How to make a weight scale

Do you want to know how much foot you eat today? Or perhaps, you think the scale on the market is too stiff? Want to build your own weight scale and freely make its shape as you pleased? Now we only need a weight sensor module and a weight sensor combined with Arduino, which make it come true. So what are you waiting for? Then, let's begin!

Step1:   What we need:

1. 1x DFRduino UNO R3
2. 1x Weight Sensor Module
3. 1x Weight Sensor
4. 1x Framework
5. 1x LCD Keypad Shield For Arduino

Note: The framework will be made by yourself according to the weight sensor machine drawing. The following Fig.1 shows the weight sensor machine drawing.
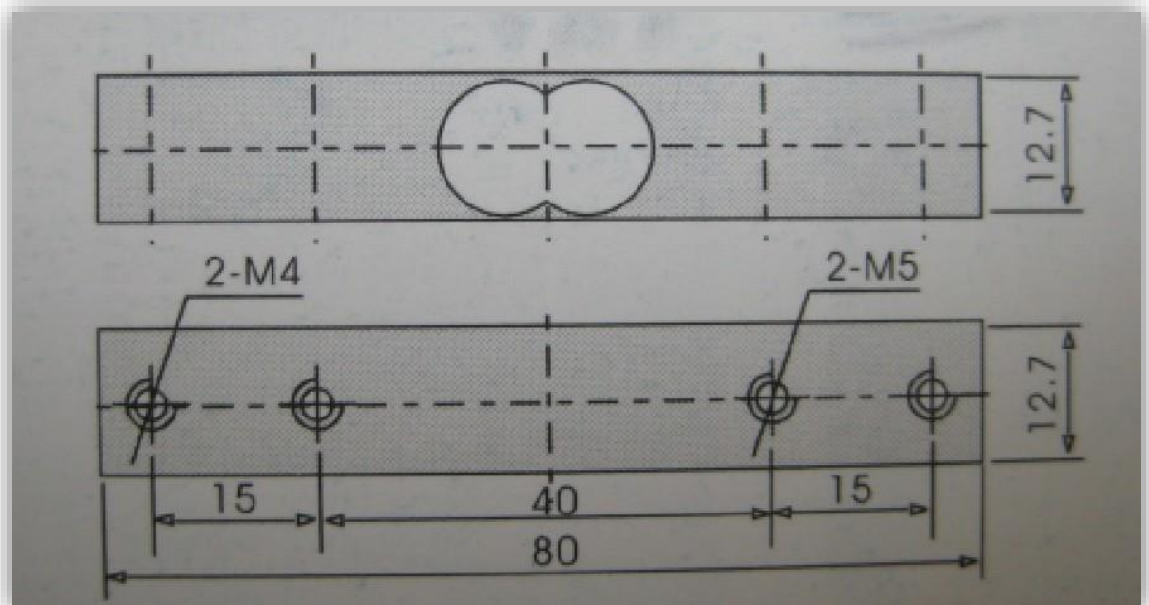We have also provided the 3D drawing.

