USER MANUAL

EVO Remote

MAN_000008_en(EVO_Remote)
ED: 8.0 of October 08, 2015

1 Index

General Index

2 Description

The EVO Remote device is composed by a WiFi module which integrate a web-server for its configuration.

Using a device with WiFi connectivity (PC, smartphone or tablet), you can receive in real time some parameters concerning the stove or boiler which is connected on. It also allows the direct control of the stove, such as switching on and off, and changing the operating mode remotely.

Supported electronic boards are listed below:

- EVO LED RTC from V5.0
- EVO LCD from V6.3
- EVO GLCD from V6.3
- V8 from V.8.73
- V8RE from V.8.01

dpremote software is available for Android and iOs operating systems. To download it, refer respectively to the Google Store and the Apple Store.

3 Installation

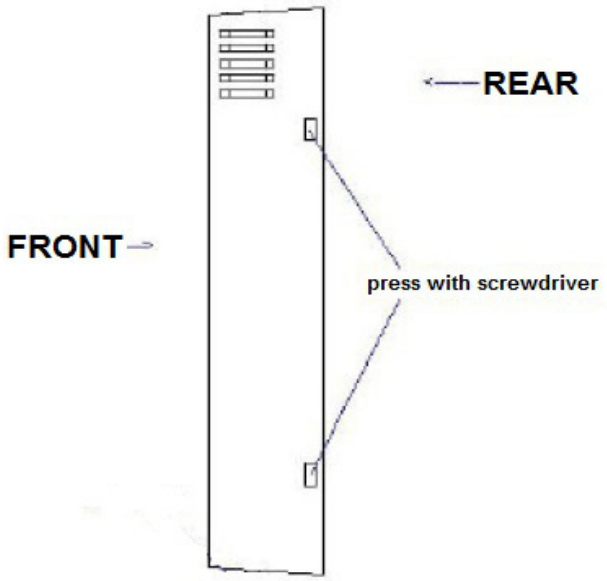
The device can be set either horizontally or vertically directly on the wall or on a standard 503 support, using only the attachment points available on the bottom of the container.

To do this is sufficient to lift the back of the container with a small screwdriver, as shown on the picture below.

Before using the device, read this user manual carefully.

	**Don't secure the module in direct contact with the metal walls of the stove, to prevent damage to the container and disturbances in the wireless communications.**

The manufacturer disclaims any responsibility for any damage due to a wrong use not in accordance with the instructions contained in this manual.



There are two types of connectors to perform the connection between the device and the stove/boiler. In both cases, the connection must be executed with the devices **disconnected from the power supply**, to avoid damage to the module itself.

3.1 4 poles black connector type “Amp”

Figure 1

In the case your device has the connector shown in figure 1, it has to be connected directly to the control board of the stove, on its own connector in the circuit board. Its position depends from model of control board.

3.2 4 poles white connector type “minifit”

Figure 2

In the case your device has the connector shown in figure 2, it can be connected to the equivalent connector placed in the rear of the stove, as shown in figure 3 (this figure is only indicative).

Figure 3

4 Initial Configuration

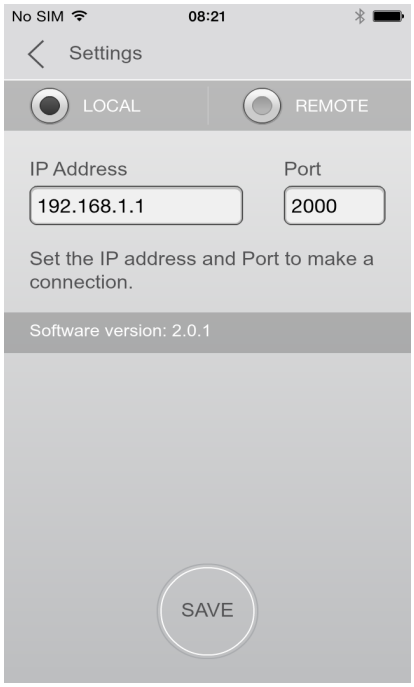
The WiFi EVO Remote module comes configured as an Access Point (SoftAP Client mode, see paragraph 5). In this way it can be used immediately.

Its access parameters are:

- SSID: **WiFly-EZX** or similar
- Authentication: **Open**
- IP address: **192.168.1.1**
- Port: **2000**

To be able to connect to it, follow these steps:

1. With the WiFi device that you want to use to control the stove/boiler, connect to the network generated by WiFi module (**WiFly-EZX-XX**);
2. Once the connection is made, the module will initiate a communication with your device. In this phase, the red LED will turn off, while the green LED will continue to blink.
3. At this point, you can start the application **dpremote.** Going to the settings (for more information see paragraph 12), you have to configure the application in local mode, using the parameters as shown below:



4. Once the application is connected, the green LED of the WiFi EVO Remote module will remain on solid, to signal that is connected with the application, and the yellow LED will blink slowly whenever there is a data exchange.

5 First Authentication Procedure

The device is composed by 5 command/visualization elements:

Element	Function
WS Button	Start integrated web-server
R Button	Reset
Red LED	Network association
Yellow LED	Data transfer
Green LED	Network connection

When the device is supplied, red and green LED blinking in an asynchronously, to make clear the operative state.

Condition	Red LED	Yellow LED	Green LED
On Solid	-	-	Connected over TCP
Fast Blink	Not Associated	RX/TX data transfer	No IP Address
Slow Blink	Associated, no internet	-	IP Address OK
OFF	Associated, internet OK	-	-

There are two possible working mode:

Server (SoftAP):

The device creates a network and allows the other devices to authenticate to communicate. This is a “point-to-point” connection, so you have to stay nearly to use the software. This mode is signaled by the module with an alternate blinking of red and green LED before the authentications, and with the blinking of only green LED once at most one device is connected.

