

User and installation manual **EN**



# Web Server

**BUTLER ESW544**

We would first of all like to thank you for having chosen one of our products.

We are sure you will be happy with it because it represents the state of the art in the technology of home air conditioning.

By following the suggestions contained in this manual, the product you have purchased will operate without problems, giving you optimum room temperatures with minimum energy costs.

Innova S.r.l

This booklet code N274363C - Rev. 02 - (01/19) consists of 52 pages.

## Compliance

This unit complies with the following European Directives:

- Low voltage 2014/35/EU
- Electro-magnetic compatibility 2014/30/EU
- Use restrictions of hazardous substances in electrical and electronic equipment 2011/65/EC (RoHS2)
- Waste electrical and electronic equipment 2012/19/EC (WEEE).
- Energy consumption indication on the labels of energy-related products 2010/30/EU.
- ErP Directive 2009/125/EC and regulation 2012/20EC

## Symbols

The pictograms in the next chapter provide the necessary information for correct, safe use of the appliance in a rapid,

unmistakable way.

## Editorial pictograms

- U** User
  - Refers to pages containing instructions or information for the user.
- I** Installer
  - Refers to pages containing instructions or information for the installer.

- S** Service
  - Refers to pages containing instructions or information for the CUSTOMER TECHNICAL ASSISTANCE SERVICE.

## Safety pictograms

-  Warning
  - It indicates actions that require caution and a suitable preparation.
-  Prohibition
  - Refers to prohibited actions.

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## INTRODUCTION

### 1.1 Introduction

The ESW544 accessory allows the connection of the control panels equipped with ModBus RTU serial line to a Web server supervisor that through specific Web pages or App allows the configuration and management of the devices from local if connected to the Internet.

 THIS KIT CAN BE USED IN DIRECT COUPLING TO THE ECA649 ELECTRONIC CONTROLS, AS WELL AS TO THE ELECTRONIC CONTROLS ECA644, ECA647, ESD659 ONLY IF EQUIPPED WITH A SPECIAL MODBUS RTU ESD660 BRIDGE.

This instruction is an integral part of the booklet of the device on which the KIT is Installed. Please refer to this booklet for GENERAL WARNINGS and BASIC SAFETY RULES.

 The installation must be carried out by qualified personnel with the necessary personal protective equipment.

## INSTALLATION ESD660 ON KIT ECA644, ECA647 OR ESD659

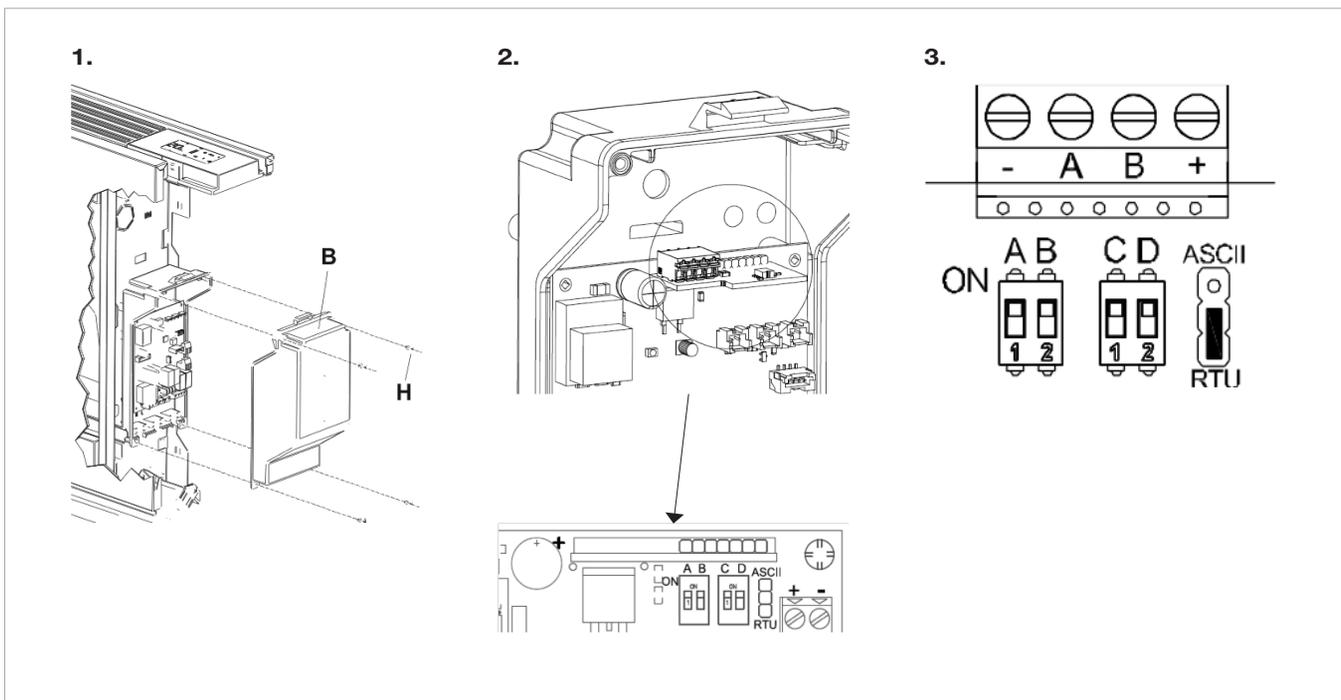
### 2.1 Installation ESD660 on kit ECA644, ECA647 or ESD659

Access the area of the electrical connections, after having disconnected the device, following the instructions in the installation manual of the device in the chapter "Opening the hips".

Remove the electric box cover (B) by loosening the 4 screws (H);

Carefully insert the bridge card into the 7-pin slot at the top of the INN-FR-B30 Card.

Install the jumper supplied on the INN-FR-B30 Card in the RTU position on the 3-pin slot on the left of the 4 dip-switches a, B, C, and D.



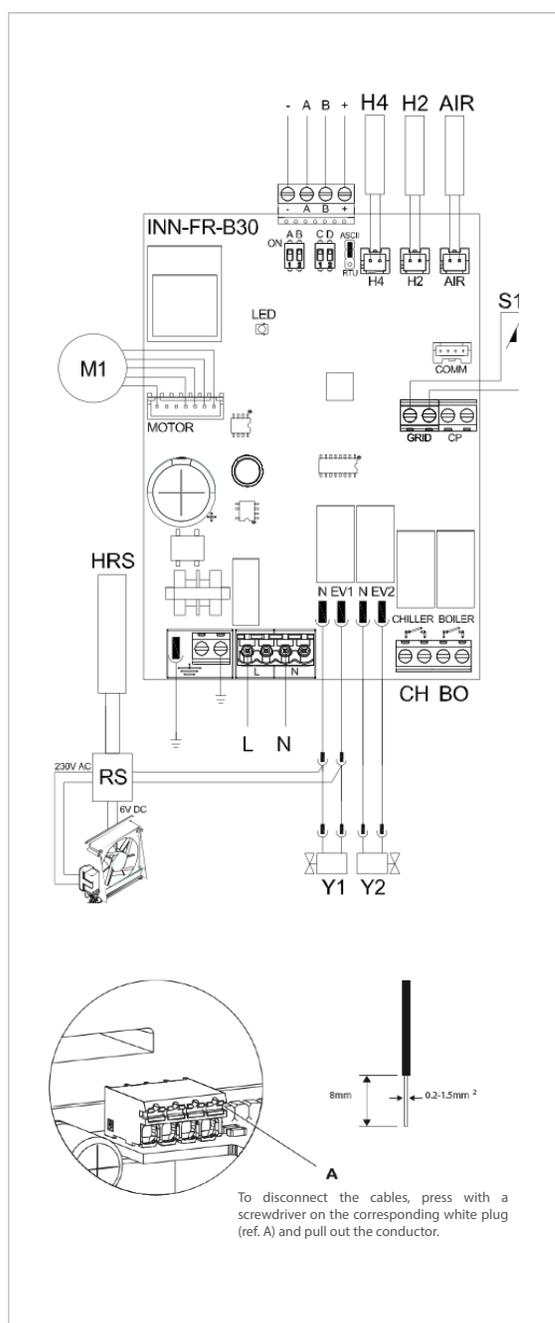
## CONNECTIONS

### 3.1 ESD660 electrical connections

For standard electrical connections, refer to the diagrams shown in the installation manual of the control panel.

The following is the general outline of a bridge tab ESD660.

<b>B-A</b>	Modbus RTU serial connection
<b>L-N</b>	Power supply Connection 230 V/50 Hz
<b>H2</b>	Water temperature probe (10 kΩ)
<b>H4</b>	Cold water temperature probe (10 kΩ) (only eca647)
<b>AIR</b>	Air temperature probe (10 kΩ)
<b>M1</b>	Fan Motor DC Inverter
<b>S1</b>	Grid safety Micro-switch
<b>Y1</b>	Water solenoid valve (Voltage output at 230 V / 50 Hz 1 A)
<b>Y2</b>	Cold water solenoid valve (only ECA647). Voltage output at 230 V / 50 Hz 1 A
<b>BO</b>	Boiler consent output (clean contact max 1 A)
<b>CH</b>	Cooler consent output (clean contact max 1 A)
<b>CP</b>	Presence sensor input (if closed, the fancoil is placed in standby mode.)
<b>HRS</b>	Water probe RS (10 kΩ)
<b>RS</b>	Wiring RS Version



The spring terminals (ref. A) for serial connection accept rigid or flexible cables with section from 0.2 to 1.5 mm<sup>2</sup> (0.75 mm<sup>2</sup> if 2 conductors are connected in the same clamp), while if they are equipped with plastic collar lug, the maximum section is 0.75 mm<sup>2</sup>.

Perform an 8 mm peeling then if the cable is rigid you can insert it easily while if it is flexible it is preferable to help with a nose pliers.

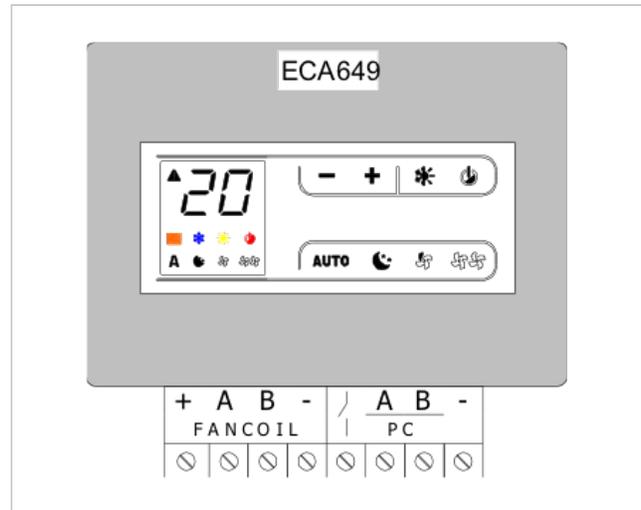
Push the cables thoroughly and check the correct fastening by pulling them lightly.

### 3.2 ECA649 electrical connections

For normal electrical connections, refer to the diagrams shown in the installation manual of the ECA649 wall control panel.

#### AB

ModBus RTU serial connection for PC supervisor



### 3.3 Serial network connections A-B ModBus RTU

The choice of the materials and the path of the connection are fundamental for the right work. It must be separated from supply conductors of power and follow a path without derivations and should not be made star connections!

The conductors must have a minimum section of 0.5 mm<sup>2</sup>, the path starts from the Master, reaches the first device (slave **ECA644, ECA647, ESD659 or ECA644**) and

continues towards the next.

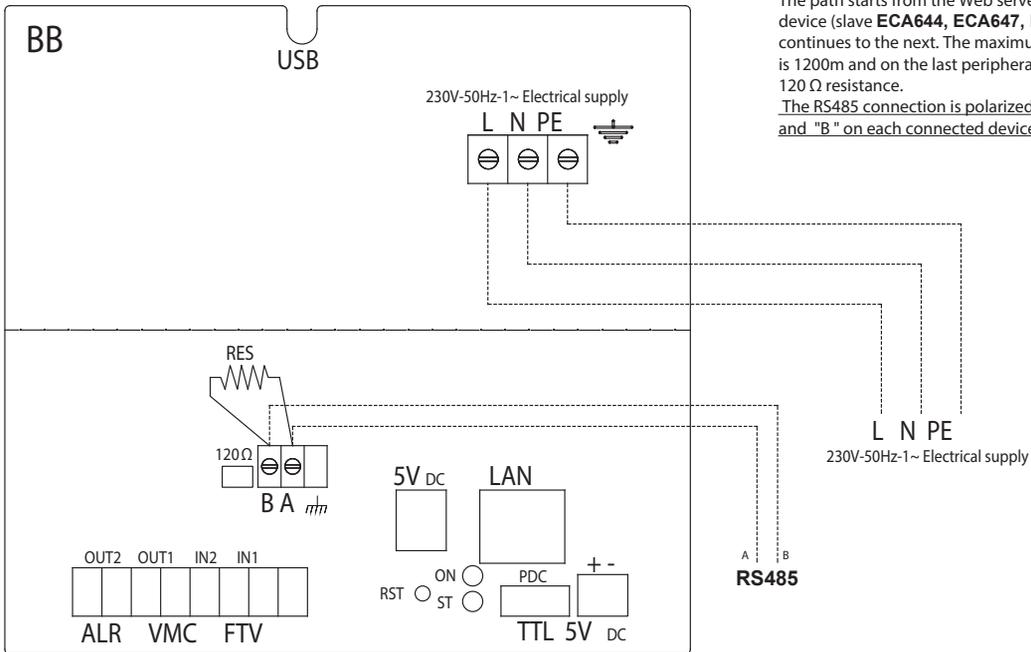
The maximum length of the connection is 1200 m and the 120 Ω resistor must be connected to the last device.

The RS485 connection is polarized, follow the indications "A" and "B" on each connected device.

3.4 Wiring Diagram web server ESW544

WIRING DIAGRAM WEB SERVER BB FOR FANCOIL ESW544

- BB Web server tab with BeagleBone
- RES Supplied resistance 120 Ω to be used for serial line termination
- RS485 ModBus RTU serial connection for fancoil network



The choice of materials and the path of the connection are fundamental for the correct functioning. It must be separated from conductors of power, follow a path without derivations and should not be made star connections! For the connection of the serial line must be used a twisted cable whose conductors (OF DIFFERENT COLOUR) must have a minimum section of 0,35mm<sup>2</sup>.

The path starts from the Web server ESW544, reaches the first device (slave **ECA644**, **ECA647**, **ESD659** or **ECA649**) and continues to the next. The maximum length of the connection is 1200m and on the last peripheral it must be connected the 120 Ω resistance.

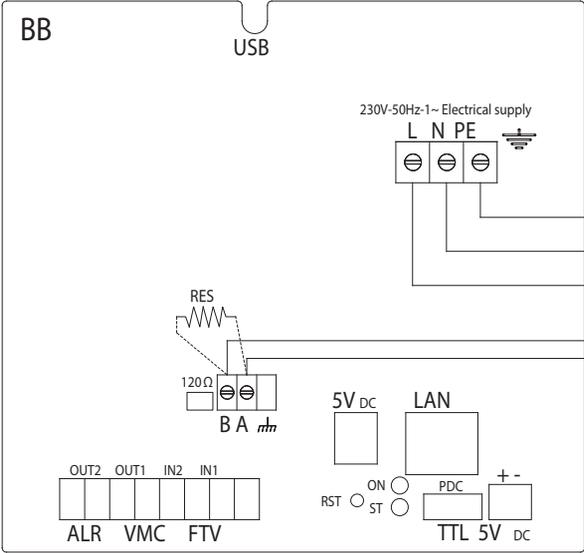
The RS485 connection is polarized, follow the directions "A" and "B" on each connected device.



