FARES PCB
For Electronic Solutions

6-Channel Wi-Fi Relay Module

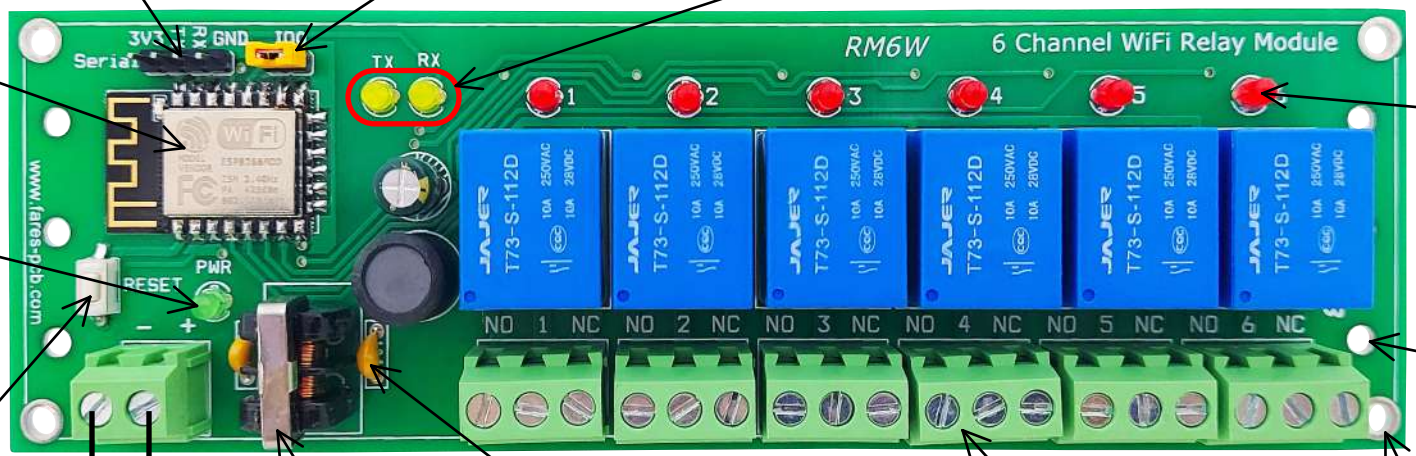
General Description

The RM6W is a 6-channel Wi-Fi module based on the ESP-12F module which is based on the ESP8266 chip from Espressif. The ESP-12F includes 4MB of flash and supports 802.11b/g/n Wi-Fi SOC. The ESP-12F can be programmed serially via the 4-pin header. The card is well-protected, filtered, and easy to install. The RM6W outputs can drive loads up to 10A (resistive load).

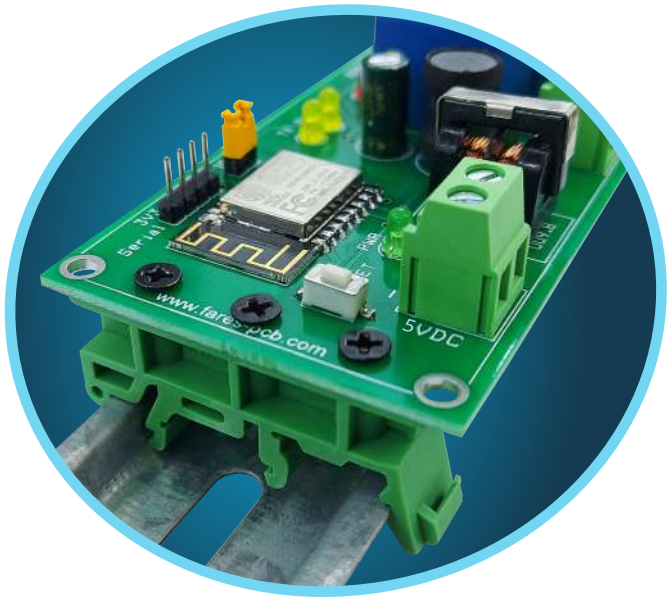
Features

- Based on ESP-12F Wi-Fi module.
- On-board 3.3V regulator AMS1117-3.3V.
- Power input is filtered for noise reduction.
- Green LED for power indication.
- Operating voltage DC5V.
- Six output relays with red LED indicators.
- Both normal open and normal close terminals are available.
- Output terminals are available through 5mm 2-pin K128 screw clamp.
- Easy firmware uploading using 4-pin header (3.3V, Tx, Rx, GND).
- Reset push button switch is included.
- Two yellow LEDs for Tx and Rx signal indication.
- DIN Rail mountable.
- Four mounting holes for easy installation.

