

**02911**

Surf.Wi-Fi-touch-timer-thermostat

VIMAR S.p.A., as required by Italian Legislative Decree no. 196/2003, is authorized to manage the information needed to perform the services described below, when registering the device on the Cloud servers of Vimar S.p.A. The software platform of the Cloud servers of Vimar S.p.A. collects information from the device that is needed to perform the services relating to the registered devices: the device ID, application version and the services provided by it, the device configuration, as well as the pairing between the device and the authorized applications for the remote control function, as well as signals for verifying correct access and operation of these services and devices. The above information is all necessary and functional in order to enable correctly performing the functions of remote control and maintenance of the applications and devices supported by the platform.

The ID of the device and the rest of the information are automatically recorded on the Cloud servers of Vimar S.p.A. after WiFi configuration and access to the Internet. Users can disable the services that provide remote access to their device, thereby deleting all the data relating to their device from the Vimar S.p.A. Cloud.

Table of Contents

1. Timer-Thermostat 02911	3
2. Field of application	3
3. Installation	3
4. Connections	4
4.1 Relay connection	4
4.2 External temperature probe	6
5. Switching on a resetting parameters	8
6. Configuration via WiFi interface	9
6.1 First configuration	9
6.2 Configuring the temperature control parameters and using the device	15
6.3 Configuring the WiFi network and cloud services	15
6.4 Pairing additional mobile devices with the timer-thermostat	17
7. Display	18
7.1 Functions of the buttons	19
7.2 Symbols	19
7.3 Standby	20
7.4 Locking the interface via PIN	20
7.5 Viewing the display	21
8. Operating mode	22
8.1 Switched off (OFF)	22
8.2 Manual.....	23
8.3 Auto	24
8.4 Timed manual.....	24
8.5 Away	26
8.6 Antifreeze	27
9. Settings menu	27
9.1 Operating mode setting	28
9.2 Setting the time and day of the week	28
9.3 Heating/air-conditioning setting	28
9.4 Temperature setting	29
9.5 Daily program setting	29
9.6 Unit of measurement setting	30
9.7 Calibration setting	32
9.8 External probe setting	32
9.9 OnOff/PID temperature control algorithm setting	33
9.10 Buzzer (beep) setting	33
9.11 Standby brightness level setting	34
9.12 WiFi setting	34
9.13 Info about the device	36
9.14 Lock/unlock PIN setting	36
10. Parameters table	36
11. Configuring and checking alarms	38
11.1 Temperatures and control conditions on the regulated temperature	38
11.2 Temperatures and control conditions on the temperature of the auxiliary probe	38
11.3 Limitation alarm	39
12. Warnings	39
13. Cleaning the device	39
14. Features	40
15. Installation rules	40
16. Regulatory compliance	41

Table of Contents

17. Glossary: names and meaning of network and WiFi parameters.....	41
18. Appendix 1 - Data on the WiFi network	42

Timer-Thermostat 02911 - Field of application - Installation

1. Timer-Thermostat 02911

WiFi timer-thermostat (802.11 b/g/n, 2.4GHz), wall-mounting, mains-powered (230 V~), with interface with capacitive keys and equipped with user-friendly functions to facilitate energy saving.

Designed to control heating and air-conditioning via C, NC, NO relay output.

Equipped with an input for an external temperature sensor (not supplied) that can be used for monitoring, control or limitation. Built-in buzzer.

WiFi connectivity lets you control/consult the device remotely, directly from your smartphone or tablet.

2. Field of application

The appliance is designed to control room temperature by acting on the control circuit of the burner or circulation pump (heating) or on the control circuit of the air conditioner

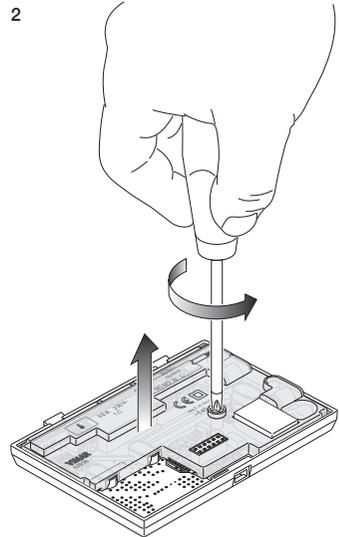
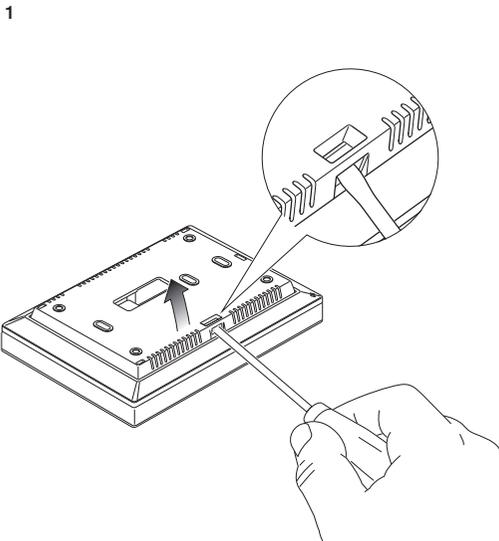
(air conditioning), ensuring an ideal temperature.

The graphical user interface, thanks to special views, facilitates system management helping the user to operate while maintaining a state of energy saving.

3. Installation

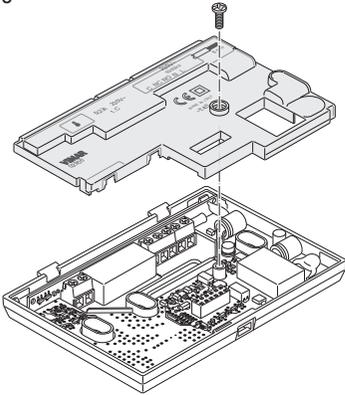
The appliance must be installed on a wall at a height of 1.5 m off the floor in a suitable position for correctly detecting the ambient temperature. It must not be installed in niches, behind doors and curtains or in areas affected by sources of heat or atmospheric factors. The timer-thermostat is a wall-mounting device that can be installed directly on a wall or on 2 and 3 module back boxes.

It should be used in dry, dust-free places at a temperature between 0°C and +40°C.

