

# WPC-STM32F103 工業控制器

## 開發環境安裝指南

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# 外觀說明

Programming interface

3.3V multi-function I/O

EEPROM

RTC batt. holder

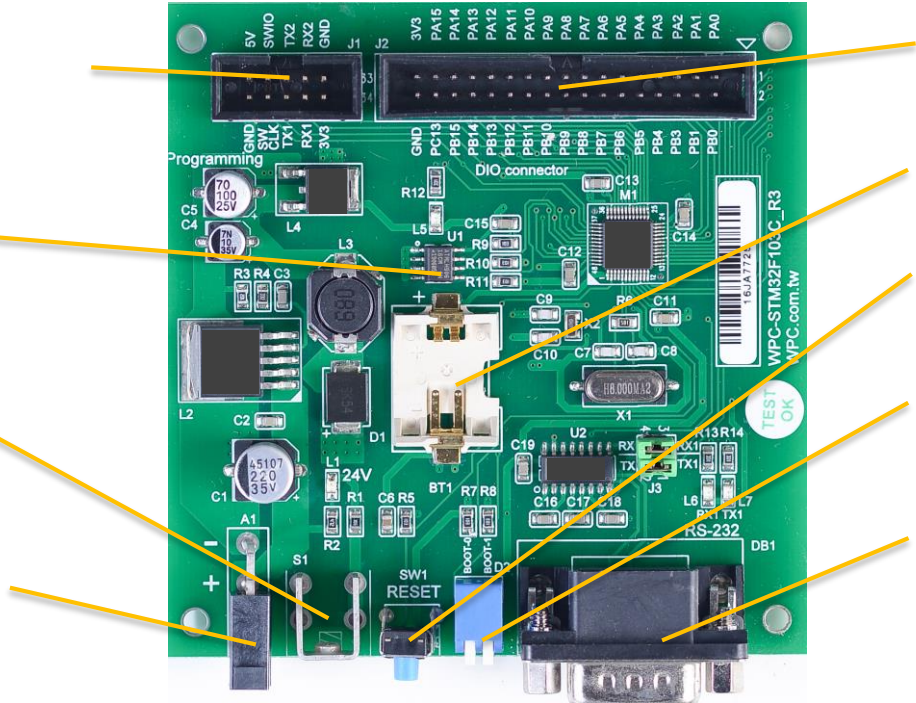
Earth

Reset

24VDC power input

Boot mode

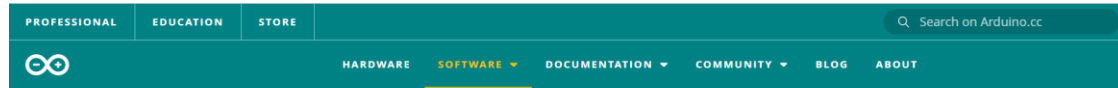
RS-232 interface



# 安裝Arduino IDE





<https://www.arduino.cc/en/software>




Arduino Web Editor

Start coding online and save your sketches in the cloud. The most up-to-date version of the IDE includes all libraries and also supports new Arduino boards.

[CODE ONLINE](#) [GETTING STARTED](#)



## Downloads

 **Arduino IDE 1.8.13**

The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. This software can be used with any Arduino board.

Refer to the [Getting Started](#) page for installation instructions.

[SOURCE CODE](#)