Board Details



DIN Rail Mounting Options



PCB Bracket

PCB Carrier

How to Program ?

To upload your code on (ESP) module, some hardware and software tools should be available.

Hardware requirements

- PC (personal computer), laptop or smart phone.
- USB/Serial converter.
- USB cable.

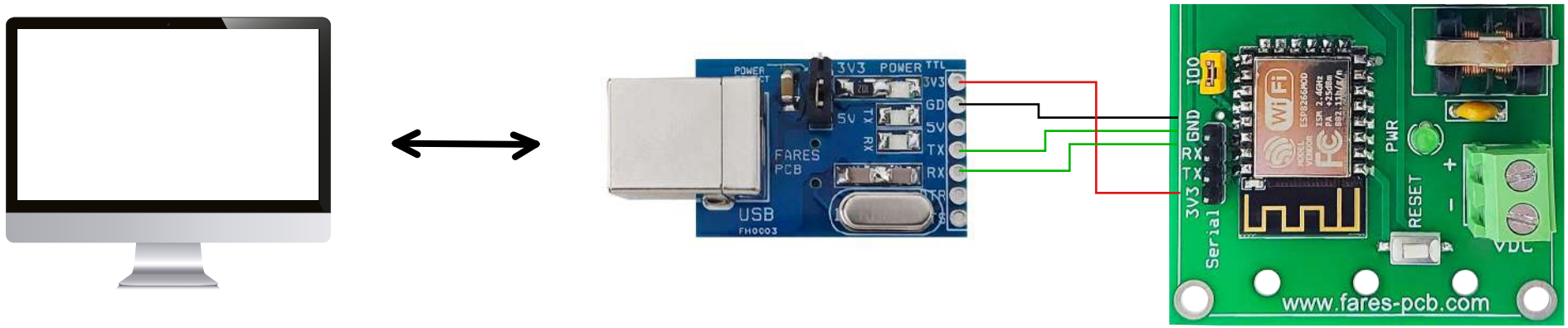
Software requirements

- Arduino IDE Tool.

Hardware preparing (programming mode)

1-Connect USB/Serial converter to PC.

2-Connect USB/Serial converter to RM6W module as showns below.



a-Connect GND (RM6W) to GND (USB/Serial converter).

b-Connect 3V3 (RM6W) to 3V3 (USB/Serial converter).

c-Connect RX (RM6W) to TX (USB/Serial converter).

d-Connect TX(RM6W) to RX (USB/Serial converter).

3-Connect IO0 jumper (programming module).

4-Press **RESET** switch to initiate programming mode.

Upload your code

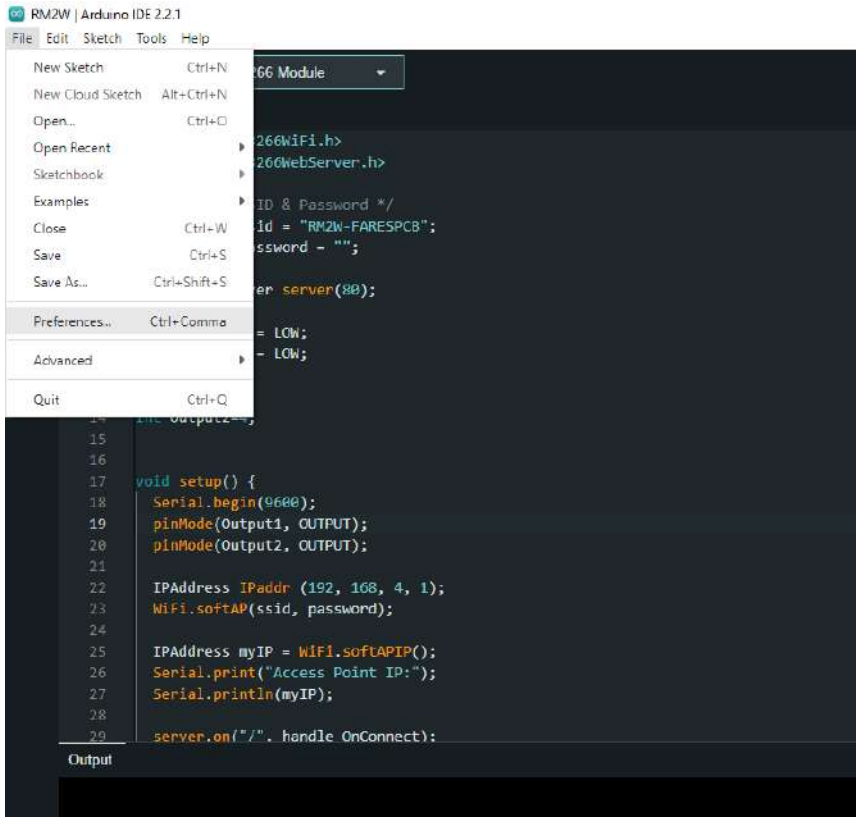
1-Download and install Arduino IED from the following link