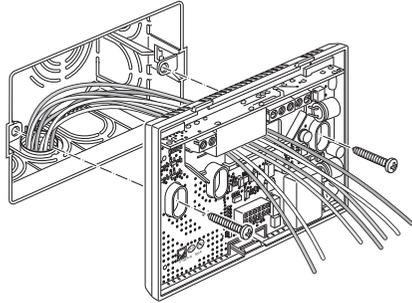


Installation

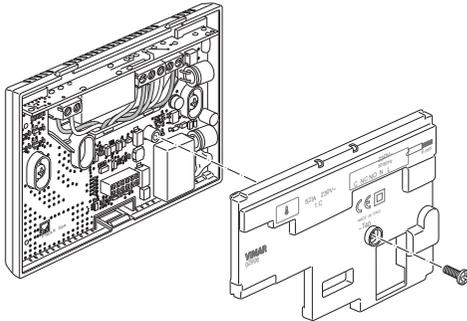
3



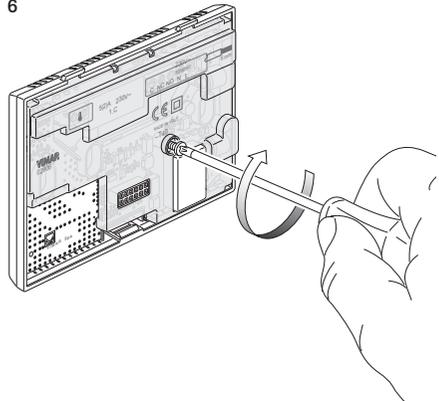
4



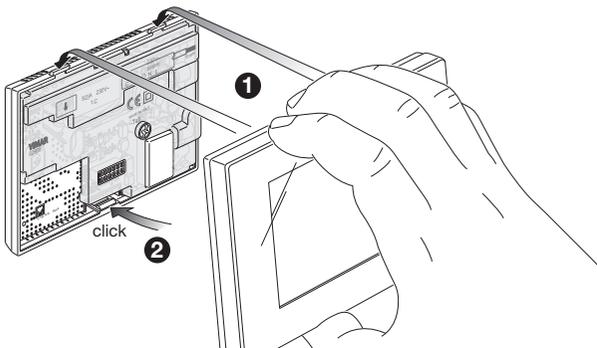
5



6



7



Connections

4. Connections

4.1 Relay connection

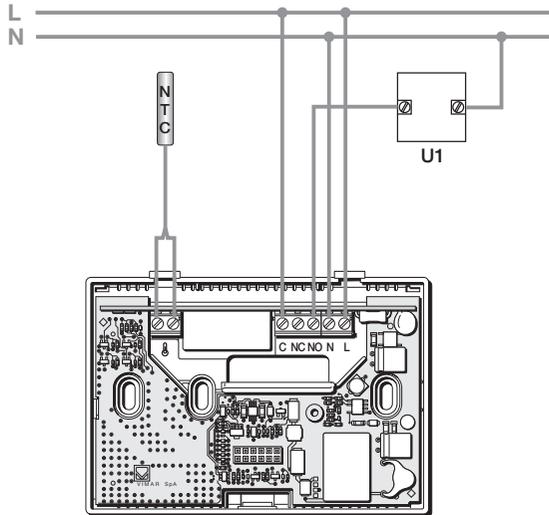


Fig. 1 - Circulation pumps, burners, solenoid valves

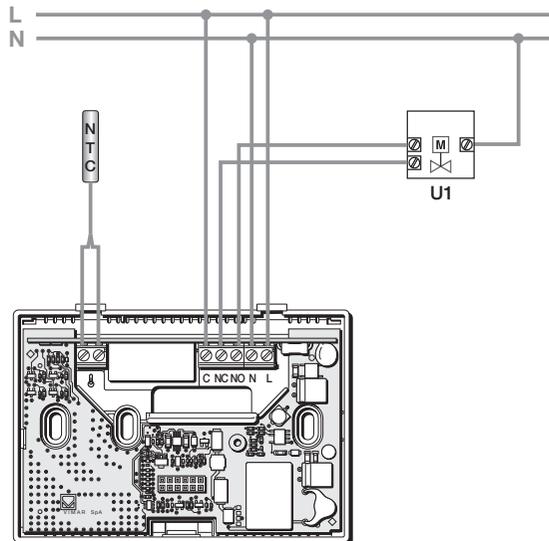


Fig. 2 - Motorized valves

Connections

4.2 External temperature probe

Depending on how it is configured, the external temperature probe can be used to accomplish several functions (see par. 9.6); it does NOT have polarity so you can connect the 2 wires in the 2 terminals without any particular order.

It is recommended to use the NTC 10k beta 3900 probe (art. 02965.1-20432-19432-14432).

The typical wiring diagram is the following:

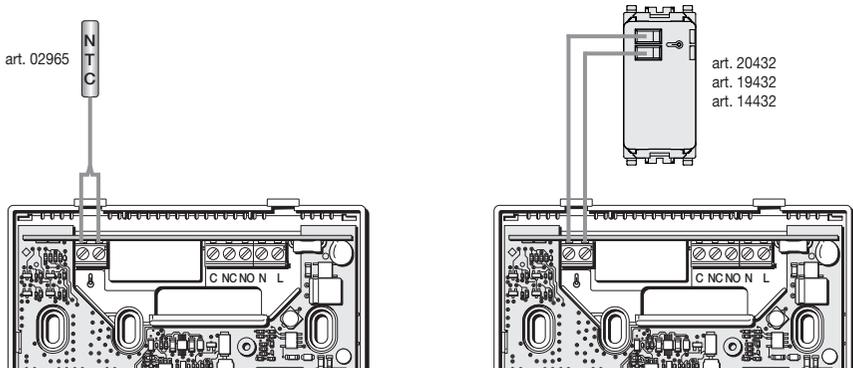
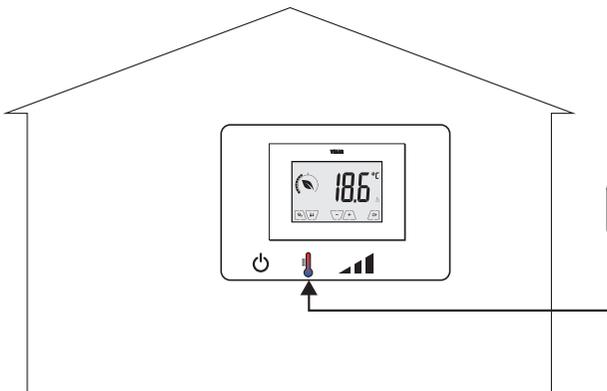


Fig. 3: Connecting the external temperature probe

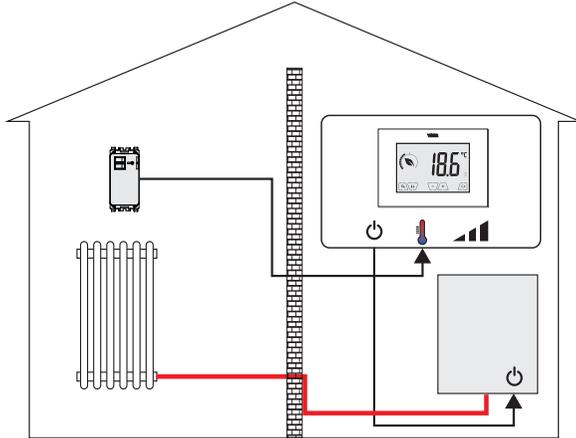
4.2.1 Installation examples:

02965.1 used to display the outside temperature

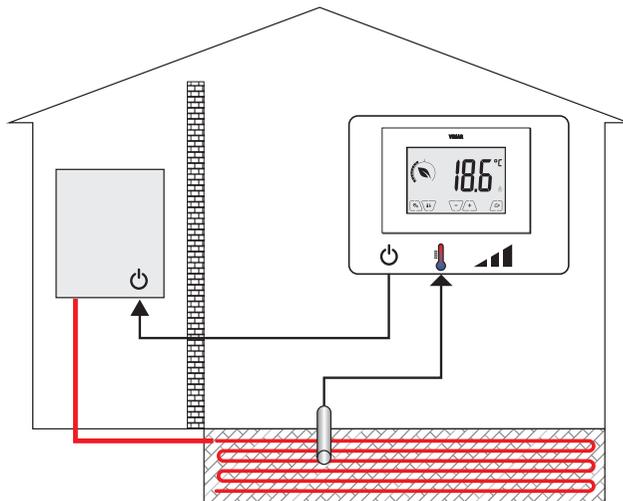


Connections

02965.1 used for adjustment (of a remote environment)



02965.1 used for limiting the temperature of underfloor heating



IMPORTANT: During installation, take care not to damage the insulation of the probe while laying the screed. Perform the installation in such a way that the probe is accessible for any maintenance work.

Switching on and resetting parameters

5. Switching on and resetting parameters

When switching on, in the first 3 seconds of power-up the thermostat displays the firmware version.



Fig. 4: Start up screen

If in this phase you touch the  icon, a screen appears on the display where you can reset the device parameters:

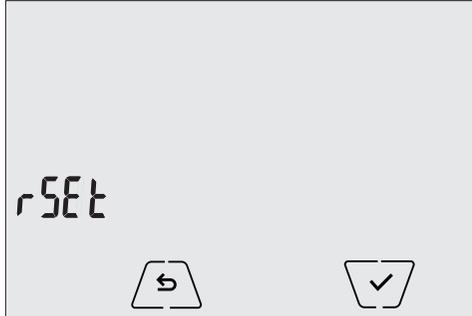


Fig. 5: Parameter reset screen

By confirming with , **ALL the device parameters** (temperature setpoint, heating/air-conditioning mode, unit of measurement, etc.) and **ALL WiFi function settings** (phone numbers, SMS, etc.) will be restored to the default values.

WARNING This operation is not undoable.

If you wish to reset only the GSM settings, refer to paragraph 9.11.8.

6. Configuration via WiFi interface

The timer-thermostat 02911 features a WiFi interface that lets you configure and control your device remotely. To function correctly, the WiFi interface must be properly configured by performing the first configuration procedure described in the next paragraph (6.1).

6.1 First Configuration

- First **identify the make and model of the client Gateway/Router** and keep note of them as a reference for any official Vimar support (use the specific table in section 17).
- If there is already an Internet connection at the site of installation, **make sure the Gateway/Router has been turned on for at least 2 minutes and is connected to the Internet**.
- **Make sure the timer-thermostat is installed at a reasonable distance (from the router), where the signal is strong enough.**
- Activate configuration mode; **in this phase the timer-thermostat acts as an access point, generating a specific temporary WiFi network for the configuration** with no need for an Internet connection.

6.1.1 Activating configuration mode

1. On the main screen, access the Settings menu by tapping the  icon.
2. Using  and  scroll through the list of options until you see **WiFi** .



3. Confirm by touching .
4. Check that the "OnOF" option is set to "On"; the display must show the following screen exactly ("OnOF" flashes and "On" is on steady):

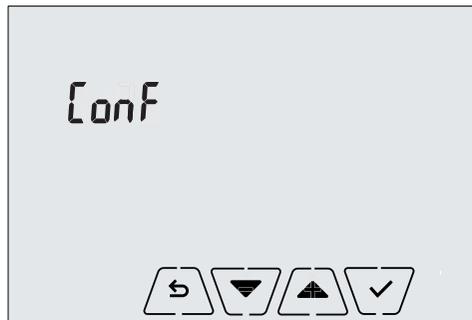
Configuration via WiFi interface



Otherwise enter the “OnOF” menu by tapping  ; “ON” or “OFF” will begin to flash.

Using  and  select “ON” and confirm by tapping .

- Using  and  scroll through the list of options until you see the “Conf” screen

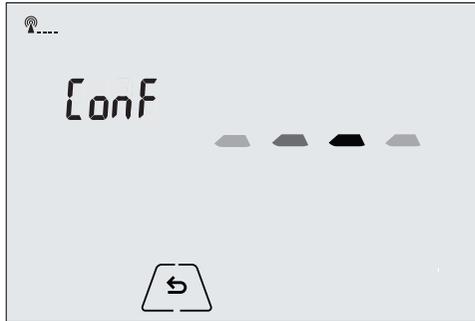


- Confirm by touching 
- The display will show “Strt”



Configuration via WiFi interface

8. Confirm by touching 



9. The cursor  will move from left to right; the  icon will blink for a few seconds and will be fixed once the access point is active. The timer-thermostat is then ready to be configured via the By-clima App.
10. From this point onwards, configuration will continue directly via the mobile device (e.g. smartphone) through the By-clima App (see par. 6.1.2).
11. If necessary, the configuration procedure can be interrupted at any time by one of the following options:
- tapping 
 - closing the By-clima App
 - when the mobile device (e.g. smartphone) goes into standby.

6.1.2 Configuring the timer-thermostat with the By-clima App

- Pick up the mobile device on which is installed the By-clima App updated to the latest version.
- Stand in front of the timer-thermostat.
- On the device, enable the WiFi interface and scan for available networks.
- Connect the mobile device to the WiFi network generated by the timer-thermostat 02911.
- The login credentials of the WiFi network generated by the timer-thermostat are printed on the label visible on the device when the front panel is unhooked:

SSID	VIMAR02911_snXXXXXX
Security	WPA
Password	administrator

Configuration via WiFi interface

IMPORTANT: SSID is the name of the network to which you need to connect your mobile device. The name is composed of a fixed string "VIMAR02911" and a variable portion of 6 hexadecimal characters indicating the serial number of the device you want to configure (see the example in figures 6 and 7):