Client (Infrastructure):

This mode allows the connection with a router in a private WiFi network, and so it allows to communicate with module either staying nearly or using an internet connection (which is supported if you granted the communications on your ADSL router). Once this mode is activated, the device automatically connect itself to the selected network, signaling the operation success with blinking the green LED, and blinking the yellow one whenever there is a data exchange.

5.1 Web-server

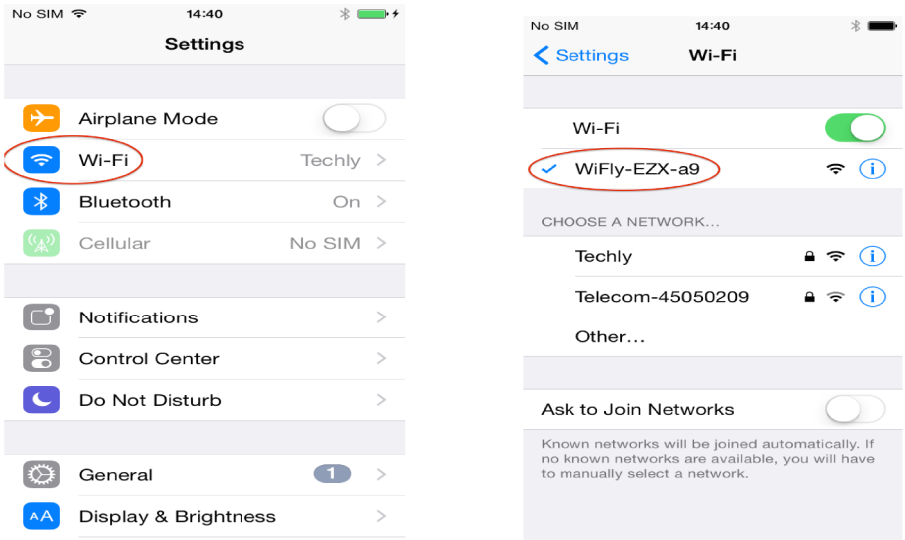
For the module configuration is necessary to start the web-server mode by holding the WS button for 1-2 seconds. After its release, red and green LED will blink alternatively, to make clear that the web-server was initiated.

To access to the configuration of the modes described previously, you have to follow this procedure:

1. With a WiFi device (PC, smartphone, tablet), you can connect to the SoftAP network generated by the web-server (**WiFly-EZX** by default).

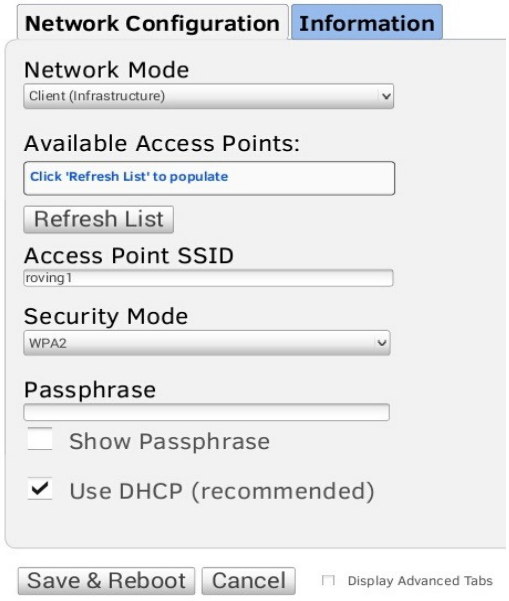
PC Connection

Android Connection



iPhone Connection

2. Open a Web Browser installed on the connected device. This operation doesn't use internet data traffic.
3. Go to the configuration page, writing "**http://config**" on the address bar of the browser.



The page has two labels by default: **Network Configuration** and **Information**.

On first page is possible to choose the type of network/mode (client or server), perform a scan of available networks (with the "**Refresh List**" button) and set the various parameters for the connection; on the second page is possible to visualize classic informations such as MAC address, type of module and the battery state (function not supported).

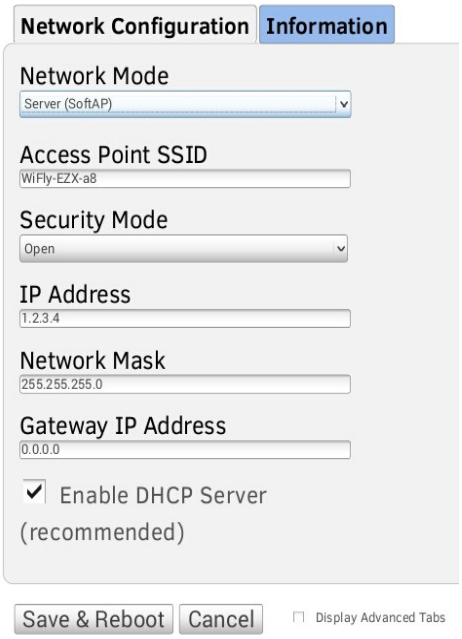
5.2 Server Network Configuration (SoftAP)

This is the default configuration. The SoftAP connection is useful in the case on which is not present a router (and so a private network), or you desired a direct connection with your stove/boiler. In this case the communication is managed by the EVO Remote module with all the connected devices. Being a dedicated network, its working distance depends on the obstacles in the room and on the position of the WiFi module.