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

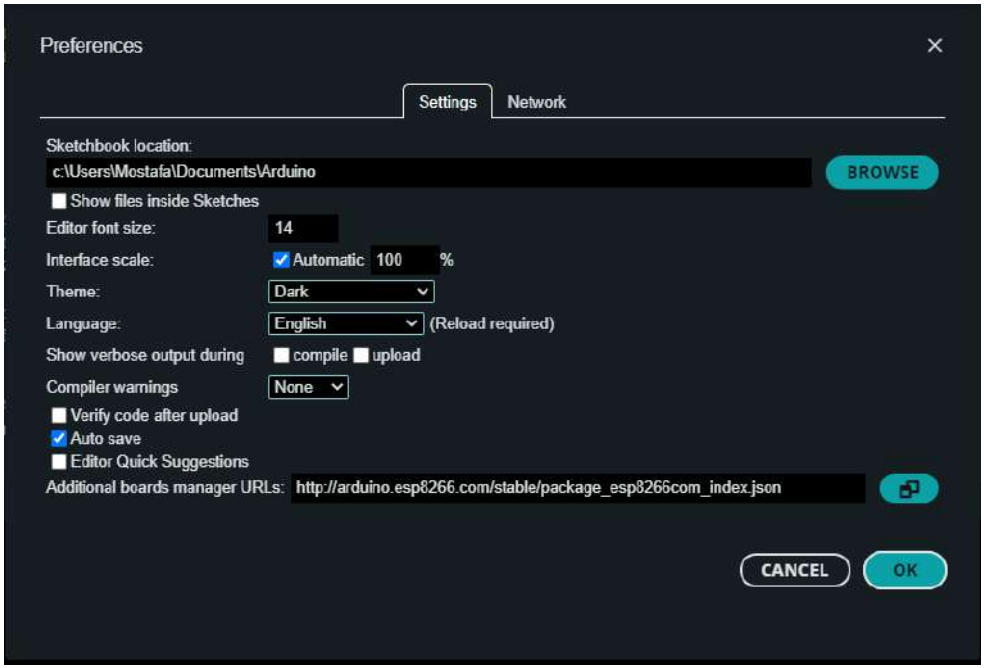
2-Open your Arduino .ino file.

3-GO to File > Preferences and copy the link below to boards manager URLs.

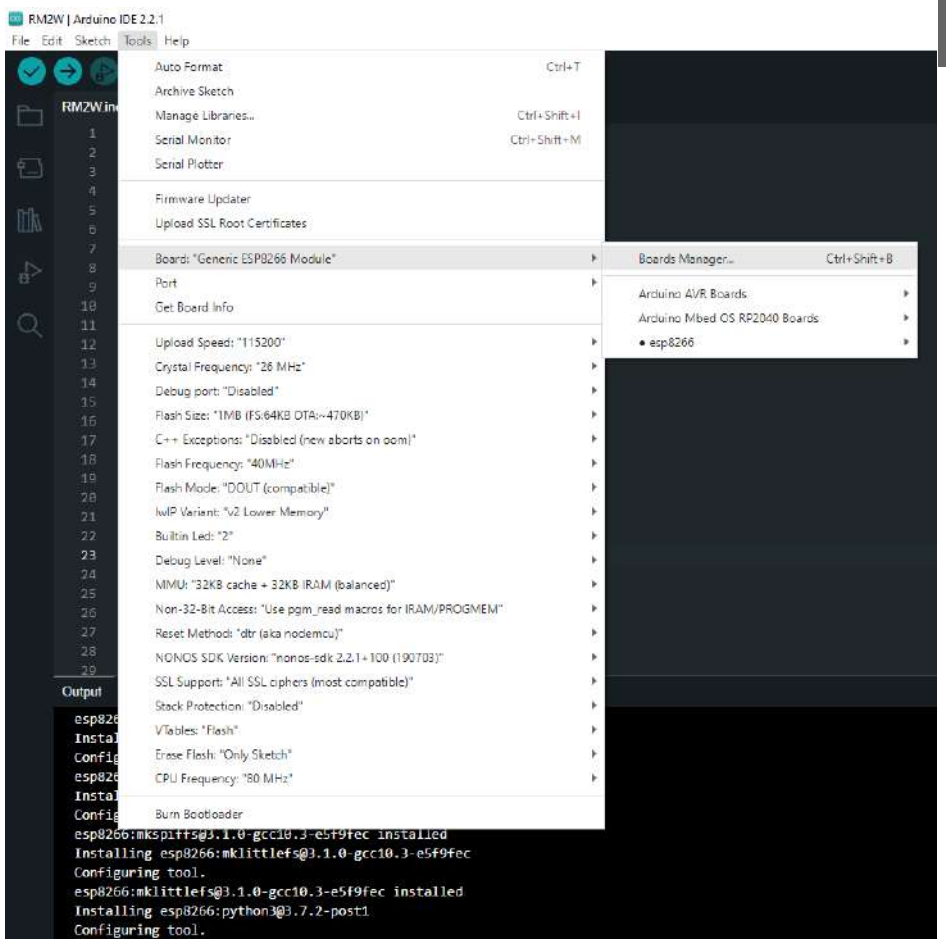
http://arduino.esp8266.com/stable/package_esp8266com_index.json



