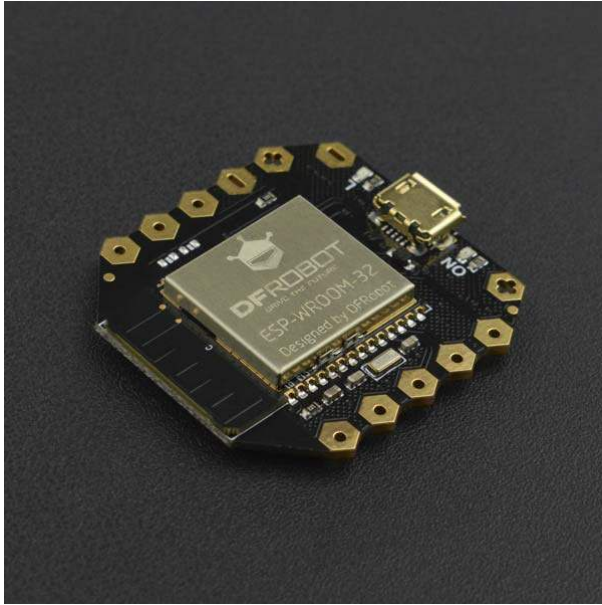


Beetle ESP32 Microcontroller

SKU:DFR0575



Introduction

Beetle ESP32 is a simplified version of FireBeetle-ESP32. It is equipped with the powerful functions and extensive range of applications similar to FireBeetle-ESP32, which extremely suits for one-off DIY projects and wearable devices. The features of this product include:

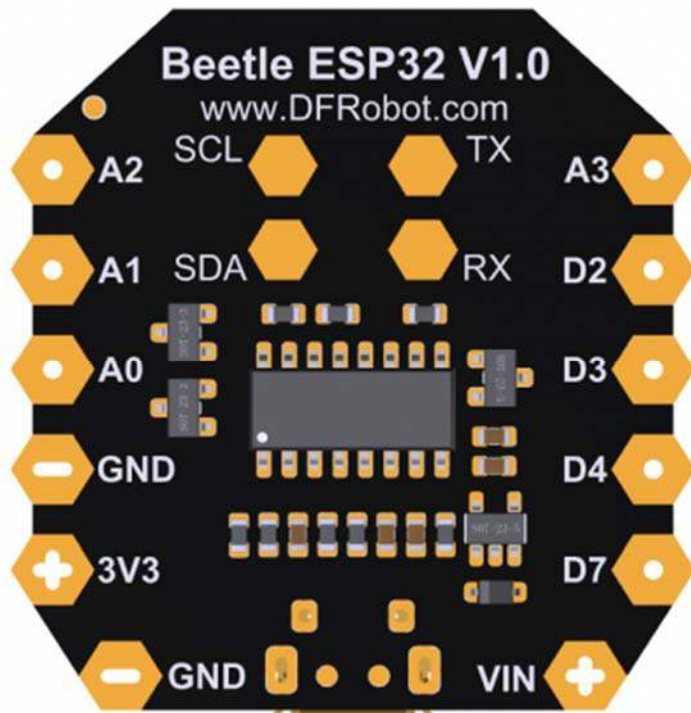
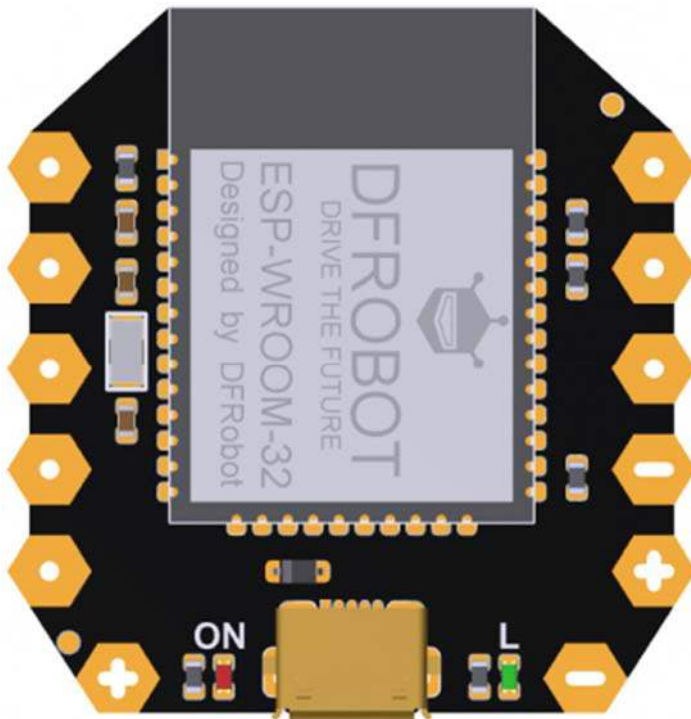
- A small size of 35mm×34mm
- Enable users to directly download and debug programs through Micro USB, free from programmer.
- Large-scale I/O ports with gold plating, easy to screw wire on it or to sew the board on the clothes with wires, no need to solder.
- A group of gold plating power interfaces of honeycomb type, convenient to use.