Fig.1 Weight Sensor Machine Drawing
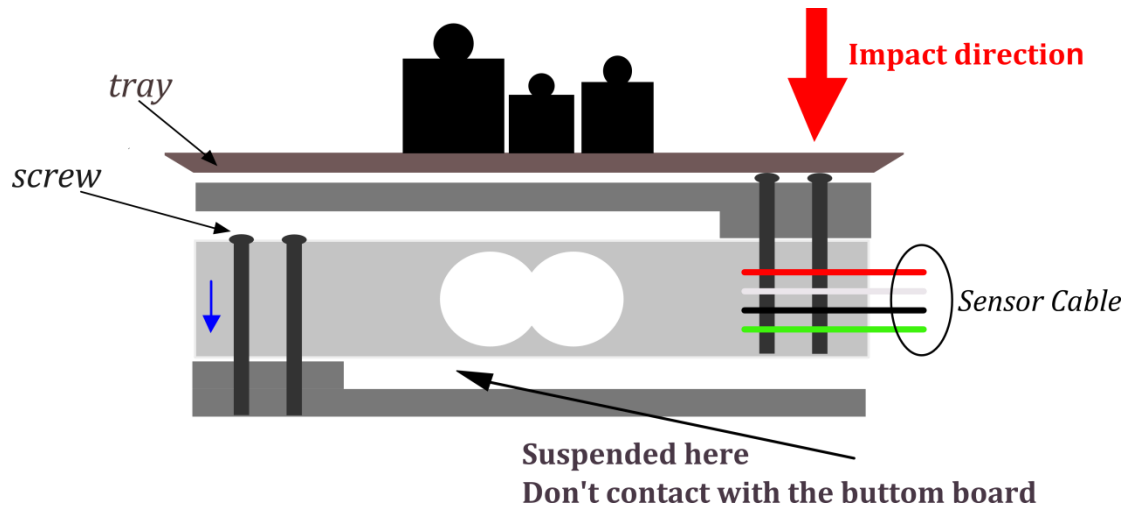
How to fix the weight sensor?

Fig.2 Fix weight sensor

Note: The blue arrow on the left stands for the label on the weight sensor. Notice the direction and location of arrow.

