

Scales Kit

SKU:K121



Description

Scales Kit is a high precision low-cost weighing kit. This digital Scales kit is consist of four pieces of half-bridge resistive strain gauges, with a total weighing range of **200kgs** . It is equipped with a 24-bit A/D converter chip **HX711** , specially designed for the high precision electronic scale. The built-in low-noise programmable amplifier supports **32 / 64 / 128** times gain adjustment. With the help of M5Stack core for programming, you can create IoT based Weighing Scale in just a few minutes!

NOTE: The Scale Kit will need a cover plate to work with, and the size of the cover plate should not exceed 50cm on one side.

Product Features

- Total weighing range of 200kgs
- HX711:
 - High precision 24bit ADC
 - Programmable gain amplification 32, 64 and 128
 - 10SPS output data rate
- Half-bridge resistive strain gauge.
 - Output sensitivity: $1.0 \pm 0.1 \text{mV/V}$
 - Non-linearity: 0.3% F.S
 - Integrated Accuracy: 0.3% F.S

- Integrated Accuracy: 0.3%FS
- Zero output: $\pm 0.3\text{mV/V}$
- Difference between upper and lower impedance of each strain gauge: 0.8Ω
- Output (in) impedance: $1000\pm 5\Omega$
- Development platform:
 - [UIFlow](#) (To be supported soon)
 - [Arduino](#)

Included

- 4x Half-bridge resistive strain gauge
- 1x WEIGHT UNIT
- 1x HY2.0-4P Cable (20cm)
- 4x Double-sided adhesive paper (39 * 20 * 0.8mm)
- 4x Double-sided adhesive paper (39 * 12 * 0.8mm)

Application

- Electronic weighing

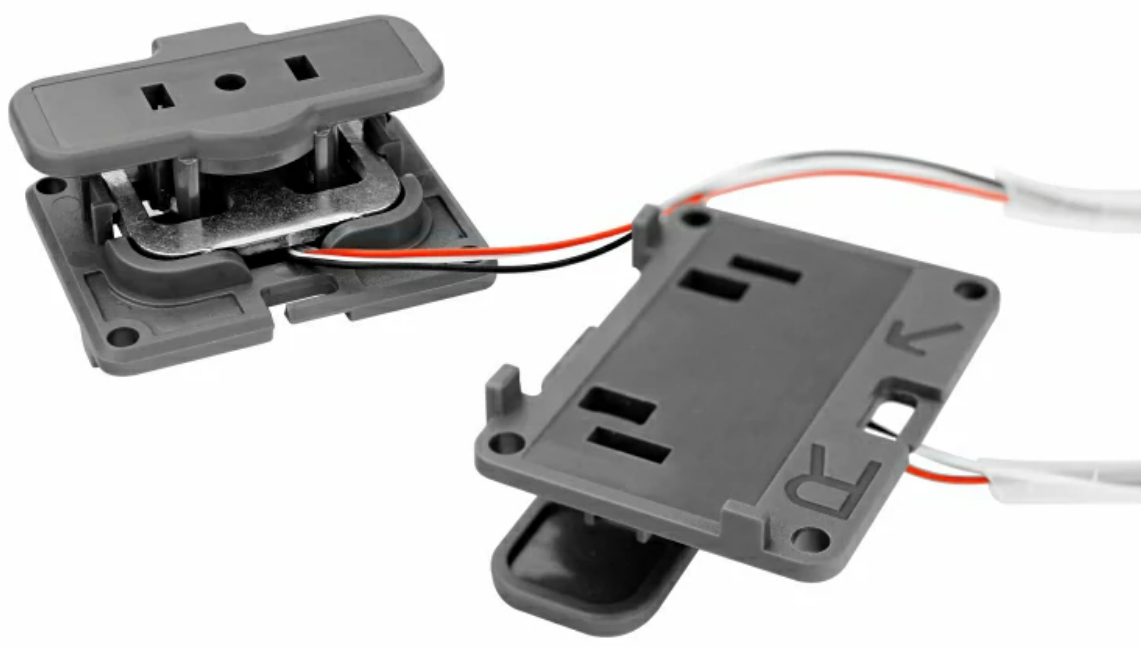
Installation Diagram

- [Scales Kit_Structure - PDF](#)

Specifications

Specifications	Parameters
HX711	Output Sensitivity: High Precision 24bit ADC Programmable Gain Amplification 32, 64, 128 10SPS Output Data Rate
Half-Bridge Resistance Strain Gauge	Output Sensitivity: $1.0\pm 0.1\text{mV/V}$ Nonlinearity: 0.3%FS Comprehensive Accuracy: 0.3%FS Zero Output: $\pm 0.3\text{mV/V}$

Strain Gauge Specifications	Each The difference between the upper and lower impedance of the gauge strain gauge: 0.8Ω Output (input) impedance: $1000\pm 5\Omega$
Gross Weight	92.5g
Net Weight	126.3g
Packing Size	105mm x 65mm x 40mm

