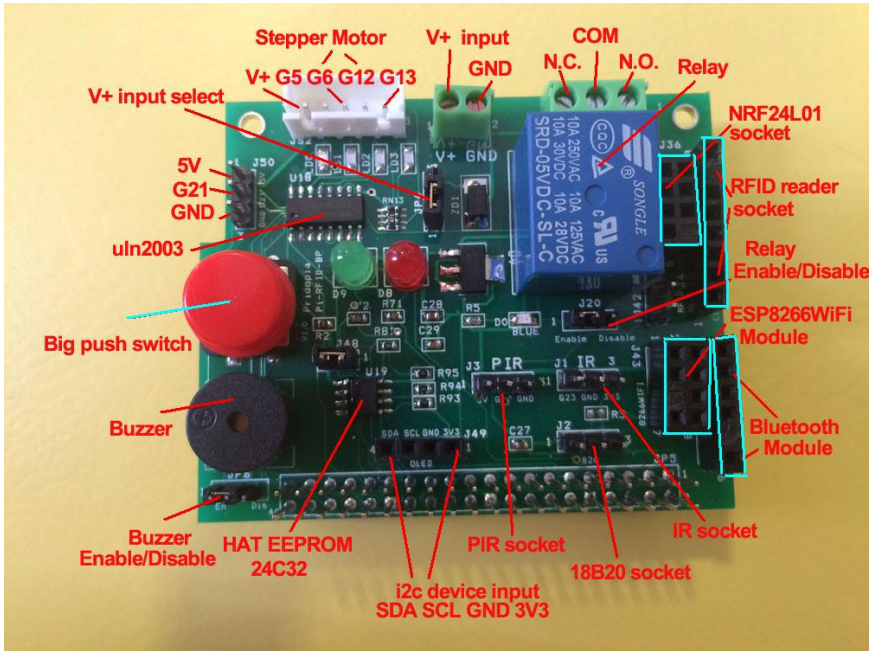
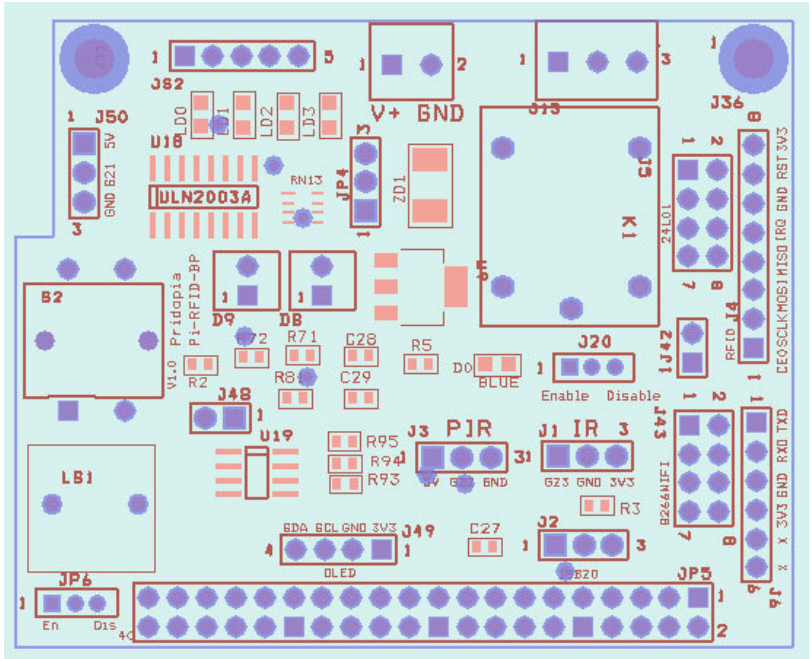
# RFID Module & Relay Board Kit 03