The following figure is physical map.
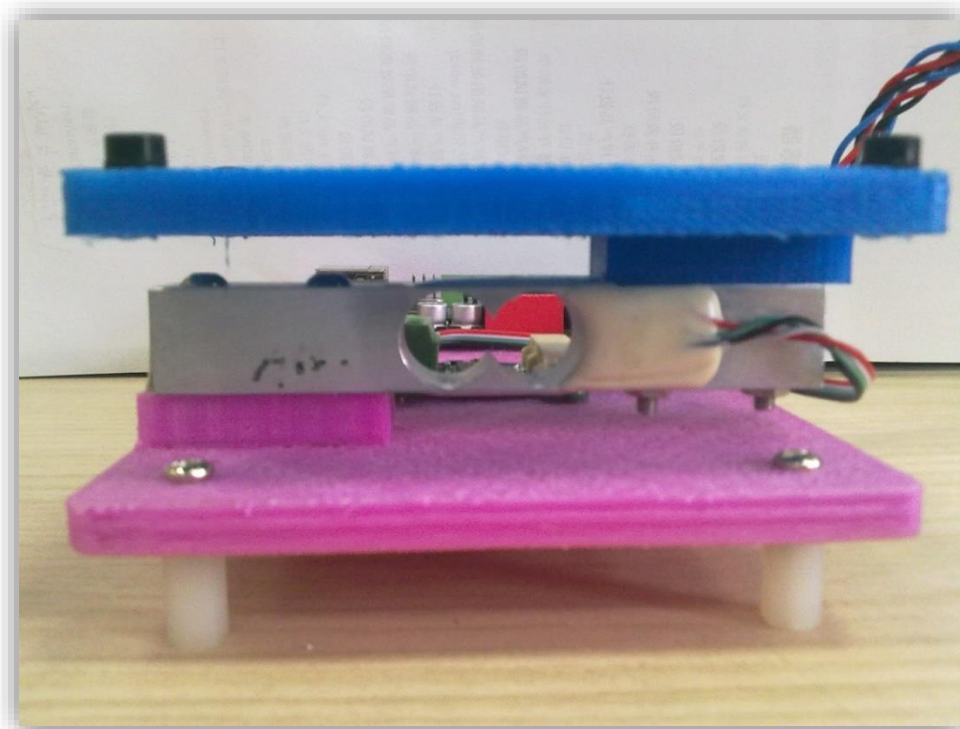

Fig.3 Physical picture of weight scale
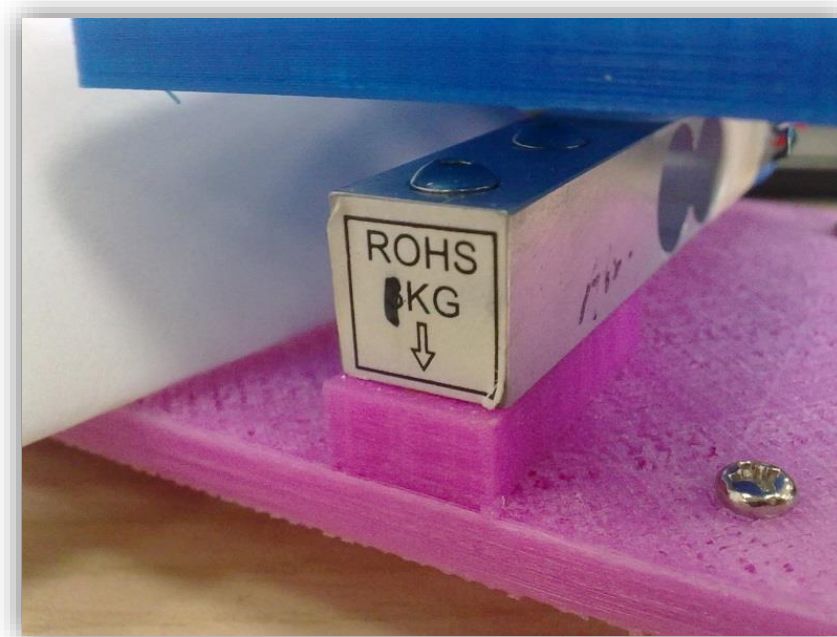
Fig.4   The location of weight sensor

Step3: How to connect with Arduino?

Fig.5 Hardware connection layout
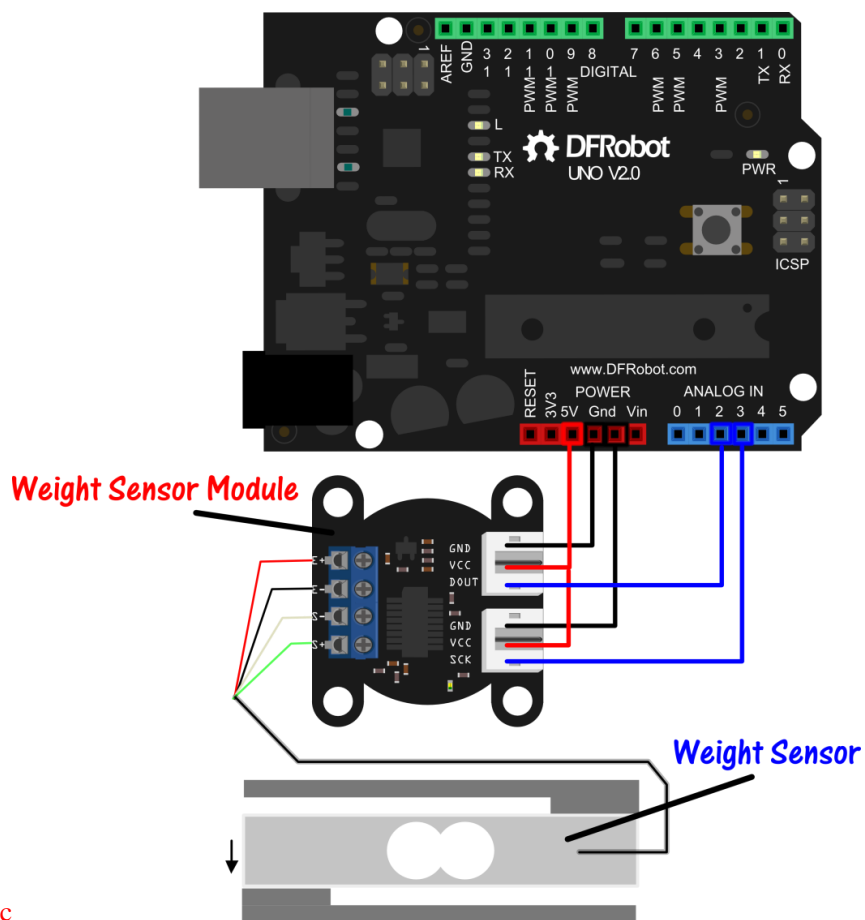
```
/*
       Pin connection diagram:    Red   Line      -- E+
                                  White Line     -- E-
                                  Black Line      -- S-
                                  Green Line     -- S+
                                  Dout    --   Analog 2
                                  SCK      --   Analog 3
                                  GND    --   GND
                                  VCC    --    VCC
                                  LCD Keypad Shield For Arduino(compatible with UNO)
*/


#include <LiquidCrystal.h>
#include <Hx711.h>

LiquidCrystal lcd(8, 9, 4, 5, 6, 7);
Hx711 scale(A2, A3);

void setup() {
   Serial.begin(9600);
   lcd.begin(16, 2);
}

void loop() {
   lcd.setCursor(0, 0);
   lcd.print(scale.getGram(), 1);
   lcd.print(" g");
   lcd.print("            ");
   delay(200);
}
```

