

Unit-Weight I2C

SKU:U180



Description

The **Weight I2C Unit** is a weight acquisition transducer unit that employs the "STM32+HX711 chip" solution, achieving precision weight measurement with 24-bit accuracy through I2C communication. It supports the parallel connection of multiple devices on the same I2C bus, providing users with greater flexibility in terms of a wider range and more data collection points. It is suitable for various applications such as industrial production, healthcare, logistics, laboratory research, and food processing.

Features

- STM32F030F4P6+HX711
- 24Bit measurement accuracy
- I2C serial communication
- Program platform: Arduino, UIFlow, etc

Includes

- 1x Weight I2C Unit
- 1x HY2.0-4P Cable(20cm)
- 1x VH3.96-4P

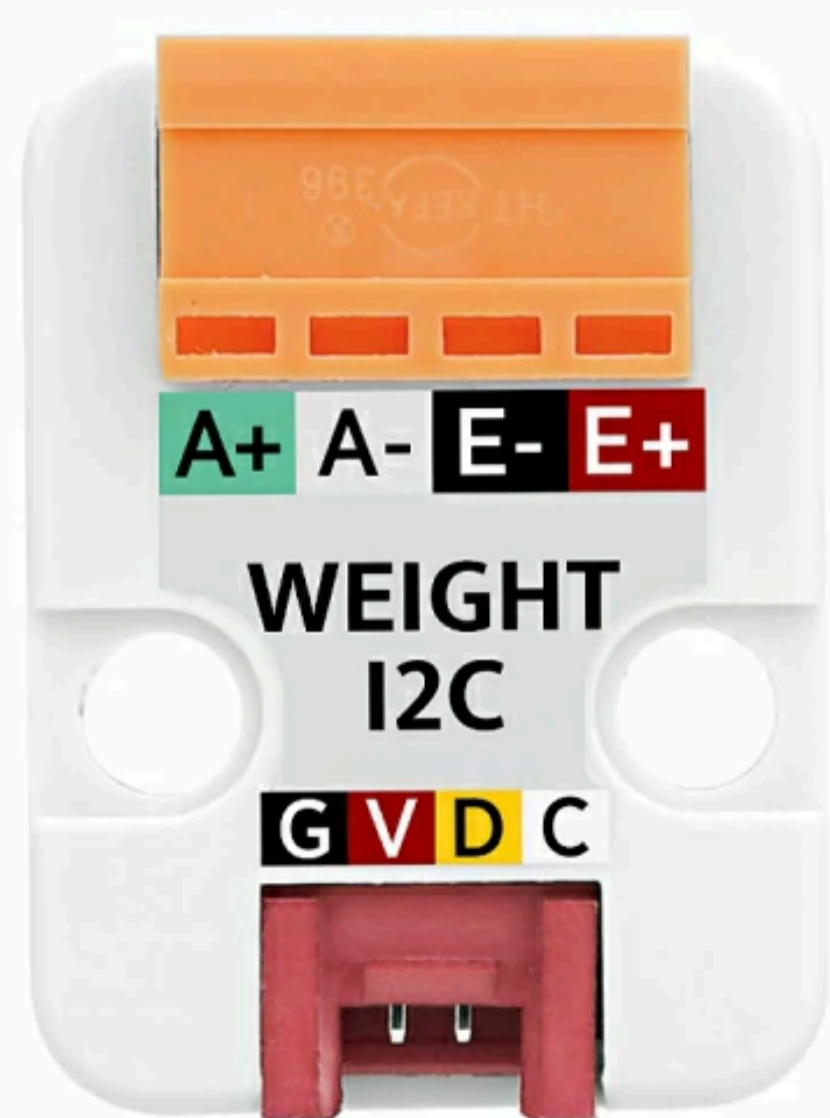
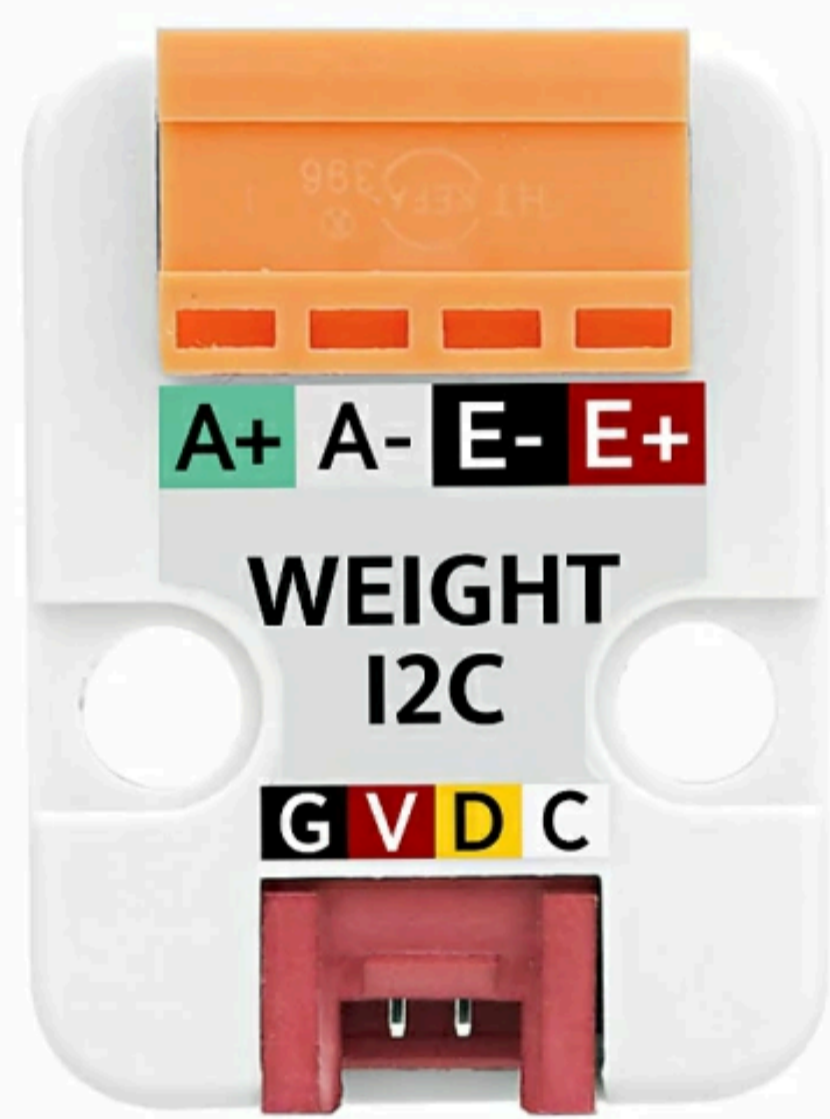
Applications