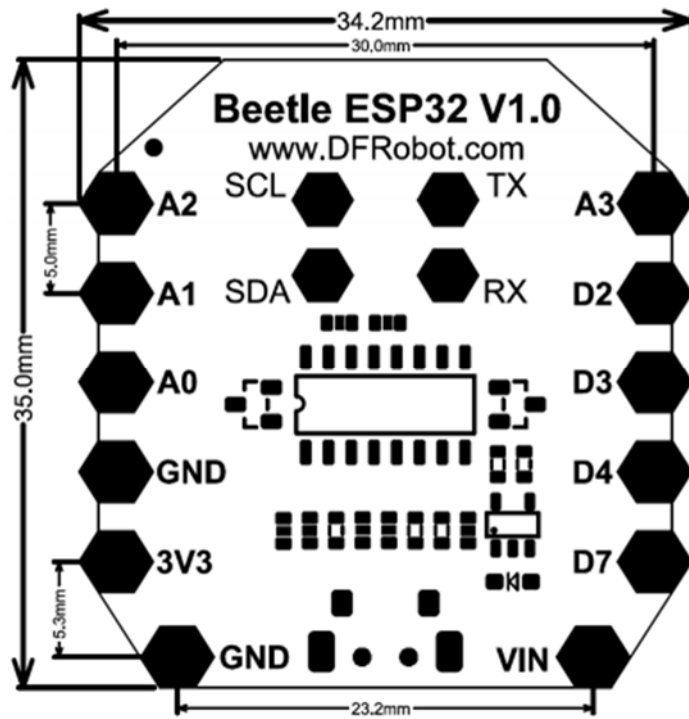
- Integrate WIFI and Bluetooth
Beetle Esp32 is compatible with Arduino , and the board type should be selected as "FireBeetle-ESP32" .

Specification

- USB Supply Voltage: 5.0V
- VIN Supply Voltage: DC 3.5-6.5V
- Processor: Tensilica LX6 dual-core processor (One for high speed connection; one for independent programming)
- Frequency: 240MHz
- SRAM: 520KB
- Flash: 16Mbit
- Wi-Fi Standard: FCC/CE/TELEC/KCC
- Wi-Fi Protocol: 802.11 b/g/n/d/e/i/k/r (802.11n, high speed can reach to 150 Mbps), converge A-MPDU and A-MSDU, supporting 0.4us protecting interval.
- Frequency Range: 2.4~2.5GHz
- Bluetooth Protocol: comply with BR/EDR/BLE standard of Bluetooth v4.2.
- On-chip Clock: 40MHz crystal and 32.768 KHz crystal
- Digital Interface: D2, D3, D4, D7
- Analog Interface: A0, A1, A2, A3
- I2C: 1
- Serial Port: 1
- Dimension: 35×34mm/1.38×1.34"