Note: Please download the libraries for the sensor first! Finished upload, if you found beating amplitude data changing largely，you should check whether the connection is firm. Or weight sensor wasn't placed flat.


Step4: Zero adjustment

Thus, far ,the weight scale will be finished within one more step-- zero adjustment.

Open the Hx711 library folder , and find the file Hx711.h, open it. Locate the statement
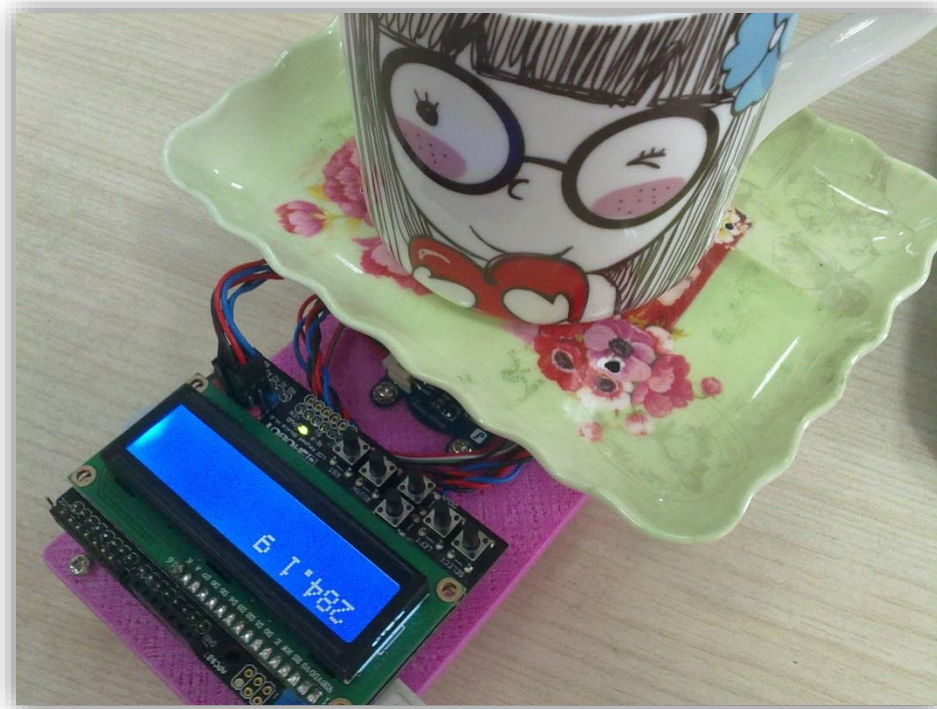
void setScale(float scale = 1992.f);

You only need to adjust the number 1992 to find the appropriate value for weight scale. Save the h file, and upload the above code again.

Did you succeed?