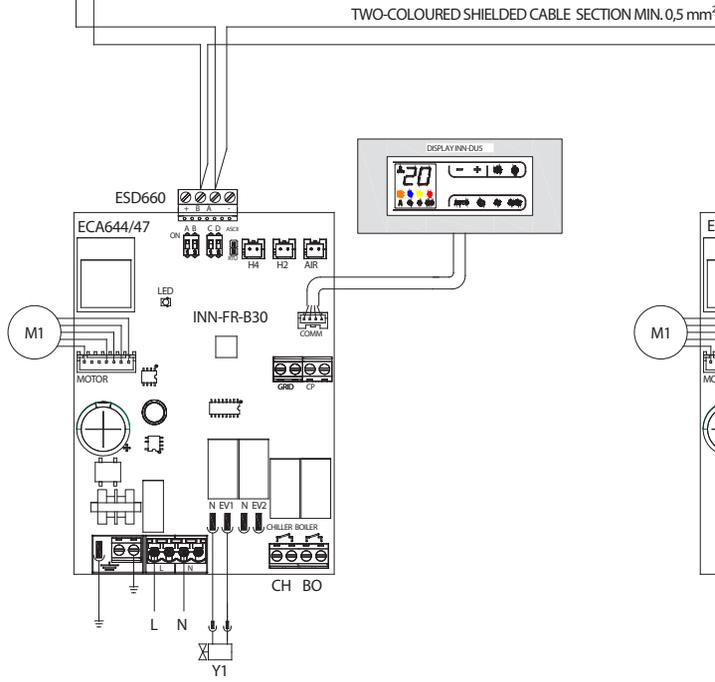
3.5 Illustrative diagram of connection ESW544 with fancoils cards

WIRING DIAGRAM WEB SERVER BB FOR FANCOIL ESW544

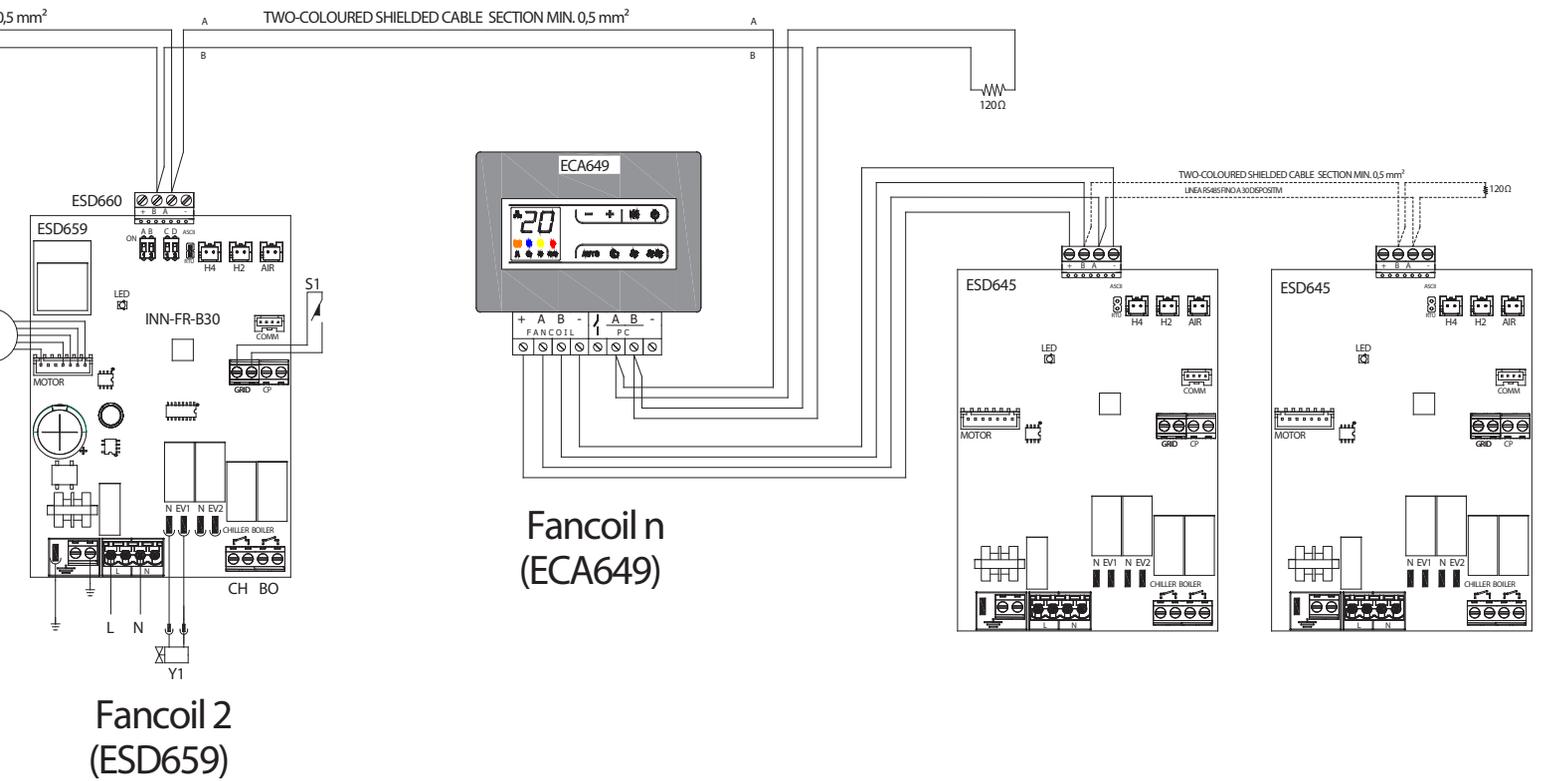
BB Web server tab with BeagleBone  
 RES Supplied resistance 120 Ω to be used for serial line termination  
 RS485 ModBus RTU serial connection for fancoil network



The choice of materials and the path of the connection are fundamental for the correct functioning. It must be separated from conductors of power, follow a path without derivations and should not be made star connections! For the connection of the serial line must be used a twisted cable whose conductors (OF DIFFERENT COLOUR) must have a minimum section of 0,35mm<sup>2</sup>.  
 The path starts from the Web server ESW544, reaches the first device (slave **ECA644**, **ECA647**, **ESD659** or **ECA649**) and continues to the next. The maximum length of the connection is 1200m and on the last peripheral it must be connected the 120 Ω resistance.  
The RS485 connection is polarized, follow the directions "A" and "B" on each connected device.



Fancoil 1 (ECA644, ECA647)



Fancoil 2  
(ESD659)

Fancoil n  
(ECA649)

## CONNECT TO THE WEB SERVER IN DHCP

The device is set in DHCP by default and automatically connects to the server when connected to a router with Internet access.

After turning on and connected the web server, check the status of the LEDs:

- On (red) on fixed
- ST (green) Flashing (1 sec. On/1 sec. off).

**Note:** If you do not know the basic procedures for TCP/IP networks, contact the IT administrator of the network to which you are connecting the device.

After the procedure, skip to paragraph 5.4 page 15 to find the IP address of the web server through the App.

### 4.1 Automatic addressing trough DHCP server

The DHCP server automatically sets TCP/IP configuration on network devices. Many network administrators decide to use this feature for the next reasons:

- Don't worry about keeping a list of addresses used to avoid duplicates
- If you want to change the network settings (address sets, subnets, gateways, DNS, etc.) simply change them on the DHCP server and restart the clients
- Portable devices can be easily connected to different networks without the need to configure TCP/IP all the time
- Many inexpensive devices such as ADSL routers or access points integrate a DHCP server

Among the disadvantages of this solution we list the next:

- If the DHCP server fails, the network does not work
- The address assigned to clients may vary from time to time making this approach unsuitable for use with devices that need to provide networked services.

### 4.2 Connecting to a hub or switch

Necessary material:

- Patch Cord UTP Cat. 5/UTP cat cable, 5 and 2 RJ45 connectors (8/8) for each device. There are several accessories, such as patch panel and RJ45 wall sockets that allow in many cases to make a more "clean" and orderly wiring

- Hub or ethernet switch. The number of ports must be calculated taking into account each device (PC, access point, router) that you intend to connect and not just the web servers.

To connect the web server to a hub or an ethernet switch use a UTP cat patch Cord. 5 or Higher.

## WEB SERVER MANUAL CONFIGURATION

### 5.1 Direct connection to a PC through cable

To connect a single Web server to a PC with a network card use a patch Cord UTP cat. 5 or higher.

To check the correct wiring control that the orange indicator light shown in Figure 5.1 is On.

The green “data exchange” light flashes if you are transmitting or receiving data.

Check the status of the LEDs:

- ORANGE always On
- GREEN Flashing

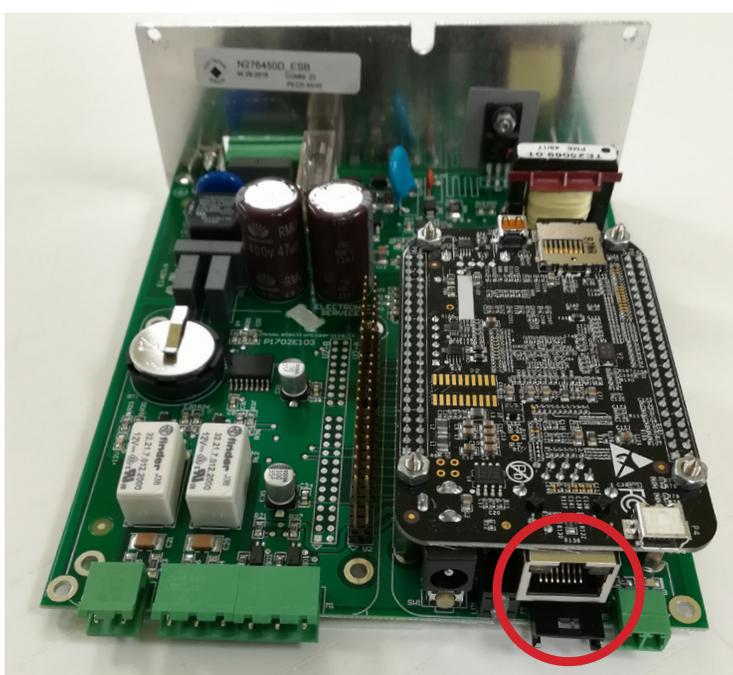


Figure 5.1

### 5.2 Wireless connection

Necessary material:

- USB WiFi antenna: always use the WiFi module TP-link TL-WN727N or other model indicated by Innova.
- Access Point. In open field an access point can cover a radius of 100 m, but walls and other factors significantly affect the flow rate; In this case you can add more access points in order to cover the entire area you want.

To configure the access point and the wireless bridge, refer to the relevant manuals.

Please note that an unprotected wireless network is accessible to anyone with a compatible device, so it is highly recommended to use encryption.

Before you proceed with configuring web servers, make sure that your wireless infrastructure is working properly.

### 5.3 TCP/IP Configuration

If you do not know the basics to configure a TCP/IP network read the next paragraphs, otherwise you can skip to par. 5.4.

**Note:** If you do not know the procedures, contact an IT engineer.

### 5.4 Some preliminary information to set up a TCP/IP V4 network

#### IP Address

The IP address is a numeric value of 4 bytes and it is usually expressed in this form X.X.X.X. where each X represents a byte in decimal format (0-255). In a TCP/IP network each device must have its own address different from all others.

In internet the IP addresses are assigned by the provider. For private networks such as the one you are preparing to

configure, you must use addresses whose first byte is 10 or 192 (10.X.X.X or 192.X.X.X).

The typical address set of a local network with less than 255 devices is 10.154.132. X.

The Web server comes with the default address 10.154.132.1.

#### The subnet mask

The subnet mask is a numeric value of 4 bytes and is usually expressed in the following form X.X.X.X where each x represents a byte in decimal format (0-255). The subnet mask is used to define how many and which addresses will be part of our Subnet.

Even if the SM is usually expressed in decimal format, to understand its meaning it is necessary to display them in binary format (for example, 255.255.255.0 becomes 111 11111.11111111.11111111.00000000).

Starting from the left, every 1 represents a value of our IP address that cannot be changed. At some point there are 0. The 0 represent the bits that can change instead.

For example, If the IP address is 10.154.132.1 and the subnet mask is 255.255.255.0, you can communicate with all devices that have an address between 10.154.132.1 and 10.154.132.254, but not for example with a device with the address 10.154.4.1.

The first (10.154.132.0) and last (10.154.132.255) address of the subnet are reserved and should not be assigned to any devices.

	Example 1	Example 2
IP Address	10.154.132.1	10.0.0.1
Subnet mask	255.255.255.0	255.255.254.0
Binary subnet mask	11111111.11111111.11111111.00000000	11111111.11111111.11111110.00000000
First valid address	10.154.132.1	10.0.0.1
Last valid address	10.154.132.254	10.0.1.254
Max devices number	254	510

Because the first number (10, 192) is fixed, the widest subnet for a private subnet can be 255.0.0.0, which allows you to have over 16 million of devices.

The typical subnet of private networks is 255.255.255.0, which is also the default subnet mask of our web Servers.

All devices in the subnet, in order to communicate with each other, must have the same subnet mask.

## The PING command

The PING command is very useful for quickly and easily detecting if a device is reachable in the TCP/IP network. Each operating system, be it for PC or other network devices, that supports TCP/IP implements this command with several options, but in its simplest form the command requires this syntax:

Ping X.X.X.X

Where X.X.X.X is the IP address of the target device with which you want to test connectivity.

For example, to test the link with a fancoil with the default address (10.154.132.1), in Windows, do the next operations:

- From the "Start" button look for the tool "Command Prompt"
- The black screen of the Windows character interface will appear
- Type "PING 10.154.132.1" and press ENTER
- The request is sent four times and the result is displayed

It is possible that some types of computer security software (firewalls, antivirus, etc.) inhibit the operation of the ping command.

## Set up your PC's network card

### Microsoft Windows Vista, Windows 7, Windows 8, Windows 10

a. Verify the IP configuration:

- From the "Start" button select "Control panel"
- Click on "Network and Internet", then "Network connection and sharing center" and then "Manage network connections"
- Right-click on "Local area connection" or the connection you want to use, select "Properties" from the menu
- In "Network" within the list "The connection uses the following components" highlight "Internet protocol version 4 (TCP/IPv4)"
- Click on "Properties"

b. What to do if...

- ... is checked "Get an IP address automatically" and the computer is part of a network?  
Contact your network administrator or tick "use the following IP address" and proceed to point C.
- ... is checked "Get an IP address automatically" and the computer is not part of a network?  
Tick "Use The following IP address" and proceed to point C.

- ... is checked "Use the following IP address" and the address starts with 10.154.132 and the subnet mask is 255.255.255.0 proceed with the point D.
- ... is checked "Use the following IP address" and the address does not start with 10.154.132 or the subnet mask is different from 255.255.255.0 proceed with point C.

c. Manually configure the IP address:

- IP address 10.154.132.1 or 10.154.132.X where X is between 1 and 254 and different from 201 and any other network address.
- Subnet mask 255.255.255.0

d. Press "Ok" to confirm the configuration.

## 5.5 Locate IP address through APP

Through the "InnovApp Home" App, you can find the IP address of the web server in order to open the control page on your PC.

(see page 44 to 48 for installation and operation of the App)

When entering settings, select the "Wizards" entry, then "network diagnostics".

A device control will be made automatically (see par. 8.7 pag. 42).

The first entry is the IP address of the web server.

Copying the code on the Pc's web page will open the web server's control screen.

### 5.6 IP addressing web server ESW544

Web servers from new ones all have the same IP address, so you need to feed them one at a time and set the TCP/IP parameters before turning on the next.

Web servers are preconfigured with the address 10.154.132.1, to avoid conflicts, you must link them one at a time.

This happens for extended networks or for example for multi-floor installations where you want to install a web server for each floor. In these cases, you must configure web servers with different IP addresses, like computers in networks.

- a. Start your browser
- b. In the address bar, type 10.154.132.1
- c. Wait for the page to load
- d. A screen will appear as follows (figure 6.1) and/or with the inscription heat PUMP.

**Note:**

If the page does not load it is possible that the PC does not have the default Parameters.

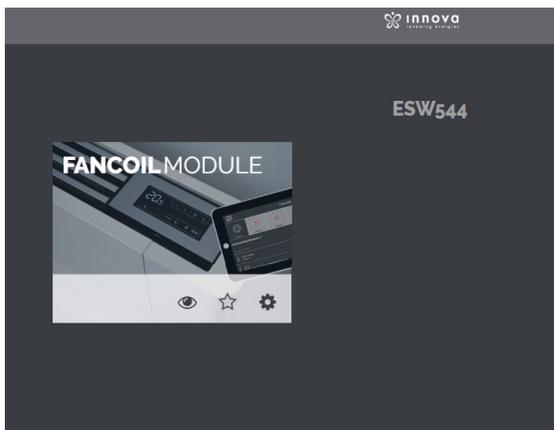


Figure 6.1



Figure 6.2

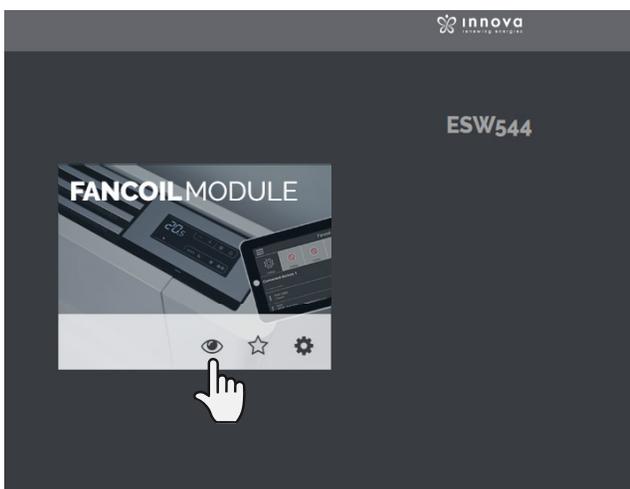


Figure 6.3

To set the new IP address, follow these instructions:

- a. Select the fancoil module display icon (figure 6.3)



Figure 6.4

**b.**  
Select the settings menu



Figure 6.5

**c.**  
The menu will appear, press Login.  
The Credentials window will Open.

Now, enter with username and Password.  
Username: **setup**  
Password: **innova**

Once you have entered the settings menu, click on the item "Network address settings" (figure 6.6).

Now you can set the IP address that is compatible with your network, as well as the gateway address and the DNS address. We recommend leaving the latter unchanged.

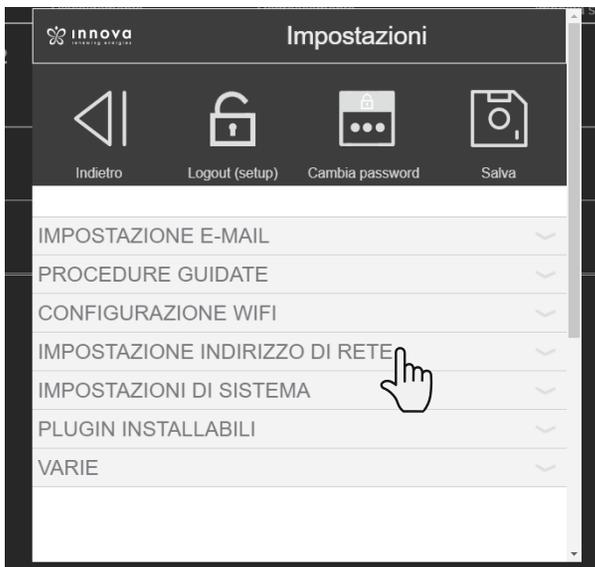


Figure 6.6



Figure 6.7

The same operations must be performed for any other web server.