At the first start, the web server is preconfigured by default, with this access parameters:

- SSID: WiFly-EZX (or similar)
- Open authentication
- IP address: 192.168.1.1
- Netmask: 255.255.255.0
- Gateway: 192.168.1.1
- Port: 2000
- Baud rate: 115200

As described previously, if you know the network SSID you can authenticate yourself and access to the integrated web server.



In this page you can modify the SoftAP network to configure a personalized connection.

	**<u>ATTENTION!</u> If you set a password for the SoftAP network, it will be set also for the web server network, that you can activated, as described previously, by holding the WS button and connecting to the generated network WiFly-EZX.**

To set a personalized connection, you have to follow this procedure:

1. Select in the “Network Mode” field the string “Server (SoftAP)”;
2. In the “Access Point SSID” filed insert the network name you want to create;

	**<u>ATTENTION!</u> The device doesn't support wireless network name (SSID) with spaces, and doesn't support password (passphrase) with spaces.**

3. In the “Security Mode” field you can choose the security type you want (only “Open” and “WPA2-PSK” are available);
4. In the case you choose the “WPA2-PSK” security, in the “Passphrase” field you can insert the desired key;
5. In the “IP Address” field enter the desired address (is possible to leave the default one) with the classic format 192.168.xx.yy (with **xx** between 0 and 1, and **yy** between 0 and 255);
6. In the “Network Mask” field leave the default value 255.255.255.0;
7. In the “Gateway IP Address” field enter the same setting of the “IP Address” field;

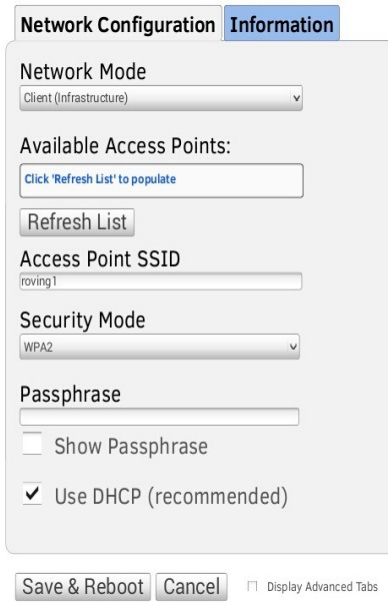
8. If you choose to enable the DHCP function, the module assign a random IP address to each device that request a connection; if you don't enable it, in each device you must set manually the IP address and the Gateway to establish a connection.

Once you have completed the procedure, press the "Save & Reboot" button. After this, the module will generate a network with the selected parameters each time it is powered up by the electronic board. To use the DPRemote software, you must remember the IP address choose during the configuration (**192.168.1.1 by default**).

5.3 Client (Infrastructure) Network Configuration

If there is a router which is able to generate a private WiFi network, you can set the EVO Remote module to connect to that network automatically. In this way you can control it from any places where the WiFi private network is available or you can control ti through an internet connection (after opening ports on your router and addressing to a virtual server).
To set the connection to your WiFi private network, follow these steps:

1. Start the integrated web server by holding the WS button and connecting to the generated network, as described in the paragraph "**First Authentication Procedure**";

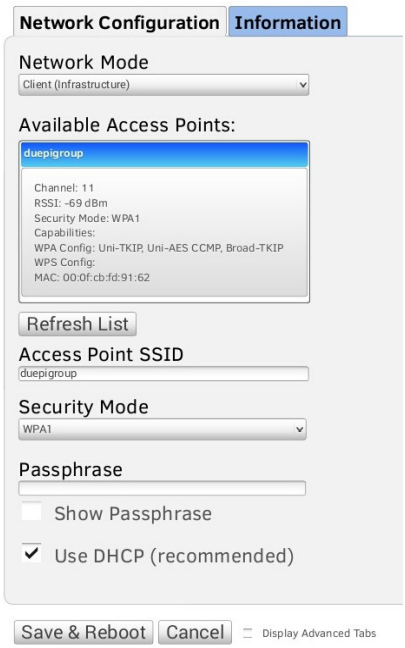


2. In the "Network Mode" field choose the string "Client (Infrastructure)";
3. Press the "Refresh List" button to see the available WiFi network.

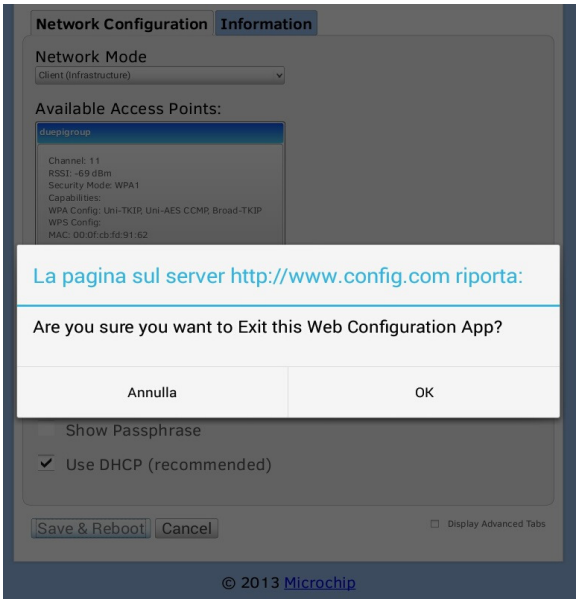
Once you have found the interested network, if you click on it, you can see more details and some following fields (SSID and security mode) will be compiled automatically.