Some of the pictures for your reference.
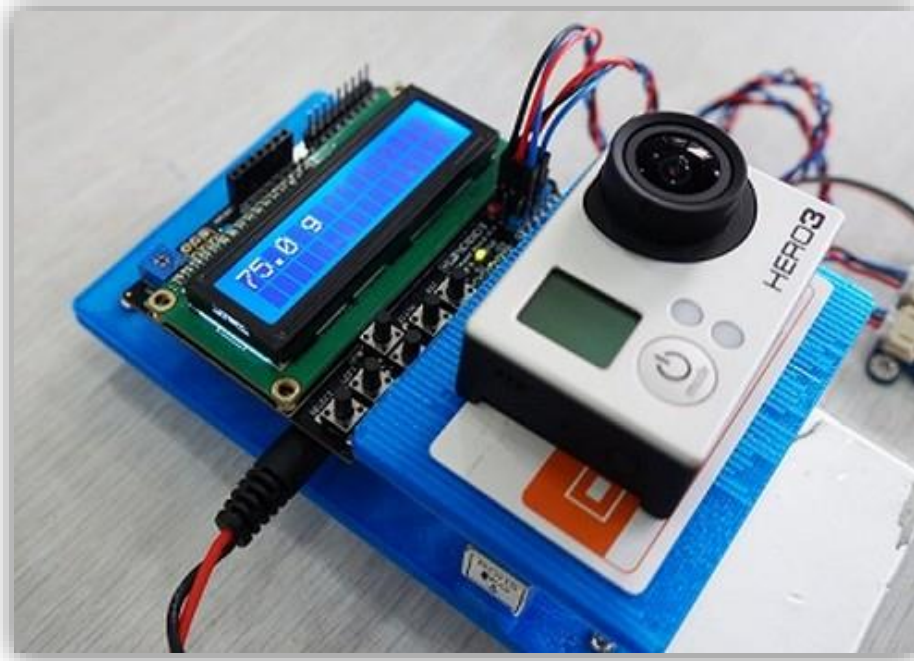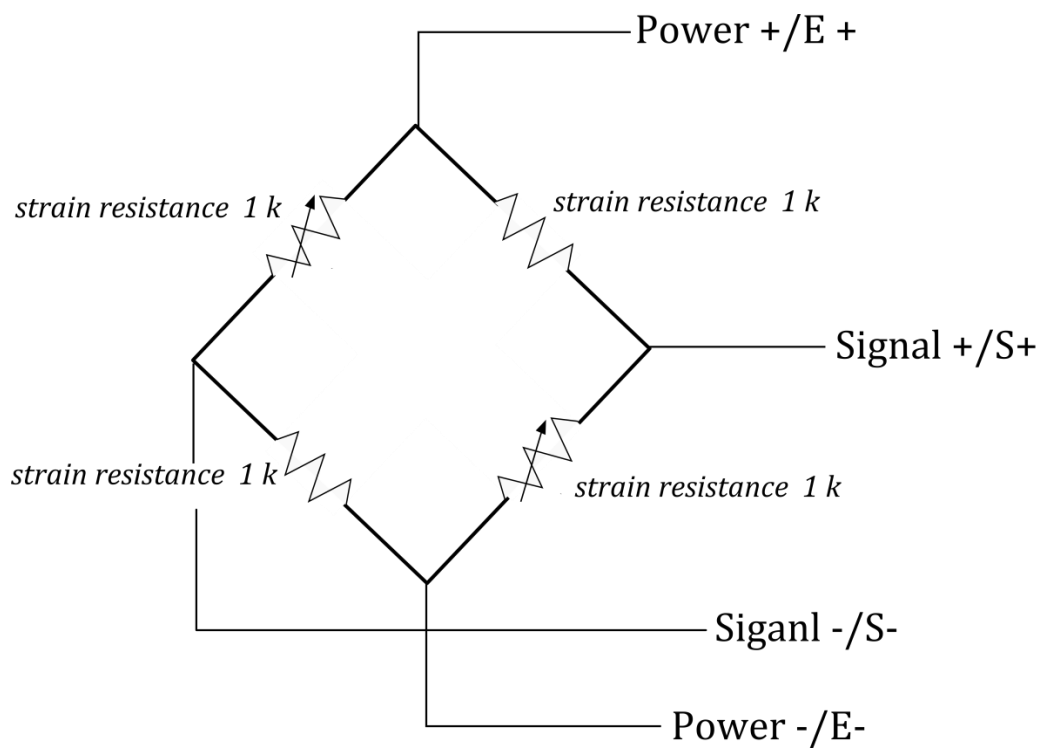
PS: 1.What's in the weight sensor?