The RFID Reader Board

1. provide 1 buzzer (GPIO18)
2. provide 1 Big Push Switch (GPIO27)
3. Green LED (GPIO19) Red LED (GPIO24)
4. provide RFID socket ( SPI signal) / NRF24L01 socket (SPI signal)
   you can choose use RFID or NRF24L01 ( both use SPI signal)
5. Provide 1 extra i2c device input port, for 3.3V device
6. provide DS18B20 temperature sensor socket (GPIO4)
7. provide IR Receiver sensor socket (GPIO23)
8. provide IR PIR motion sensor socket (GPIO22)
9. provide one Relay (GPIO17)
10. 1 step Motor (28byj48-5V) socket (GPIO 5,6,12,13)
11. HAT EEPROM 24c32
12. TXD, RXD Bluetooth module socket
13. ESP8266 WiFi module socket

Demo program download from our web site
http://www.pridopia.co.uk/pi-rfid-kit03.html

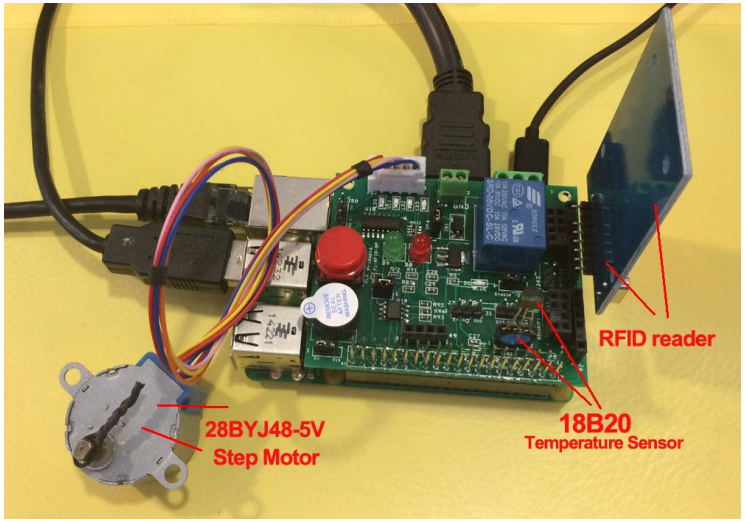
## Package Content

1x Rs-Pi RFID Reader

5x S50 Fudan Card 1x Key Chains

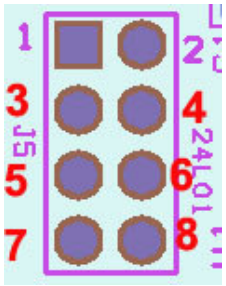
1x 1 RFID Kit03 Relay GPIO Board