Pinout





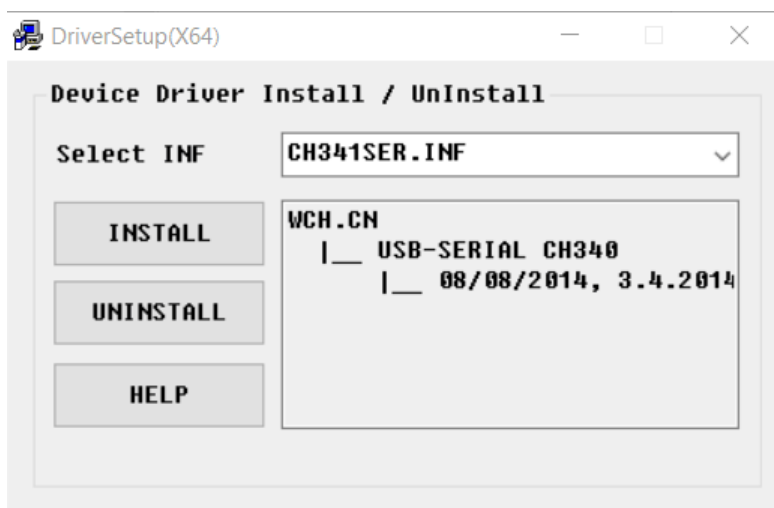
Beetle ESP32 Pinout Table

VIN	Power Input
GND	Ground
A0	Analog Input
A1	Analog Input
A2	Analog Input
A3	Analog Input
D2	Digital I/O Interface

D3	Digital I/O Interface
D4	Digital I/O Interface
D7	Digital I/O Interface
SCL	I2C Clock Line
SDA	I2C Data Line
RX	Serial Incept
TX	Serial Transmission

Tutorial

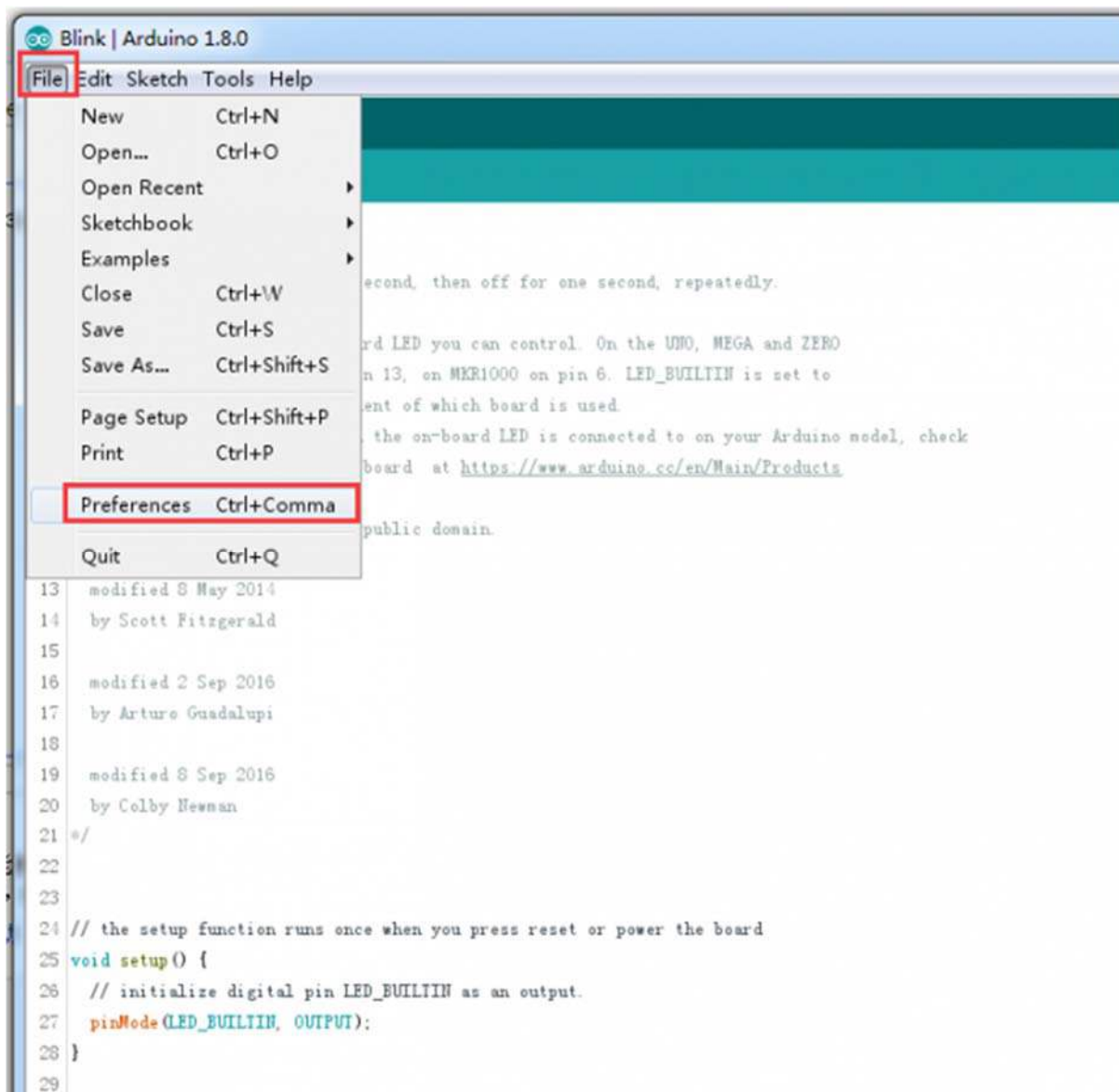
Beetle ESP32 adopts CH340 serial chip that can be used without driver among most devices. If you find the driver is not installed automatically after plugging into the device, you can install it manually: click to download the CH340 driver program.



