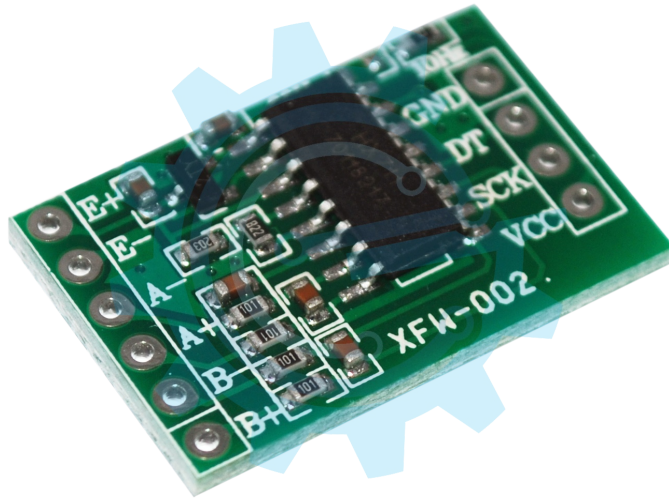


HX-711

24-BIT ADC CONVERTER FOR WEIGH SCALES

Technical Manual Rev 1r0



Features:

- Two selectable differential input channels
- Simple digital control and serial interface: pin-driven controls, no programming needed
- On-chip oscillator requiring no external component with optional external crystal
- On-chip power supply regulator for load-cell and ADC analog power supply
- Arduino Compatible

24-Bit Analog-to-Digital Converter (ADC) for Weigh Scales DESCRIPTION Based on Avia Semiconductor's patented technology, HX711 is a precision 24-bit analog-to-digital converter (ADC) designed for weigh scales and industrial control applications to interface directly with a bridge sensor. The input multiplexer selects either Channel A or B differential input to the low-noise programmable gain amplifier (PGA). Channel A can be programmed with a gain of 128 or 64, corresponding to a full-scale differential input voltage of $\pm 20\text{mV}$ or $\pm 40\text{mV}$ respectively, when a 5V supply is connected to AVDD analog power supply pin. Channel B has a fixed gain of 32. On-chip power supply regulator eliminates the need for an external supply regulator to provide analog power for the ADC and the sensor. Clock input is flexible. It can be from an external clock source, a crystal, or the on-chip oscillator that does not require any external component. On-chip power-on-reset circuitry simplifies digital interface initialization.

General Specifications:

Input Supply Voltage: 2.7V to 5VDC

Operating Current: $<10\text{mA}$

Data Accuracy: 24-bit ADC chip

Refresh frequency: 10/80Hz

Differential input voltage: $\pm 40\text{mV}$ (Full-scale)

