

# MAGX<sup>2</sup>

## P31 Wi-Fi Installation



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# 1. Introduction

This document provides the mechanical installation and setup procedure between the Wi-Fi module and MAGX2 transmitter.

All MAGX2 devices operating firmware version 21.22 and above are compatible for this upgrade if required.

## 1.2 Design of Wi-Fi module

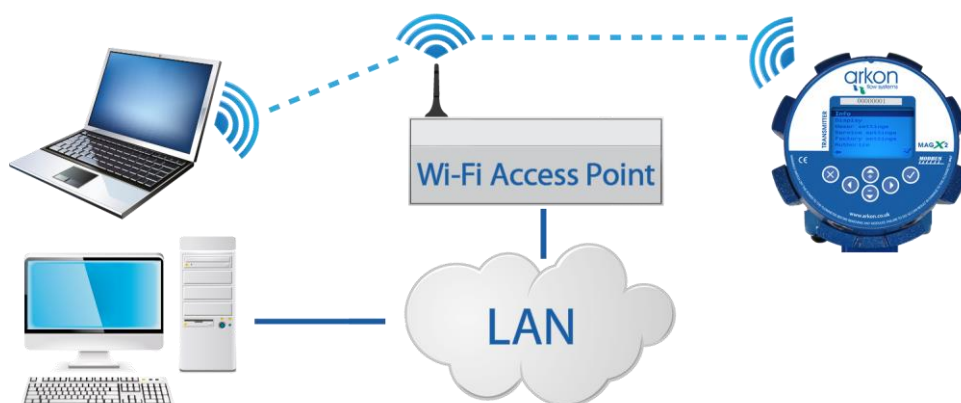
The Wi-Fi module is a device, designed to communicate with MAGX2 devices and your local area network (LAN) or wireless LAN (WLAN). There is one way to use this device: as a slave mode, to which the server connects.

The Wi-Fi module is single band 2.4GHz IEEE 802.11b/g/n.

The Wi-Fi module can connect your MAGX2 devices with your PC for controlling, monitoring and administrating (Picture 2).



*Picture 1. Wire connection*



*Picture 2. Wireless connection via Wi-Fi module*

## 1.2 System requirements

The hardware and software requirements of your computer must be at least equal or better than those listed below to ensure that the software works correctly.

- MAGX2 Flowmeter with Wi-fi module.
- PC or other system with Wi-Fi interface and WEB browser.
- MAGX2 software or other with MODBUS communication protocol RTU.

In case you are using MAGX2 software:

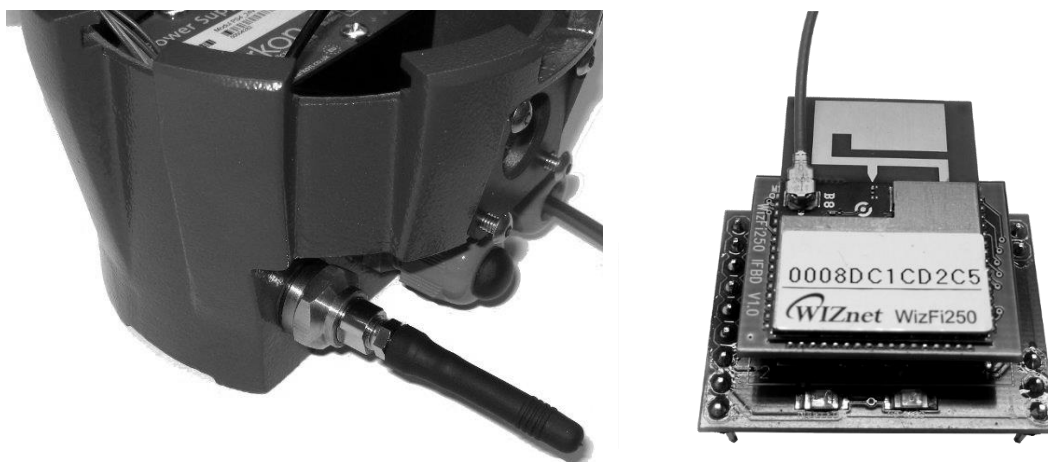
- MS Windows XP, Windows Vista, Windows 7, Windows 8/8.1 and Windows 10 operating system or higher.

## 2. Installation information

Installation of the Wi-Fi module can be only performed by qualified staff or a person who has safety requirements.