- Microgravimeter
- Food Processing
- Logistics Transportation
- Laboratory Investigation

Specification

| Resources | Parameters |
|------------|------------|
| Resolution | 24Bit |

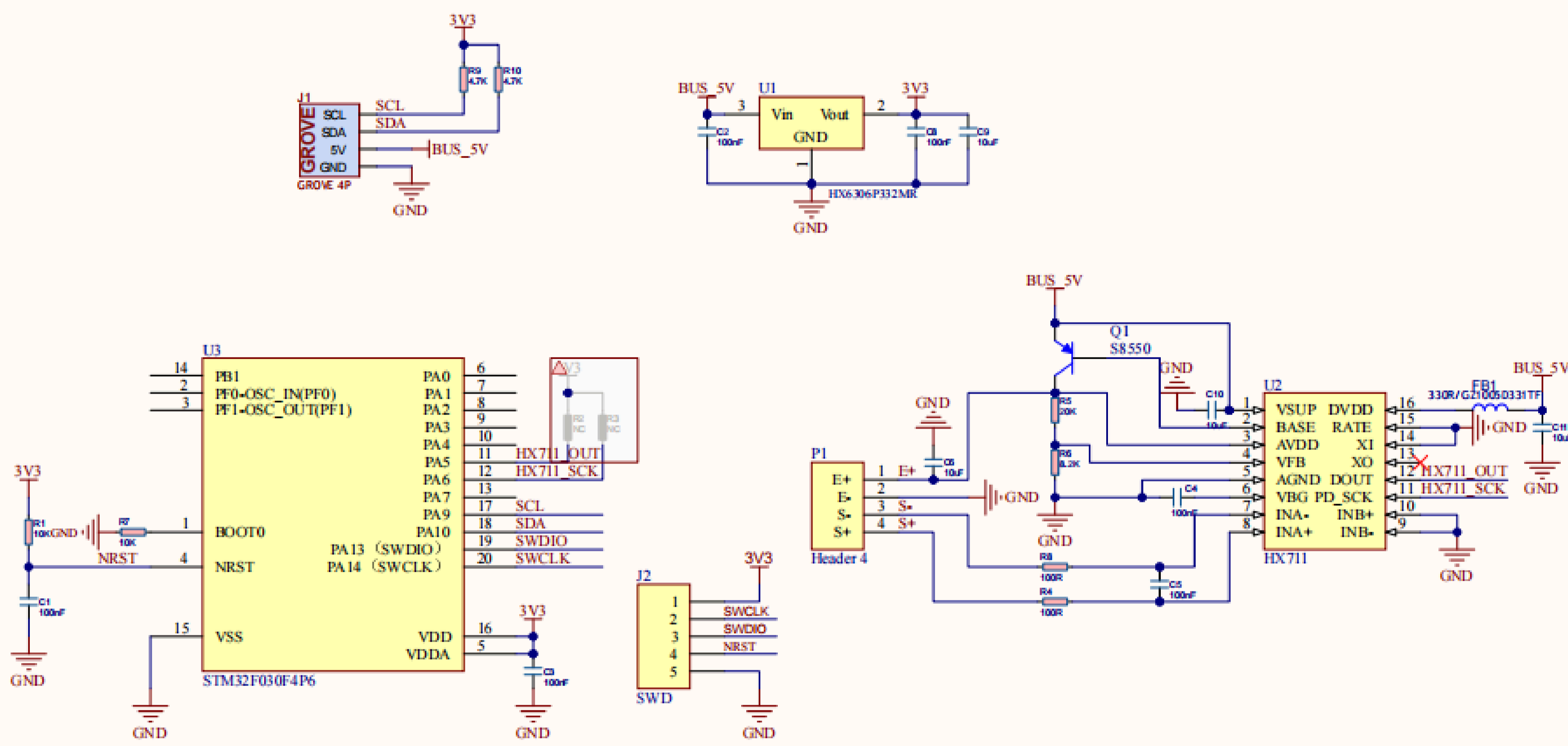
| | |
|-----------------------|-----------------|
| Communication Mode | I2C (0x26) |
| Operating Temperature | 0-40°C |
| Product Size | 32*24*11.3mm |
| Package Size | 136* 92* 13.7mm |
| Product Weight | 5.2g |
| Package Weight | 12.9g |