Fig.6 Internal Struction of Weight Sensor

2.Weight Sensor Module Introduction:

Weight Sensor Module is based on HX711, which is a precision 24-bit analog-to-digital convertor designed for weight scale and industrial control applications to interface directly with a bridge sensor. Compared with other chips, HX711 not only has a few basic function, also contains high integration, fast response, immunity, and other features. The chip lowers the cost of the electronic scale, at the same time, improving the performance and reliability.
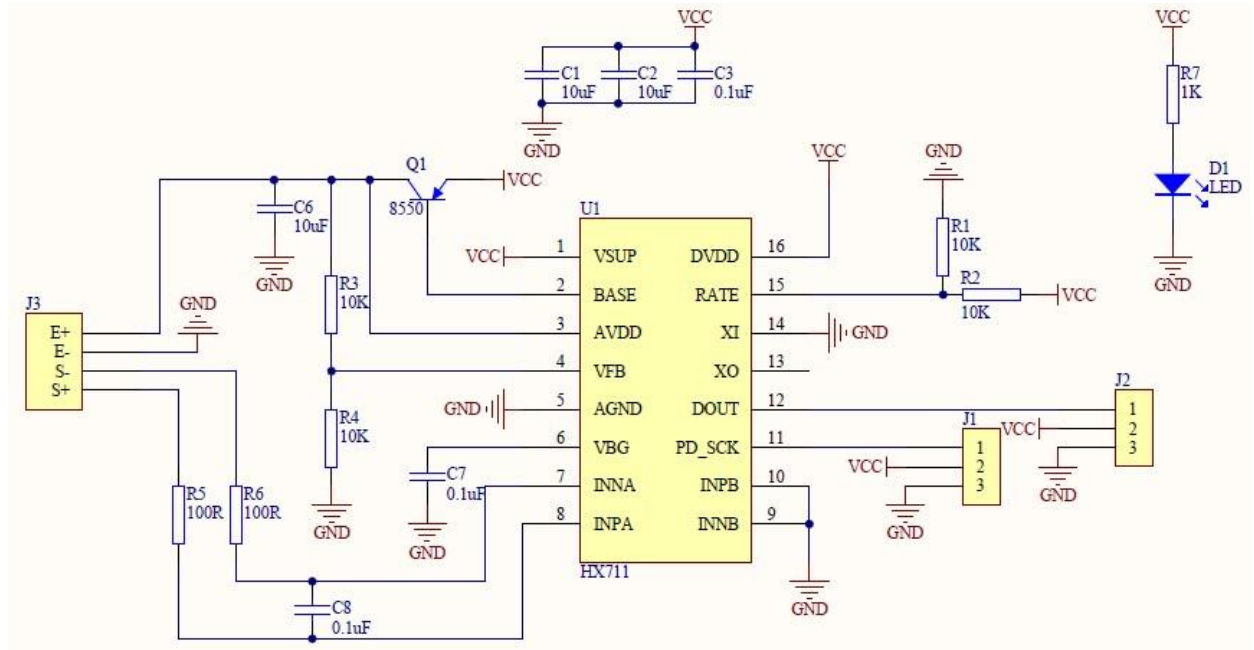
Fig.7 Weight Sensor Module SCH