Only in the case the interested network is **not** visible, you can try to compile manually the "Access Point SSID" and "Security Mode" fields;

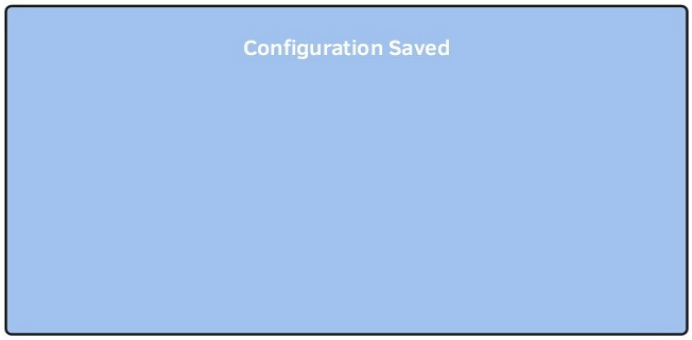
	**ATTENTION! The device doesn't support wireless network name (SSID) with spaces, and doesn't support password (passphrase) with spaces. If your router/modem has a network name and/or password with spaces, in order to connect the EVO Remote WiFi module you must access to your router/modem settings and choose an SSID/passphrase without spaces.**



4. In the “Passphrase” field enter the correct password of the WiFi network;
5. For the IP address, there is a distinction to do:
   - using **dpremote** app **<u>WITHOUT</u>** dedicated web-server:
     DHCP function assign a random IP address automatically to each device that communicate with it. As result, only expert users know how to get this IP address. So, to use the **dpremote** app, the best choice to do is **<u>disable</u>** the DHCP function and enter an IP address manually, accordingly to the router one (for example, if router as an address like 192.168.1.xx, at the device you must set an address like 192.168.1.yy, with xx different from yy). As Netmask you have to use the default value 255.255.255.0 and as Gateway you must enter the router address (192.168.1.xx in the example). To know the router IP address, and so to config correctly the WiFi module's one, see the paragraph 4.4;
   - using **dpremote** app **<u>WITH</u>** dedicated web-server:
     in this case our suggestion is to enable the **DHCP**, to simplify the WiFi module configuration;
6. Once you have completed the settings, press the “Save & Reboot” button;



7. Press OK and the module will reboot itself with the selected settings;



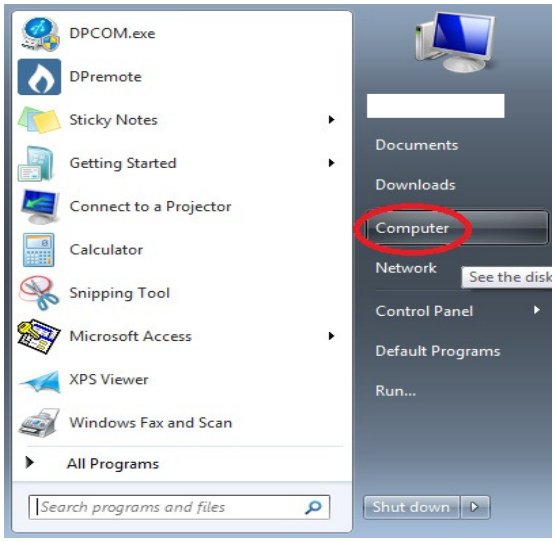
8. Once rebooted, the EVO Remote module will connect automatically the the selected WiFi network.

5.4 How to find the IP Address of our routert

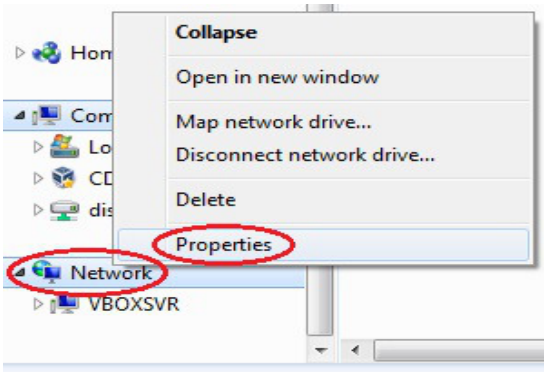
AS mentioned before, to set manually the IP Address to the EVO Remote module you must know the IP Address of your own router. There are many ways to do this operation, so I described step by step one of the simplest:

5.4.1 Windows Vista / Seven / 8 / 10 Procedure

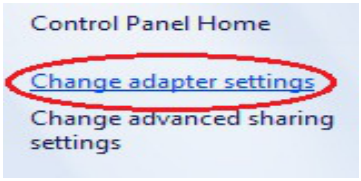
From the Desktop, click button Start and then select the voice "**Computer**".



With right button of the mouse select "**Network**" voice, and then left click on "**Proprieties**".

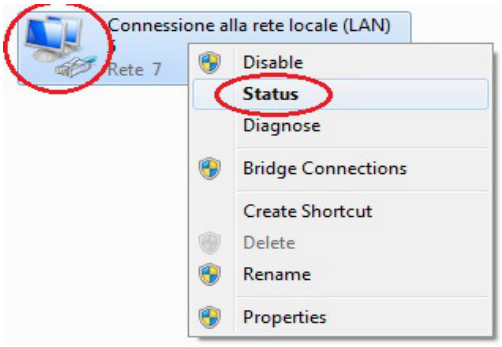


From the panel, select in the top-left corner the voice "**Change Adapter Settings**".