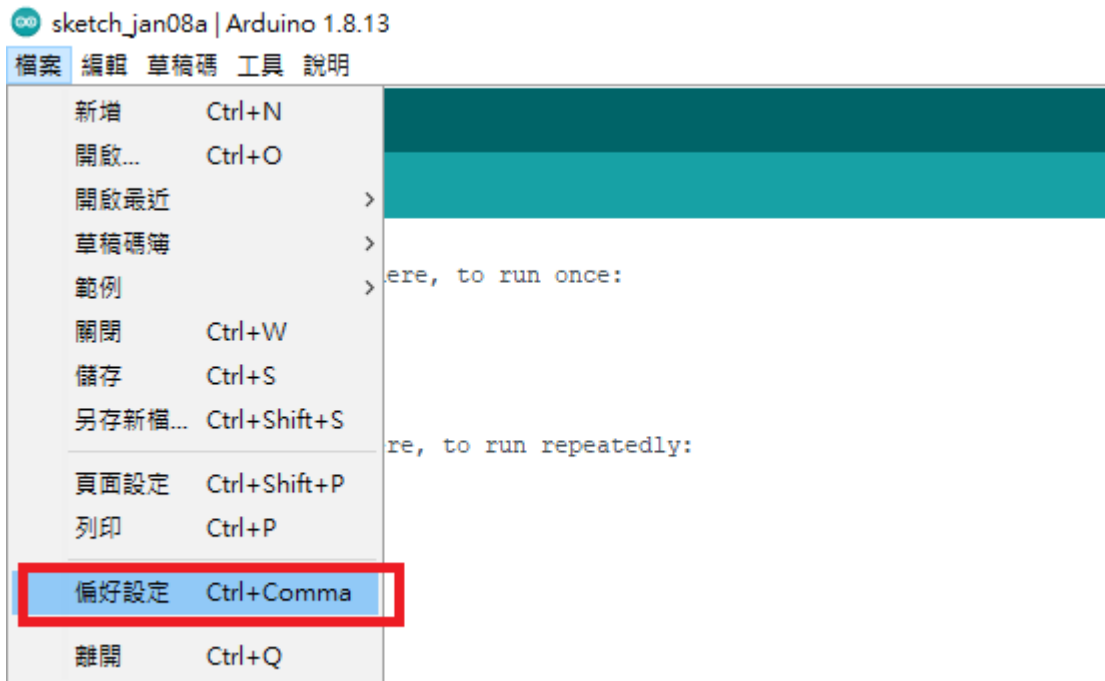
Active development of the Arduino software is [hosted by GitHub](#).

**DOWNLOAD OPTIONS**

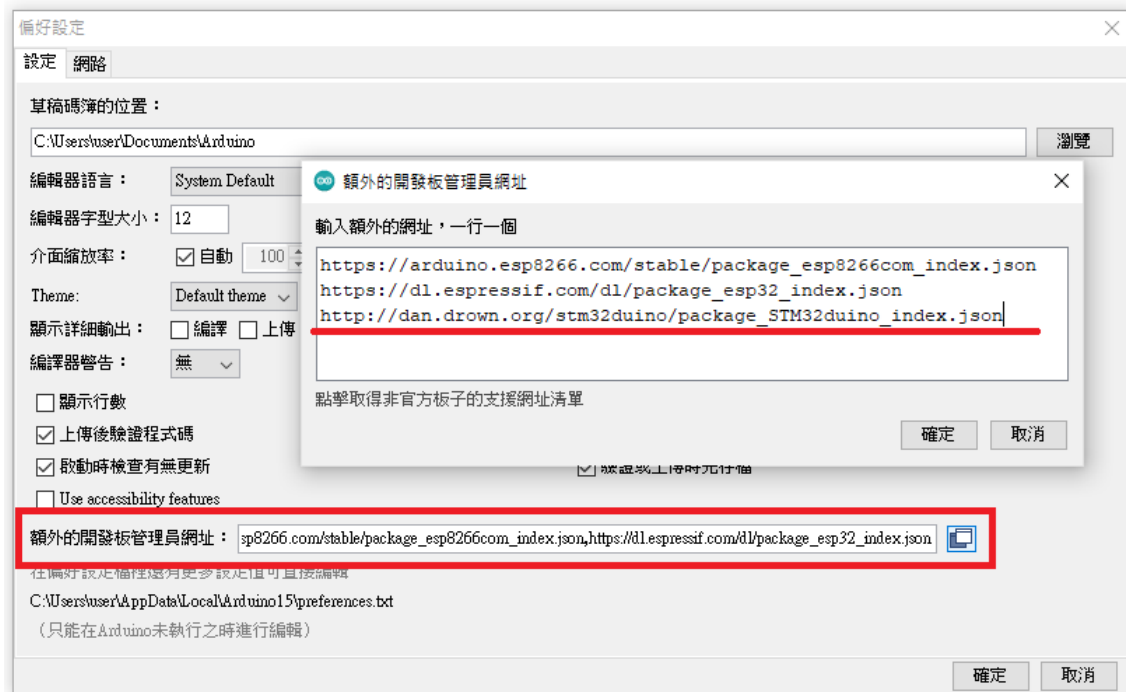
- Windows** Win 7 and newer
- Windows** ZIP file
- Windows app** Win 8.1 or 10 [Get](#)
- Linux** 32 bits
- Linux** 64 bits
- Linux** ARM 32 bits
- Linux** ARM 64 bits
- Mac OS X** 10.10 or newer

[Release Notes](#)

