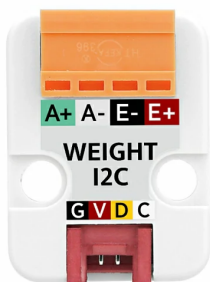
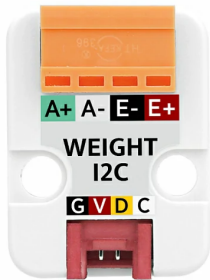


# Unit Weight-I2C

SKU:U180



## Description

**Unit Weight-I2C** is a weighing acquisition transmitter unit adopting the “STM32 + HX711 chip” solution, enabling 24-bit precision weight measurement via I2C communication. This unit offers unique advantages, supporting multiple devices connected in parallel on the same I2C bus, providing flexibility for conducting measurements on a larger scale and obtaining more data collection points. It is applicable in industrial production, healthcare, logistics, laboratory research, and food processing, among many other fields.

## Features

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- STM32F030F4P6 + HX711
- 24-bit measurement accuracy
- I2C communication
- Development Platform: Arduino, UiFlow, etc.

## Includes

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- 1 x Unit Weight-I2C
- 1 x HY2.0-4P Grove Cable (20cm)
- 1 x HT3.96-4P

## Applications

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- Miniature weighing scale
- Food processing
- Logistics transportation
- Laboratory research

## Specifications

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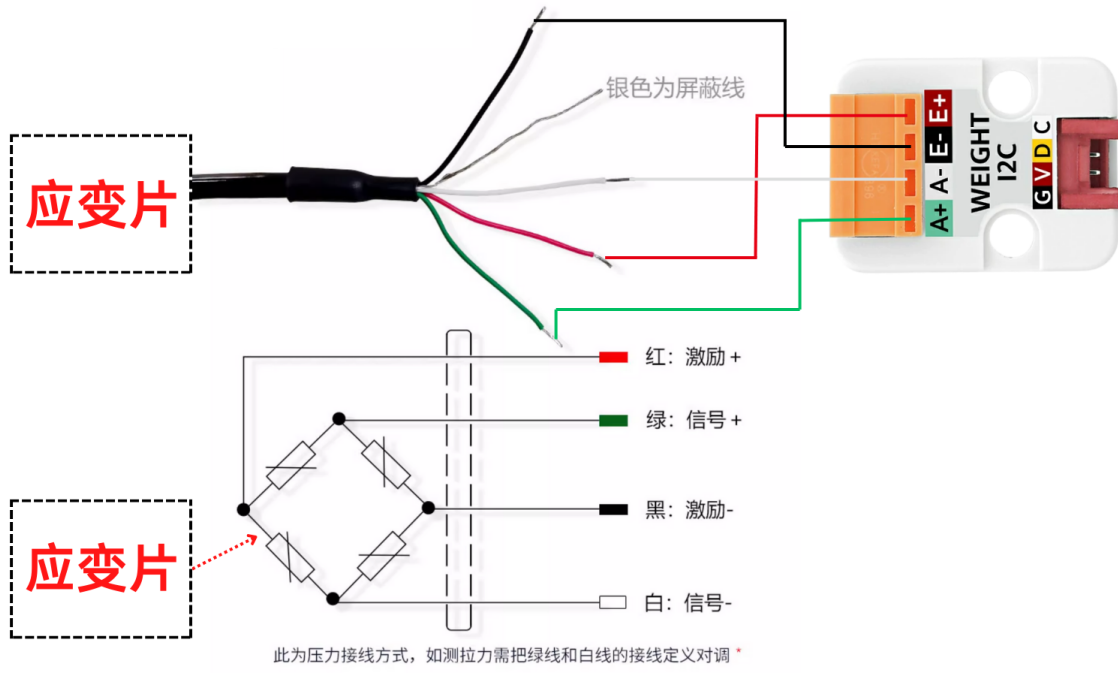
Specification	Parameter
MCU	STM32F030F4P6@32-bit ARM
Resolution	24Bit
Communication Interface	I2C Communication @0x26
Operating Temp	0 ~ 40°C
Product Size	56.0 x 24.0 x 11.3mm
Product Weight	5.2g
Package Size	138.0 x 93.0 x 12.3mm
Gross Weight	13.3g