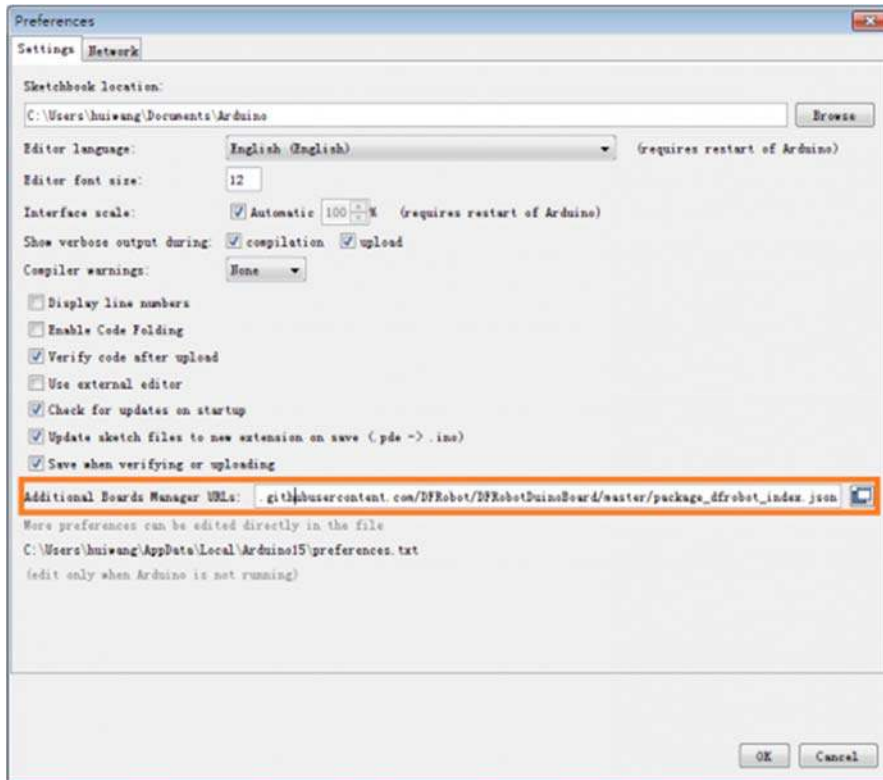
Set Arduino IDE Development Environment

- Plug FireBeetle to your computer, install the driver manually.
- Add FireBeetle Board URL to Arduino IDE
- Open Arduino IDE, **File->Preferences**, find **Additional Boards Manager URLs**, copy the below link, and paste in the blank.

https://git.oschina.net/dfrobot/FireBeetle-ESP32/raw/master/package_esp32_index.json