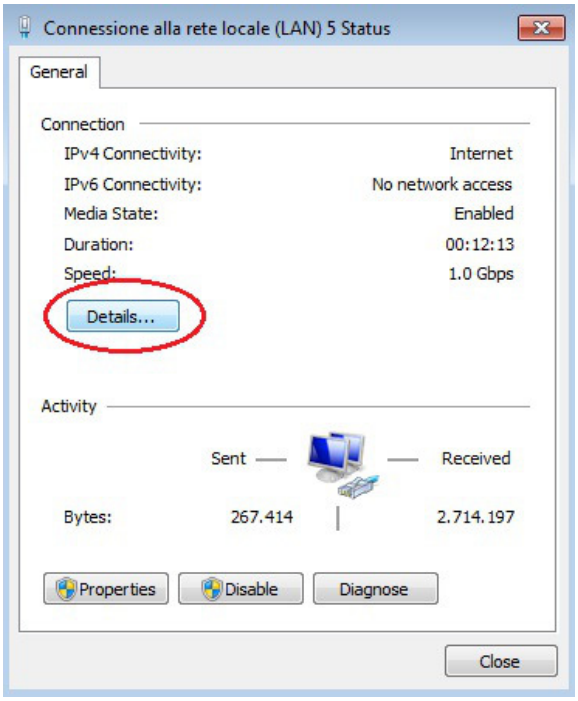


On the following steps, you have to be connect to the router network of your interest.

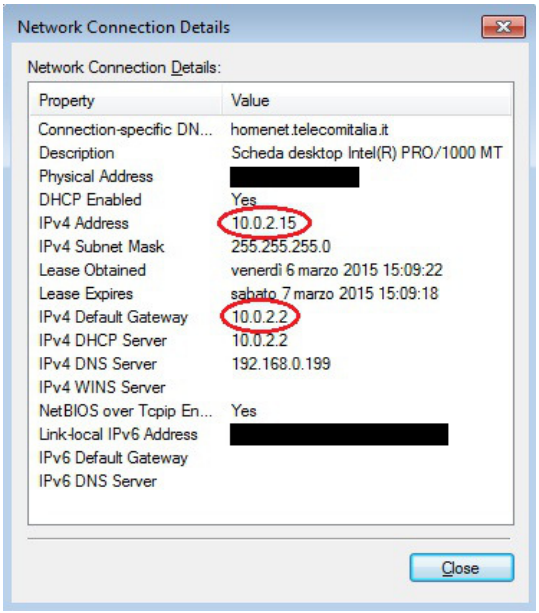
On the panel, search for the connection available, which can be **LAN** (with Ethernet cable) or **WLAN** (Wireless). Right click on the correct connection, and select "**State**".



On the next page, you can see some general information about your WiFi connection. Press "**Details**" button to access to advanced informations.



On the panel, you can find the router address, which is in the form of x.x.x.x and its name is "**Gateway**". In the example, it is **10.0.2.2**.



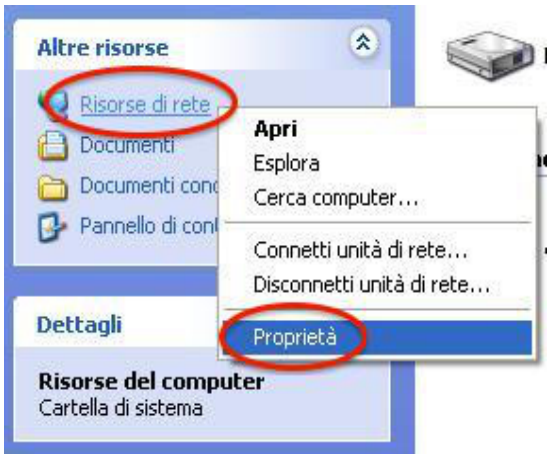
Consequently, to set the correct value in the EVO Remote module, you must remember the first 3 numbers, and set the fourth as you want:

- on a network 2 different devices can't have the same IP address; but we know that the router assign automatically the IP address starting from the lower; so you can choose an high number as the fourth, but always lower than 255. A valid IP address could be 10.0.2.194.

5.4.2 Windows 2000 / XP Procedure

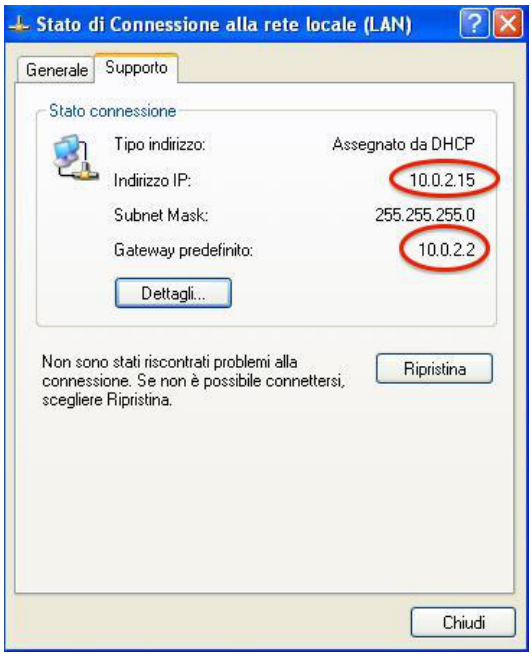
For this Operating Systems, the procedure is about the same: click on **Start**, then select "**Computer Resources**".

Right click on "**Network Resources**" and then on "**Proprieties**".



As previously, right click on the correct connection type (LAN or WLAN) and select the voice "**State**".

On the panel, click on the label "**Support**" as you can see in the picture below.