### 2.1 Antenna installation

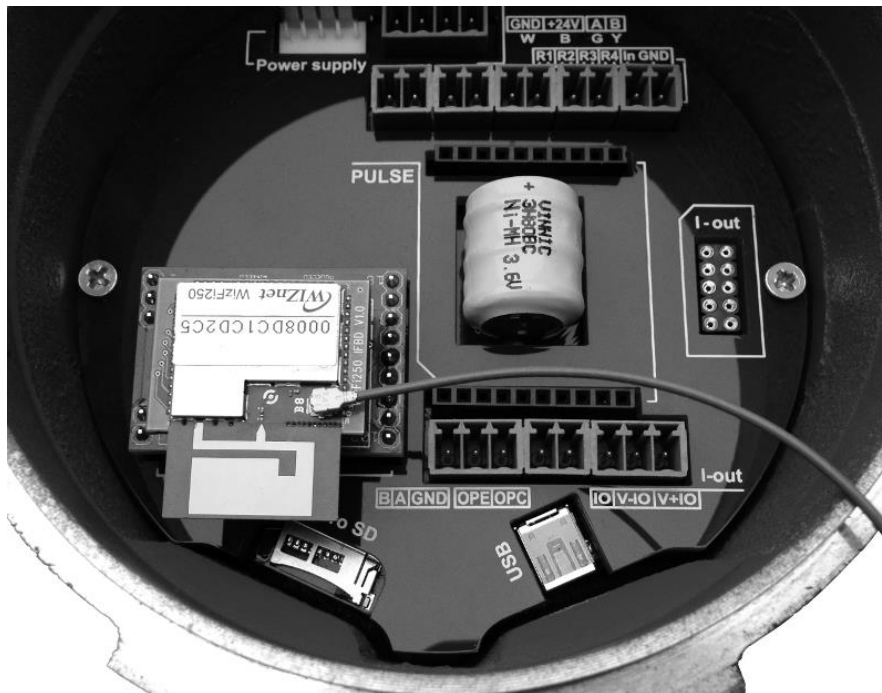
Install antenna according to pictures bellow.



*Picture 6. Antenna installation*

## 2.2 Wi-Fi module installation

Install Wi-Fi module according to picture bellow.



Picture 7. Wi-Fi module location

## 2.3 Antenna and Transmission Safety Precautions

The unit must be installed to provide a certain separation distance of at least 20 cm or more, between the antenna and person, it must not be placed or operate in conjunction with any other antenna or transmitter to satisfy FCC RF exposure requirements for mobile transmitting devices.

Do not operate the equipment in the presence of flammable gases or fumes. Operation of any electrical equipment in such an environment constitutes a definite safety hazard.

## 2.4 Configuration

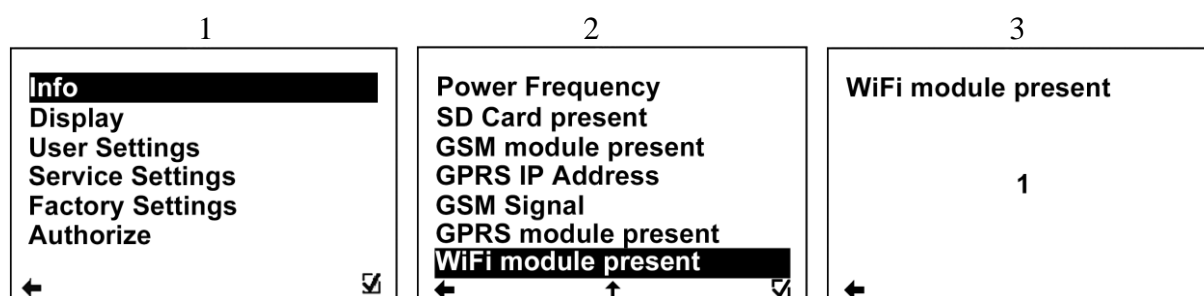
The following steps are necessary for the correct settings of Wi-Fi module:

1. Turn on the MAGX2 in which the Wi-Fi module is installed
2. Turn AP mode on Wi-Fi module
3. Connect to Wi-Fi with SSID: WIZFi250\_AP\_XXXXXXXXXXXX
4. Set communication parameters
5. Join Wi-Fi module to your wireless network

## 2.4.1 Check Wi-Fi module present

First check the presence of Wi-Fi module in MAGX2 transmitter.

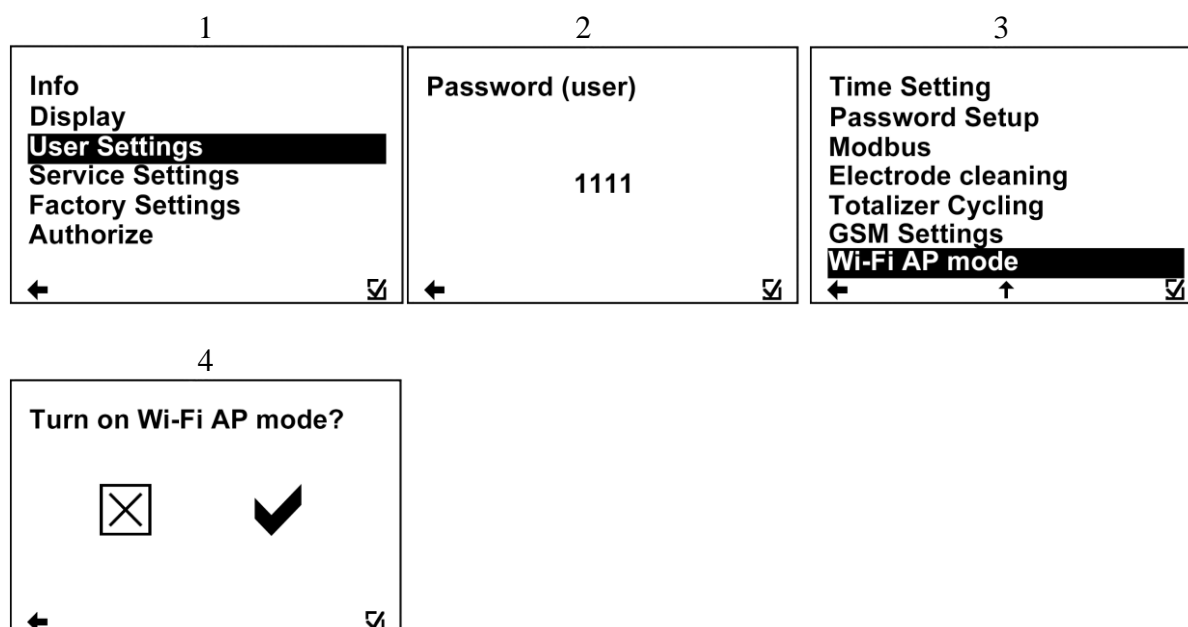
1. Go to Info menu.
2. Select option WiFi module presence
3. If the transmitter shows "1" then the Wi-Fi module was detected by MAGX2 flowmeter.