## CONNECTION PROBLEMS AND SOLUTIONS

### 6.1 You can't reach the card from the Internet browser

In case you are unable to communicate with the apparently connected web server, the problems/solutions may be the nexts.

#### Checking the communication light



Figure 7.1

Sate	Meaning
LED ST: 1 flash every second	Correct operation
LED ST: 2 fast flashes very 5 seconds	Abnormal operation of the connected PDC: - no PDC connected - INN-PDC-02 off - address RS485 INN-PDC-02 incorrect - INN-PDC-02 set as SLA = NO - INN-PDC-02 set as rtu = no - TTL cables onnected poorly
LED ST on fixed	Restart phase in progress
LED ST off	Abnormal error <b>(contact INNOVA)</b>

1. If the communication light (Figure 7.1) is off

- Make sure that the Web server is powered
- Make sure that the network cable is connected
- Make sure the device on the other side of the network cable is plugged in and

2. If the communication light flashes

- Search for the device on the network (from App, see par. 5.5 pag. 15.)

Other verifications (for Innova technical Staff)

- Connect directly with a PC to the Web server

#### Verifying TCP/IP Configuration

1. Verify the TCP/IP configuration of your computer

- In windows
  - Click on the button marked with the Windows logo; just above will appear a box with the words "start search" in which you can type a command
  - Type "cmd" and press the "Enter" key; a black screen will appear in text mode
- In the black screen, type "ipconfig" and press "enter" on the keyboard
- Verify that the IP address and subnet mask are consistent with those of the web server you want to reach. If not, correct the configuration of your PC and try to connect again to the web server.

## COMMAND PANEL ADDRESS SETTING

2 modes are available for addressing devices:

1. Through direct preventive addressing, with subsequent detection by the web server (recommended procedure);
2. Through the individual software addressing (the most laborious and recommended procedure for experts).

### 7.1 Direct device addressing

#### Hardware setting of the address

As a preliminary operation it is recommended to tabular the addresses that must take the individual fancoil, so that they are easily identifiable once recognized by the system.

You can proceed as in the example table below:

Indirizzo fancoil	Destinazione
Indirizzo 01	Leave free! ( <b>Note.</b> )
Indirizzo 02	Kitchen
Indirizzo 03	Livingroom
Indirizzo 04	Bedroom1
...	...

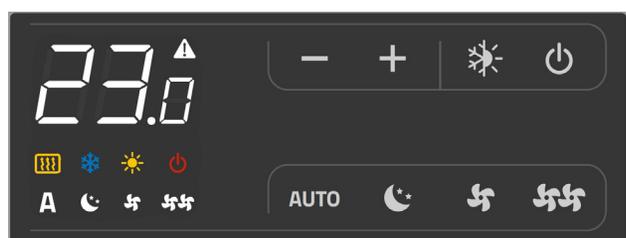


Figura 8.1

From the display of the kit ECA644, ECA647 and ECA649 (and using a "steering wheel" for the ESD659 kit) the address of the device can be visualized and optionally changed:

**From stand-by** (off) hold the AUTO key for 5 seconds until the flashing address (01 by default) is displayed; With the + and - keys it is possible to set a value **from 02 to 99**; press the key  or wait 10 seconds to confirm the setting.

**Note:** don't leave any fancoil with address 01. This precaution will allow future replacements and/or additions of networked devices.

**Note:** don't change the address of the fancoil during or after the devices configuration.

**Configuring devices after hardware addressing**

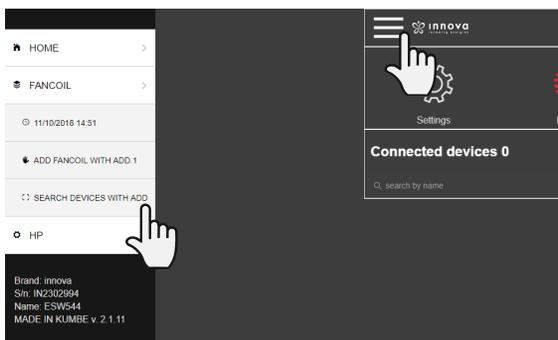


Figure 8.2

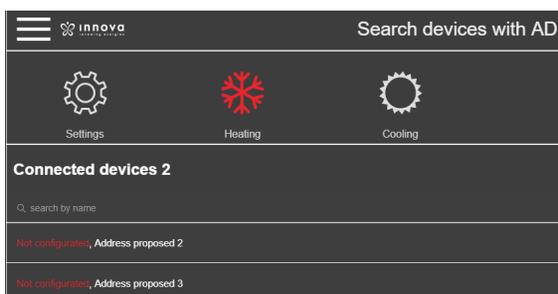


Figure 8.3

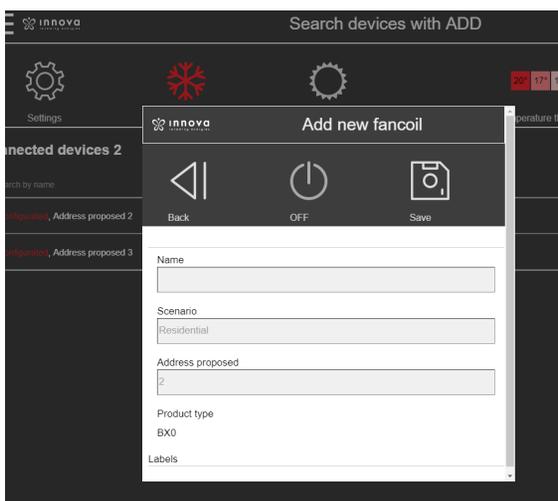


Figure 8.4

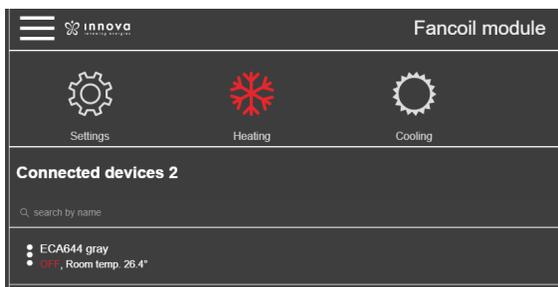


Figure 8.5

Proceed as follows:

1. Enter the settings by putting the credentials as indicated in par. 6.4 (p. 19). Then enter the fancoils menu by clicking on the icon at the top left. A list will appear as shown in Figure 8.2
2. Select “SEARCH DEVICE WITH ADD.” (search fancoil with addressing) as always shown in Figure 8.2
3. Will appear a list of devices with the words “Not configured” and the proposed address (Figure 8.3).
4. Selecting an unconfigured fancoil will display the “Add new fancoil” screen. (Figure 8.4)
5. In the fields indicated you can give a name (for example Kitchen), select the scenario and set the desired address.
6. The scenarios, selectable in the device configuration menu as shown in Figure 8.5, automatically enable multiple flags. It will then be possible to join some useful functions by virtue of the intended Use. The possible scenarios are 3 and are shown here:
  - RESIDENTIAL:  
the Flags 5 (not visible from Web Server) and 8 are automatically enabled;
  - HOTEL:  
the Flags 2, 5 (not Visible) and 8 are enabled;
  - SCHOOL:  
the flags 2, 3, 5 (not visible), 6 and 8 are enabled.
8. Go back to the fancoils page. The device will now appear configured with the labels (Figure 8.5).

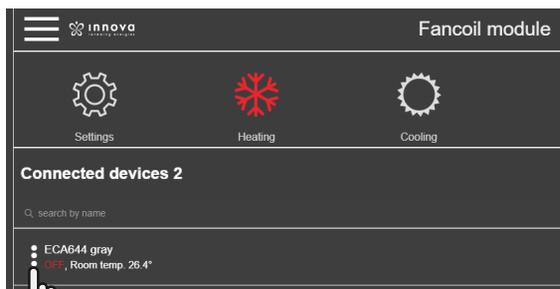


Figure 8.6

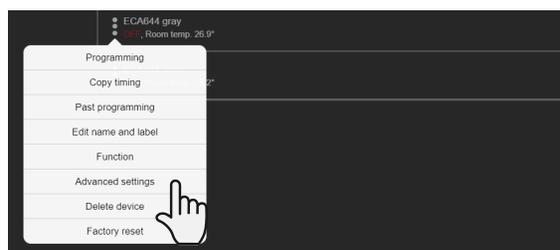


Figure 8.7

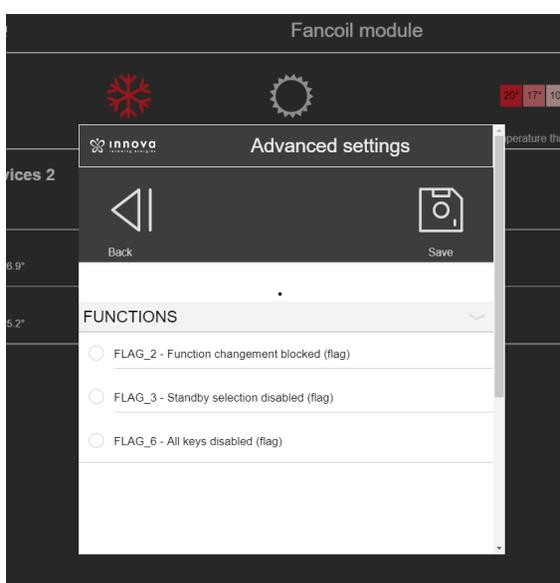


Figure 8.8

1. To complete the installation you can check and set the advanced parameters by clicking on the three points at the side of the device name.

2. The advanced parameters are shown in Figure 8.8 and the meaning of the flags (internal registers) is as follows:

- FLAG\_2 – It disables the rotation of programs: the user is prevented from changing the program. The other keys retain the normal functionality. At the press of a program key corresponds a temporary flashing of the icon ⚠.
- FLAG\_3 – It disables the standby state selection: the user is prevented from turning the unit off and On. Pressing the button ⏻ corresponds to a temporary flashing of the icon ⚠.
- FLAG\_6 – It disables all keys: any action is prevented from the user. The keys are locked and at the press of any key corresponds a temporary flashing of the icon ⚠.

**Note:**

Activating the advanced parameters disables the keys on the fancoil keypad.

## 7.2 Individual addressing from software (recommended to experts)

Through web server it is possible to direct the fancoils individually.

This procedure is longer, but equally effective and does not require manual hardware addressing as in paragraph 7.1.

**Nte:**

It is always advisable to organize in advance the correspondence of the machines as for par. previous.

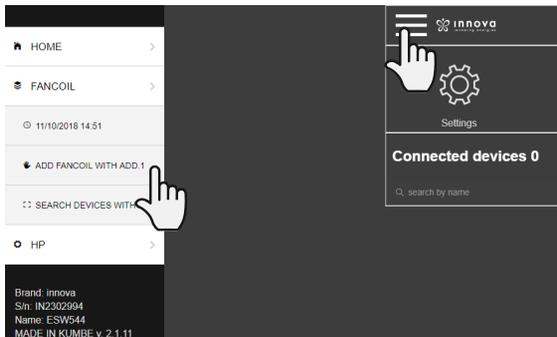


Figure 8.9

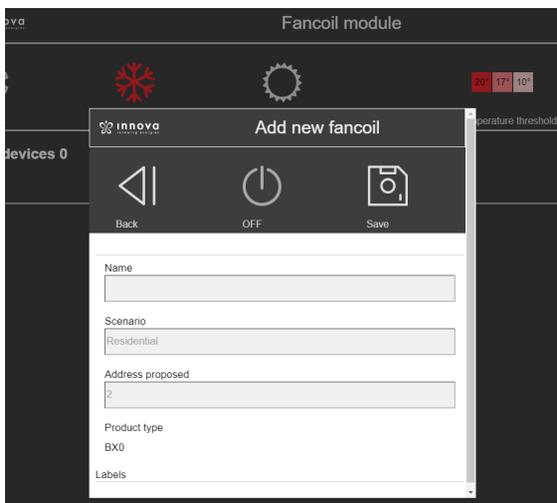


Figure 8.10

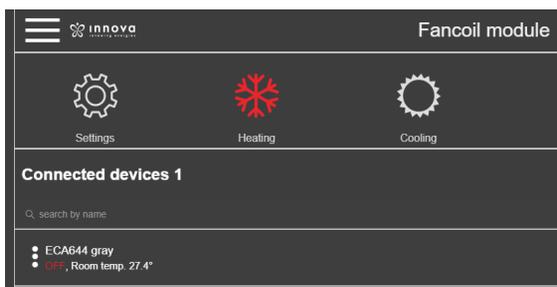


Figure 8.11

Proceed as follows:

1. Switch on the first fancoil to locate: do not switch on multiple devices at the same time, otherwise the addressing will be impossible for generated conflicts. All fancoils not manually routed will have factory address 01, so do not switch on more than one device with the same address
2. Once the first fancoil is switched on, enter the settings by inserting the credentials as indicated in par. 6.4 (p. 19)
3. Entrare poi nel menu dei fancoils cliccando sull'icona in alto a sinistra. Comparirà un elenco come in Figura 8.9
4. Then enter the fancoil menu by clicking on the icon at the top left. A list will appear as shown in Figure 8.9
5. The "ADD FANCOIL WITH ADD.1" screen will appear. (Figure 8.10) In the fields indicated you can give a name (for example, Kitchen), select the scenario and set the desired address (see previous par. for the scenarios, page 21)
6. Go back to the fancoils page. The device will now appear configured with the labels (Figure 8.12).
7. To complete the installation you can check and set the advanced parameters by clicking on the three points at the side of the device name. (see previous par. for advanced parameters, from step 8)

**Note:**

Repeat the operations to configure all the fancoils.

## DEVICE CONTROL SCREENS

### 8.1 Home

The home screen of the web server shows an overview of all connected devices.

Clicking on one of the devices you enter the control screen.

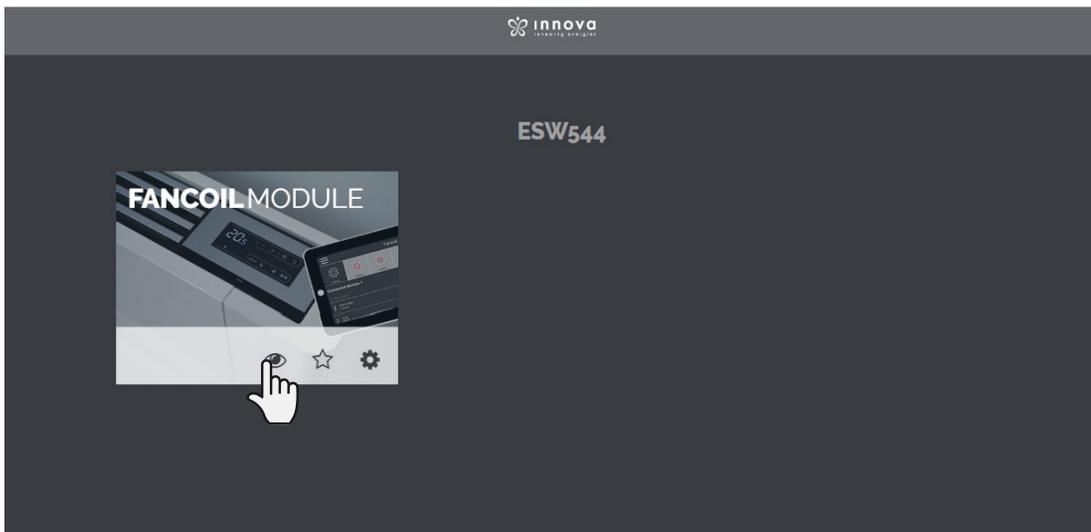


Figure 8.1

### 8.2 Main menu

Clicking on the menu icon, at the top left, it opens a side window.

The menu items allow to:

- HOME - back to home
- FANCOIL - enter the fancoils control screen
- HP - enter the heat pump control screen

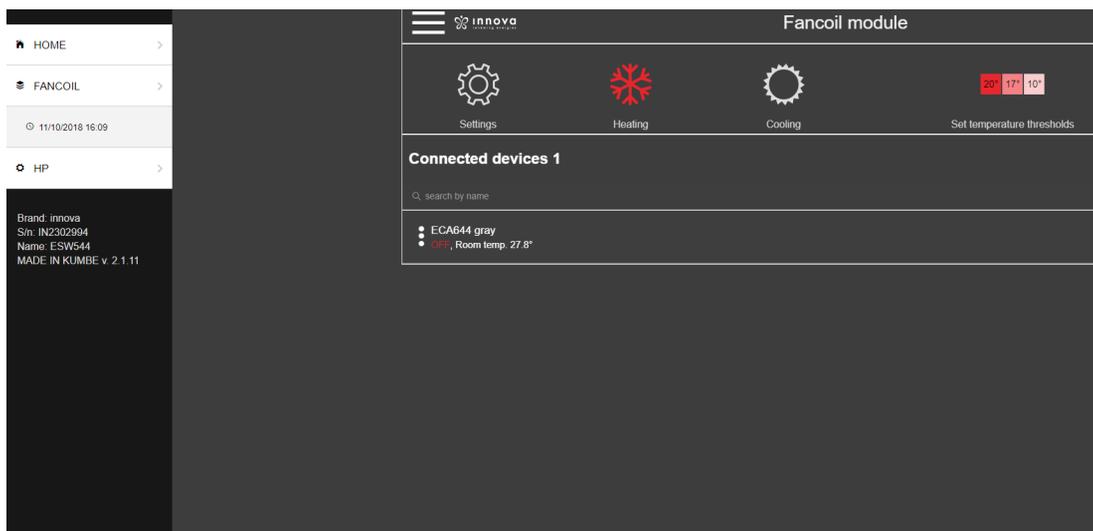


Figure 8.2

## FANCOIL MODULE

### 8.3 Fancoil control Screen

#### Interface description and main functions

The touch screen controls interface allows to regulate and coordinate all the main functions of the device.