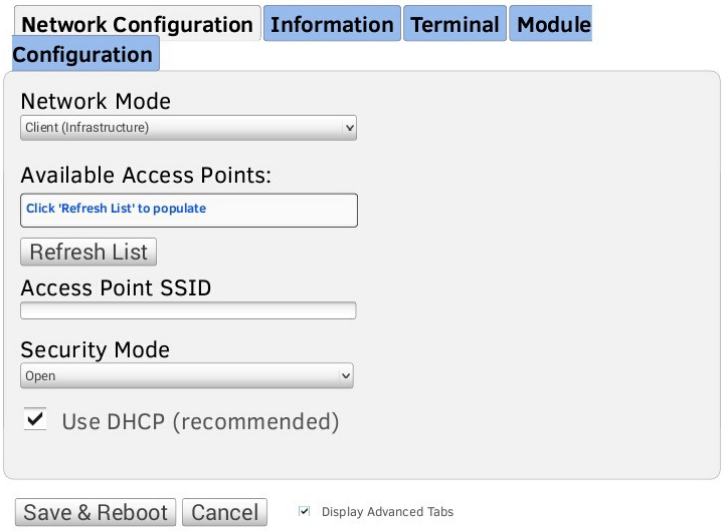


Here the considerations are the same as the previous example.

6 Create a New Connection

If you want to change the WiFi network settings, is sufficient holding the WS button for 1-2 seconds, to start the web server. Then you can follow the steps described in the **"First Authentication Procedure**" paragraph.

7 Advanced Settings

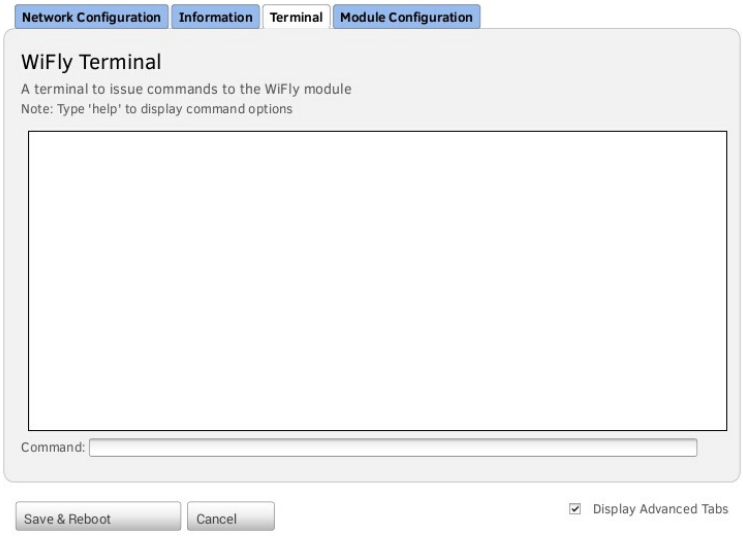


After starting the integrated web server, as described in the "**First Procedure Authentication**", you can have the access to the advanced settings of the module, checking the label "**Display Advanced Tabs**" on the right-bottom.

Then, you could see two additional labels: **Terminal** and **Module Configuration**.

7.1 Terminal

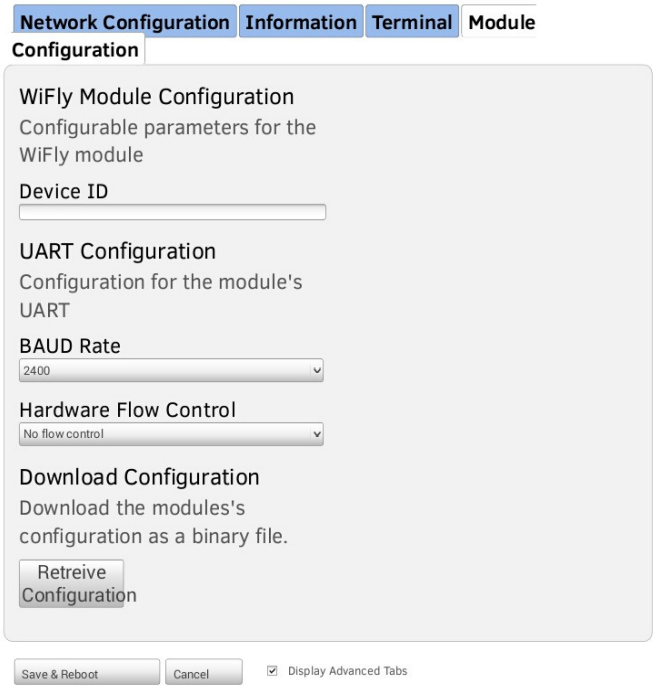
In the first one you can send manual command to control the module, using the "Command" bar.



	**<u>ATTENTION!</u> This procedure is for the exclusive use of technical personnel properly prepared; you can change most of the settings of the module. In case of error, you can damage the module.**

7.2 Advanced Configurations (Baud Rate)

On the second screen, you can assign a Device ID to the module, change the data velocity (baud rate) and enable/disable the Flow Control.



	**<u>ATTENTION!</u> The supported electronic board <u>DON'T ACCEPT</u> Baud Rate speed different from 115200 baud/sec. Don't modify this value, or the WiFi module will not be able to communicate with the electronic board.**

	**ATTENTION! The supported electronic boards don't accept the Flow Control function. Its enabling made unusable each device.**

8 Troubleshooting

Problem	Solution
LEDs do not light	Check if the module is connected to the electronic board properly or, if provided, its power pack is connected to a power supply
When I press the WS button, green and red LED don't blink alternatively	Disconnect the electronic board and switch off the supply. Wait some seconds and reconnect everything. Holding WS button for at least 2-3 seconds
When I start the web server, I can't	The module is programmed to execute the

configure my WiFi network because the module switch off from the configuration mode	web server for only 120 seconds. At the end of this time, it will reboot itself and will attempt for a connection
I have configured my WiFi network, but the module can't connect to it	Check if the data entered is correct. Check the LEDs status: if the red LED is blinking, the module can't connect to the desired network due to the low power. Try to go with the module near the router; if the green LED is blinking quickly (about 2 times per second), it is waiting for an IP address from the router (only if DHCP function is enabled); if the green LED is blinking slowly, the module is connected to the network, but is waiting for a TCP/IP connection (max waiting time 10 seconds); As last option, switch off the power supply, wait some seconds and reconnect the power supply
The module doesn't communicate anymore with the DPRemote app	After 120 seconds of inactivity on the internet connection (for example because there isn't any device which is communicating with the module), it close the internet connection. After that, it waits 10 seconds before starting another internet connection
I can't access to the Web-server	Press the WS button for at least 2-3 seconds, and control that the red and green LED blink alternatively. Control if your WiFi device is connected to the local network generated by the EVO module, and that the green LED is on solid state, while the yellow LED blink quickly. Sometimes the EVO module can reject the connection attempt, and reboot itself. Wait some seconds and try again the procedure.