## 2.4.2 Start AP mode

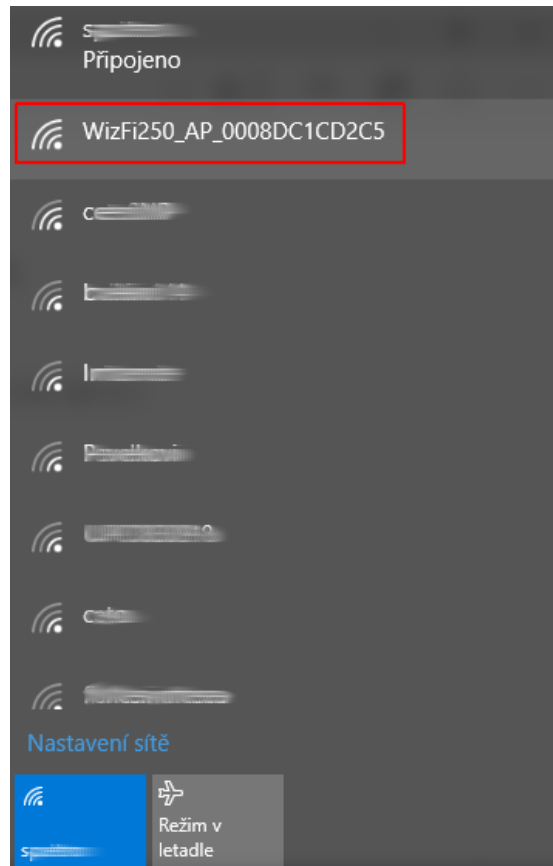
To start AP mode follow these steps:

1. Go to User menu
2. Insert your password
3. Select option Wi-Fi AP mode
4. Confirm your choice

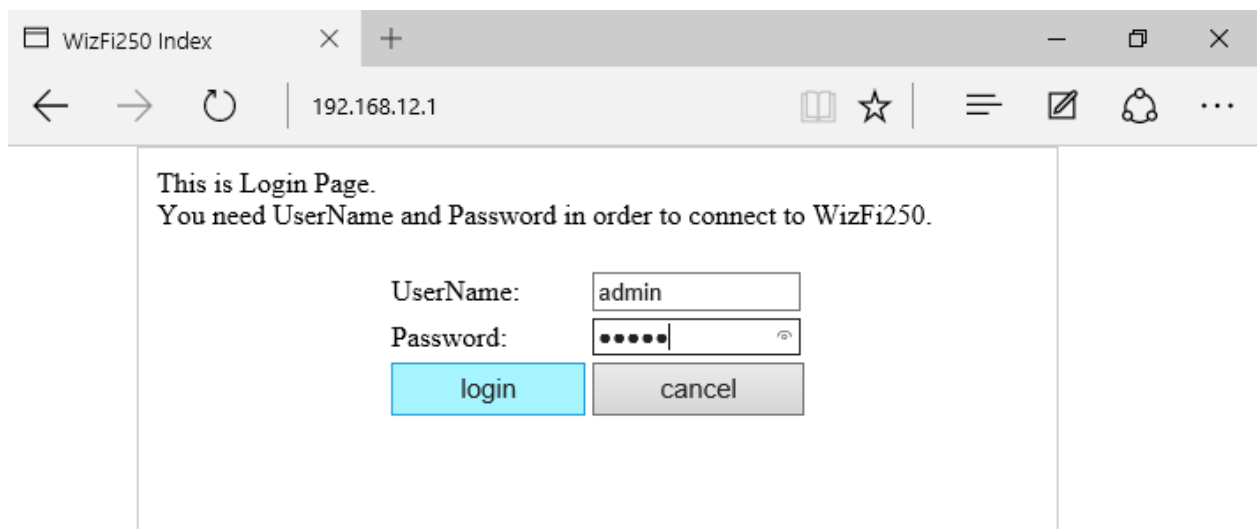


### 2.4.3 Connect to WizFi250's SSID

After you turn on AP mode new network called WizFi250\_AP\_XXXXXXXXXXXX should appear in your Wi-Fi list. Connect to WizFi250's SSID by inputting default password (123456789) as shown in the following figure.