Fig. 6: Back of the timer-thermostat 02911



Fig. 7: Network selection screen on smartphone

1. Launch the By-clima App on the mobile device.
2. Add a new device by tapping " + "

Configuration via WiFi interface

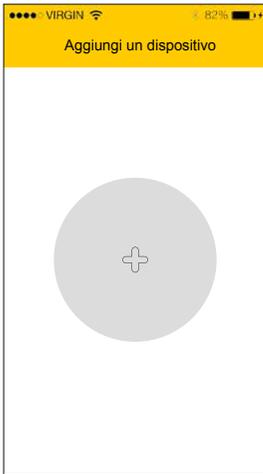


Fig. 8 By-clima App for an empty database



Fig. 9 By-clima App for a database in which there is at least one device

3. Select "02911 Chrono WiFi"

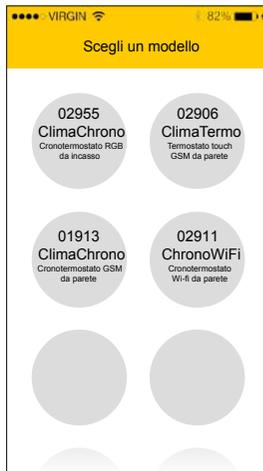


Fig. 10 By-clima App and selection of timer-thermostat 02911

4. Select the "Configure a new Timer-Thermostat" procedure

Configuration via WiFi interface

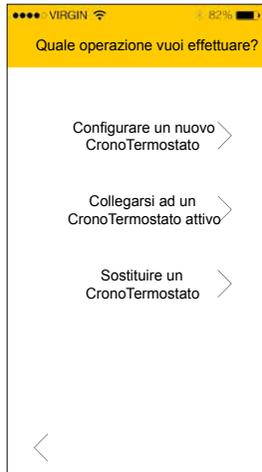


Fig. 11 By-clima App and timer-thermostat configuration

5. The procedure will start searching for a new timer-thermostat.
6. After identifying the timer-thermostat, the By-clima App will require you to enter the current PIN (which by default is **1234**) and possibly a new custom PIN.

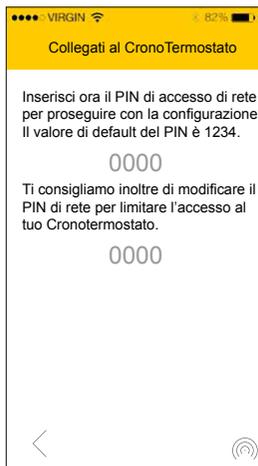


Fig. 12 By-clima App and PIN entry

7. After entering the current PIN, touch  to proceed with the guided configuration and follow the instructions displayed directly by the App.

Configuration via WiFi interface

CAUTION: At the end of the first configuration procedure, the timer-thermostat and the mobile device with which you performed the procedure will be paired. The timer-thermostat 02911 can then be controlled (via WiFi) only by the mobile device with which it was configured. If you wish to control the 02911 also with other devices then you need to carry out the pairing procedure for additional devices described in paragraph 6.4.

6.2 Configuring the temperature control parameters and using the device

If your mobile device has been properly paired with the timer-thermostat, you can set the temperature control parameters (temperature profiles, setpoint, etc.); the By-clima App clearly displays all the instructions in a user-friendly manner for making the desired settings.

After these settings, send the configuration to the timer-thermostat or proceed to configure the network parameters as shown in the next paragraph (6.3).

6.3 Configuring the WiFi network and cloud services

The network parameters should be configured during initial installation and/or if you change the network credentials with which the timer-thermostat connects to your home WiFi.

Using the By-clima App, you enter the section shown in the figure on the next page and proceed by entering the parameters with which the timer-thermostat will connect to your home WiFi network (network name, password, address assignment method, etc.).

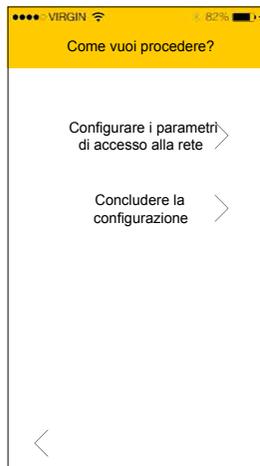


Fig. 13 By-clima App and WiFi network configuration

To enter the parameters follow the guided procedure displayed by the By-clima app.

After making the settings, the timer-thermostat will automatically reboot the network interface and, with a specific icon as shown below, it will show the state of its connection to the WiFi network:

Configuration via WiFi interface

-  absent: WiFi antenna of the timer-thermostat off (to turn the WiFi interface on or off, see par. 9.12.1)
-  blinking: timer-thermostat connecting or not connected to the local WiFi network (if prolonged it indicates a possible error in entering the password/network name or no WiFi router signal).
-  (bars from 1 to 4): timer-thermostat properly connected to the WiFi network and its signal strength.

In addition to configuring your home network you can also specify whether you want to take advantage of the Vimar cloud service.

6.3.1 Cloud Service

Vimar lets users easily access their timer-thermostat from all over the world over the Internet thanks to its cloud service.

This service enables:

- Fully controlling your timer-thermostat from all over the world.
- Receiving notifications from your timer-thermostat directly on your mobile device.
- Updating the timer-thermostat software.
- Saving all the timer-thermostat settings should you need to replace it.

Registration with the Vimar cloud is automatic and is linked to the timer-thermostat (creating a user is not required: **no login**).

By pairing a mobile device with the timer-thermostat, the smartphone/tablet is merged (at the logic level) with the registration of the timer-thermostat in the cloud (see par. 6.2).

6.3.2 Use without the cloud

If you do not wish to register on the cloud, the timer-thermostat can still be set to run without the cloud (for example, only via a local WiFi network without the Internet).

Not activating the cloud will prevent you from doing the following:

- Operating the device over the Internet (control only within the local WiFi network)
- Receiving software updates
- Receiving notifications from your timer-thermostat on your mobile device
- Saving all the timer-thermostat settings should you need to replace it.

NOTE: We recommend the installer keep the timer-thermostat in this operating mode and let the customer choose whether to use the Vimar cloud.

Configuration via WiFi interface

6.4 Pairing additional mobile devices with the timer-thermostat

The timer-thermostat 02911 can be controlled only with mobile devices that have been paired with the first configuration or pairing procedure.

A new mobile device (on which the By-clima App has previously been installed) can be paired at any time by using the By-clima App on the mobile device itself but only by also interacting with the local interface of the timer-thermostat (see par. 9.11.5) and within the same WiFi network (you cannot pair mobile devices remotely/over the Internet).

When pairing, you are prompted to enter a 4-digit PIN code to pair the mobile device with the timer-thermostat, which can only be controlled if:

- the mobile device is paired with the timer-thermostat;
- the PIN code of the mobile device and that of the timer-thermostat coincide.

If you change the PIN of the timer-thermostat but not that of the tablet/smartphone, the mobile device (which is still set to the old PIN) will no longer be able to manage the timer-thermostat; it will then be necessary to update the PIN of the tablet/smartphone device(s).

CAUTION:

- The PIN for accessing the timer-thermostat 02911 from your mobile device can only be changed with the By-clima App.
- The PIN code is very important because it protects the timer-thermostat from previously paired mobile devices too (eg that of the installer). The end user is advised to change the default PIN code so as to disable control of the device from all smartphones/tablets (even if already paired with the device) that do not have the updated PIN code.