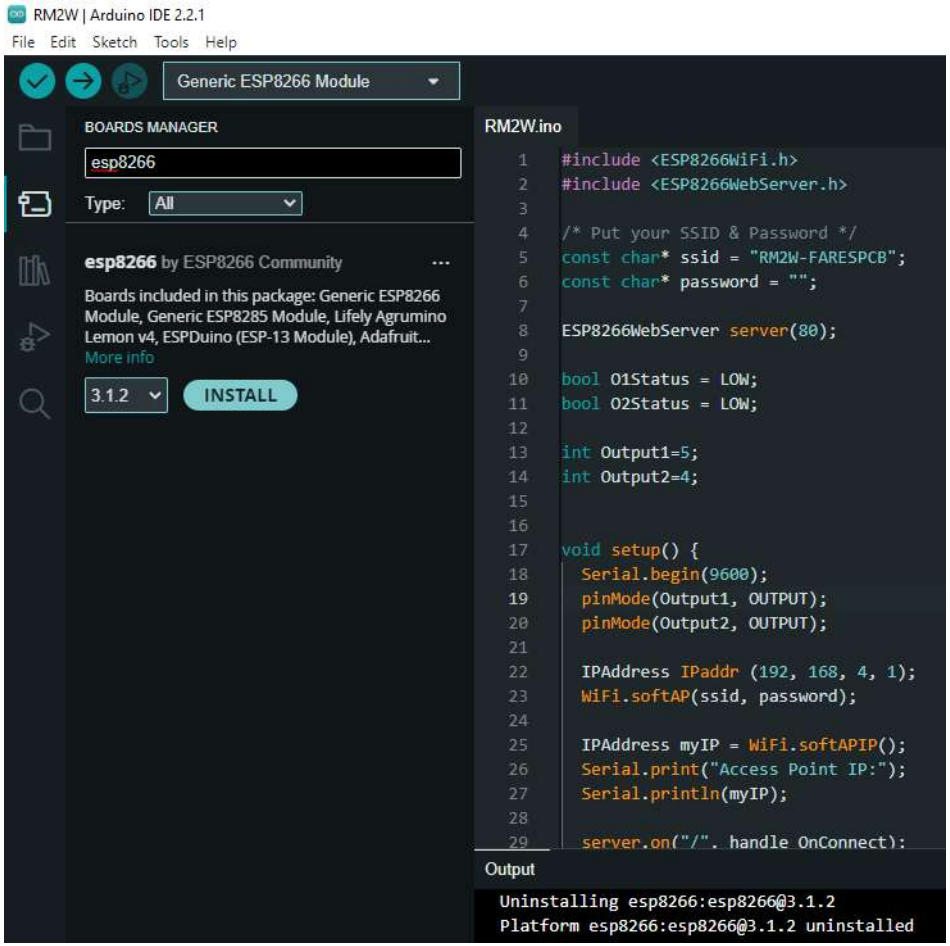
4-Click OK.