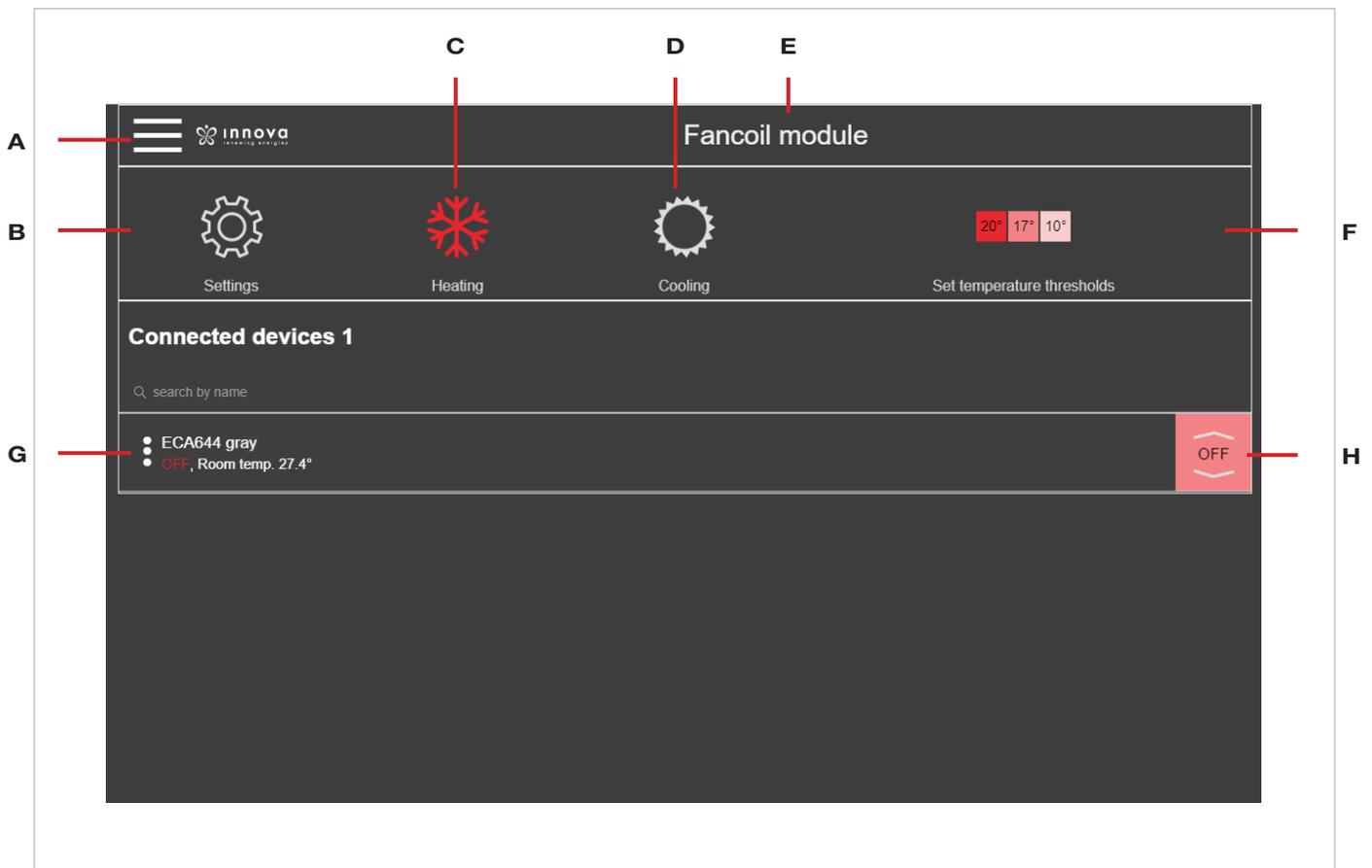
This device allows summer/winter selection, thermoregulation through special weekly programming windows, the control of all the main functions of the device, the visualization and the release of any alarms.

The main screen displays tiles commonly called "tile" that identify the various operating states.

**⚠** The adjustments are mutually exclusive and the setting remains memorised even in case of interruption of the supply voltage.

<b>A</b>	Menu
<b>B</b>	Settings
<b>C</b>	Winter mode (Heating)
<b>D</b>	Summer mode (Cooling)

<b>E</b>	Fancoil module / Update page
<b>F</b>	Set temperature thresholds
<b>G</b>	Connected devices and group
<b>H</b>	Manual temperatures



**⚠** The setpoint displayed in the tile "H" in winter can be subjected to the action of the climatic adjustment,

calculated according to the external temperature and may be different from that set in the programming page

### Status display

View	State
	Colored icons indicate active states
	Gray icons indicate inactive states
	Ticked icons indicate states unavailable due to the opening of a digital input
	Tiles with black background indicate functions that can be activated by user

### Activation

For activate:

Tile	Operation	Display
	Double click on the summer tile to select the cooling mode	the symbol is coloured
	Double click on the winter tile to select the heating mode	the symbol is coloured

### Set date and time

To set the date and time:

Tile	Operation	Display
	Select the date and time item from the menu	It will open the drop down menus
	Adjust the date and time using the Pull-down menus. Press save to store the settings you made	

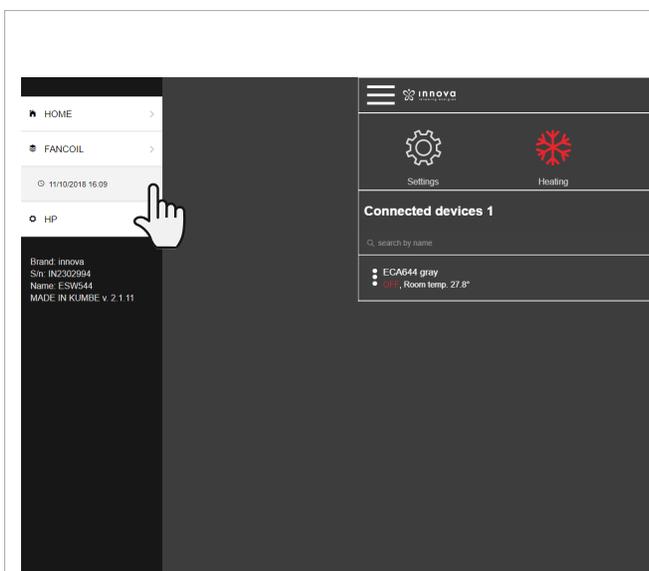


Figure 8.3

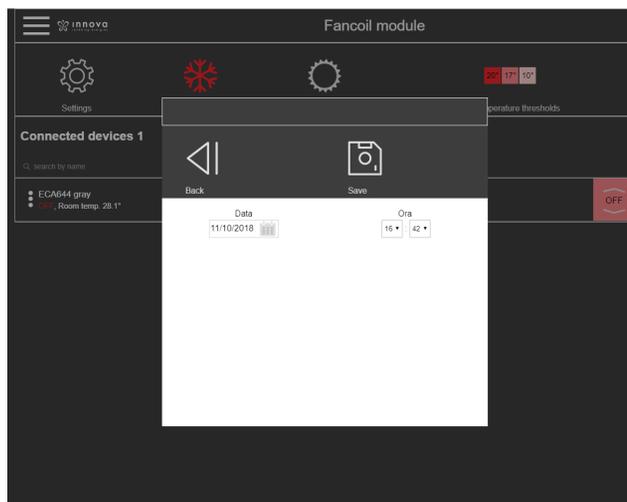


Figure 8.4

After Setting:

Tile	Operation	Display
	Press the "save" tile to store the settings you made	
	Press the "back" tile to exit without saving or to return to the previous menu after saving	

### 8.4 Functions dedicated to the fancoil

By clicking on the three point icon (figure 8.5) a menu will appear with different functions for programming and managing the fancoil.

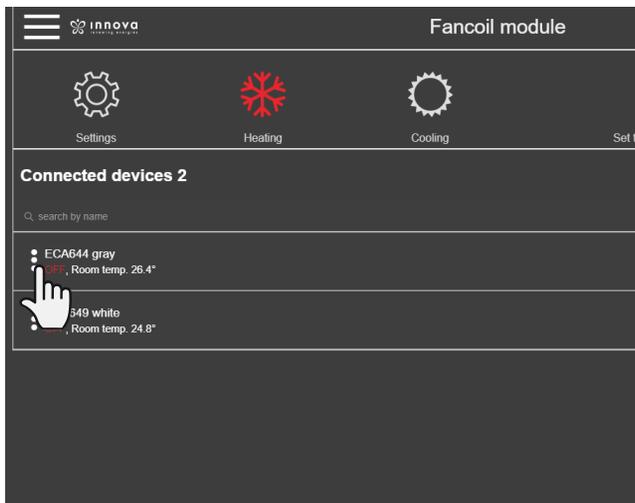


Figure 8.5

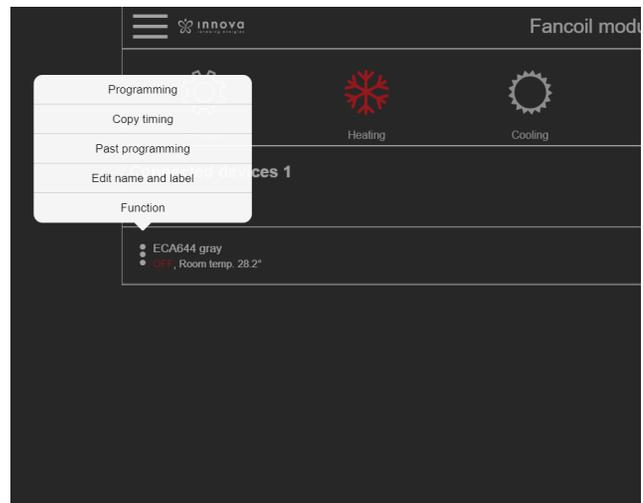


Figure 8.6

The selectable functions allow the following operations:

Functions	Description
Programming	Edit the weekly schedule of the selected fancoil
Copy timing	As with the normal "copy-paste" function of the computer, stores the weekly calendar to be copied to another device
Past programming	Paste the calendar of another device previously selected with the function "copy programming"
Edit name and label	Allows you to edit name or rename the destination of your fancoil (for example, "fancoil bedroom")
Function	Allows you to select the mode of operation of the fancoil

### Function "Programming"

By selecting the function "programming" you can set a daily and weekly scheduling calendar for each fancoil.

A new screen will appear with the days of the Week. (Figure 8.7)

By clicking on the "Edit" of a day of the week, you can add and define one or more periods of turning the fancoil on and off over that day.

A new screen will appear as shown in Figure 8.8.

Clicking on the symbol "+" (add), it opens a new screen as shown in Figure 8.9.

To change the period click on one of the two Times. You can also select a temperature threshold.

Once the programming is confirmed, return to the screen with the list of days of the week. (Figure 8.11)

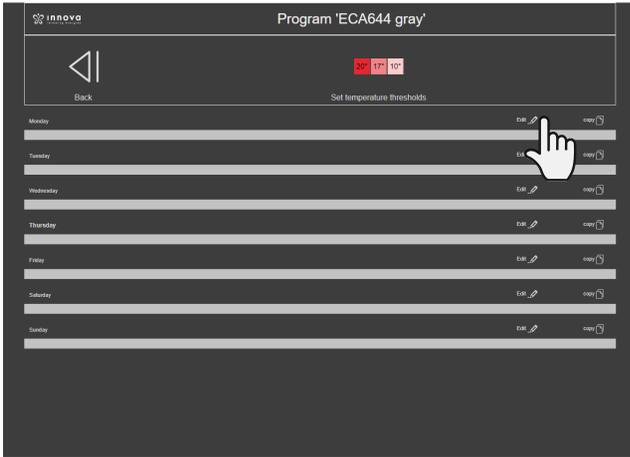


Figure 8.7

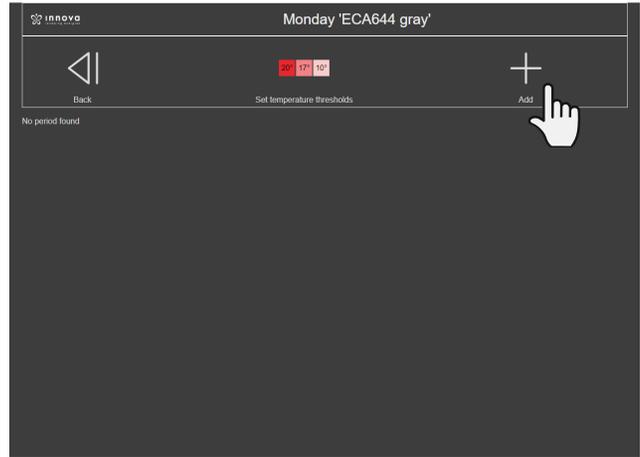


Figure 8.8



Figure 8.9

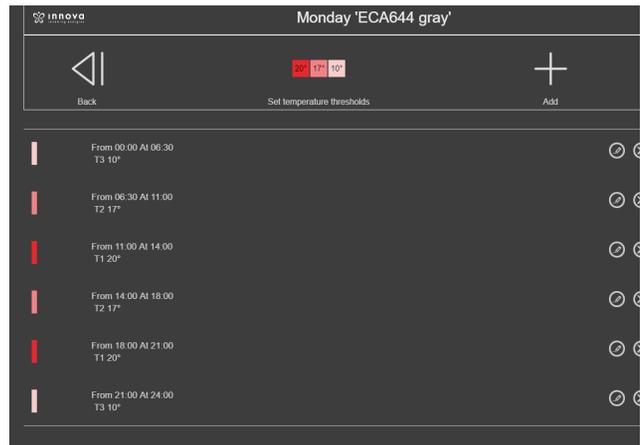


Figure 8.10

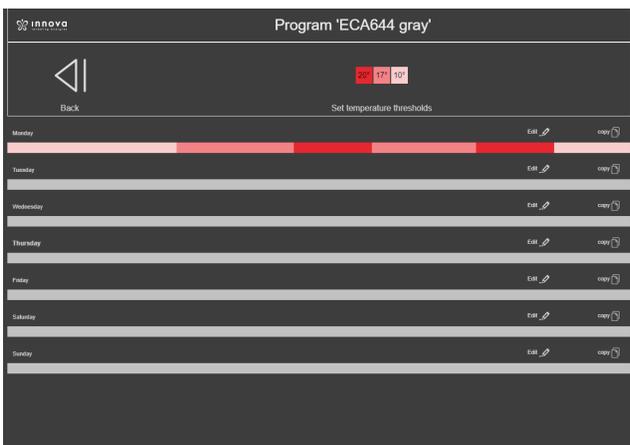


Figure 8.11

**Note:** It is advisable to set a very low threshold (for example the 10 ° like the threshold set in the figures above) instead of turning off the fancoil, so as to leave an "antifreeze" threshold for the environment.

**Note:** Follow the same instructions for scheduling the weekly program in summer mode.

Proceed to the same way if you want to set different time bands for the other days of the week.

If you want to apply the same programming just confirmed, to other days of the week, click on “Copy”  and select the days in which you want to apply this programming.

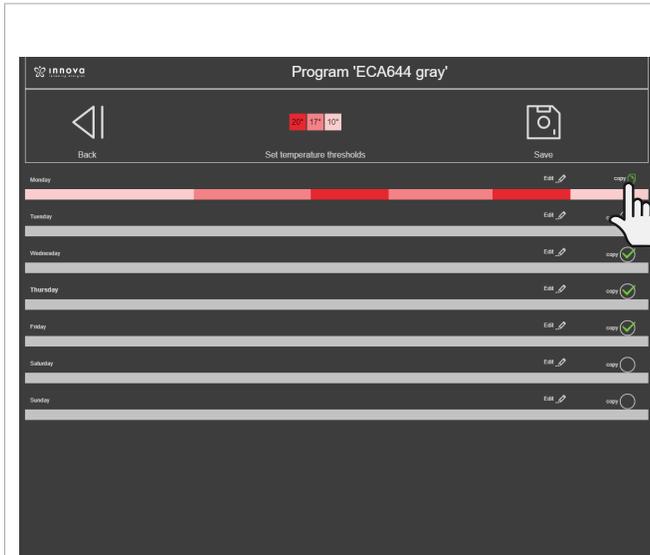


Figure 8.12



Figure 8.13

By clicking on “Set temperature thresholds” you can change the 3 temperatures. (Figures 8.14 and 8.15)

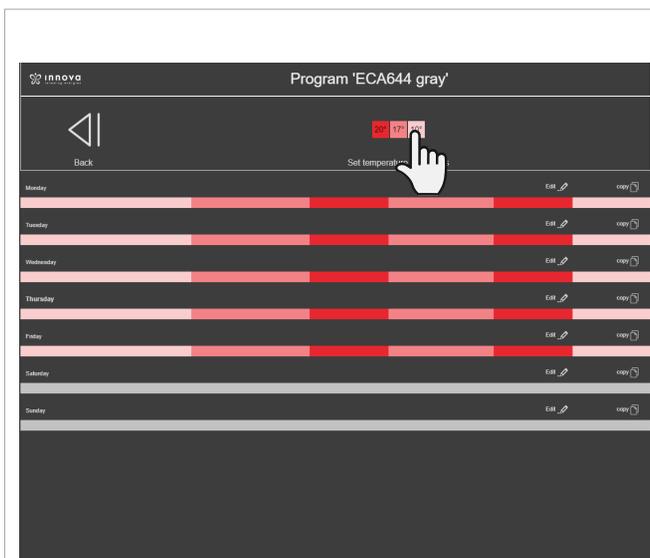


Figure 8.14

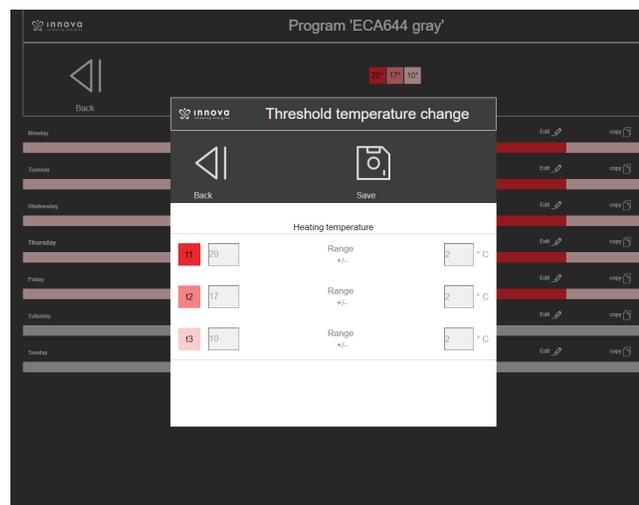


Figure 8.15

At the end of the operation (and all configuration operations in general):

Tile	Operation	Display
	Press the "save" tile to store the settings you made	
	Press the "back" tile to exit without saving or to return to the previous menu after saving	

### Functions “copy timing” and “paste programming”

You can copy the programming of a fancoil to another (for example if you want to use the same time slots for two or more fancoils that you want to program in the same way).