7. Display

The touchscreen display allows you to control the system using the following buttons and icons:

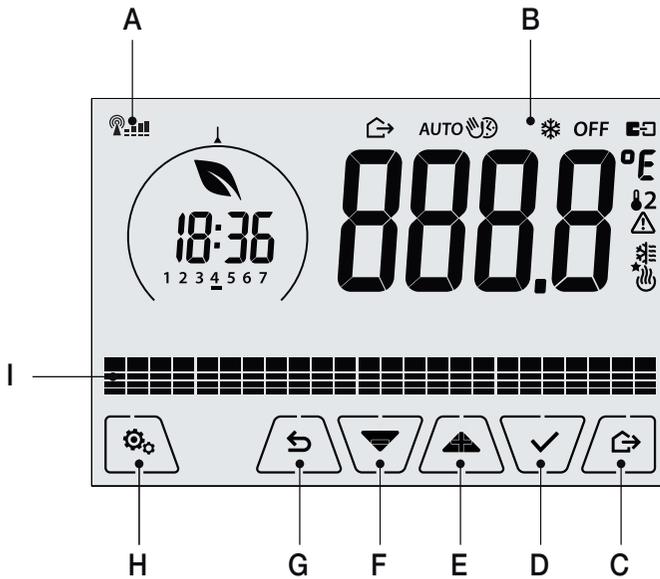


Fig. 14: Graphical interface and buttons

- A: WiFi radio signal strength indicator
- B: Operating mode
- C: Away
- D: Confirm
- E-F: Menu navigation and setting parameters
- G: Back
- H: Settings menu
- I: AUTO programme temperature trends

Display

7.1 Functions of the buttons



: **increases** the numerical values. When it "disappears" from the display it means that the value cannot be increased any more.



: **decreases** the numerical values. When it "disappears" from the display it means that the value cannot be decreased any more.



: during navigation, it **scrolls the next item** through the available menus. If it "disappears" then you have arrived at the last of the items that can be scrolled.



: during navigation, it **scrolls the previous item** through the available menus. If it "disappears" then you have arrived at the last of the elements that can be scrolled.



: **confirms** the selected option (activates the submenu if there is one or displays the next parameter/digit).

After each confirmation, the display shows the ✓ icon for approximately 1 s.



: **back (or cancel)** exits the current screen/menu and returns to the previous one without saving any changes. In menus with changes to multiple digits it lets you go back to change the previous digit.

N.B. The field/value being edited is highlighted by the field/value itself flashing.

7.2 Symbols

Depending on the different operating modes, the display shows the following icons:



: Calibration



: WiFi radio signal strength indicator



: Timed manual operation



: Away



: Manual



: Antifreeze

OFF : Switched off (OFF)

AUTO : Automatic operation



: Connection status to the cloud service Vimar (flashing ➡ connection attempt in progress; fixed ➡ active link)



: Alarm



: Availability new software update



: Air conditioning



: Heating

Display



: Eco (saving)



: Confirm

1 2 3 4 5 6 7 : Day of the week indicator



: Away temperature



: Economy temperature



: Comfort temperature

7.3 Standby

If no operations are carried out on the device for 30 seconds, it automatically activates standby mode which lowers the brightness level of the device.

7.4 Locking the interface via PIN

The timer-thermostat lets you set a password which inhibits any change to the operating mode (eg switching from Manual to OFF), limits setting the temperature values and, more generally, blocks access to the configuration menu.

This feature is useful to prevent the thermostat being used by unauthorized persons; the device prompts you to enter the PIN, indicating a shutdown with **PIN**.

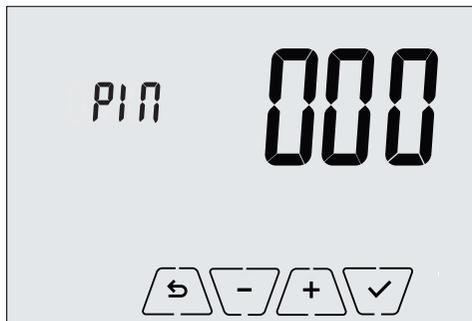


Fig. 15: Locking with PIN

Display

7.5 Alternative views

During normal operation, i.e. when you are not navigating the menus, you can select the information to display on the left-hand side of the display.

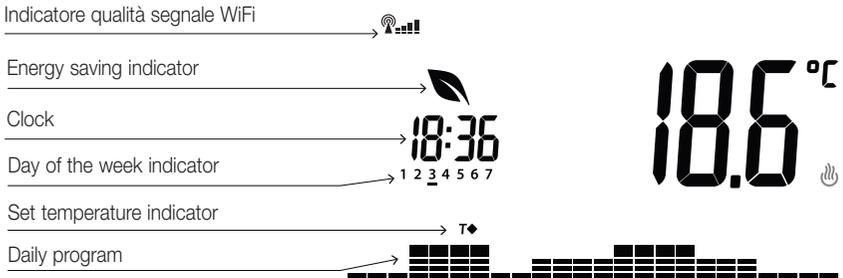


Fig. 16: Typical view of the time and daily program

This view is the default and gives an indication of the daily temperature control program along with the data on the current moment.

The program area, represented by histograms, is divided into 24 sectors each of which represents the corresponding hour of the 24 hours in a day.

Each sector can be composed of 1, 2 or 3 dashes:

- equivalent to "T away" (T◊)
- ≡ equivalent to "T economy" (T◊)
- ≡≡ equivalent to "T comfort" (T◆)

The clock shows the current time.

The indicator of the day of the week highlights the current day with a dash under the number associated with it (eg, 4 = Thursday).

The set temperature indicator highlights the current temperature being regulated thus replicating the information represented by the "dashes":

- T◊ = T away
- T◊ = T economy
- T◆ = T comfort

The energy saving indicator indicates whether, compared to a conventional average consumption, the set temperature setpoint enables you to achieve "savings" in consumption.

If the operating mode is not set on **AUTO**, the program area will not be active.

8. Operating mode

The timer-thermostat 02911 is able to regulate the temperature according to the following operating modes:

- **Switched off (OFF):** switches the system off
- **Manual (ON):** lets you set the environment temperature set-point manually
- **AUTO:** lets you set a control program that compares the room temperature with the value set for each quarter of an hour of the current day; the user defines three levels of temperature distributed over 24 hours which can then be varied for each day of the week.
- **Timed manual:** starting from AUTO mode, this lets you activate MANUAL operation of the timer-thermostat for any period of time at the end of which the device will return to AUTO mode.
- **Away:** lets you set the set-point in order to achieve significant energy savings during periods when the user is away
- **Antifreeze:** used to set a minimum temperature level to avoid damage to pipework or prevent the temperature from falling below a safety level.

The operating mode is selected via the **SETTINGS** menu or with the shortcut keys.