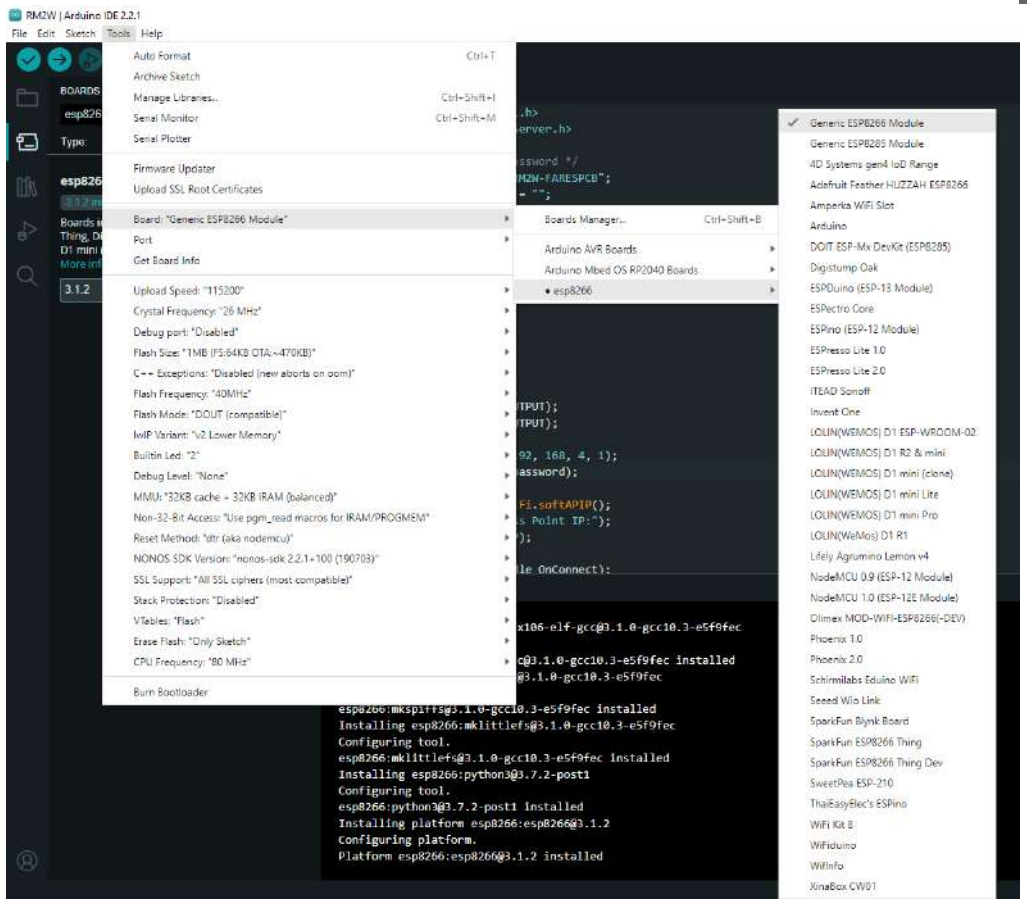
5-Go to Tools> Board> Board Manager.



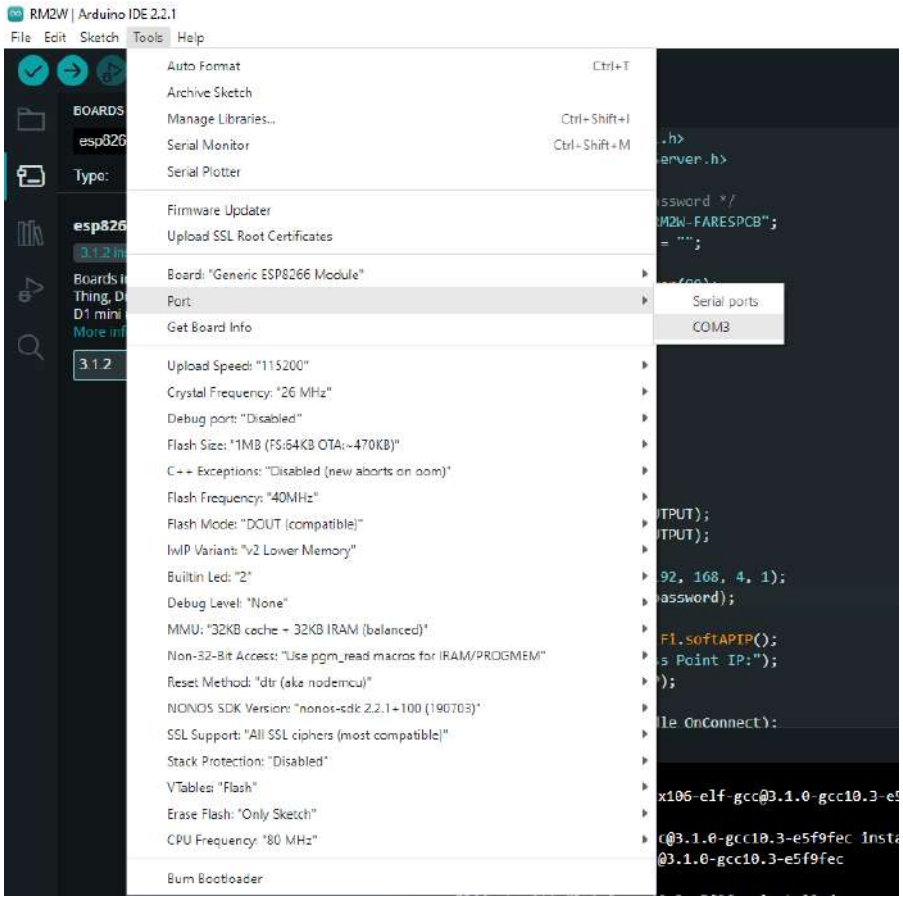
6-Type esp8266 and click INSTALL.