In your web browser go to IP address 192.168.12.1 and use default user name (admin) and password (admin) to login.

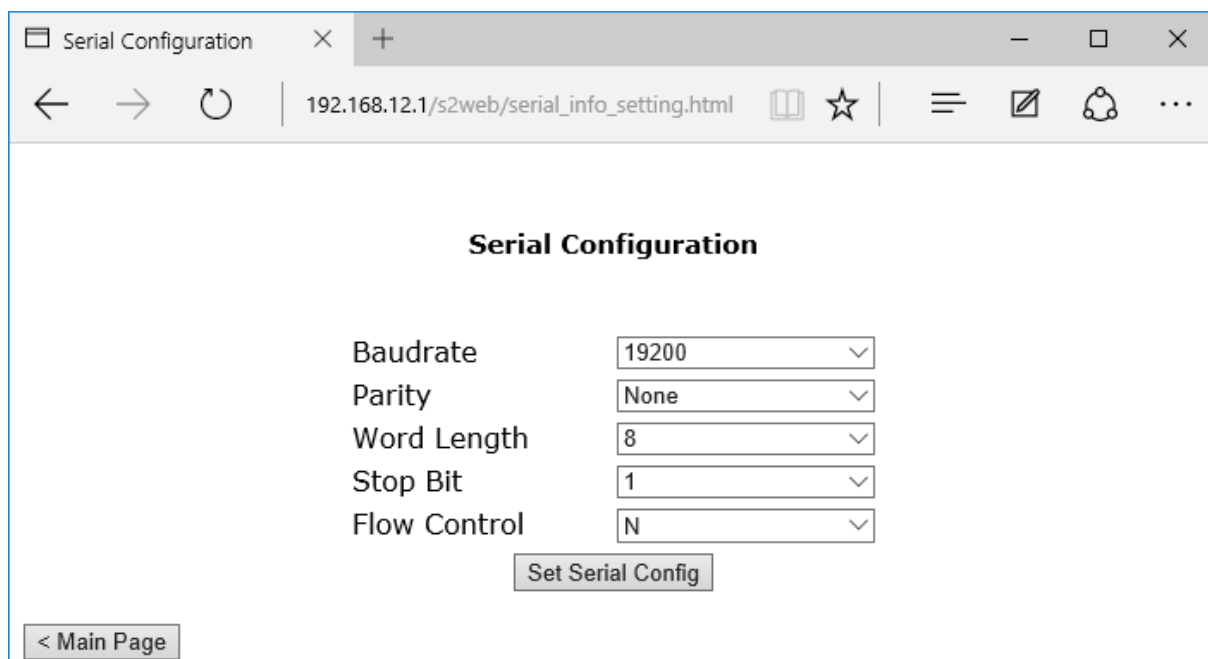


## 2.4.3 Set communication parameters

1. In case you need to set a different baudrate speed than 19200 follow this step otherwise you can skip this step. Select option Serial Setting.