8.1 Switched off (OFF)

With this mode on, the timer-thermostat is turned off and you cannot make any adjustments; in this case, the **OFF** icon is displayed above the temperature indicator.

In this mode you cannot perform any operations other than activating the menus or changing the view mode.



Fig. 17: Typical screen for OFF mode

For heating-only systems this mode is typically used in the summer.

Operating mode

8.2 Manual

In this mode the device operates as a simple thermostat and regulates the ambient temperature, taking it to the value set by the user.

When MANUAL mode is active, the  icon is displayed above the temperature indicator.

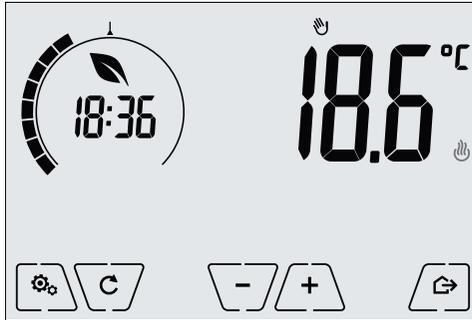


Fig. 18: Typical screen for Manual mode

The set point can always be changed via  or .

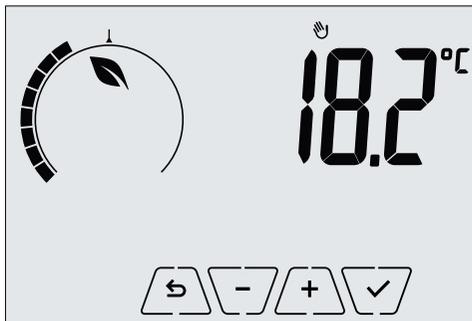


Fig. 19: Manual set point setting

The selection is confirmed by touching .

The  and  icons in the lower right corner indicate whether the system is operating in heating or air-conditioning mode respectively (icon illuminated = system on).

Operating mode

8.3 Auto

This is the typical mode of operation of the timer-thermostat.

The device automatically changes the ambient temperature according to the time of day and the day of the week, it minimizes user intervention thereby optimizing comfort and energy savings; three different temperatures can be set to cover the needs of normal use, user away or nighttime reduction in the environment.

For setting the automatic program, see par. 9.5.

When AUTO mode is active, the **AUTO** icon is displayed above the temperature indicator.

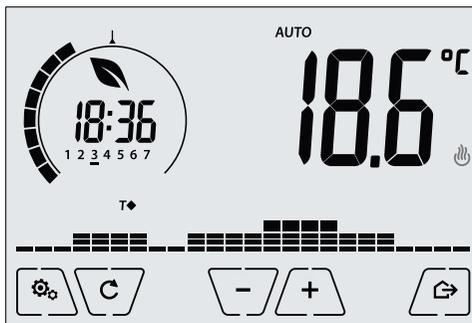


Fig. 20: Typical screen for Auto mode

By touching  and  you can temporarily change the ambient temperature, setting it to a different value to the one associated with the current time slot.

Confirming with  it then goes into TIMED MANUAL mode.

The  and  icons in the lower right corner indicate whether the system is operating in heating or air-conditioning mode respectively (icon illuminated = system on).

8.4 Timed manual

This mode allows you to exit the AUTO program (you enter MANUAL mode) for a certain time after which the timer-thermostat will return to AUTO mode.

For example: take the ambient temperature to 25°C for 2 hours and then resume the Auto program.

Activation is carried out starting from AUTO mode and is recognizable by the  icon displayed above the temperature indicator.

Operating mode

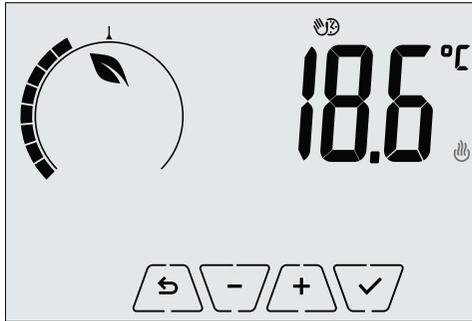


Fig. 21: Input screen in Timed Manual mode

Using  and  you set the temperature and confirm with .

The next screen, again using  and , lets you set the time for which the temperature you have just set is maintained.

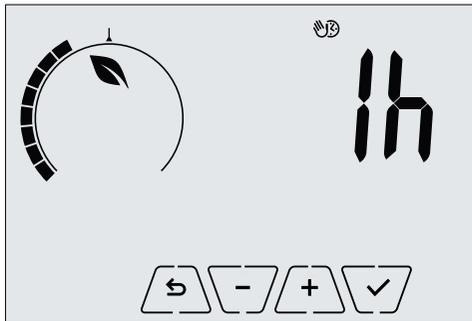


Fig. 22: Regulating the number of hours of Timed Manual mode

Finally confirm with .

At the end of the set time the timer-thermostat goes back into AUTO mode, the  icon switches off and **AUTO** reappears.

Operating mode

8.5 Away

This mode is useful to achieve energy savings quickly and effectively whenever the user leaves the regulated room.

In "Away" mode the system makes the adjustment according to the "away temperature" setpoint T_0 .

The Away mode can only be activated by touching .

The display will show the "away temperature" setpoint for approximately 2 seconds:



Fig. 23: Input in away mode showing the away temperature

Mode activation is identified by the  icon:



Fig. 24: Away Mode

To exit and return to the initial mode touch the  button again:

Operating mode

8.6 Antifreeze

This mode, which can only be activated when the system is operating in heating mode, lets you set a minimum temperature value (T_0 setpoint) to avoid damage to the pipework or to keep it from falling below a certain safety level when you are away for lengthy periods in the winter.

The "antifreeze" mode is activated directly from the Settings menu.

Once activated, antifreeze mode is identified by the ❄️ icon above the temperature indicator.



Fig. 25: Antifreeze mode

9. Settings menu

From the settings menu you can configure all the features of the timer-thermostat.

On the main screen tap the  icon.

From the main menu, using  and  will display the following (flashing) symbols in succession, which provide access to the corresponding submenus:

1.  **AUTO** ❄️ **OFF** operating mode setting
2. **18:36**
1 2 3 4 5 6 7 setting the time and day of the week
3. ❄️ 🔥 air-conditioning/heating setting
4. **T--** temperature setpoint setting
5.  daily program setting
6. **°C °F** unit of measurement setting

Operating mode

- | | | |
|-----|---|---|
| 7. |  | calibration setting |
| 8. |  | external temperature probe setting (shown only when the probe is connected) |
| 9. |  | OnOff/PID temperature control algorithm setting |
| 10. |  | buzzer (beep) setting |
| 11. |  | setting WiFi functionality |
| 12. |  | setting the brightness level of the display during Standby |
| 13. |  | device info |
| 14. |  | lock/unlock PIN setting |

Touching  opens the submenu and then the flashing highlights the parameters of the submenu.