## Learn

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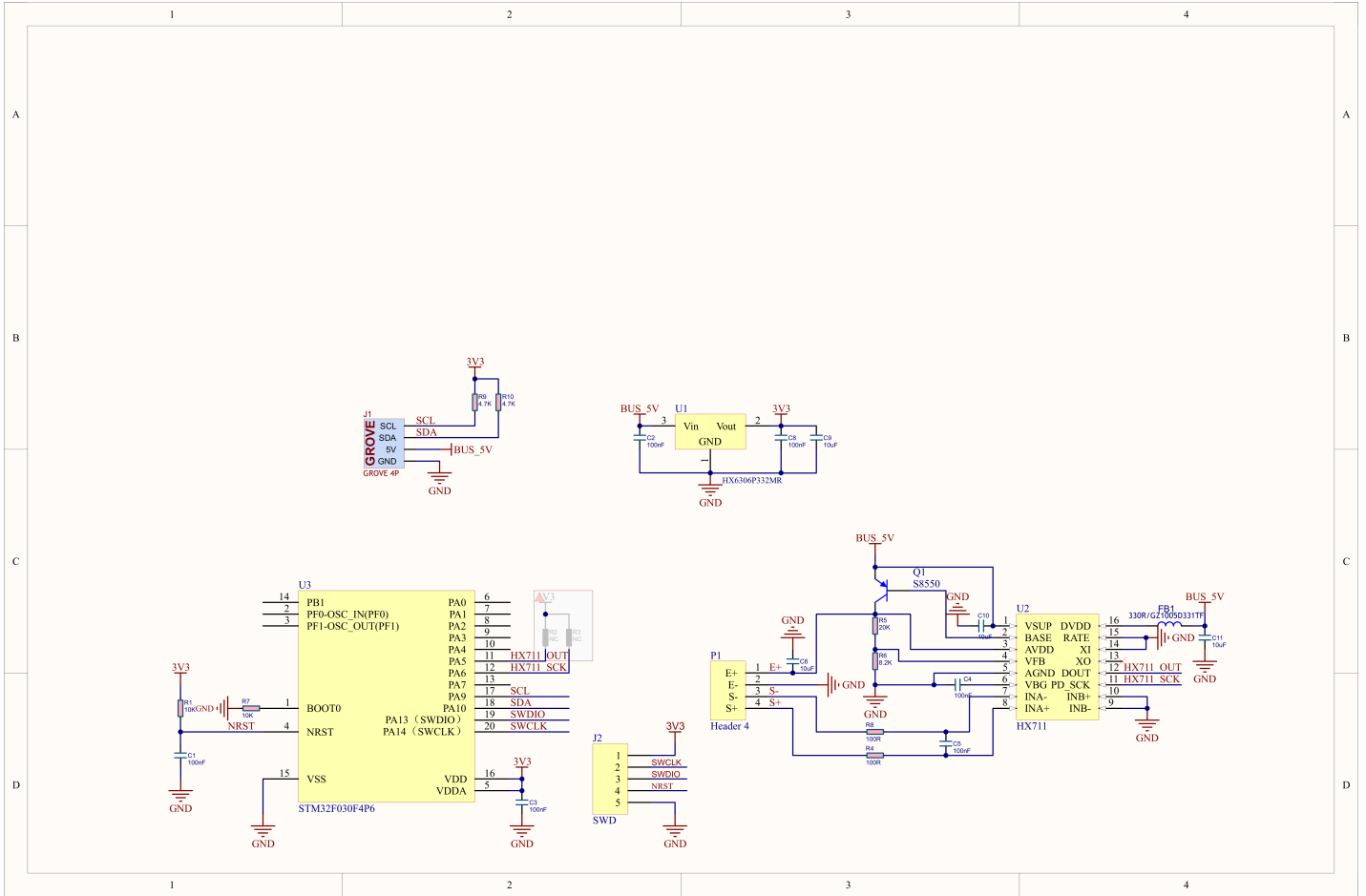
- Connection Diagram

# Weight I2C Unit接线示意图



## Schematics

- [Unit Weight-I2C Schematics PDF](#)