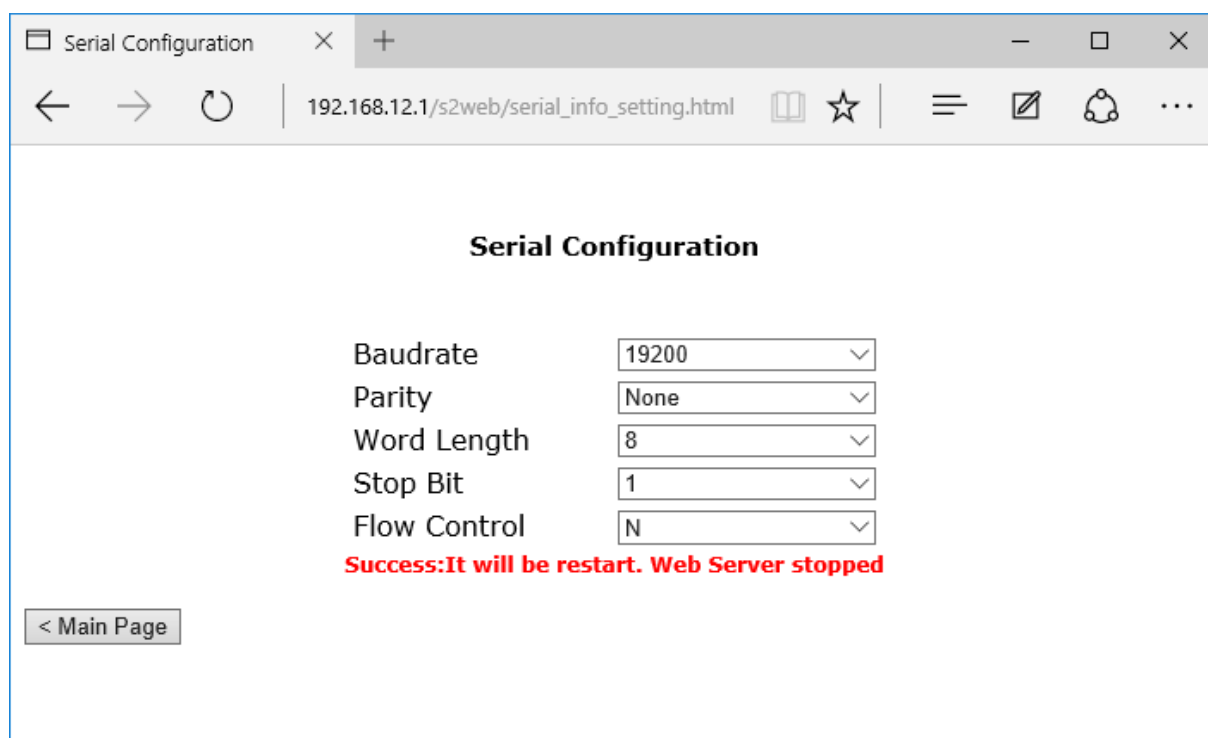


And set the parameters of the serial line you want to use.





After you click on "Set Serial Config" button all settings will be saved and Wi-Fi modul will reset so you need to re-enable the AP mode and re-connect to the module.

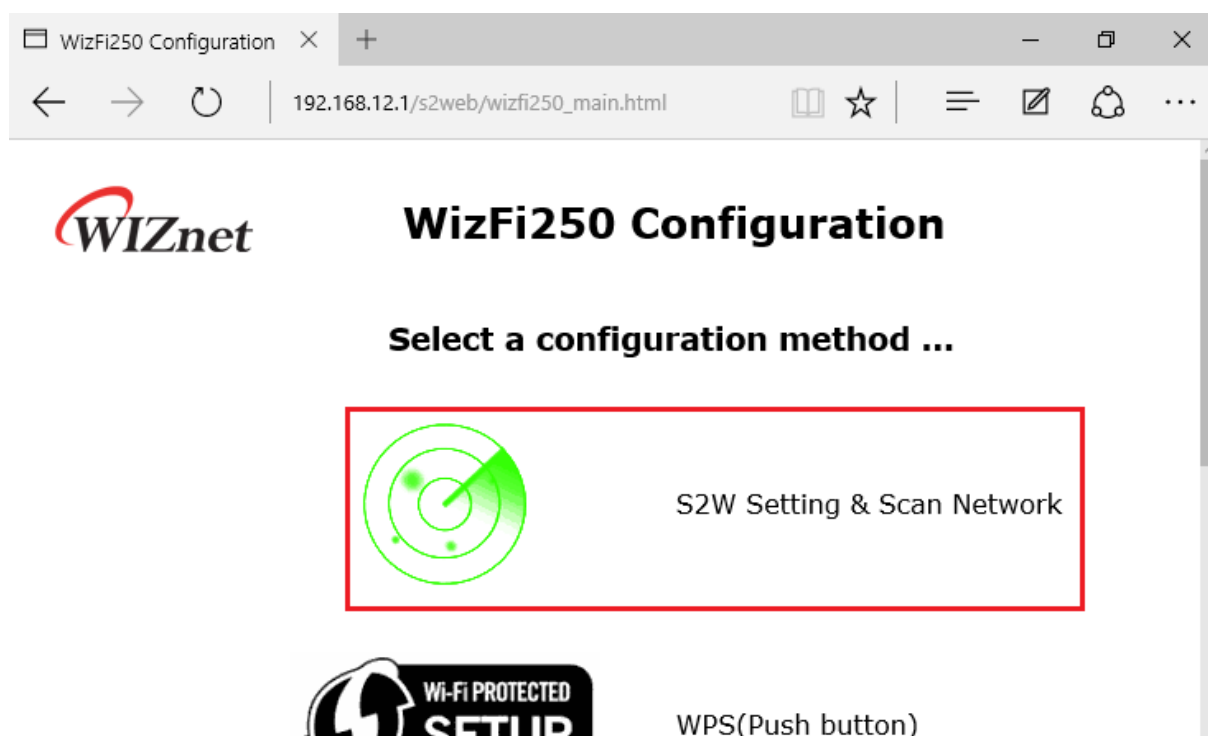


The screenshot shows a web browser window with the title "Serial Configuration". The address bar displays "192.168.12.1/s2web/serial\_info\_setting.html". The main content area is titled "Serial Configuration" and contains five configuration options, each with a dropdown menu:

Configuration Option	Selected Value
Baudrate	19200
Parity	None
Word Length	8
Stop Bit	1
Flow Control	N

Below the configuration options, a red message states: "Success:It will be restart. Web Server stopped". At the bottom left, there is a button labeled "< Main Page".