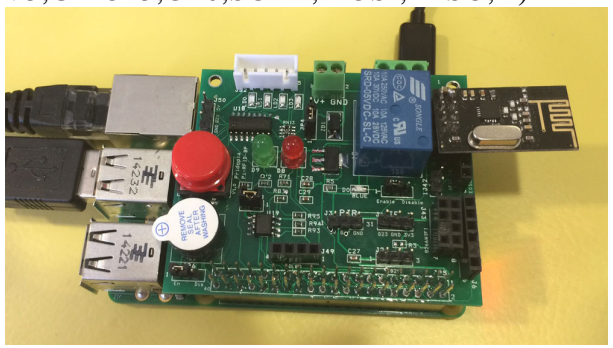
1x manual

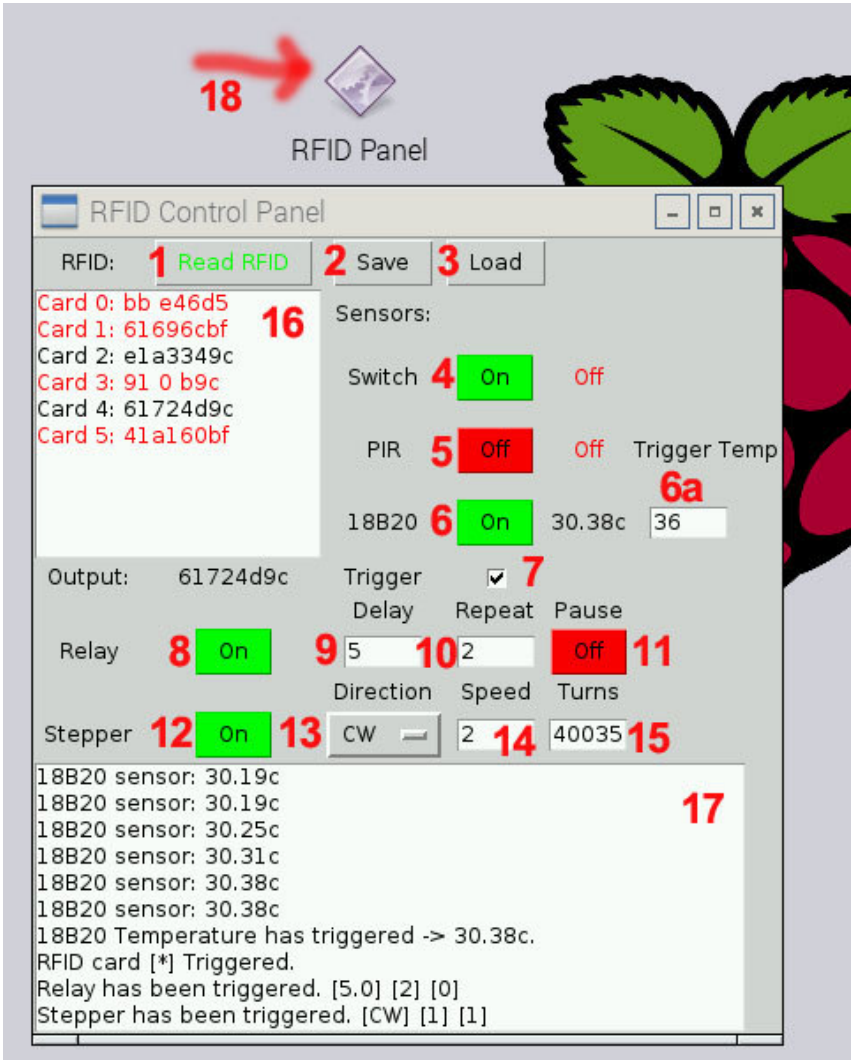


RFID socket
From pin1 (SDA,SCK,MOSI,MISO,IRQ,GND,RST,3V3


NRF24L01 socket
From pin1 (GND,3V3,GPIO25,CE0,SCLK,MOSI,MISO,X)






## RFID GUI control panel software

1. "Read RFID" read card information to Program 2. "Save" save card information to file

3. "Load" load card information from file 4. "on" turn on/off switch to trigger

5. "off" turn on/off PIR sensor to trigger 6. "on" turn on/off 18B20 sensor to trigger

6a. 18b20 temperature trigger ( Above will trigger the relay / stepper )

7. "Trigger" enable trigger for Relay & Stepper Motor

8. Relay "On"/"Off" 9. Relay delay time ? sec

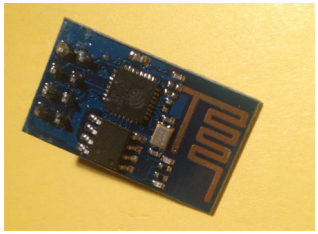
10. Relay Repeat Count 11. Relay Pause after repeating on/off

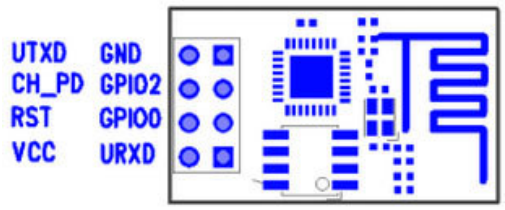
12. Stepper Motor "Off"/"On" 13. Stepper Motor Clock wise/counter clockwise