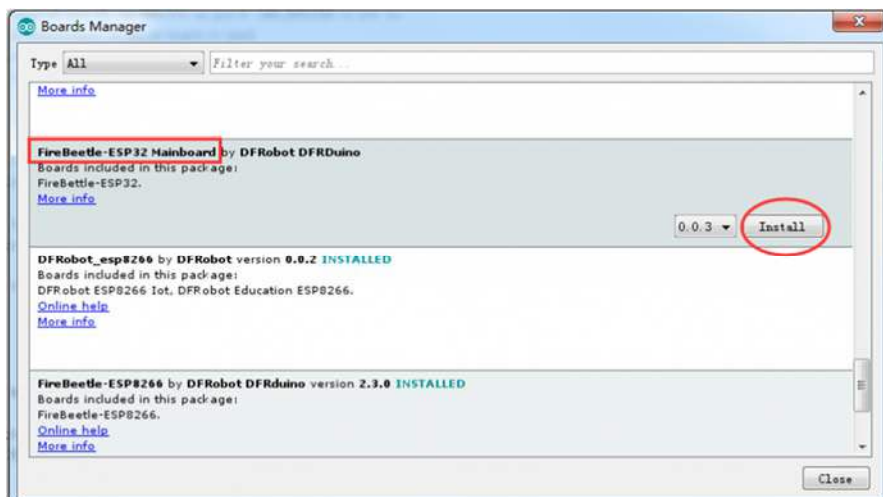


File->Preferences

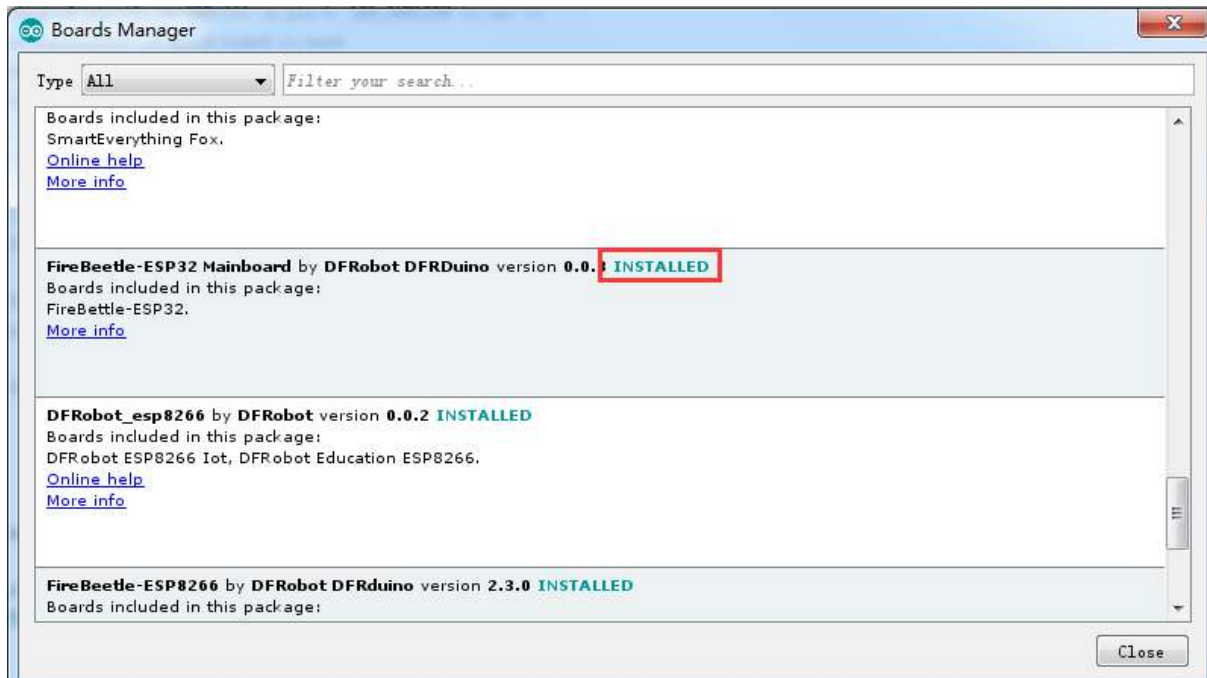


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- Click **OK**
- Open **Tools->Board->Boards Manager**, waiting automatic update. You'll find **FireBeetle-ESP32**



Now, the development environment has been installed, you can use it like a normal Arduino board.



Sample Code - Blink

The default LED for Beetle Board-ESP32 is D9, input following code:

```
// the setup function runs once when you press reset or power the board
void setup() {
  // initialize digital pin LED_BUILTIN as an output.
  pinMode(D9, OUTPUT);
}

// the loop function runs over and over again forever
void loop() {
  digitalWrite(D9, HIGH);  // turn the LED on (HIGH is the voltage level)
  delay(1000);             // wait for a second
  digitalWrite(D9, LOW);   // turn the LED off by making the voltage LOW
  delay(1000);             // wait for a second
}
```

For any questions, advice or cool ideas to share, please visit the **DFRobot Forum**.