## 2. Select S2W Settings & Scan Network option



The screenshot shows a web browser window with the title "WizFi250 Configuration". The address bar displays "192.168.12.1/s2web/wizfi250\_main.html". The main content area features the "WIZnet" logo and the title "WizFi250 Configuration". Below the title, it says "Select a configuration method ...". There are two options presented:

- S2W Setting & Scan Network**: This option is highlighted with a red rectangular box. It features a green circular icon with concentric circles and a green arrow pointing towards the top right.
- WPS(Push button)**: This option features a black icon with a white Wi-Fi symbol and the text "Wi-Fi PROTECTED SETUP".

Set the parameters as illustrated below. Local Port number choose to suit your needs. You will need this number in the future to connect to MAGX2 flowmeter.

The screenshot shows a web browser window with the title 'WizFi250 Configuration'. The address bar shows the URL '192.168.12.1/s2web/conn\_setting.html#conn\_setting'. The page features the WIZnet logo and the title 'WizFi250 Serial to Wi-Fi Setting'. Below this, the heading 'Step 1 : Select Serial to Wi-Fi Configuration Value' is displayed. The configuration fields are as follows:

Mode(AP/Station)	Station Mode
Protocol(TCP/UDP)	TCP Server
Remote IP	192.168.12.101
Remote Port	5000
Local Port	5000

Below the fields is a 'Setting' button. At the bottom left, there is a '< Main Page' button.

In step 2 select Static mode and assign IP address and other network settings to Wi-Fi module. See example settings in figure below.

The screenshot shows a web browser window with the title 'Configuration'. The address bar shows the URL '192.168.12.1/s2web/conn\_setting\_station.html'. The page features the WIZnet logo and the title 'WizFi250 Serial to Wi-Fi Setting'. Below this, the heading 'Step 2 : Set Station Mode' is displayed. Under the sub-heading 'Station Network Setting', the configuration fields are as follows:

Choose mode	STATIC
Wi-Fi IP Address	192.168.1.107
Gateway IP Address	192.168.1.1
Subnet Mask	255.255.255.0

Below the fields is a 'Setting' button. At the bottom left, there is a '< Return to Step1' button.

In step 3 select the network to which you want to connect MAGX2 flowmeter. You can also check the signal strength.



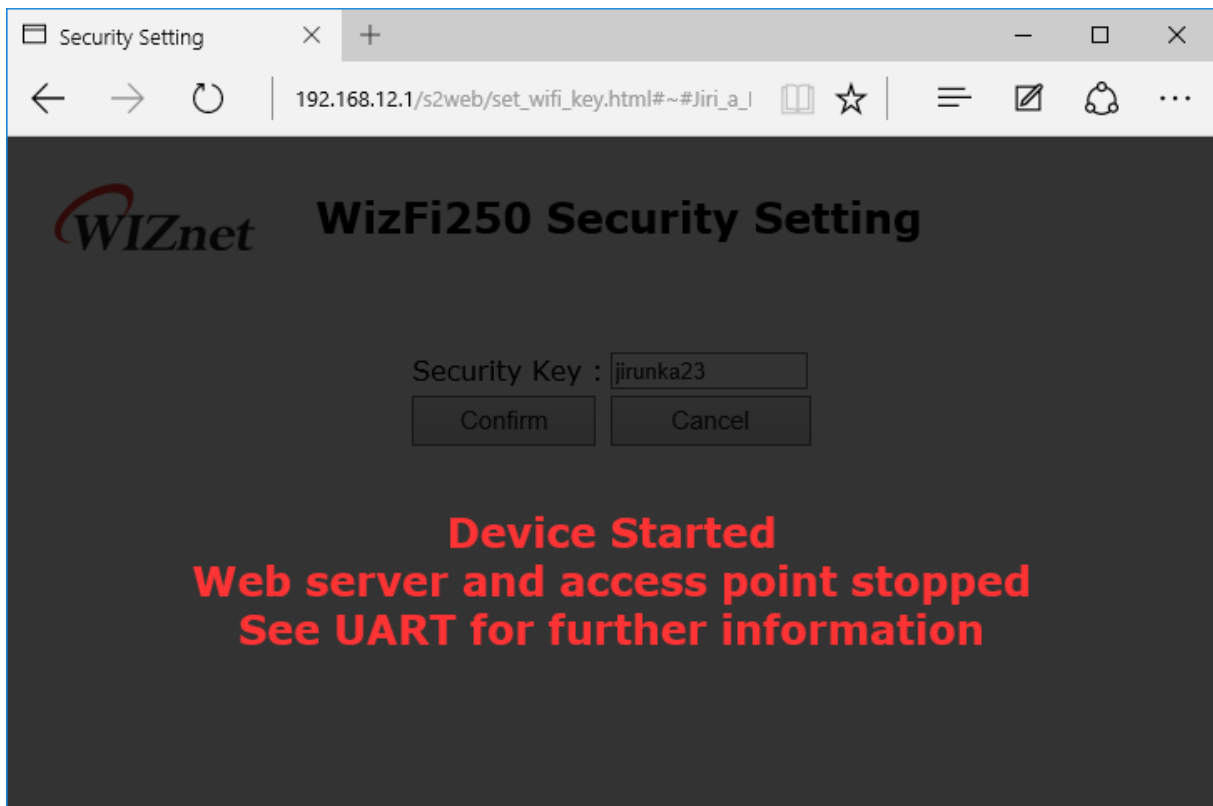
**WIZnet** **WizFi250 Serial to Wi-Fi Setting**