9.1 Operating mode setting

This menu is used to select the operating mode of the device:

-  Manual
- **AUTO** Automatic
- **OFF** Off
-  Antifreeze (only if the thermostat is set on "heating")

Using  and  select the desired mode and confirm with .

9.2 Setting the time and day of the week

This menu lets you set the time and day of the week.

Using , ,  and  set the hour, confirm with  and similarly set the minutes and then the day of the week.

The days of the week are represented by numbers from 1 to 7 and indicate the days from Monday to Sunday.

9.3 Heating/air-conditioning setting

This menu lets you set the operation of the device depending on the season (winter/summer):

-  heating
-  air-conditioning

Using  and  select the desired operation and confirm with .

Operating mode

9.4 Temperature setting

This menu lets you set the temperatures and hystereses necessary for defining the temperature control set-point used in the different operating modes.

In particular, you can have setpoints for:

1.  T_0 : Away temperature (T away) *
2.  T_1 : Economy temperature (T economy) *
3.  T_2 : Comfort temperature (T comfort) *
4.  dT : hysteresis of the device (only if in OnOff adjustment mode)
5.  T_0 : "antifreeze" mode temperature (only if in "heating" mode)

*** CAUTION:** Depending on the mode the timer-thermostat is in (heating or air-conditioning), setting these setpoints acts only on the value associated with the current mode highlighted by the  or  icon (for example, T.comfort of heating mode).

After then changing the setpoints of the current mode in succession, change the mode (see 8.3) and set all the setpoints corresponding to it.

9.4.1 Away temperature

The menu, via  and  , lets you increase/decrease the value of the away temperature  and T_0 .

The away temperature is an intermediate temperature geared to obtain substantial energy savings during periods when the user is away.

The away temperature differs depending on whether you are in the heating or air-conditioning mode.

9.4.1 Economy temperature

The menu, via  and  , lets you increase/decrease the value of the economy temperature  and T_1 .

The Teconomy temperature allows energy savings if applied during the nighttime (when it is pointless and costly to maintain the same setting as the daytime hours).

The economy temperature differs depending on whether you are in the heating or air-conditioning mode.

9.4.1 Comfort temperature

The menu, via  and  , lets you increase/decrease the value of the comfort temperature  and T_2 .

The Tcomfort temperature can be defined as the "comfort temperature" that you want to reach during the hours when people are present in the rooms of the dwelling.

The comfort temperature differs depending on whether you are in the heating or air-conditioning mode.

Operating mode

9.4.4 External probe alarm temperature

The menu, via  or , lets you set the temperature limit (read by the external probe) at which the thermostat switches off the heating system and triggers an alarm (useful to protect underfloor systems against overheating).

To view this menu, the external temperature probe must be wired set as a "limitation".

9.4.5 Hysteresis of the device

The menu, via  and , lets you set the temperature range of the heating/air-conditioning system between "ON" and "OFF".

This value can also be changed via the submenu for ON/OFF operation.

The parameter cannot be changed if the timer-thermostat is set as PID operation.

For example: Heating, with setpoint on 20.0°C, dT : 0.5°C → → → 20.5 (off), 19.9 (on)

9.4.6 Antifreeze temperature

The menu, via  and , lets you increase/decrease the value of the antifreeze temperature T_0 and .

Antifreeze mode is used to set a minimum temperature level to avoid damage to the pipework or keep the room temperature from falling below a safety level.

9.5 Daily program setting

This menu lets you set or modify the time and daily program for the ambient temperature.

The program lets you associate each quarter hour of the day (and in a different way, for each of the 7 days) with one of the 3 temperatures "T comfort", "T away" and "T economy".

For example: During the night, set "T economy", for the morning and evening set "T comfort" and in the middle of the day set "T away" (when no one is in the environment and to obtain savings due to a lower consumption).

9.5.1 Selecting the day of the week

As soon as you enter the menu, the display shows a flashing dash for the day to which the current programming refers (for example: 1234567 = Tuesday).

Using  and  select the day of the week to program and confirm with .

Operating mode

9.5.2 Temperature selection

After confirming the day to program, the display shows the screen for setting the temperatures associated with the different times of the day.

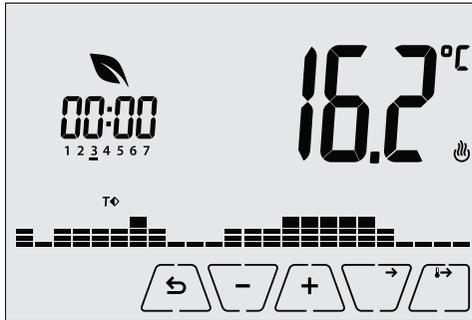


Fig. 26: Setting the time and daily program

Using  and  select the temperature to be associated with the current time (which is shown on the clock on the left). This temperature, highlighted by the blinking, can be selected from:

- T**  : away temperature (T away)
- T**  : economy temperature (T economy)
- T**  : comfort temperature (T comfort)

The "dashes" blinking indicate the time slot that you are setting (there are 24 groups of 3 dashes and each group corresponds to one hour of the 24 in the day). The selected temperature will be applied beginning at the time indicated on the left for all of the next quarter of an hour.

On touching  the temperature selected for the current time is assigned to the next quarter of an hour too; in this case the temperature symbol is the same but the current time, shown by the clock, is moved forward by 15 minutes.

Using  and  you can move respectively between the hours of the day and move forwards or backwards 15 minutes at a time.

During the movement, as well as the clock, also the "dashes" indicate the time of day in which you are working. In addition, below the numbers associated with the days of the week, you will see an icon that identifies the temperature set for that specific time.

The  and  buttons permit changing the set temperature.

Programming ends when the temperatures have been set for all the hours of the day and the clock displays the time 23:45; then tap  to confirm.

Finally, using  and , select one of the following options shown in the numeric field of the display:

Operating mode

COPY : to copy the entire time program for the current day to the next day (useful for replicating working days or holidays).

Go to : to move on to program the next day without making a copy of the day you have just set (useful when switching between programming working days and holidays).

End : to finish programming.

Touch  to confirm the selected option.

9.6 Unit of measurement setting

This menu lets you set the unit of measurement used for the temperature (°C or °F)

Using  and  select the desired unit of measurement and confirm with .

9.7 Calibration setting

This menu lets you "calibrate" the temperature read by the timer-thermostat.

Using  and , you can add or subtract (at intervals of 0.1°) a fixed amount from the temperature detected by the timer-thermostat to make it equal, for example, to that of a sample thermometer.

CAUTION: For correct calibration it is recommended to wait until the timer-thermostat has been on for at least 1 hour in a room at constant temperature.

Tap  to confirm your choice.