Click on the “copy timing” function of the fancoils from which you want to copy the programming. (Figure 8.16)

Move to the fancoil on which you want to copy the programming and select the function “paste programming”. (Figure 8.17)



Figure 8.16



Figure 8.17

### Function "Edit name and label"

By selecting the function “Edit name and label” you can change the name of the device and set a label (group) in which to insert the fancoil (for example, group the fancoils of a hotel for each floor). (Figure 8.18)

Once the label is created, it will be visible on the general screen. (Figure 8.19)

By selecting the label (for example, First floor) a new screen will appear with the devices paired with it.

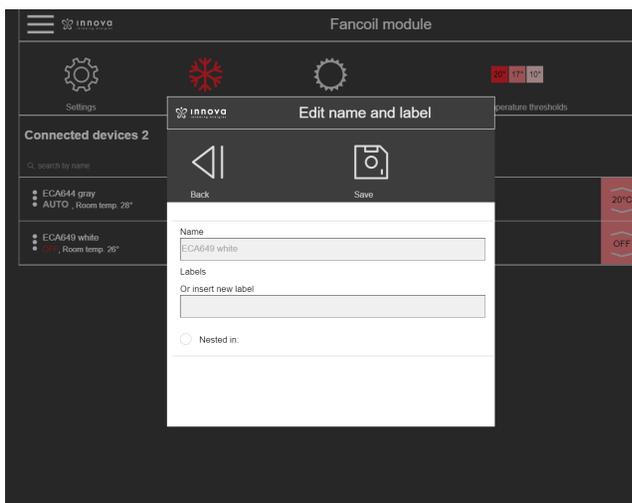


Figure 8.18

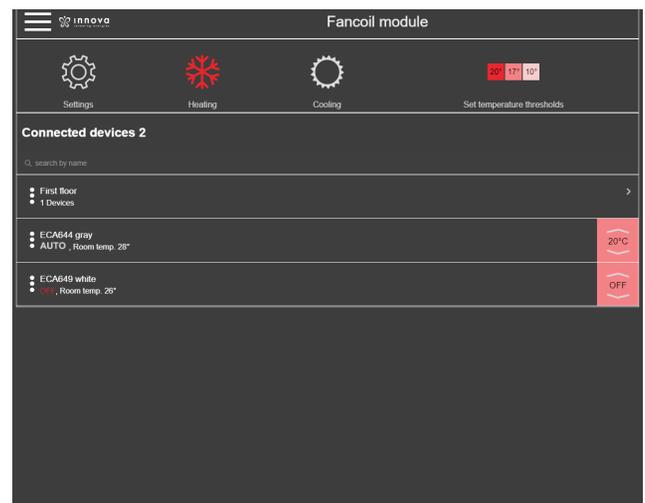


Figure 8.19

### Function "Function"

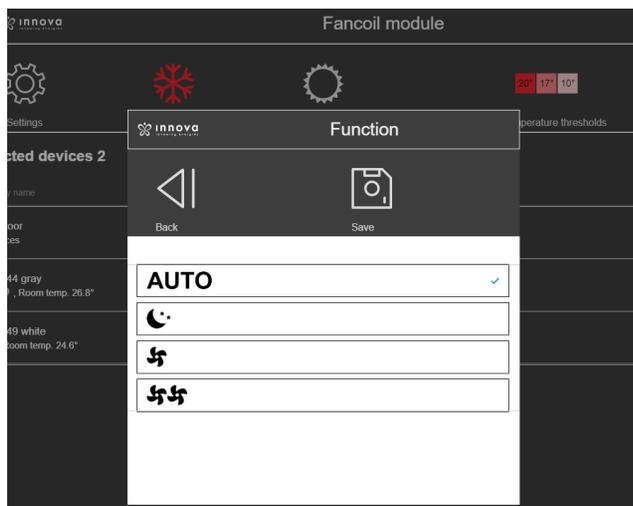


Figure 8.20

By selecting the function "Function" you can change the mode of operation of the fancoil. A menu will appear as shown in Figure 8.20.

- Operating mode:
- Auto (Automatic)
  - Night
  - Silent
  - Maximum ventilation speed

### Manual switching on and off

It is possible to set a manual command, from temporary validity (by default of 2 hours), in which the device can work at a different temperature than the one set in its calendar.

To activate the function:

- On the main fancoils screen, select the tile setpoint (Figure 8.21)
- The selectable temperature drop-down menu appears
- Choose the desired temperature

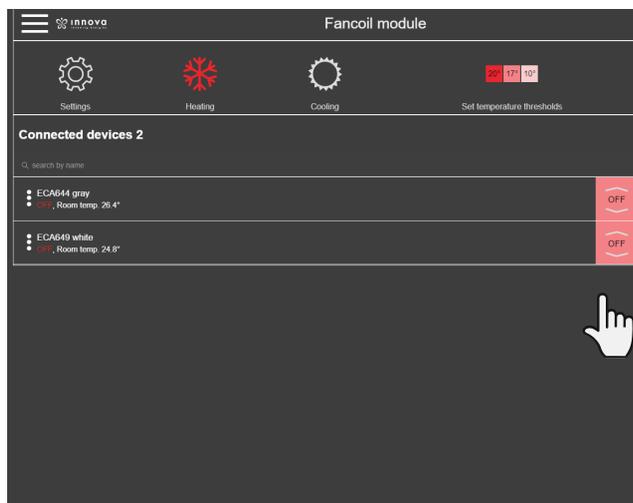


Figure 8.21

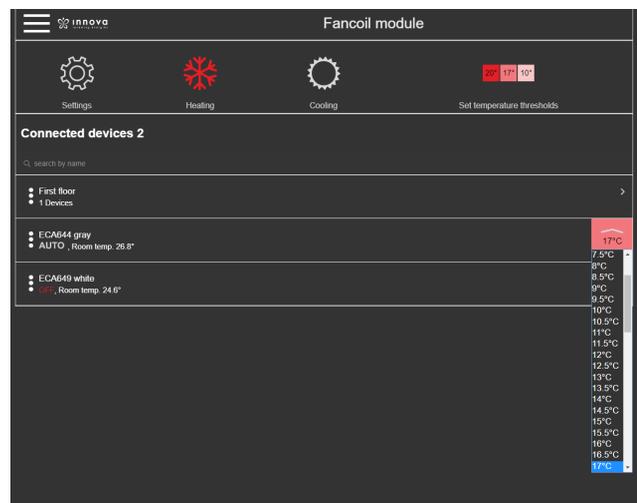


Figure 8.22

Selecting a different temperature from the programmed one appears the menu of Figure 8.23 that allows you to determine how long the manual modification will remain active.  
Select one of the directions.

Selecting "Forever" the new setpoint will remain active until a new manual change; in other cases, the calendar's setpoint value will be restored after the selected time has spend.

**Note:** To change the default time (2 hours), go to Settings, then "Miscellaneous ". (see par. 8.7 pag. 43)

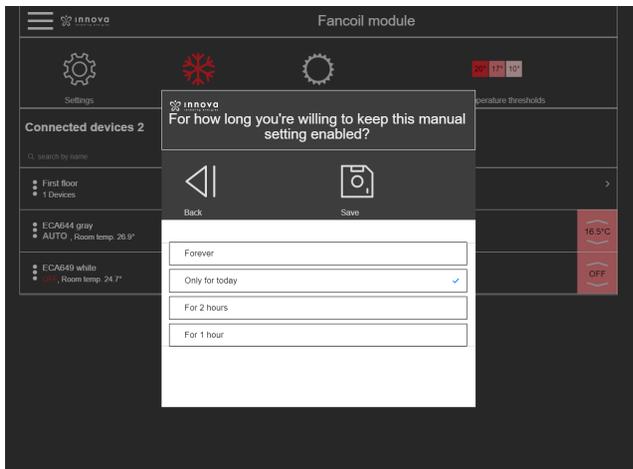


Figure 8.23

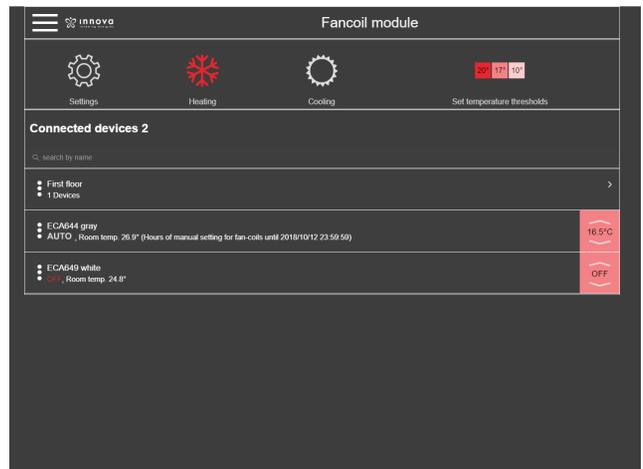


Figure 8.24

To remove the manual setting, click on the three-point icon, then the "Programming" function. A message will appear as shown in Figure 9.26.

Click:  
 - Yes to return to programming mode,  
 - NO to stay in manual mode,  
 - CANCEL to go back.



Figure 8.25

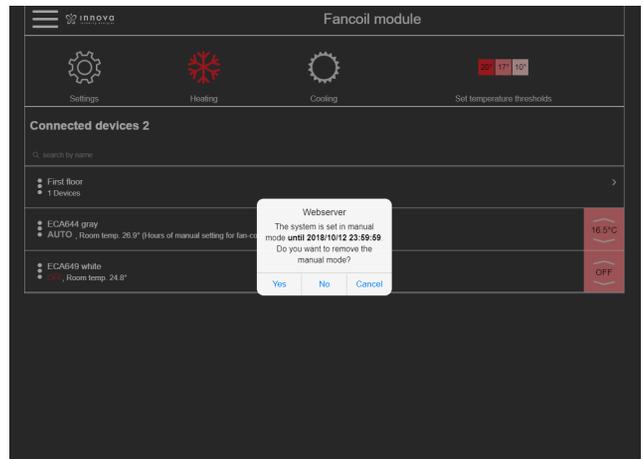


Figure 8.26

At the end of the operation (and all configuration operations in general):

Tile	Operation	Display
	Press the "save" tile to store the settings you made	
	Press the "back" tile to exit without saving or to return to the previous menu after saving	

## HEAT PUMP

### 8.5 Heat Pump control screen

#### Interface description and main functions

L'interfaccia comandi touch screen permette di regolare e coordinare tutte le principali funzioni dell'apparecchio. Questo dispositivo consente la selezione estate/inverno, la termoregolazione attraverso apposite finestre di programmazione settimanali, il controllo di tutte le funzioni principali dell'apparecchio, la visualizzazione e lo sblocco di eventuali allarmi.

Nella schermata principale sono visualizzate delle mattonelle denominate comunemente "tile" che identificano i vari stati di funzionamento e visualizzano le

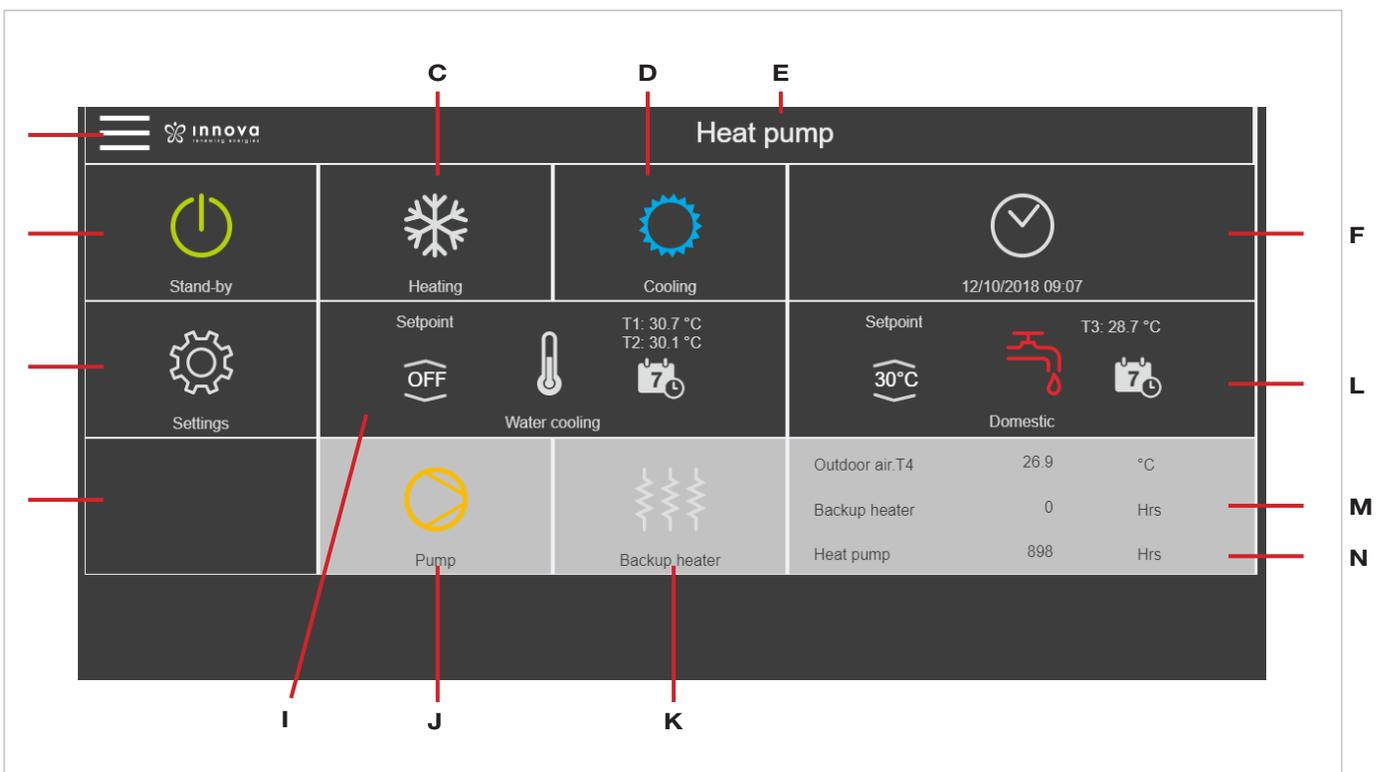
temperature rilevate dalle 4 sonde di temperatura gestite dall'apparecchio.

Le tile con sfondo nero permettono di accedere ai vari menu mentre quelle con sfondo grigio sono di pura visualizzazione o disabilitate.

**⚠** Le regolazioni sono mutuamente escludenti e l'impostazione rimane memorizzata anche in caso di interruzione della tensione d'alimentazione.

<b>A</b>	Menu
<b>B</b>	Stand-by
<b>C</b>	Winter mode (Heating)
<b>D</b>	Summer mode (Cooling)
<b>E</b>	Heat pump / Update page
<b>F</b>	Date and time
<b>G</b>	Settings
<b>H</b>	Alarm signal (see par. 11.2 pag.51 for explanation)
<b>I</b>	Winter/summer air conditioning temperatures. Access to the programming page.

<b>J</b>	Operation circulating pump P1
<b>K</b>	Auxiliary heating operation
<b>L</b>	Health and anti-legionella temperatures. Access to the programming page.
<b>M</b>	Operating hours of auxiliary heating
<b>N</b>	Operating hours of heat pump
<b>T1</b>	Temperature water system probe
<b>T2</b>	Exchanger water outlet probe
<b>T3</b>	Sanitary water temperature
<b>T4</b>	Outdoor air temperature



**⚠** Setpoint displayed on the tile "I" in winter can be subjected to the action of the climatic adjustment,

calculated according to the external temperature and may be different from that set in the programming page

### Status display

View	State
	Coloured icons indicate active states
	Gray icons indicate inactive states
	Ticked icons indicate states unavailable due to the opening of a digital input
	Tiles with black background indicate functions that can be activated by user
	Tiles with a gray background indicate those that are view-only or disabled

### General powering up

To manage the device through the touch screen interface, this must be connected to the mains.  
If a general switch on the power supply line has been provided, this must be inserted.

Switch on the system by inserting the main switch.  
Turn the isolator Q1 of the appliance placed in the electrical panel to the ON position.

### Activation

For activate:

Tile	Operation	Display
	Double click on the Stand-by tile	The symbol turns green
	Double click on the summer tile to select the cooling mode	The symbol is coloured
	Double click on the winter tile to select the heating mode	The symbol is coloured
	If the prohibition symbol appears on the tile, the device cannot be started because is open the ON/OFF digital input, connected to terminals 7 and 8 of the unit.	