Step 3 : Scan Configuration

Network Name	Security	BSSID	Signal
spettro	WPA2_MIXED	D85D4CCC6C46	Excellent
Internet	WPA2_MIXED	4C9EFFB349EC	Poor
ceto0NP	WPA2_AES	C83A3549C878	Poor
Jiri_a_Eliska	WPA2_MIXED	002354B73FC0	Good

< Return to Step2

If your network is secure, enter the password to the network and confirm settings. When you click the Confirm button Wi-Fi module will switches from AP mode and connects to your network. From this moment is MAGX2 flowmeter accessible on specified IP address and port number.



**WIZnet** **WizFi250 Security Setting**

Security Key :

**Device Started**  
**Web server and access point stopped**  
**See UART for further information**

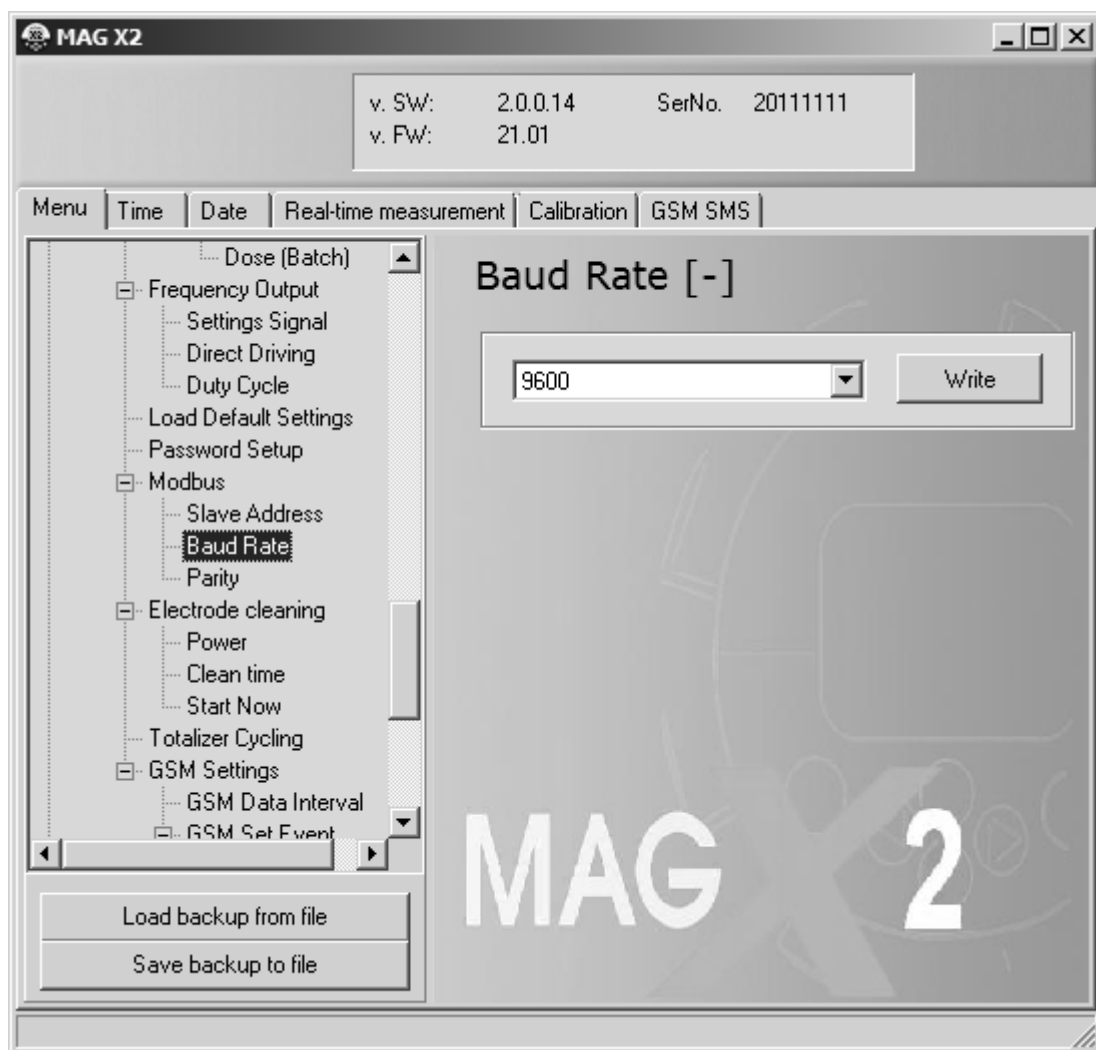
## 2.5 Configuration of MODBUS communication protocol

Before normal use of the Wi-Fi module you must set up the MODBUS communication protocol in MAGX2 transmitter. MODBUS communication protocol is in the User menu. You can use MAGX2 software or another one with MODBUS RTU communication protocol for set up. You can also set it up manually via the touch buttons.