# 開啟Arduino IDE，選取檔案->偏好設定



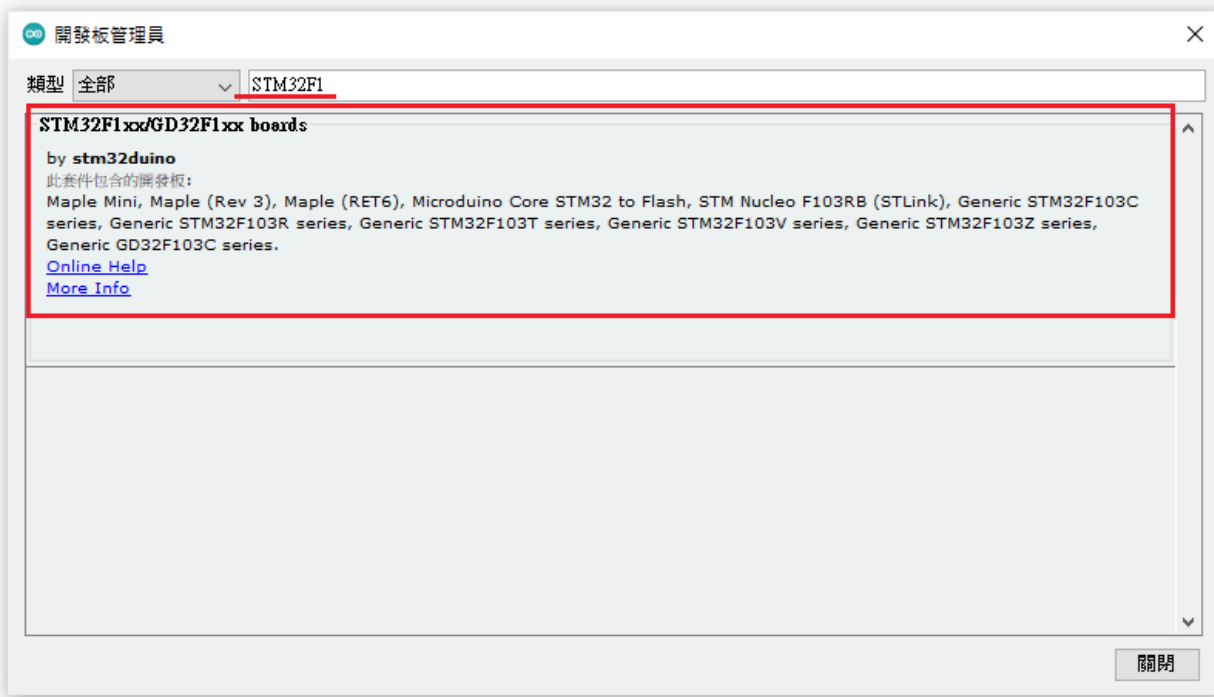
新增網址:[http://dan.drown.org/stm32duino/package\\_STM32duino\\_index.json](http://dan.drown.org/stm32duino/package_STM32duino_index.json)