Related Link

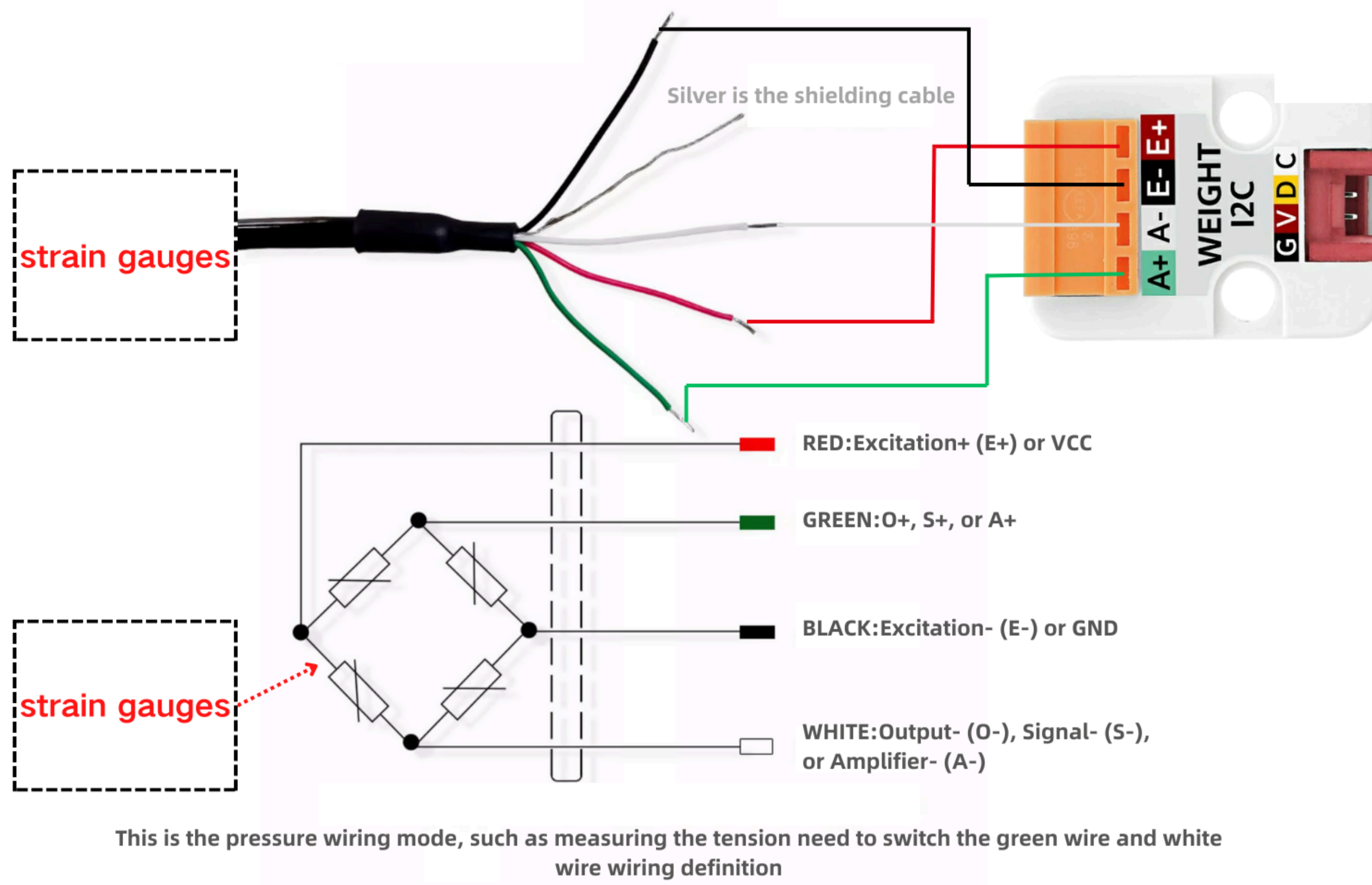
- [Datasheet - HX711](#)