### Necessary settings of MODBUS communication protocol

Baud Rate: 19200

Parity: None, 1 stopbit

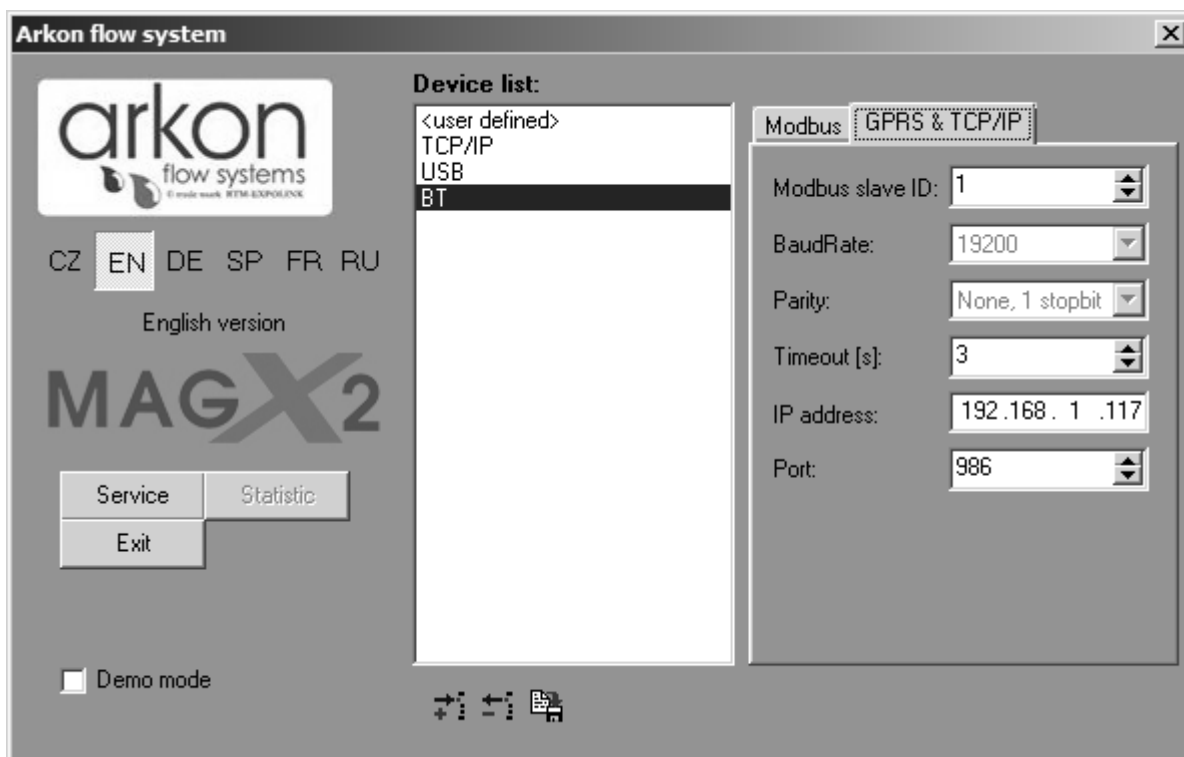


Picture 4. MODBUS communication protocol settings

### 3 Starting MAGX2 software

After successfully connection between GPRS module and antenna you can launch the MAGX2 software. Choose tab GPRS&TCP/IP and enter right parameters. You must enter Modbus slave ID, Timeout, IP address of your MAGX2 device and communication port which you set.

An example of setting WiFi connection, see following picture.



*Picture 8. Setup of MAGX2 software*

**Note:**

- Do not change Modbus parameters if you communicate via Wi-Fi module, because Modbus settings have to be followed by Wi-Fi module: Baud Rate 19200, Parity none, 1 stopbit.

## 4 Appendix

### 4.1 Warranty

The warranty conditions are covered by Arkon Flow Systems, s.r.o. Terms & Conditions of Sale and by Arkon Flow Systems, s.r.o Return Regulations and Warranty Conditions. The Arkon Flow Systems, s.r.o Terms & Conditions of Sale and the Arkon Flow Systems, s.r.o Return Regulations and Warranty Conditions are an integral part of the Resellers contract and of any Order Confirmation. Please see your Resellers contract or [www.arkon.co.uk](http://www.arkon.co.uk); Support section. The Warranty sheet is part of the Packing note of any new goods sent. For the claim or return procedure, please consult our web site [www.arkon.co.uk](http://www.arkon.co.uk) or call the Arkon Flow Systems, s.r.o sales office.

### 4.2 Contact



Technical support: [support@arkon.co.uk](mailto:support@arkon.co.uk)  
Skype: support.arkon

Sales office: [office@arkon.co.uk](mailto:office@arkon.co.uk)

Office hours:  
8:30 – 18:00 (GMT+1)

Direct technical support:  
8:00 – 17:00 (GMT+1)