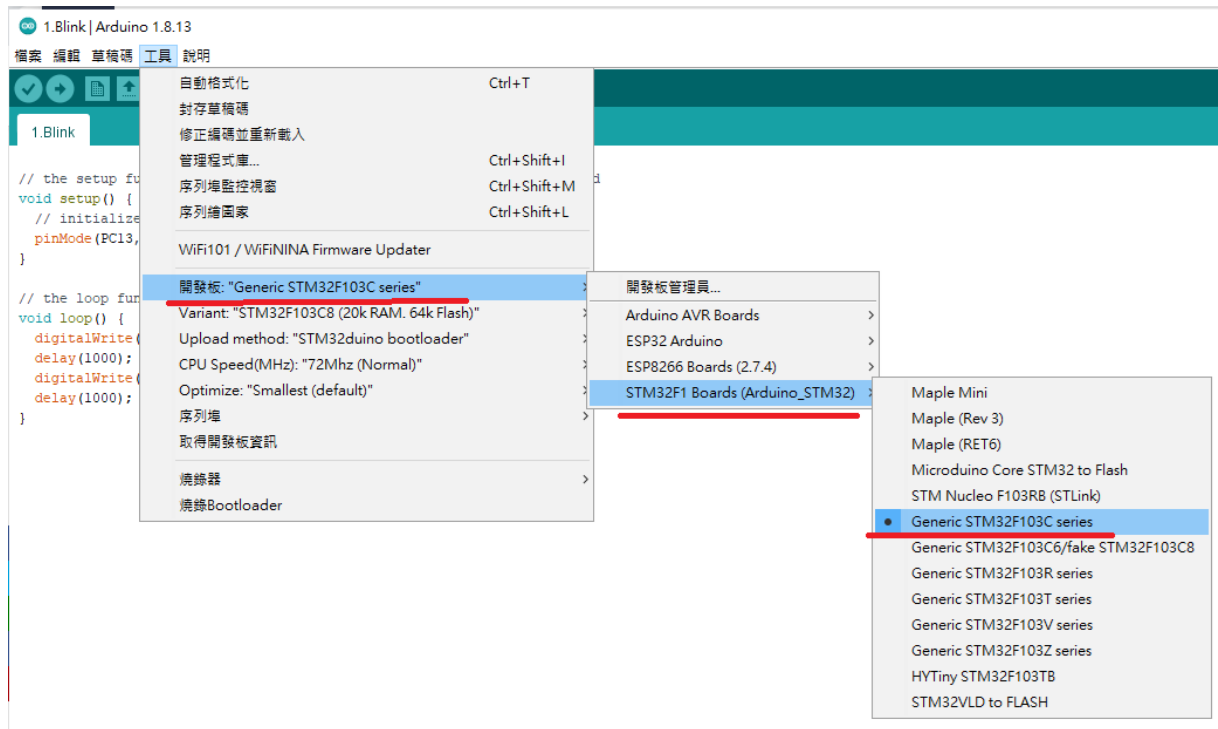
# 開起 工具->開發板->開發板管理員



# 搜尋STM32F1，安裝STM32F1xx/GD32F1xx boards

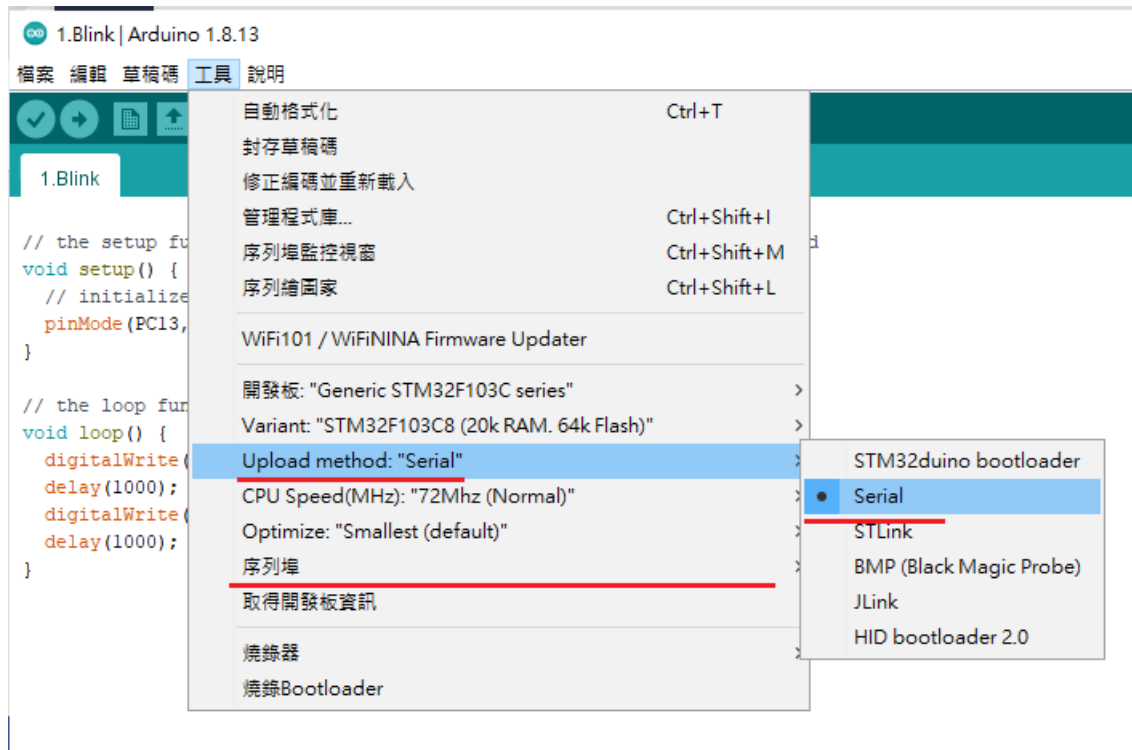


# 選擇開發板 Generic STM32F103C Series





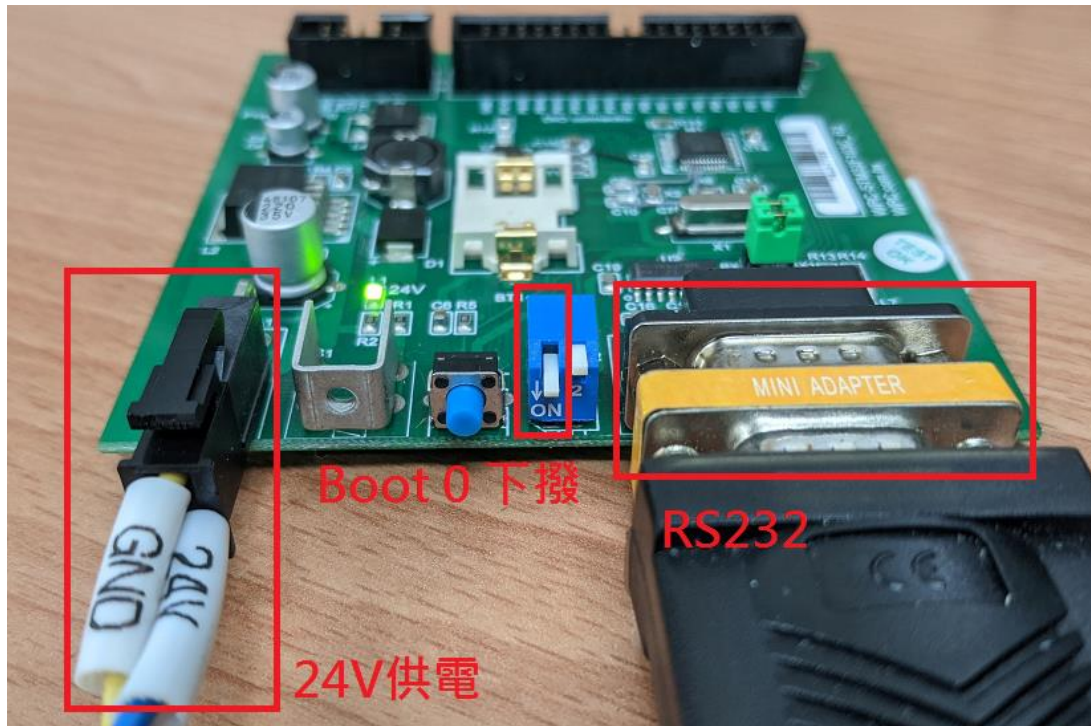
# 選擇上傳方式: Serial , 與序列埠Com Port位置




## 建立閃燈範例程式blink.ino，PC13的pin腳是控制板上內建LED

```
void setup() {  
  pinMode(PC13, OUTPUT);  
}  
void loop() {  
  digitalWrite(PC13, HIGH);  
  delay(1000);  
  digitalWrite(PC13, LOW);  
  delay(1000);  
}
```

開發板設定，Boot-0下撥再供電，切成boot mode



## 選擇上傳鍵



The screenshot shows the Arduino IDE interface for a project named "1.Blink" using Arduino 1.8.13. The menu bar includes "檔案", "編輯", "草稿碼", "工具", and "說明". The toolbar contains several icons: a checkmark, a right-pointing arrow (highlighted with a red box), a grid icon, an upload icon, and a download icon. Below the toolbar, the code editor displays the following C++ code:

```
1.Blink

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

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