Schematic



- Connection Schematic Diagram

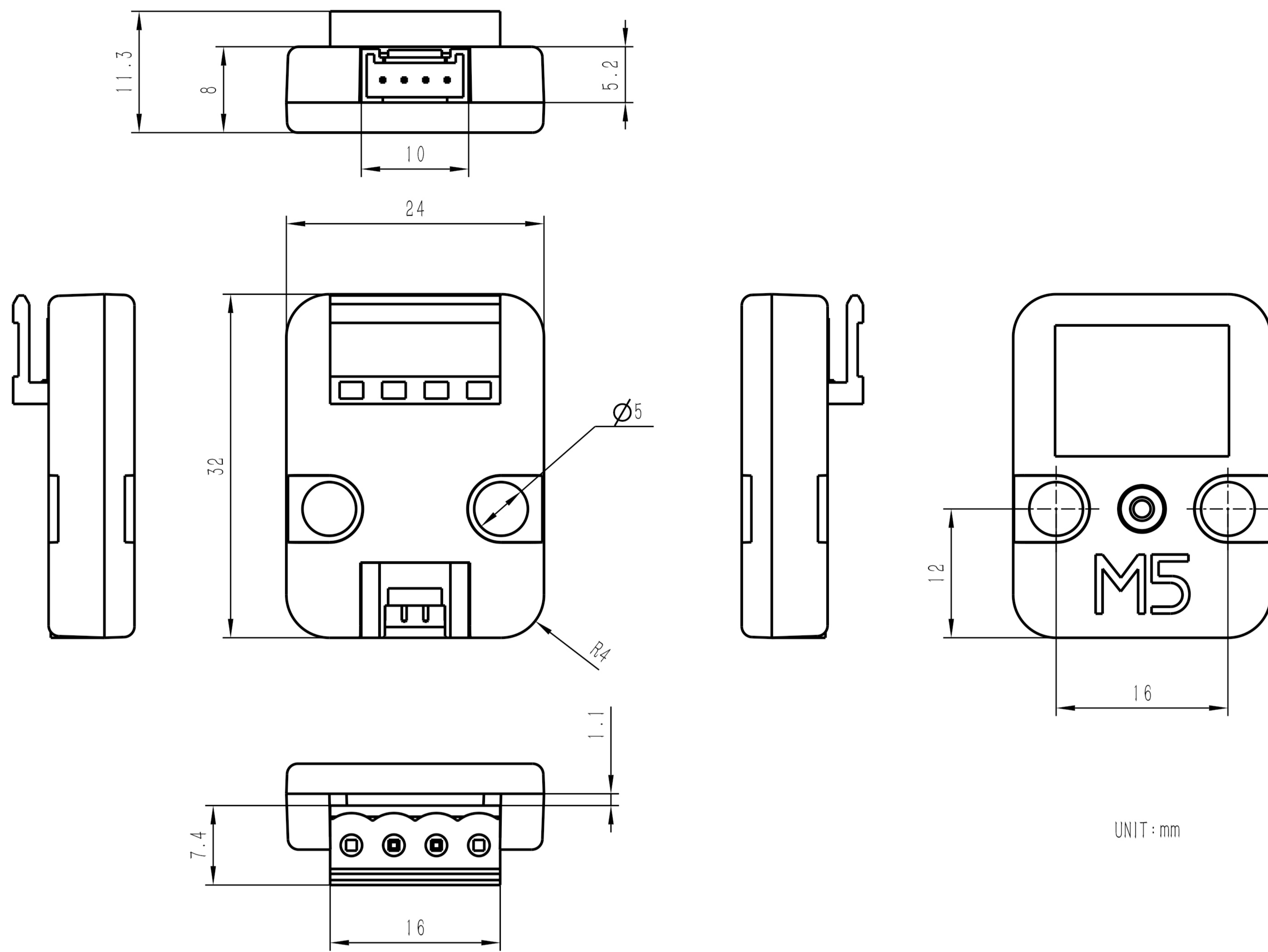
Weight I2C Unit wiring diagram



PinMap

| Weight I2C Unit | SCL | SDA | VCC | GND |
|-----------------|-----|-----|-----|-----|
| Core(Basic) | G22 | G21 | 5V | GND |
| Core2 | G33 | G32 | 5V | GND |
| CoreS3 | G1 | G2 | 5V | GND |

Module Size



Protocol

M5Stack Unit Weight I2C Protocol

| M5Stack Unit Weight I2C Protocol | | | | | | | | | | | | | | | | V3 (FW Version) | | |
|----------------------------------|-------------|-------------------|------------------|------------------|------------------|---|---|---|---|---|---|---|---|---|---------|---|---|------|
| | | | | | | | | | | | | | | | | 2023/12/11 | | |
| REG MAP (Addr:0x26) | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F | note |
| RawADC | 0x00 R | RawADC-byte0 | RawADC-byte1 | RawADC-byte2 | RawADC-byte3 | | | | | | | | | | | | RawADC = RawADC-byte0 + RawADC-byte1 * 256 + RawADC-byte2 * 65536 + RawADC-byte3 * 16777216 | |
| Weight | 0x10 R | Weight-byte0 | Weight-byte1 | Weight-byte2 | Weight-byte3 | | | | | | | | | | | | float, get the weight in grams | |
| GAP | 0x40 R/W | GAP-byte0 | GAP-byte1 | GAP-byte2 | GAP-byte3 | | | | | | | | | | | | float, setting gap to calibration | |
| Offset | 0x50 W | Offset | | | | | | | | | | | | | | write 1: reset offset | | |
| WeightX100 Int | 0x60 R | Weight-Int-byte0 | Weight-Int-byte1 | Weight-Int-byte2 | Weight-Int-byte3 | | | | | | | | | | | | Weight Int = Weight-Int-byte0 + Weight-Int-byte1 * 256 + Weight-Int-byte2 * 65536 + Weight-Int-byte3 * 16777216 Actual weight = Weight Int/100 | |
