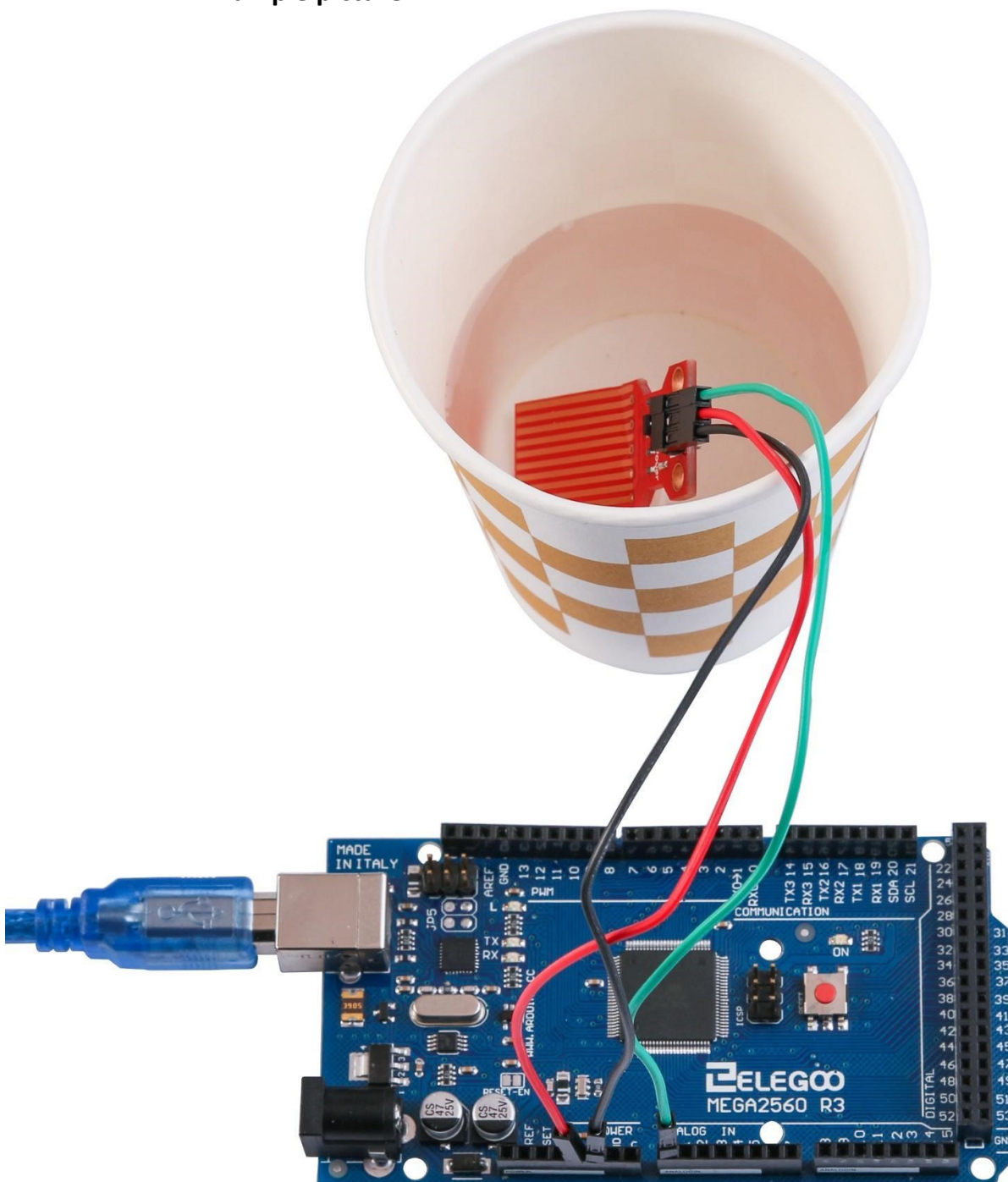


Wiring tips: Power supply (+) is connected to 5V of MEGA2560 R3 board, ground electrode (-) is connected to GND. Signal output (S) is connected to the ports (A0-A5) which have function of inputting analog signal in MEGA2560 R3 board, random one is OK, but it should define the same demo code as the routine.

Code

After wiring, please open the program in the code folder- Lesson 18 Water Level Detection Sensor Module and click **UPLOAD** to upload the program. See Lesson 2 for details about program uploading if there are any errors.

Example picture



Open the monitor then you can see the data as below:

Click the [Serial Monitor](#) button to turn on the serial monitor. The basics about the serial monitor are introduced in details in [Lesson 1](#).