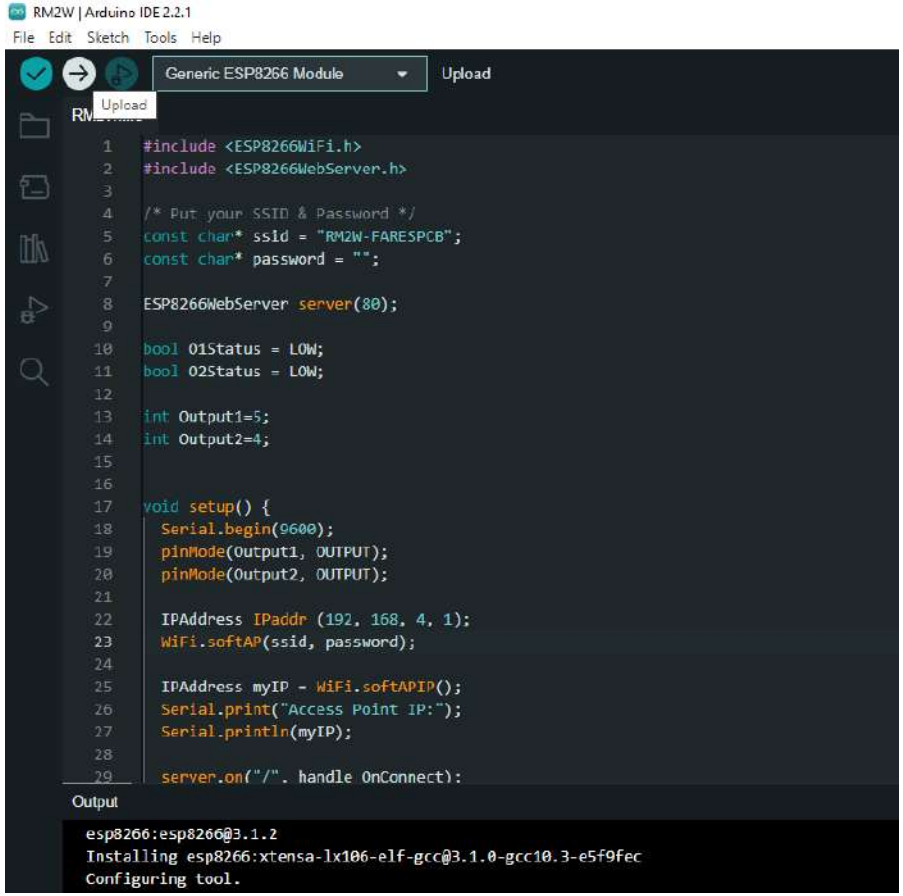
7- Go to Tools > Board > esp8266 > Generic ESP8266 Module.



8- Go to Tools > Port > COM.



9-Click Upload icon to compile and upload your code.



How to test ?

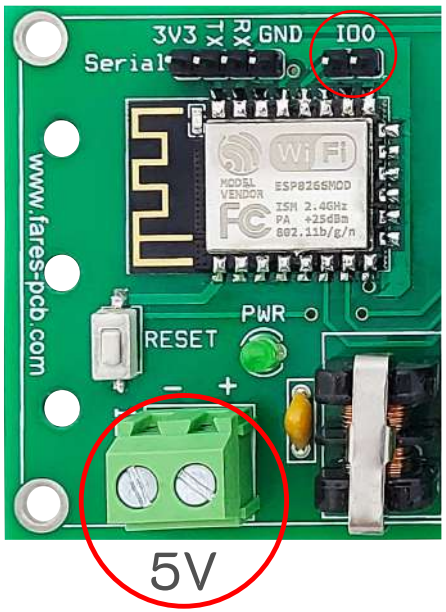
RM6W module comes pre-programmed with a test code that can be used to apply control via any browser page.