14. Stepper Motor speed ms/step 15. "Turns" how many steps you want stepper motor turn

16. card information screen 17. System message screen

18. RFID control panel software icon






**ESP8266 WiFi serial module AT command in CuteCom**

* **speed 9600 or 115200**
* **Choose CR,LF line end**

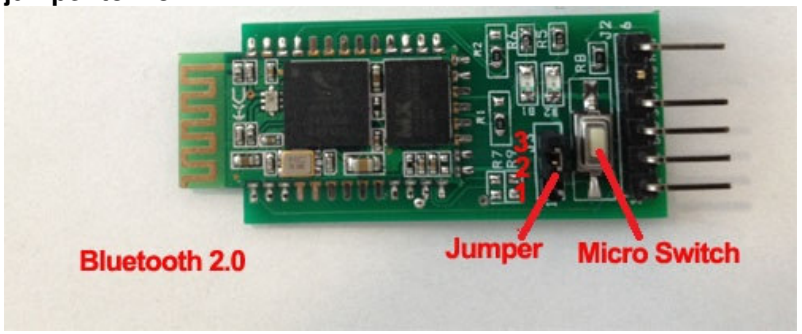
**Bluetooth v2.0 HC-05 AT command in CuteCom**

*** speed 9600 * Choose CR,LF line end**

*** 2 way to enter AT command mode**

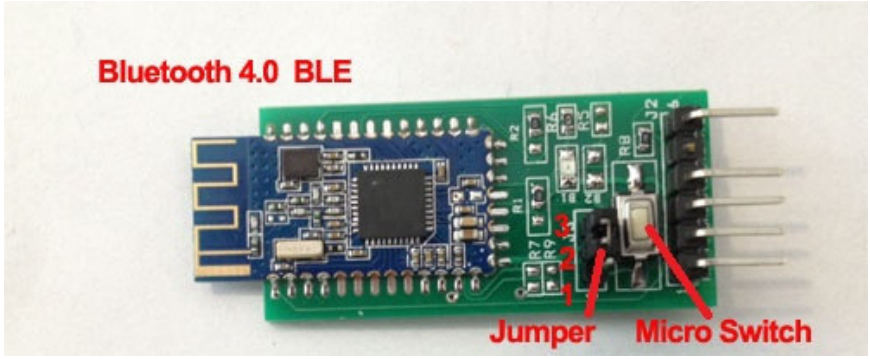
**1. * power on Pi first, press and hold the micro switch, then plug in the socket, release the switch**

**2 * power on Pi first, move jumper to 1-2, then plug in the socket, remove jumper to 2-3**




**Bluetooth v4.0 BLE HM-10 AT command in CuteCom**

```
*   speed 9600
*   Choose No line end
```




## Pi_Scratch software support

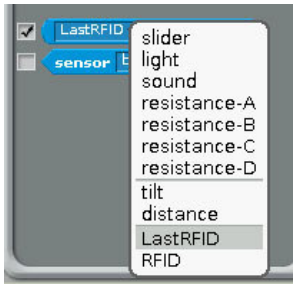
Pi_Scratch interface software download from our web site

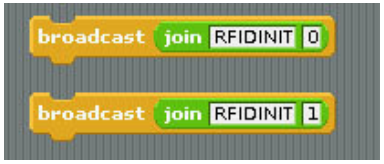
http://www.pridopia.co.uk/rs-pi-set-scratch.html

Install tools for RFID kit in Raspberry Pi , in our Pi_Scratch_v268 folder" Installer"

**sudo python RFID-Installer.py** -- if you already install previous Pi_Scratch ver already. first time user, use **sudo python Install.py**