PCB Dimensions: 24mm x 16mm

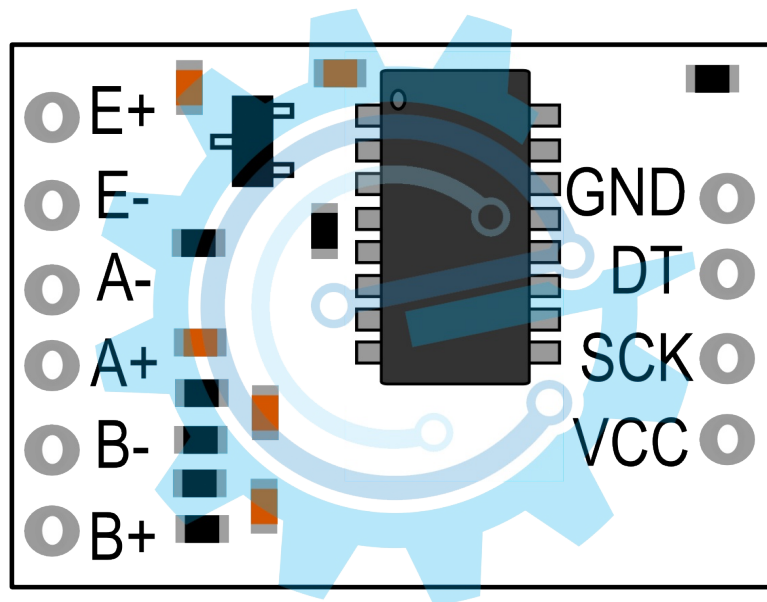


Figure 1. Major parts presentation of HX-711 Weigh Sensor

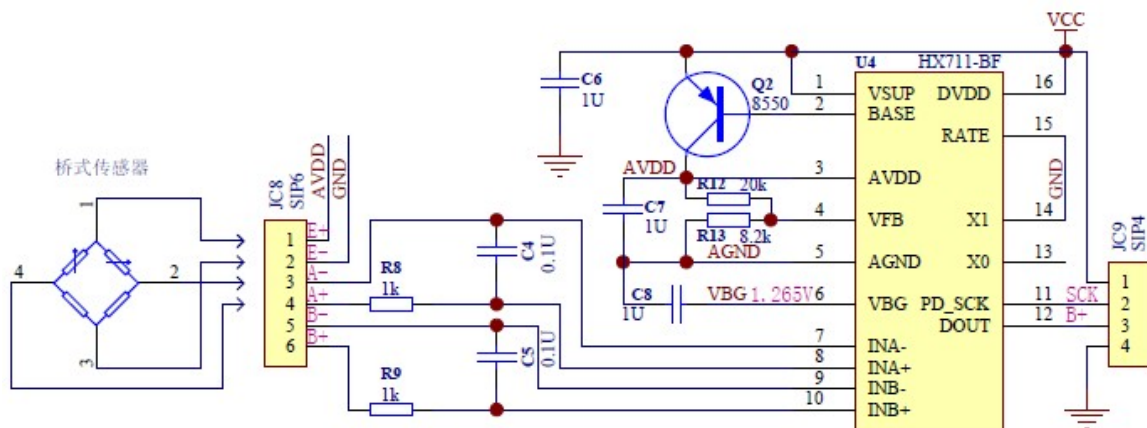
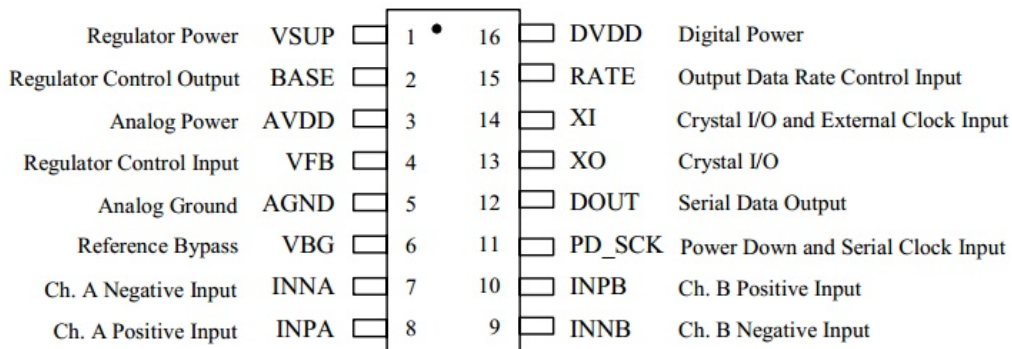


Figure 2. Schematic Diagram



SOP-16L Package

Table 1. Pinouts Descriptions

NAME	PIN IC NAME	DESCRIPTIONS
GND	GND	Ground
DT	DOUT	Serial data output
SCK	PD_SCK	Power down control (high active) and serial clock input
VCC	DVDD	Digital supply: 2.6 ~ 5.5V
E+	AVDD	Analog Supply: 2.6 ~ 5.5V
E-	GND	Ground
A-	INNA	Channel A negative input
A+	INPA	Channel A positive input

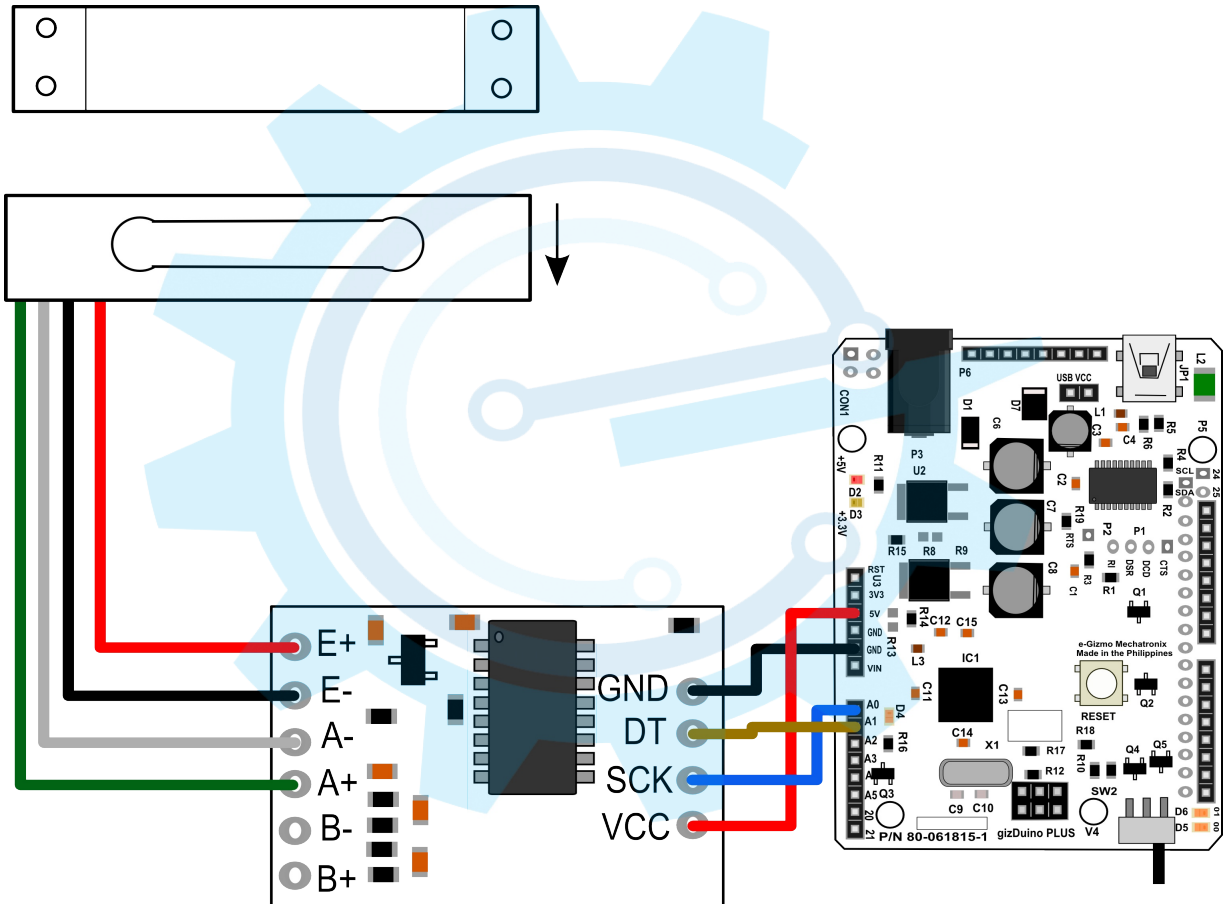


Figure 3. Sample Connections with gizDuino PLUS

Add HX-711 library to > My documents>Arduino>libraries
Example code: HX711Serial.ino