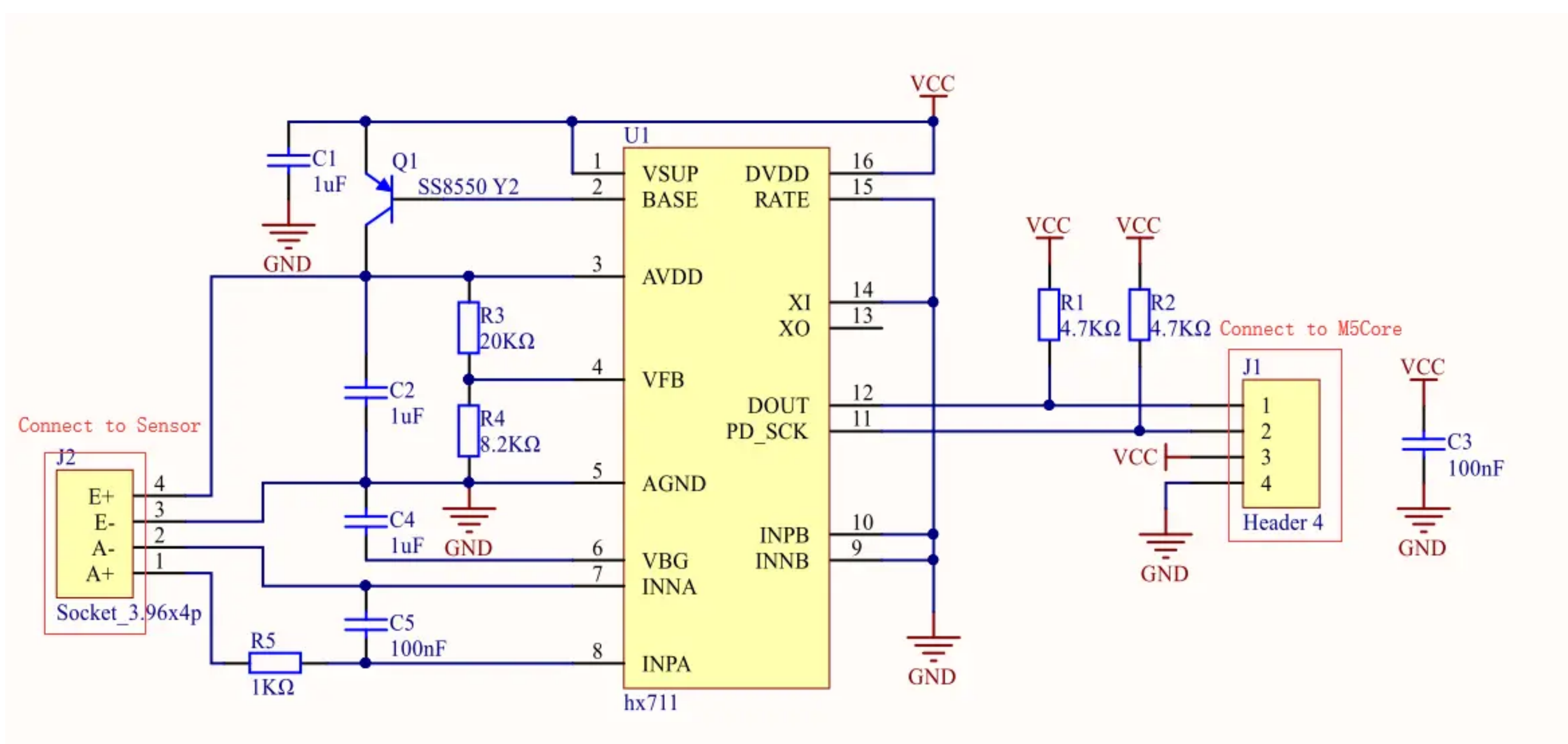


Related Link

- [Datasheet](#)
- [HX711](#)

Schematic

- WEIGHT UNIT



PinMap

- WEIGHT UNIT

M5CORE - PORT B	G36	G26	5V	GND
WEIGHT UNIT	DATA Pin (DAT)	CLOCK Pin (CLK)	VCC	GND

offsets/calibration

Set the ADC chip GAIN=128, 10SPS output rate, under the condition of 5kg weight measurement, the error is about $\pm 1\%$. Calibration is required before starting weighing, please refer to the code below for operation.

```
#include "HX711.h"

HX711 scale;

void setup() {
    // 1. Set the ADC value in the case of 0g and set it to offset
    scale.tare();
}

void loop() {
    // 2. Read the average value of ADC in the case of standard weight
    (such as 5kg)
    long kg_adc = scale.read_average(20);
    // 3. Read the offset in the current 0g case
    kg_adc = kg_adc - scale.get_offset();
    // 4. Calculate and configure the scale parameter
    scale.set_scale( kg_adc / (5 * 1000.0));
}
```

Example

Arduino

- Examples

- [Scales kit with M5Core](#)
- [Scales kit with M5Core2](#)
- [Scales kit with ATOM](#)
- [Scales kit with M5StickC](#)
- [Scales kit with M5StickC Plus](#)
- [Scales kit with CoreInk](#)
- [Scales kit with M5Paper](#)
- Libraries
 - [HX711](#)

FAQ

COMMON

Q1: Consultation for after-sales problems of products

Describe the problems encountered in detail. Screenshots of the programs involved or files can be added as attachments and sent to M5Stack's official after-sales email

support@m5stack.com

Q2: Code Resources, Cases, User Communication

M5Stack related resource links: Official Github

<https://github.com/m5stack>

<https://m5stack.hackster.io/>

<https://community.m5stack.com/>