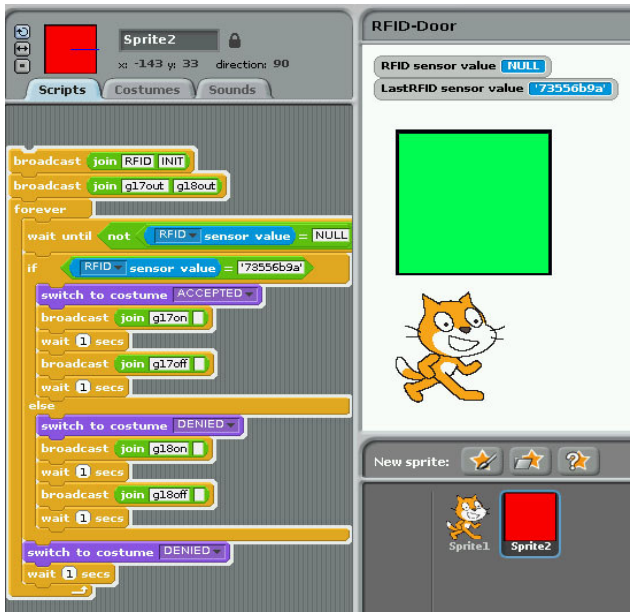
Scratch control demo



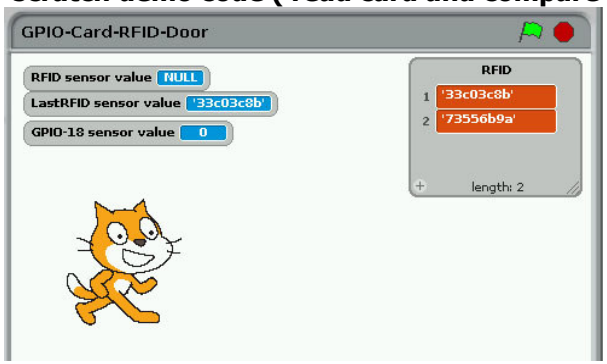




```
1)Command "RFID"+"INIT"+"0"  or "1"
will initial SPI signal to active RFID Reader
2) you will see "LastRFID" & "RFID" in Sensors
```

**Scratch demo read RFID and GPIO output**

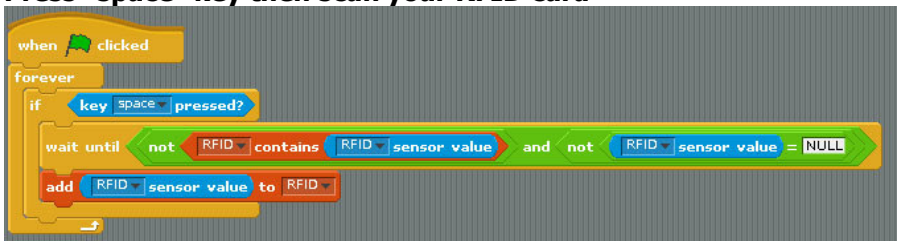



**scratch demo code ( read card and compare with database)**

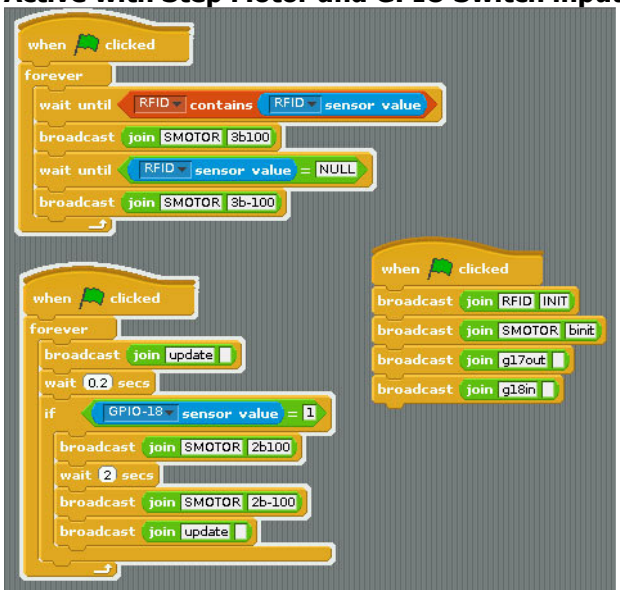



**ADD RFID Card into data base**

**Press "space" key then scan your RFID card**




**Active with Step Motor and GPIO Switch input**




**scratch demo file**

RFID Door.sb RFID Reader.sb GPIO-Card-RFID-Door.sb

Download GPIO library

https://pypi.python.org/pypi/RPi.GPIO GPIO library

GPIO library - RPi.GPIO-0.5.6.tar.gz

**Install python , library and run the test program**

```
# sudo apt-get install python-dev
# wget http://www.pridopia.co.uk/pi-pgm/RPi.GPIO-0.5.6.tar.gz
# gunzip RPi.GPIO-0.5.6.tar.gz
# tar –xvf RPi.GPIO-0.5.6.tar
# cd  RPi.GPIO-0.5.6
# sudo python setup.py install
```