### Disabling

For disabling:

Tile	Operation	Display
	Double click on the Stand-by tile	The symbol turns gray

### Set date and time

To set the date and time:

Tile	Operation	Display
	Select the date and time tile	Open the drop down menus
	Adjust the date and time using the pull-down menus. Press "Save" to store the settings you made	

## 8.6 Programming winter/summer time bands

To access the time slots programming menu:

Tile	Operation	Display
	Select the tile heating or cooling	
	Press the calendar tile on the heating/cooling window to access the programming menu	Access to the programming menu
	Press the Setpoint tile to manually change the temperature setting. The manual setting is temporary.	The calendar tile becomes barred

### Calendar

Select the Calendar tile (Figure 8.27).  
A new screen will appear with the days of the week (Figure 8.28).

A new screen will appear with the day of the week. (Figure 8.29)

To program the time bands and the temperatures click on the symbol  (modify) of a day of the week.

Click on the “+” symbol (add) to schedule a time band. To change the period click on one of the two times.

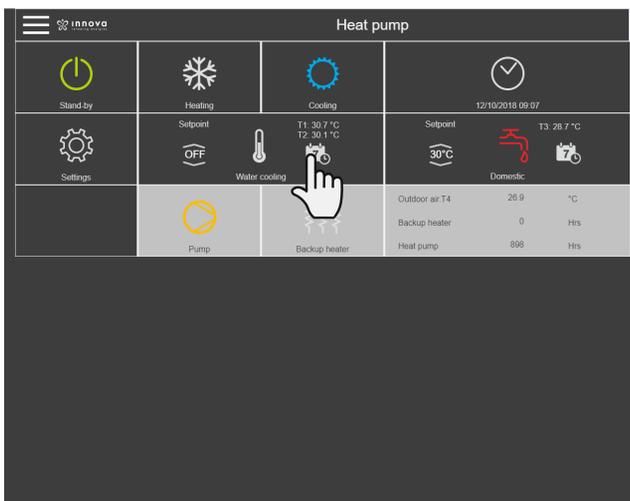


Figure 8.27

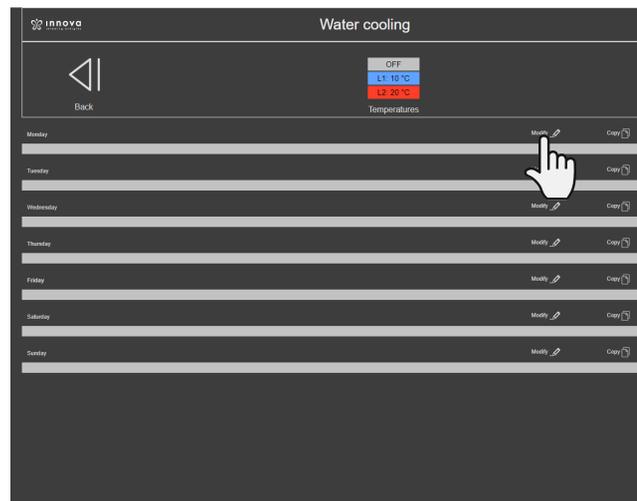


Figure 8.28

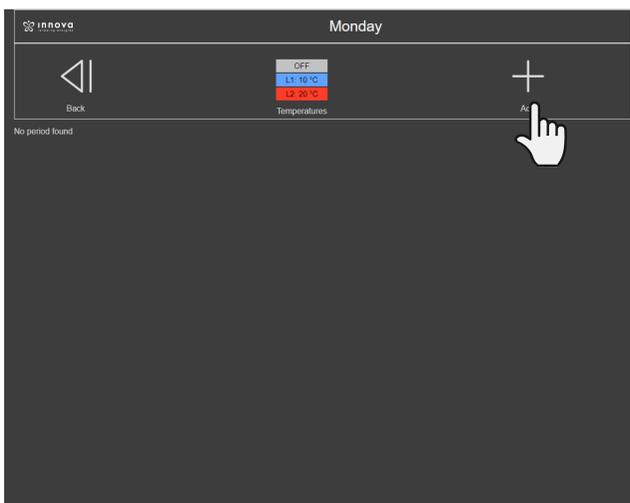


Figure 8.29

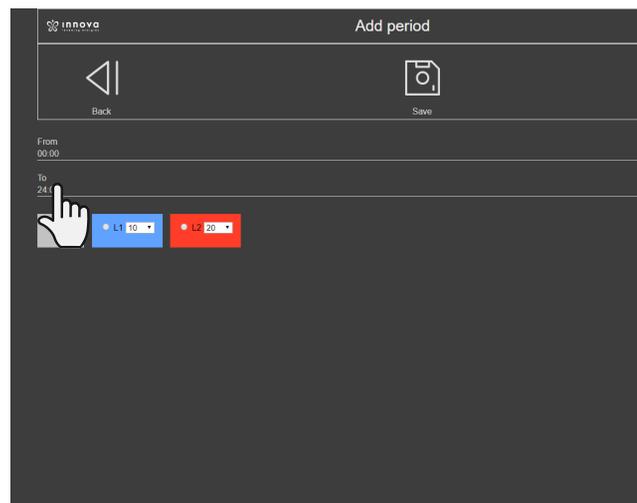


Figure 8.30

After Setting:

Tile	Operation	Display
	Press the "save" tile to store the settings you made	
	Press the "back" tile to exit without saving or to return to the previous menu after saving	

Once the programming is confirmed, back to the screen with the days of the week. (Figure 8.32)

Proceed to the same way if you want to set different time bands for the other days of the week.

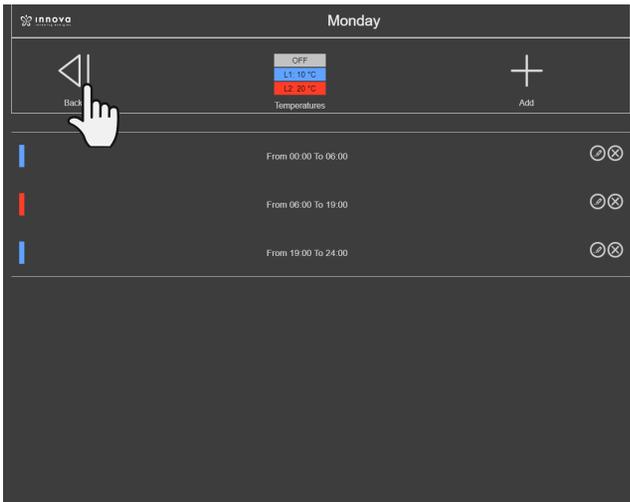


Figure 8.31

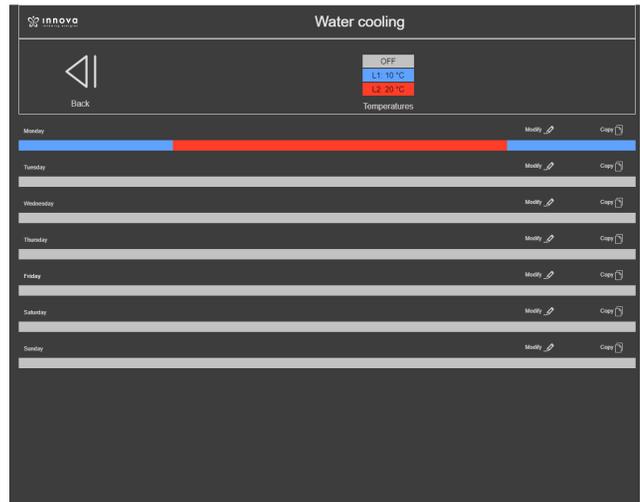


Figure 8.32

If you want to apply the same programming just confirmed, to other days of the week, click on "Copy"  and select the days in which you want to apply this programming. (Figure 8.33 and 8.34)

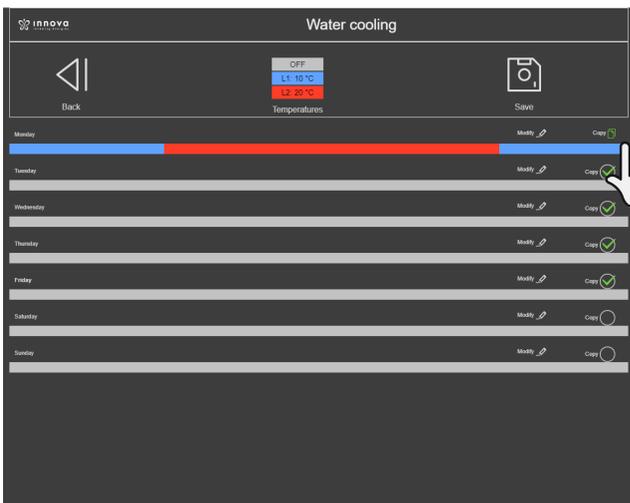


Figure 8.33



Figure 8.34



Figure 8.35

You can, for example, keep on Saturdays with an attenuation temperature and on Sundays with the system turned off. (Figure 8.35)

By clicking on "Temperature" you can change the temperatures set by default. (Figures 8.36 and 8.37)



Figure 8.36

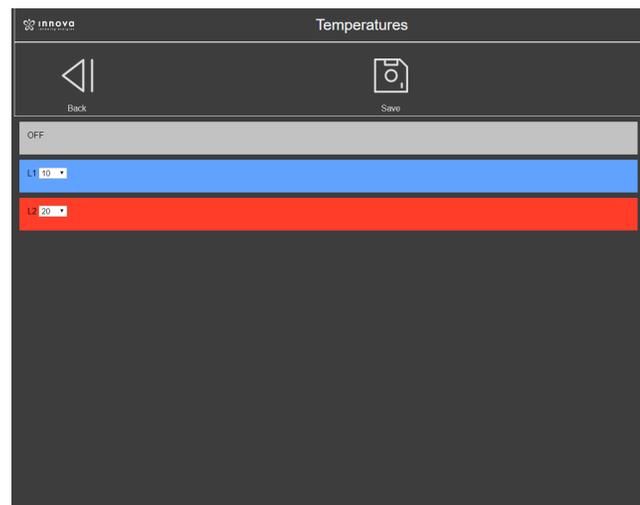


Figure 8.37

At the end of the operation (and all configuration operations in general):

Tile	Operation	Display
	Press the "save" tile to store the settings you made	
	Press the "back" tile to exit without saving or to return to the previous menu after saving	

### Setpoint

Select the Setpoint tile (Figure 8.38). A drop-down menu will open to set the temperature manually.

Selecting a different temperature from the programmed one appears the menu of Figure 8.23 that allows you to determine how long the manual modification will remain active.

Selecting "Forever" the new setpoint will remain active until a new manual change; in other cases, the calendar's setpoint value will be restored after the selected time has spend.

After save the settings, the calendar tile will appear barred. (Figure 8.40)

To remove the manual setting click on the Calendar tile. A message will appear. (Figure 8.41)

Click:

- Yes to return to programming mode,
- NO to stay in manual mode,
- CANCEL to go back.

**Note:**

To change the default time (2 hours), go to Settings, then "Miscellaneous ". (see par. 8.7 pag 43)

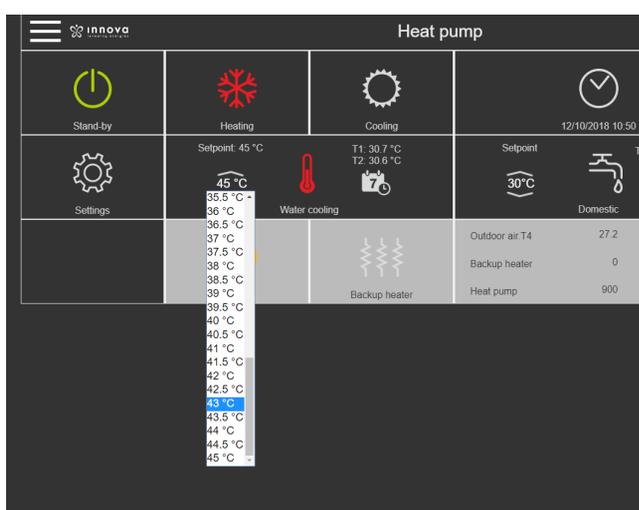


Figure 8.38

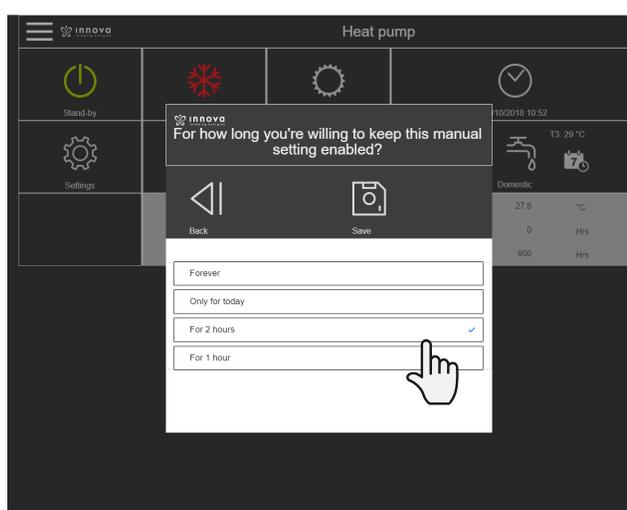


Figure 8.39

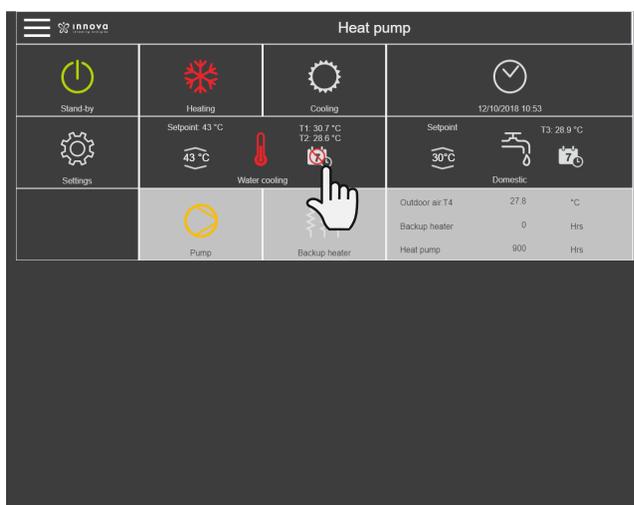


Figure 8.40

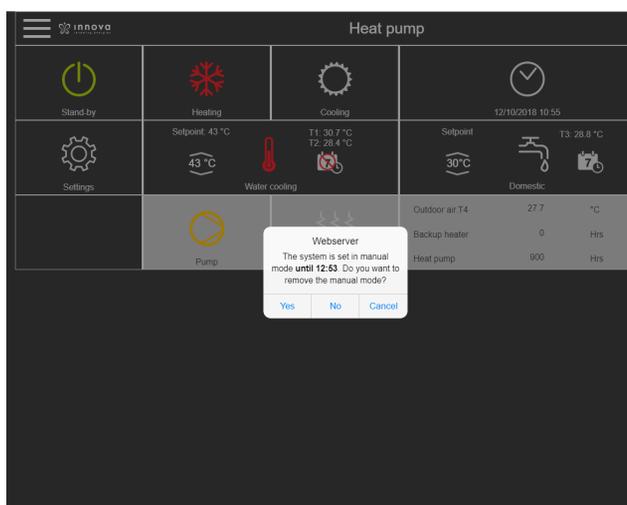


Figure 8.41

**Note:**

Follow the same instructions for scheduling the time slots in summer mode and for the sanitary part.

### 8.7 Settings

The settings are the same for both device control screens. Clicking on the tile “Settings” to access at the settings menu.

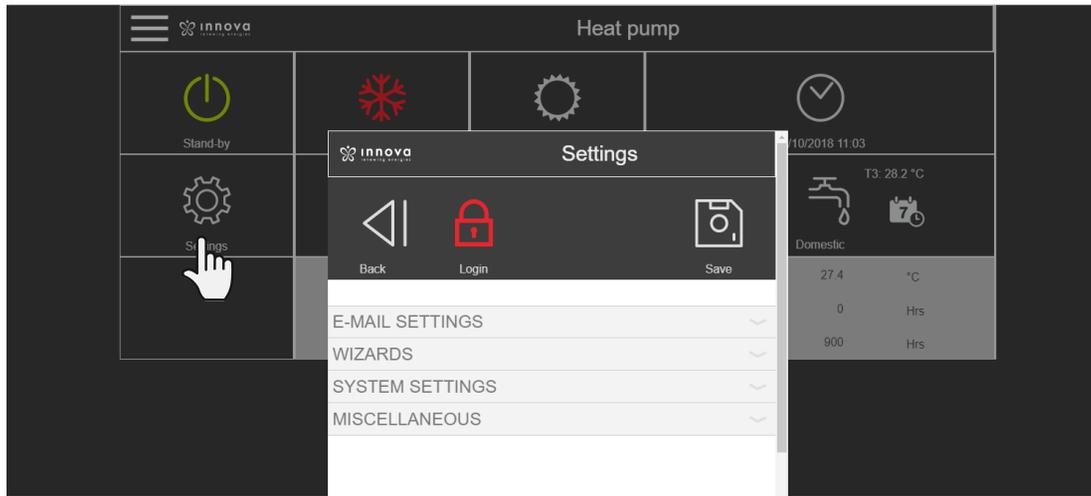


Figure 8.42

The selectable functions allow the following operations:

Function	Description
E-mail settings	Allows you to enter your e-mail to receive information about the operation of the devices
Wizard	Allows network configuration, network diagnostics, and remote access through the App
System settings	Allows you to change the language, the name and the time
Miscellaneous	Allows you to change the time of the manual setting for fancoils and heat pump (FCL and HP)

#### E-mail settings

Clicking on “E-mail setting” it opens the settings drop-down (Figure 8.44).