9 Technical Specifications

Operating Voltage	**5**V from EVO-V8 board with provided cable
	9Vdc 1A with optional 6mm Plu-in
Power Consumption	Receiving → 40mA
	Transmitting → 120mA a 0dBm
	Sleep → 4uA
Working Temperature	-40°C a +85°C
Connector	Standard 2.54mm (0.1 inch)
Fixing	Directly on the wall or in a 503 standard box
Antenna	Intern

Security	WEP-64, WEP-128, WPA-PSK, WPA2-PSK
Frequency	from 2.412 to 2.462GHz
Receive Sensitivity	-83dBm
Transmitting Power	**f**rom 0 to +12dBm
Speed	1-11 Mbps with 802.11b
	6-54 Mbps with 802.11g

10 Warranty

The product is guaranteed for 12 months from the date of installation, as attested to purchase document. The company disclaims any liability for any damage that may, directly or indirectly, to people, things and animals resulting from the failure to follow all the instructions given in this manual and in the warranty provisions available on the website of the company in the download area.

11 Conformity

EN 60950-1:2006 + A11:2009 + A1:2010

EN 50371:2002-03

EN 301 489-1 V1.8.1 (2008-04)

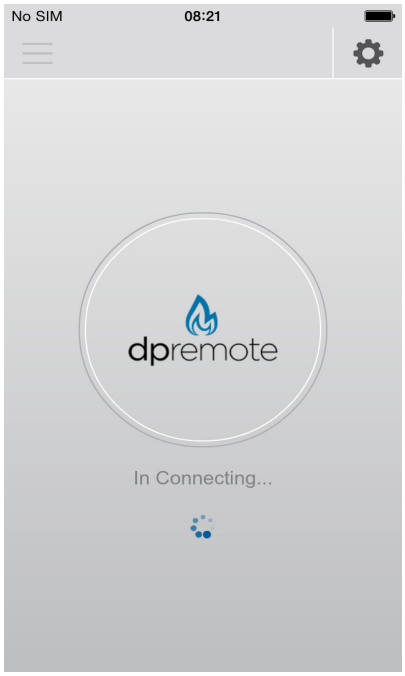
EN 301 489-17 V2.1.1 (2009-05)

EN 300 328 V1.7.1 (2006-10)

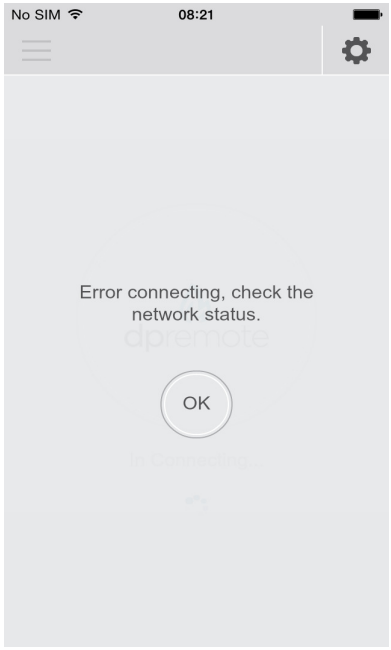
12 dpremote application

The dpremote application is available to the download for either Android or iOS devices from the respective store, the Google Store and the Apple Store.

At the start, the application shows a picture like this:



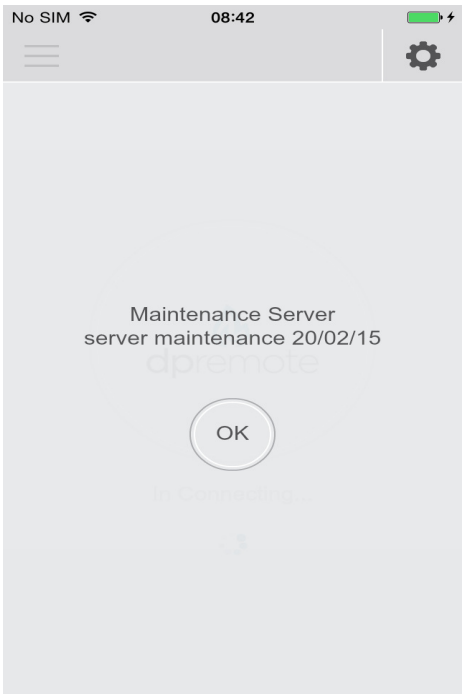
As shown, the application is trying to communicate with the WiFi module, but the first opening will not work, because it was not set correctly.



When it fails to establish a connection with the device, a banner will return periodically as shown in the picture above.

At each start (except the first, because it was not set correctly), will be shown also a message (**if available**) containing some informations about possible server maintenance, producers messages, etc.

In this case there will be a picture like this:



To return at the previous screen, is sufficient to press “OK” button.