The code is available at this link: https://fares-pcb.com/product/6-channel-wireless-relay-module-esp-12f-rm6w/

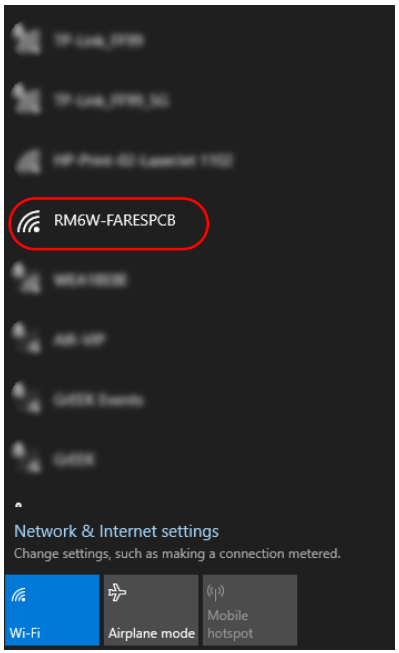
Test Steps

1-Ensure the I00 jumper is removed.

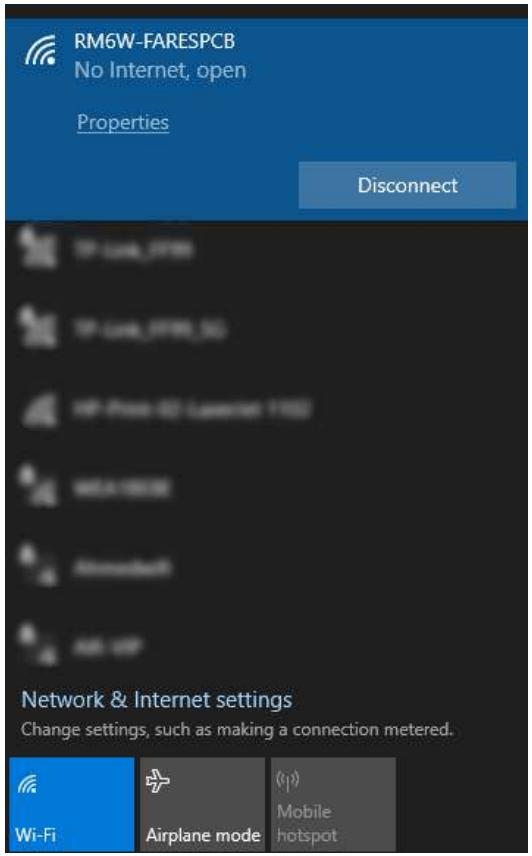
2-Connect power supply 5V.



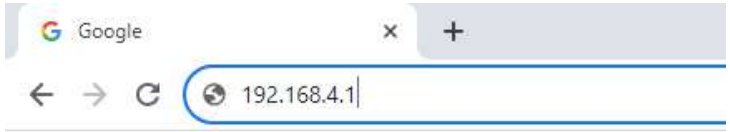
3-A Wi-Fi network signal will popup denoted by (RM6W-FARESPCB).



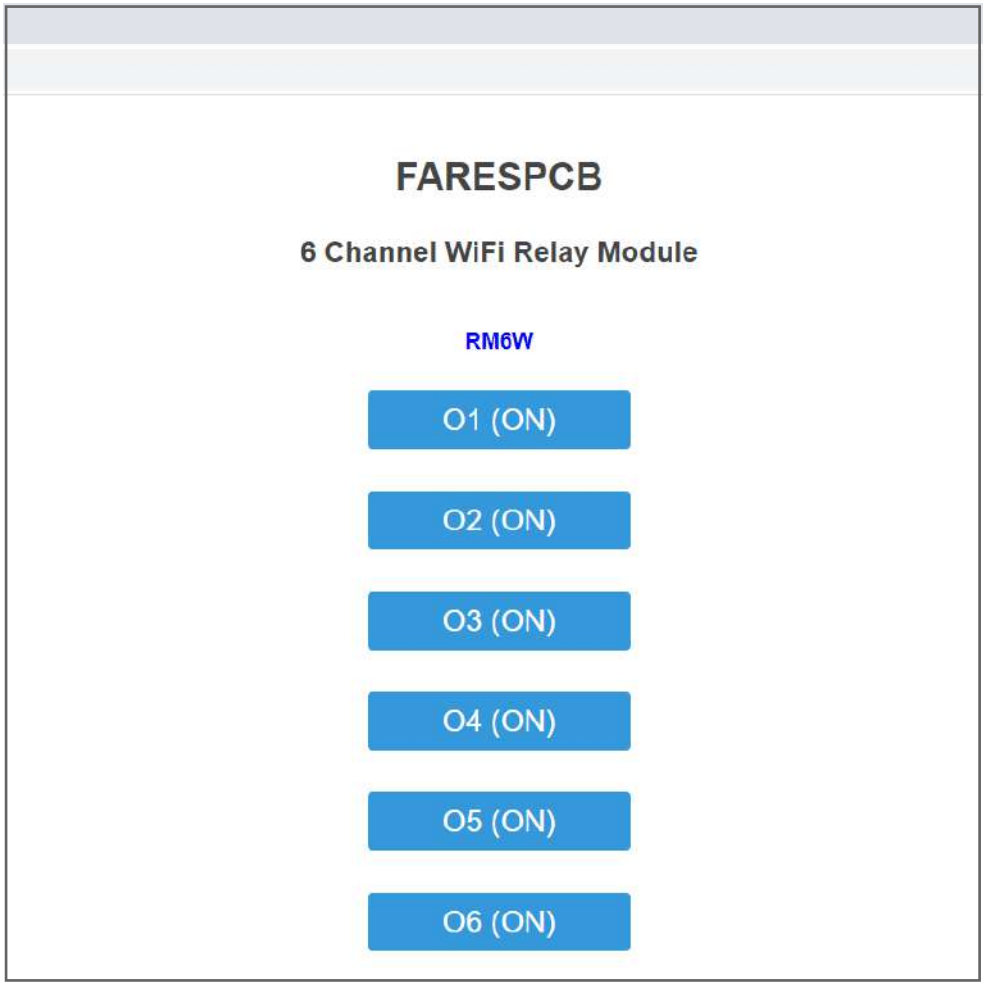
4- Connect using PC or Smart phone.