You can enter your e-mail to receive information about the operation of the devices in case of alarms or malfunction.

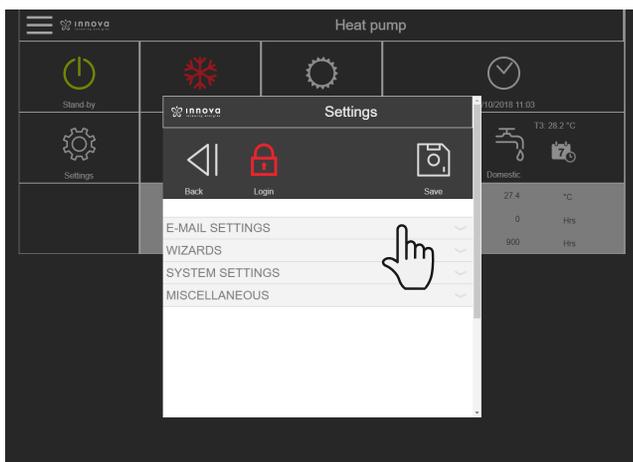


Figure 8.43

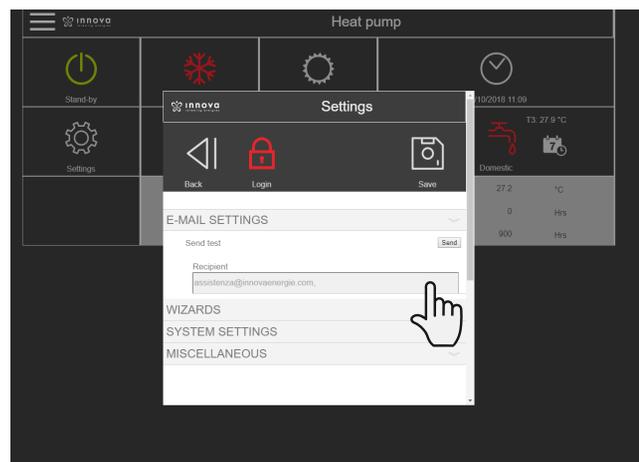


Figura 8.44

**Wizards**

Clicking on “Wizards” it opens the settings drop-down (Figure 8.46).

The first entry is “Network Configuration”, by clicking on Execute, the wizard will start to connect the web server to the Internet. The possibilities are two, through the Ethernet or through WiFi.

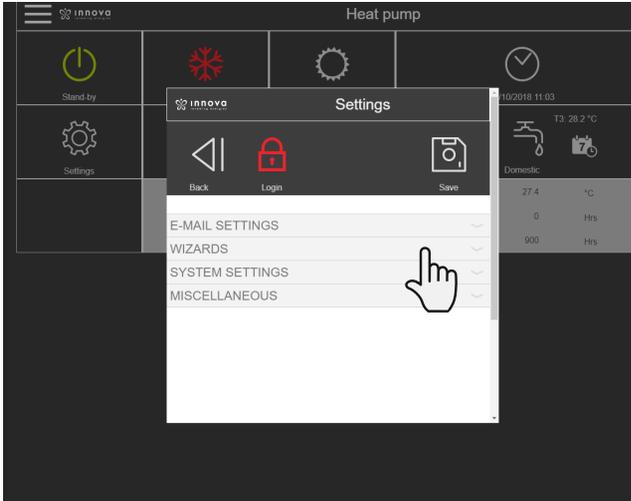


Figure 8.45

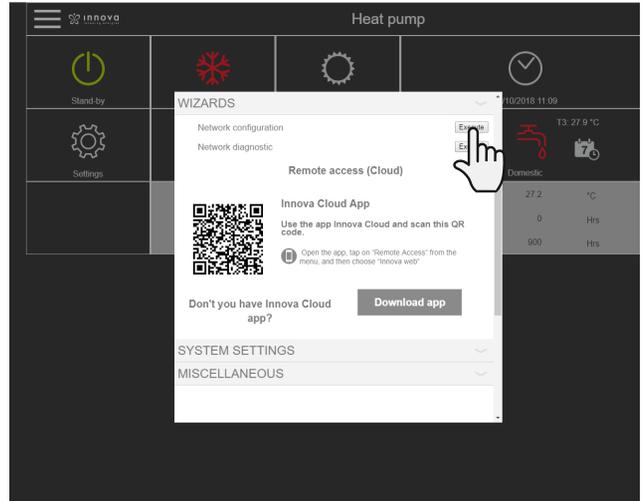


Figure 8.46

Select one of the two procedures, then click “Next”. By selecting the “Through Ethernet” entry, you can connect the web server to the network manually or automatically. (Figure 8.47)

Clicking on “Manual” will show the screen as in Figure 9.49. Now you can set the IP address that is compatible with your network, as well as the gateway address and the DNS address.

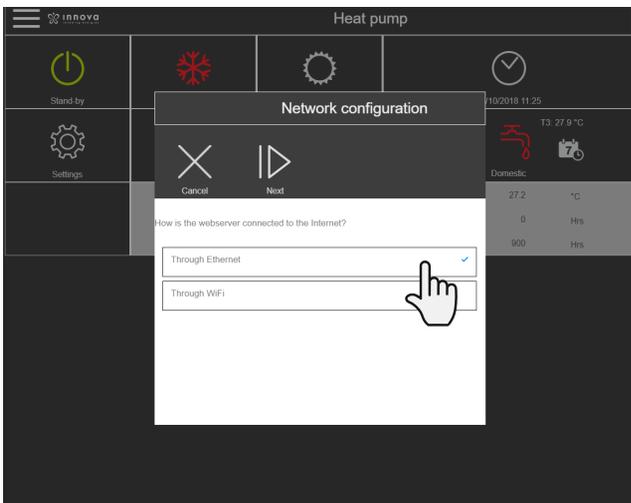


Figure 8.47

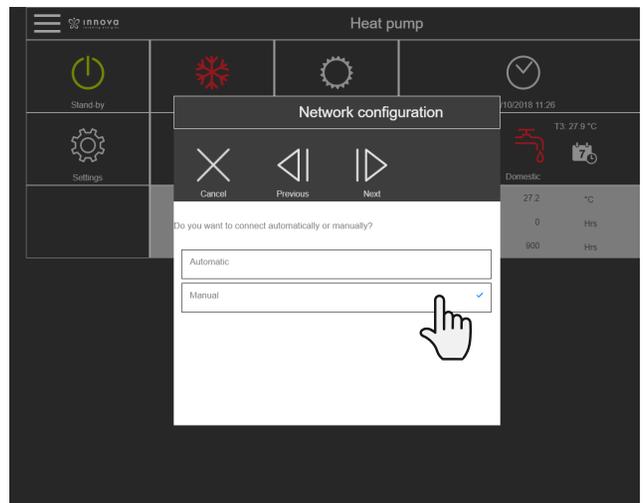


Figure 8.48

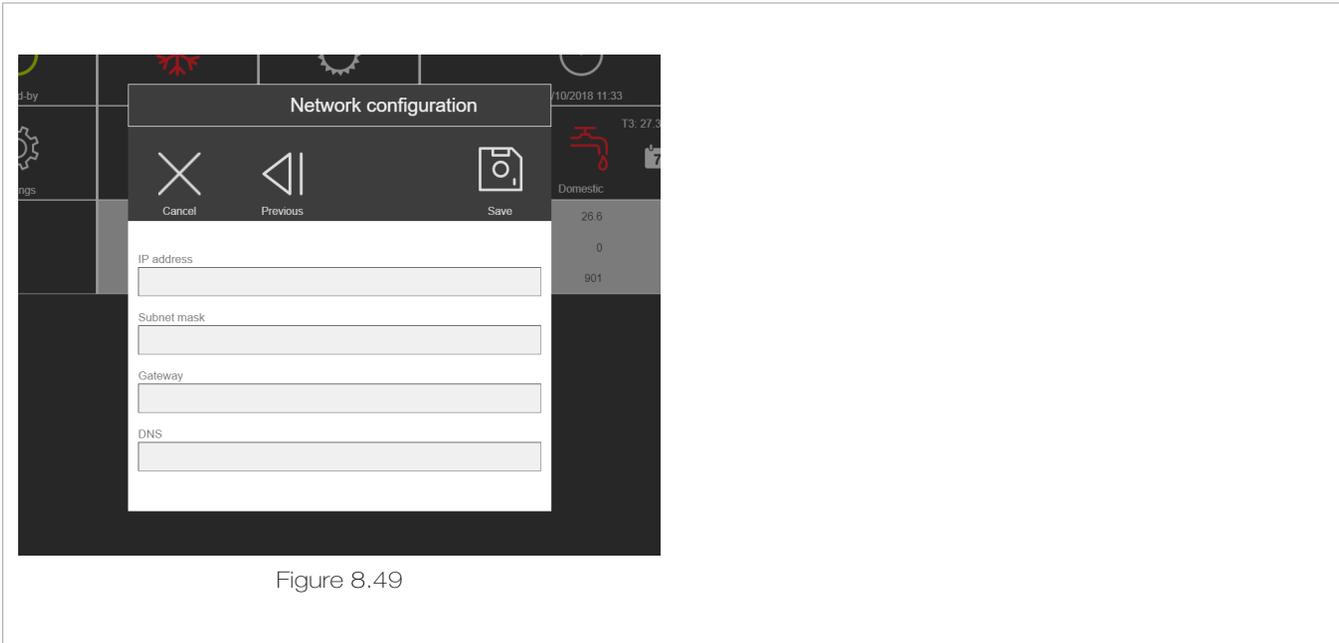


Figure 8.49

Selecting the voice "Through WiFi", it will open a list of available networks, select the one you want and enter the password. (Figure 8.51)

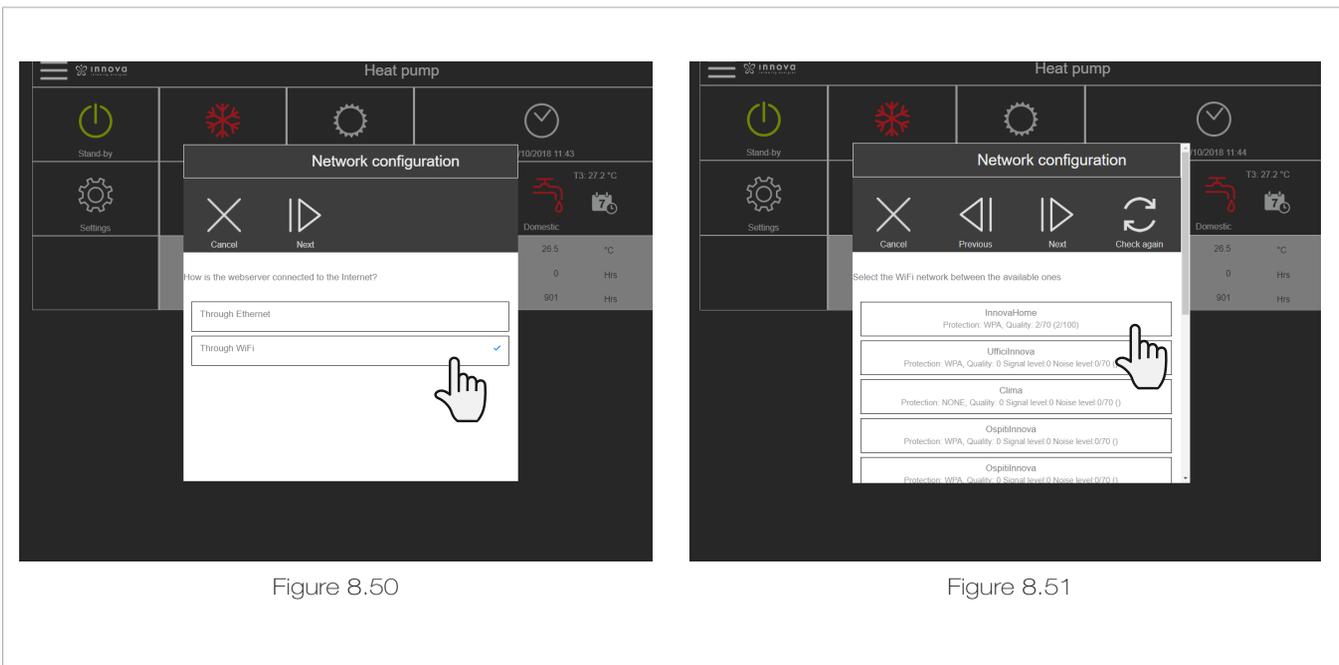
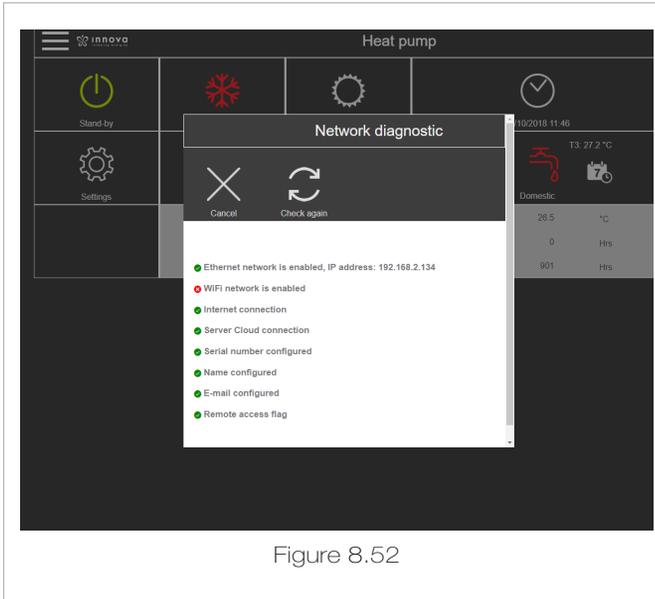


Figure 8.50

Figure 8.51

**Note:**

- To connect the web server to WiFi, make sure that:
- the signal is strong
  - there are no doors or walls too thick to interrupt the WiFi signal.

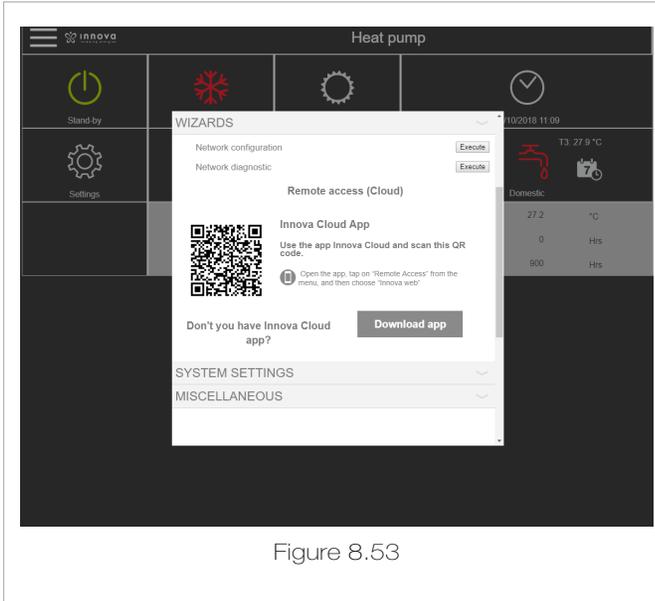


The second voice is "Network Diagnostic", by clicking on Execute, a diagnostic will be done automatically and a screenshot (Figure 8.52) with information regarding the operation of the web server is displayed.

- ✔ setting is active and working
- ✘ setting isn't active

Figure 8.52

Indication	Problem/Solution
<span style="color: red;">✘</span> Ethernet network, Internet connection, WiFi connection, Server Cloud connection	There are a problem to the connection, make the network configuration in the wizards
<span style="color: red;">✘</span> E-mail configured	The support e-mail isn't included. Check in E-mail setting.
<span style="color: red;">✘</span> Remote access flag	Remote access isn't selected. Enter settings, log in and check the system settings item.
<span style="color: red;">✘</span> Name and serial number configured	The name of the web server and the serial number are not included. Check in system settings. (see page 41)



The third voice is "Remote access (Cloud)". After you download and install the "InnovApp Home" App on your telephone, through the scanning of the QR code, you will be able to manage the commands from remote.

Figure 8.53

At the end of the operation (and all configuration operations in general):

Tile	Operation	Display
	Press the "next" tile to continue with the settings	
	Press the "back" tile to exit without saving or to return to the previous menu after saving	
	Press the "save" tile to store the settings you made	

### System settings

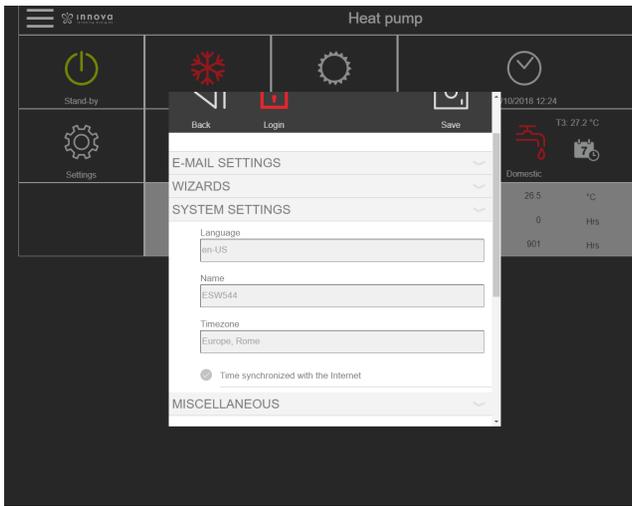


Figure 8.54

Clicking on “System Settings” it opens the settings drop-down (Figure 8.54).

You can set the language, the name of the web server, and the time zone.

You can also enable or disable “time synchronized with the Internet”.