To configure the application for a direct connection with the WiFi module, is necessary to enter in the settings screen, by press the right-up button; in the settings, there are two possibilities for the connection: Local and Remote.

12.1 Local Mode

As shown in the previous picture, to use the Local Mode is necessary to know two parameters: an IP address and a port number. The Local Mode consists in a direct communication between the WiFi module and the DPRemote application, through either a WiFi network or an internet connection.

The Local Mode has 3 possible using mode:

1. WiFi module in Server (SoftAP) Mode
2. WiFi module in Client (Infrastructure) Mode with direct access
3. WiFi module in Client (Infrastructure) Mode with indirect access

12.1.1 WiFi module in Server (SoftAP) Mode

This mode consists in a direct connection between the device (Pc, smartphone, tablet) and the WiFi module through a network created from the module. Setting the module as Server (SoftAP, see the beginning part of this manual), it generates a WiFi network which allows connections from multiple devices.

During the setting of the module, you have to choose an IP address to identify the module itself: this address must be entered in the “IP Address” field; the port is 2000 by default.

ATTENTION: before the use, check if the device is actually connected to the WiFi network generated by the module.

12.1.2 WiFi module in Client (Infrastructure) Mode with direct access

This mode is usually used when is already present a WiFi network. Indeed, configuring the WiFi module as Client (Infrastructure, see the beginning part of this manual), it will connect itself to this network. If the device (PC, smartphone, tablet) is connected to the same network, the operation to do is similar to the previous, but with a clarification:

- when the module was set as Client, DHCP function was enabled (dynamic IP) or disabled (static IP);

To use this mode, as previously, you must know the IP address of the module. So, if you have chosen to enable the DHCP, this operation is difficult. However, we suggest to use a static IP, to make easier this connection and to establish a connection quicker.

At the end, you have to enter the IP address in its field and the port number (2000 by default) in its one.

ATTENTION: in this case, the device (PC, smartphone, tablet) MUST be connected to the same network in which is also connected the WiFi module.

12.1.3 WiFi module in Client (Infrastructure) with indirect access

This mode is used if you want to connect to the WiFi module everywhere you are, if is provided a internet connection (public hotspot WiFi, mobile internet network, etc). In this case is necessary to know the **public IP address** of the WiFi network which the module is connected in, and moreover you must change the router settings to allow the module communication, because usually it is blocked forward the external world (**only for expert users**). Unfortunately we can't give more informations about this procedure, because each router is different from another one.

ATTENTION: this last case requires a connection to the internet network; if you connect to it through a mobile device, the operation could be a cost, UNLESS it is provided by your tariff plan.

12.2 Remote Mode with a dedicated Web Server

The Remote Mode was introduced to make easier the use of the previous Local Mode with **indirect access**, without the difficulties described earlier.

This mode is based on an access to a dedicated external server, which manages the communications between the WiFi module and the dpremote application; moreover this Mode permits to control more than one WiFi module, while the Local Mode permits the control of only one WiFi module.

As shown above, 3 parameters are requested:

1. IP Address:

It consists on the IP address or the domain name of the dedicated web server;

2. Port number:

As in the Local Mode, it represents the number of the port through which will pass all the communications;

3. Device Code:

It is a univocal code that differentiate all the WiFi modules; it is present on the back of the module's box.

ATTENTION: to use the Remote Mode, you MUST register yourself at the web page http://www.duepigroup.com/prodotti-duepi/dpremote-app-iphone-android/. After you have done the registration, we will send you an email with the parameters necessary for the Remote Mode.

For more informations you can contact the service provider at the email address dpremote@duepigroup.com.

ATTENTION: after setting all the interested fields, NOT press back button, because all the data will be lost. To save the choices and start a connection, press "Save" button.

In the case of successful connection to the EVO Remote WiFi module, you can control the stove with 3 different panels, by pressing one of the 3 related buttons:

Ignition / Cooling / Alarm Reset

In this page, available by pressing the button on the middle, you can turn on or off the stove, by pressing the related button; if an alarm occurs, in the middle a reset button became visible.

Room Temperature setting

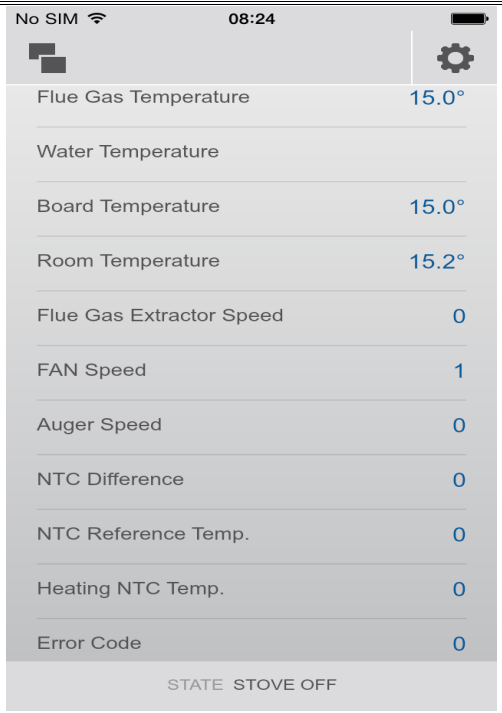
In this page, available by pressing the button on the right, you can see in real time the room temperature and set the desired temperature by pressing the + and – buttons.

Working Power setting

In this page, available by pressing the button on the left, you can see in real time the current working power, and set the desired power by pressing the + and – buttons.

Parameters

Moreover is possible to access to more parameters of the stove/boiler; to see this parameters, is sufficient to press the left-top button:



To come back to the main screen, is sufficient to press again the left-top button.