# 上傳完畢的畫面

```
上傳完畢。
全球變數使用了 2496 bytes (12%) 的動態記憶體，剩餘 17984 bytes 給區域變數。上限為 20480 bytes 。
stm32flash 0.4

http://stm32flash.googlecode.com/

Using Parser : Raw BINARY
Interface serial_w32: 115200 8E1
Version      : 0x22
Option 1    : 0x00
Option 2    : 0x00
Device ID   : 0x0410 (Medium-density)
- RAM       : 20KiB (512b reserved by bootloader)
- Flash     : 128KiB (sector size: 4x1024)
- Option RAM : 16b
- System RAM : 2KiB
Write to memory
Erasing memory
Wrote address 0x0800312c (100.00%) Done.

Starting execution at address 0x08000000... done.
```

Boot0上撥切回一般模式，重新上電或按Reset，內建LED會閃爍



# 上傳失敗排除

1、未進入boot Mode

2、RS232的Rx,Tx需對調

```
上傳完畢。
草稿碼使用了 12588 bytes (19%) 的程式儲存空間。上限為 65536 bytes。
全域變數使用了 2496 bytes (12%) 的動態記憶體，剩餘 17984 bytes 給區域變數。上限為 20480 bytes。
stm32flash 0.4
Failed to init device.

http://stm32flash.googlecode.com/

Using Parser : Raw BINARY
Interface serial_w32: 115200 8E1

在C:\Users\user\Documents\Arduino\libraries\arduino-esp32-master: no headers files (.h) fou
```