### Miscellaneous

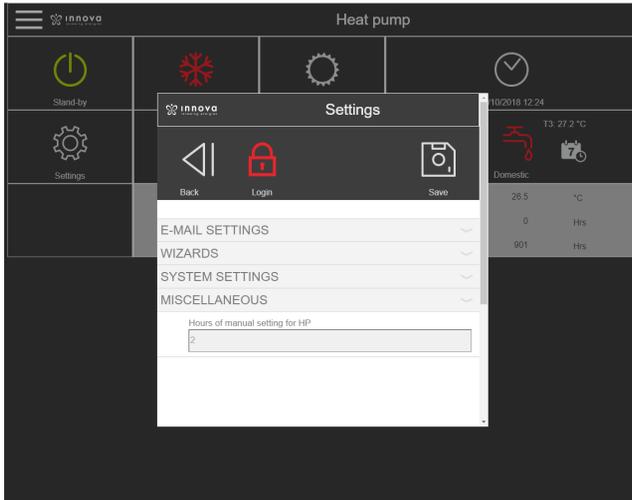


Figure 8.55

Clicking on the “Miscellaneous”, it opens the settings drop-down (Figure 8.55).

In this screen you can change the default hours of manual setting for HP (heat pumps) or FCL (fancoil).

# INNOVAPP OPERATION

## InnovApp Home



### 9.1 Minimum system requirements

The “InnovApp Home” App allows you to manage an entire climate system, using a smartphone and tablet, from home or when you are out. Using our App is very simple. Just connect the BUTLER web server, set up the connection with your smartphone and start managing it directly from your device.

Follow the step by step guide all the way to the end.

To download and install the App, there are some operating system version requirements for your smartphone:

- for Android smartphone, the minimum version is 4.1.1
- for Apple smartphone, the operating system must be IOS 8.0 or higher.

### 9.2 Downloading and configuring the APP

1. From your smartphone, connect to the Apple Store or Google Play.
2. Search for InnovApp Home
3. Download the App onto your smartphone, following the installation wizard to install it.
4. Open the App

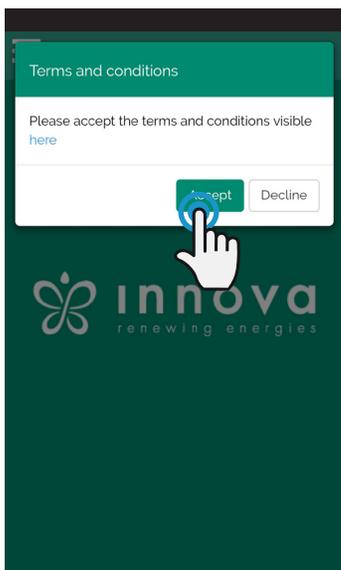


Figure 9.1

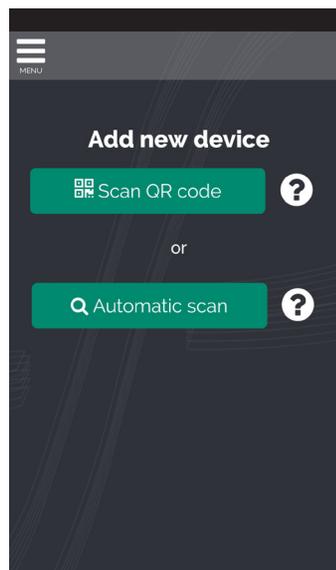


Figure 9.2

At the first launch, a pop-up appears for acceptance or refusal of the terms and conditions of use, which can be consulted by tapping on the word “here”, therefore accessing the INNOVA website.(Figure 9.1)

Tap “Accept” to start using InnovApp Home.

The screen to link the application to the web server appears. (Figure 9.2)

You can add the device through “Scan QR code” (see par. 8.7 pag. 42, wizards) or through “Automatic scan”.

**Scan QR code:**

1. Make sure the BUTLER web server is connected
2. Through PC or display on board machine enter the web server -> Settings -> Wizards -> Remote access (see par. 8.7 page 42)
3. On the smartphone select "Scan QR Code"
4. Scan with your smartphone the code (Figure 9.4)
5. A message that has been set up will appear
6. Press OK to enter the devices general control screen (Figure 9.9 page 47)

**Note:** If the App asks you to be connected to the camera, accept

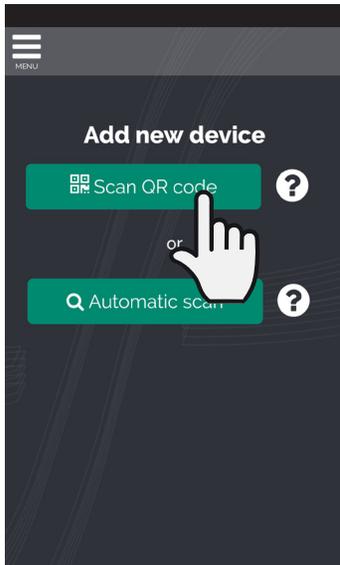


Figure 9.3

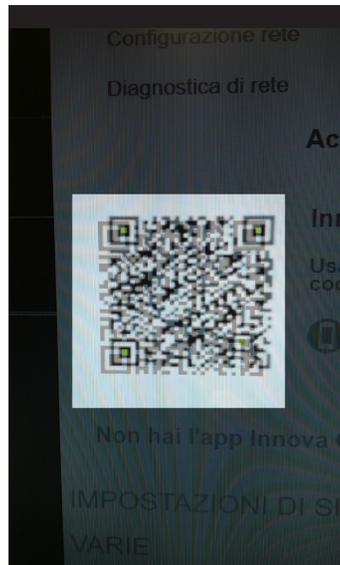


Figure 9.4

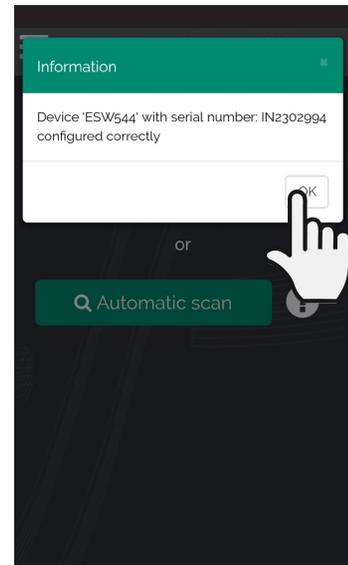


Figure 9.5

**Automatic scan:**

1. Make sure the BUTLER web server is connected
2. Check the available WiFi connections
3. Connect to the same WiFi network where the web server is connected (Figure 9.6)
4. Start automatic scan
5. When the web server appears, stop the search and select the "+" icon to configure the web server to the App
6. Enter the menu and select the item "Devices", it will open the general control screen with the added web server

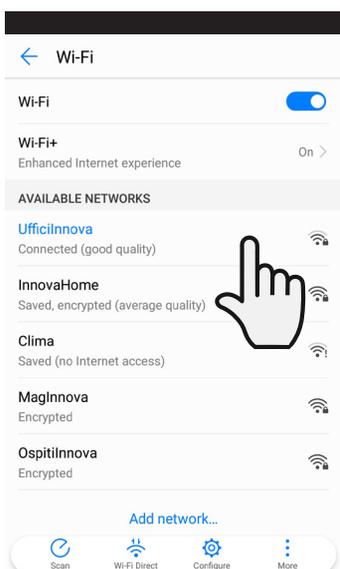


Figure 9.6

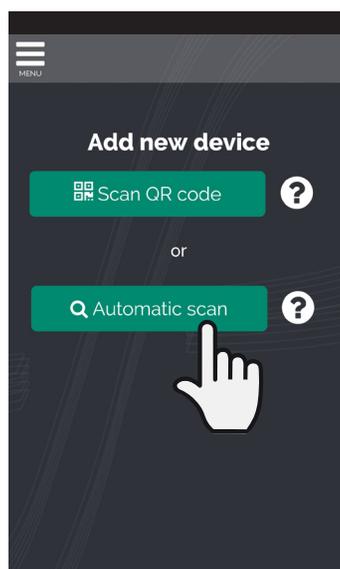


Figure 9.7



Figure 9.8

9.3 App features

9.4 General control screen

**MY DEVICES**  
linked web server



Figure 9.9



Figure 9.10

Selecting the connected device, shows the product control screen configured with the web server. (Figure 9.10)



View the general control screen of the device with the list of devices connected to the web server



Delete the device from the list of configured eb servers

9.5 General menu

**GENERAL MENU**  
menu items

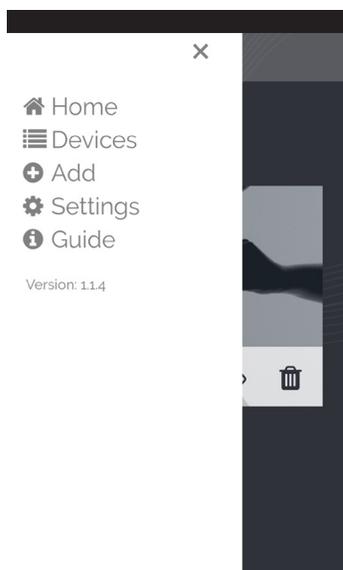


Figure 9.11

- HOME  
general control screen  
(Figure 9.10)
- DEVICE  
list of the web server configured in the App
- ADD  
add new devices through "Scan QR code" or "Automatic scan"
- SETTINGS  
language
- GUIDE  
link to the INNOVA website where you can find the necessary documentation

9.6 Device control

**WEB SERVER**

List of devices configured with the web server



Figure 9.12

Selecting one of the products, opens the control screen of the same. (Figures 9.13 e 9.14)

Selecting the star icon will set the product as favorite.



View the general control screen of the device



Set your device as a favorite



Direct connection to the settings

9.7 Fancoil module

**FANCOIL MODULE CONTROL SCREEN**

main commands

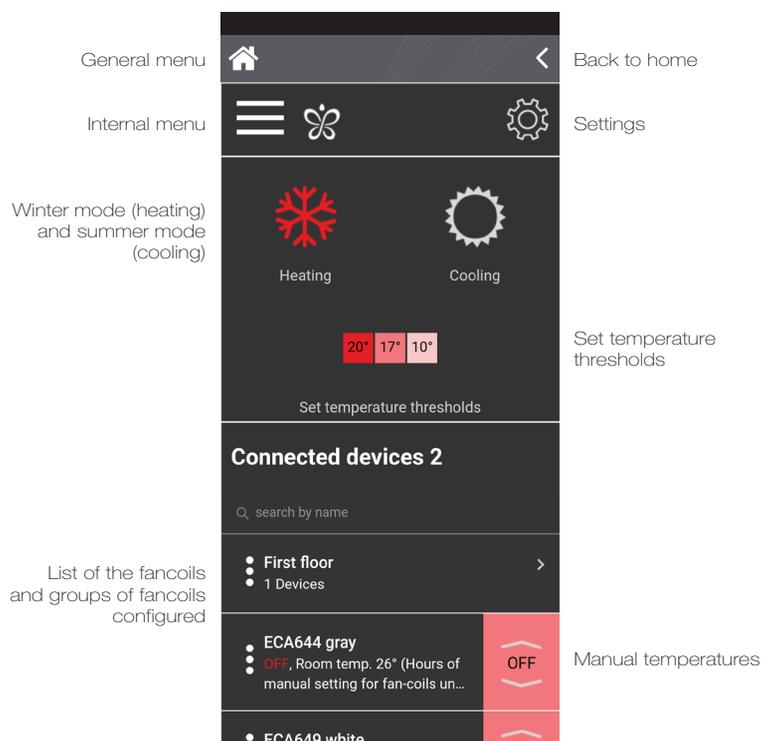


Figure 9.13

9.8 Heat pump

HEAT PUMP CONTROL SCREEN

main commands

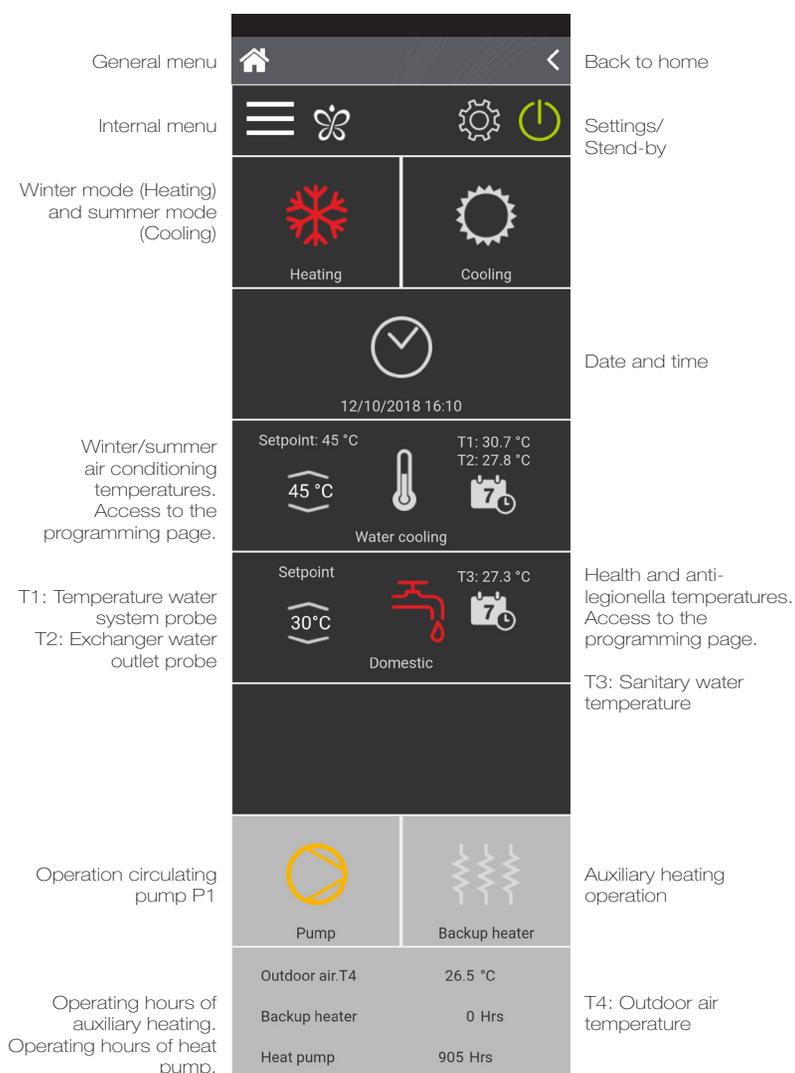


Figure 9.14

**N.B.**

The control screen is the same through tablet, PC and smartphone.

- **See paragraphs 8.3 and 8.4 at the pages 24-31** for the explanation of the main functions of fancoils management.
- **See paragraphs 8.5 and 8.6 at the pages 32-37** for explanation of the main functions of heat pump management.

## 9.9 Control with several devices

### CONTROL WITH SEVERAL DEVICES

The same web server can be managed with several devices (smartphone/tablet/PC).

After configuration with the first device, the machine can be controlled with another smartphone/tablet following the procedure described below.

First of all, you must connect to the Wi-Fi network where the web server you want to control is also connected.

Install the “InnovApp Home” app on the new smartphone/tablet and proceed as illustrated in figures 9.1 and 9.2 on page 44.

At this point, if you are connected to the WiFi network where your fweb server follow the directions on page 45.

Proceed through “Scan QR code” or “automatic scan”.

Saved the device, you can command the Web server even with the second phone/tablet.

## SYSTEM MAINTENANCE

### 10.1 Off for long time

**⚠** The non-use of the system, for a long period, involves performing the following operations:

- Press the Standby tile on the touch screen.
- Remove power supply.

After the device has been disabled:

- Disable the internal terminal units by placing the switch on each device to "off". Position the main switch of the system to "off".
- Close the water taps.
- **⚠** If the temperature of the room where the device is installed can drop below the zero and there is a danger of freezing, the system **MUST BE EMPTIED**,

or an antifreeze liquid must be added (for example, ethylene glycol) in the doses recommended by manufacturer.

- **⚠** It is advisable to consult the Technical Service Assistance.
- **⚠** To restart the air-water heat pump, after an arrest for a long period of time, make the Technical Service Assistance.
- **⚠** In case a boiler is present in the system, check that the temperature of the water circulating in the system does not exceed 65 ° C during its operation.

### 10.2 Analysis

In case of malfunction:

Tile	Opertion	Display
	The symbol is activated in the related tile and the sound signal is activated	A code appears under the alarm symbol

In case of malfunction:

Code	Meaning
E1	T1 Probe failure
E2	T2 Probe failure
E3	T3 Probe failure
E4	T4 Probe failure
HI T2	High temperature alarm (80 ° C) detected by T2 probe
HI T3	Single high temperature signalling (80 °c) detected by the T3 probe with consequent inhibition of the sanitary valve
LO	Low temperature Alarm (5 °c) detected by T2 probe
ALO	Low temperature Alarm (5 °c) detected by T2 or T3 probes with standby regulator
FL	Tripping of the flow switch connected to DI1
PDC	External condensing unit alarm
LEG	Anti-legionella loop terminated for timeout

If the conditions which caused the alarm have ceased:

Tile	Operation	Display
	Reset the alarm by pressing on the relative tile	The alarm symbol disappears and the sound signal goes out

**⚠** Refer to the anomalies and remedies section of the installation manual and, if necessary, contact the Technical Service Assistance.

### 10.3 Cleaning

The only cleaning operation required of the user is the external brushing of the air-water heat pump that is to be performed using only cloths dampened with water and soap.

For persistent stains, use a solution of 50% methylated spirit in water or a specific product. When the cleaning is completed carefully dry the surfaces.

**⚠** Do not use sponges with abrasive products or powder detergents.

All cleaning operations are forbidden until the unit has been disconnected from the mains power supply by turning the master switch on the system to OFF.





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