| Weight String | 0x70 R | | | | | | | | | | | | | | | | The string ends with '\0' and the maximum number of characters is 15 | |
| Filter | 0x80 W/R | lp_filter_enabled | avg_filter_level | ema_filter_alpha | | | | | | | | | | | | lp_filter_enabled: 0~1(default 1) avg_filter_level: 0~50(default 10) ema_filter_alpha: 0~99(default 10) | | |
| Firmware Version | 0xF0 R | | | | | | | | | | | | | | Version | Version: firmware version number | | |
| I2C Address | 0xF0 R/W | | | | | | | | | | | | | | Address | Address: 1~127 | | |

[1] set gap value:
 $RawADC_{0g} = GAP * 0 + Offset$
 $RawADC_{100g} = GAP * 100 + Offset$
 $GAP = (RawADC_{100g} - RawADC_{0g}) / 100$

- (1) step 1: Reset offset;
- (2) step 2: Get RawADC, this is RawADC_{0g}
- (3) step 3: Put 100g weight on it, and get RawADC, this is RawADC_{100g}
- (4) step 4: Calculate the value of GAP = (RawADC_{100g} - RawADC_{0g}) / 100

Examples

Arduino

- [WeightI2C Unit Library and Demo](#)

FAQ

Question: Different between WEIGHT I2C Unit(U180)、WEIGHT Unit(U030)、Mini Scales Unit(U177)、Scales Kit(K121)and Scales Unit (U108) ?

| Product | Communication Protocol | Chip | Range |
|------------------------|------------------------|-------------|--|
| Scales Unit (U108) | I2C | STM32+HX711 | 0-20kg |
| Scales Kit(K121) | ADC | HX711 | 0-200kg |
| Mini Scales Unit(U177) | I2C | STM32+HX711 | 0-5kg |
| WEIGHT Unit(U030) | ADC | HX711 | Depends on the strain gauge and control chip |
| WEIGHT I2C Unit(U180) | I2C | STM32+HX711 | Depends on the strain gauge and control chip |