5-Open any web browser and input the default IP address “ 192.168.4.1 ”.



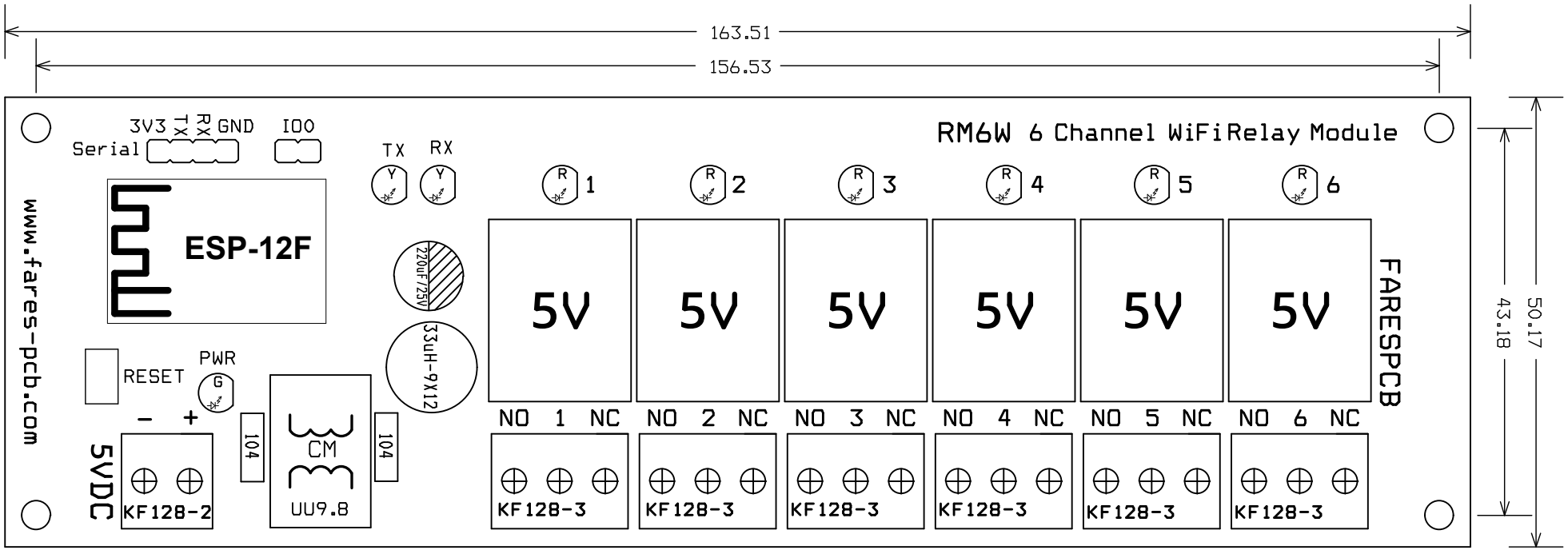
6-Control page will be loaded. Use **ON/OFF** buttons to control output relays.



Output relays are routed to ESP-12F GPIOs as shown in the table below

Output Relay	ESP-12F GPIO pin
Relay 1	GPIO5
Relay 2	GPIO4
Relay 3	GPIO13
Relay 4	GPIO12
Relay 5	GPIO14
Relay 6	GPIO16

Mechanical Dimensions Diagram



All Dimensions are in mm

For our full range of products, see our website at **http://www.fares-pcb.com**
If you have any technical questions about our products,
e-mail us at **www.support@fares-pcb.com**

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