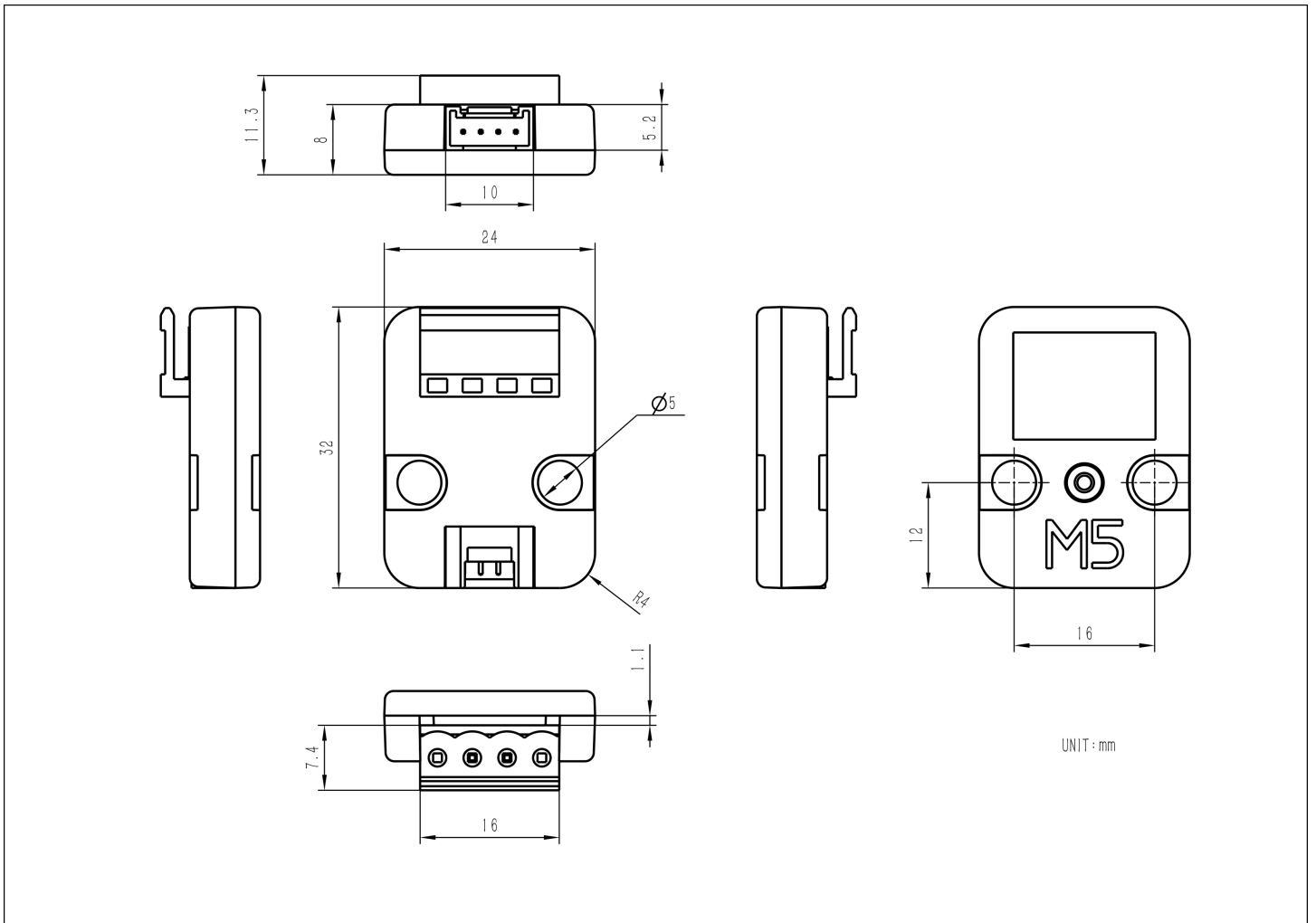


## PinMap

## Unit Weight-I2C

HY2.0-4P	Black	Red	Yellow	White
PORT.A	GND	5V	SDA	SCL

## Model Size



## Datasheets

- [Datasheet-HX711](#)

## Softwares

### Arduino

- [Unit Weight-I2C Arduino Library](#)

### UiFlow1

- [Unit Weight-I2C UiFlow1 Docs](#)

### UiFlow2

- [Unit Weight-I2C UiFlow2 Docs](#)

### Internal Firmware

- [Unit Weight-I2C Internal Firmware](#)

Firmware Version	Update	Protocol	Note
v3	Initial release version	Unit Weight-I2C I2C Protocol v3	/
v4	Removed absolute value limit for ADC change value to allow display of negative weights.	No protocol changes, using v3 version	/

## M5 DAPLink

If you do not have an STM32 downloader tool, you can refer to the [M5 DAPLink](#) tutorial and use Core2 or CoreS3 as the programmer to update the firmware for the device.

## 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 =  $(RawADC_{100g} - RawADC_{0g}) / 100$

## Product Comparison

**Product**



**Compare**

**Unit Mini**

**Unit Scales**

**Scales Kit**

**Scales**

**Unit Weight**

**Unit Weight-I2C**

	Unit Scales	Scales Kit	Scales	Unit Weight	Unit Weight-I2C
Communication Protocol	I2C	ADC	I2C	ADC	I2C
Chip Solution	STM32+HX7 11	HX711	STM32+HX7 11	HX711	STM32+HX711
Sensor Range	0 ~ 20kg	0 ~ 200kg	0 ~ 5kg	Depends on the strain gauge and controller chip	Depends on the strain gauge and controller chip