9.8 External probe setting

This menu lets you configure how to use the external temperature probe (installed according to the instructions in par. 4 .2)

Using  or , you can select the following options:

- **OFF**: the external probe (although physically present) is ignored by the device.
- **Adjustment** (the measured temperature flashes): by enabling this function, the thermostat will regulate the temperature of the environment based **ONLY** on the temperature detected by the external probe (the temperature measured by the thermostat is ignored). The temperature shown on the display will be that of the external probe identified by the  icon.
- **Display** (the temperature measured by the thermostat and that of the external probe are shown alternately on the display): the external probe is only used to display the temperature in another environment .

On standby the display will alternate views of the internal temperature (measured by the thermostat) and external temperature (measured by the probe) and identifiable by the  icon.

- **Limitation** (the icon  flashes): mode used for systems with underfloor heating.

In the associated submenu you set the limitation temperature, that is the one, read by the external probe immersed in the screed, that is considered an excessive temperature. If this threshold temperature is

Operating mode

reached the thermostat turns off the heating system and displays the alarm as long as the condition that generated it remains.

At the end of this condition, the thermostat resumes its normal operation.

Tap  to confirm your choice.

9.9 OnOff/PID temperature control algorithm setting

This menu lets you select the way in which the ambient temperature will be controlled

Via  and  you can select the following options:

-  (OnOff control): this is the traditional "threshold" control so that, on exceeding the set temperature increased by dT (vice versa for air-conditioning), the heating is switched off to then be turned back on when the room temperature drops below the set temperature.

The dT value can be set directly via the submenu that follows this selection.

-  (P.I.D. control): this is an evolved algorithm that is able to keep the temperature in the environment more stable, increasing comfort; this algorithm switches the system on and off appropriately so there will be a gradual increase or decrease in the thermal (or refrigerating) power of the system itself. To take full advantage of its performance it needs to be suitably calibrated according to the type of environment and heating system; in the light of this, the following parameters must be set via the submenus that follow this selection:

-  (breadth of adjustment range): starting from the set temperature, T_b is the temperature range in which the heating power goes from 0% to 100%.

For example: with the temperature (for heating) set to 20.0°C and $T_b=4.0$ °C, the thermostat activates the heating system on 100% when $T_{ambient}$ is ≤ 16.0 °C; as this temperature increases, the system power is consequently lowered down to 0% when the ambient temperature reaches 20°C.

The value of T_b must be set consistently with the thermal capacity of the system; in general, it is recommended to use small values of T_b for environments with a good level of thermal insulation and vice versa.

-  (system cycle time): this is the time in which a cycle of regulation is completed; the shorter this time, the better the regulation but the temperature control system is under greater stress.

9.10 Buzzer (beep) setting

This menu lets you enable/disable the acoustic signals of the thermostat; if it is disabled there will no longer be any sound when you touch the buttons or in cases of confirmation/error.

Whereas, in the event of an alarm, the sound signal will always be guaranteed.

Using  and  select "ON" or "OFF" and confirm with .

Operating mode

9.11 Standby brightness level setting

The menu lets you set the display brightness level when the timer-thermostat goes onto Standby.

Using  and  select one of the 7 available levels and confirm with  (there is also the ability to turn off the display completely).

9.12 WiFi setting

The menu lets you configure the settings for the WiFi module.

Via  and  you can select:

9.12.1 On/Off

The **OnOff** menu lets you turn the WiFi module on or off (completely); if it is turned off, in addition to eliminating any wireless transmission/reception of the device, some of the following submenus are inhibited.

Using  and  select "ON" or "OFF" and confirm with .

9.12.2 Enable Cloud Service

The **CLD** menu lets you select whether or not to take advantage of the cloud service offered by Vimar. If you do not intend to use this service some of the following submenus will be inhibited.

Using  and  select "ON" or "OFF" to use or not use the cloud service and confirm with .

9.12.3 Automatic time synchronization

The **SYN** menu enables automatic synchronization of the clock directly from the cloud.

Using  and  select "ON" or "OFF" to enable or disable clock synchronization and confirm with .

9.12.4 First configuration

The **CONF** menu enables activating the timer-thermostat configuration procedure with the App. This procedure lets you (via a smartphone or tablet) configure the WiFi network to which the timer-thermostat is to connect during normal operation and it lets you program all the functions of temperature control (for further details please see chap. 6).

Touch  and then  to start the configuration procedure; then follow the instructions displayed directly on your smartphone/tablet.

Operating mode

9.12.5 Pairing with a mobile device

The **BYCL** menu enables activating the procedure for pairing the timer-thermostat with a **mobile device (smartphone or tablet) on which the By-clima App has been installed and that was not used during the first configuration**; this procedure should be carried out on every mobile device with which you want to control/query the timer-thermostat. (The interaction takes place on both the smartphone/tablet and on the timer-thermostat at the same time; this ensures that the device cannot be controlled by undesired users who have not performed the pairing phase.

Touch  and then  to start the pairing procedure; then follow the instructions displayed directly on your smartphone/tablet.

9.12.6 WiFi Info

9.12.6.1 WiFi FW version

The **UEFS** menu lets you view the version of the firmware for the WiFi interface. It should be used, if required, when seeking support.

Touch  to display the FW version.

9.12.6.2 Statistics

The **STAT** menu lets you view the device statistics (ie its error codes). It should be used, if required, when seeking support.

Touch  to display the statistics.

9.12.6.3 FWuP

This is an advanced menu which lets you start updating the WiFi module.

Touch  to start the update.

9.12.6.4 Reset WiFi parameters

The **RESET** menu lets you reset ALL WiFi related configurations to their factory values. In particular the following values are reset:

- Access to the cloud service.
- Automatic clock synchronization.
- Alarm/notification threshold values.
- Enabling alarms/notifications.

Touch  to return the parameters to their factory values; since this operation cannot be undone, you will see a confirmation notice and you will need to tap  again.

Operating mode - Parameters table

9.13 Info about the device

This menu lets you view information related to the thermostat and reset the device.

Via  and  you can select:

-  : displays the software version of the device.
-  : displays the number of hours that the timer-thermostat relay has been on (the same as the number of hours of operation of the system).
The counter can be reset, for example at changes in season to differentiate between heating and air-conditioning, by pressing and holding the  icon.
- **FWuP**: enables starting the procedure for updating the device software. This service requires a Vimar cloud connection.
 - Tap  to learn about the latest software version available for your device; if your device can be upgraded the  icon will be blinking alongside the new SW version.
 - Tap  to start the update from the Vimar cloud and wait until the next time the timer-thermostat is restarted.

Caution: While updating the SW do not turn off the device, nor access the timer-thermostat with the By-clima app.

9.14 Lock/unlock PIN setting

This menu lets you add/change the password to inhibit use of the timer-thermostat.

Using  and  set the three digits of the PIN one at a time and then confirm each set digit with .

If you wish to have free access to the thermostat (so without it prompting you for a password) it is sufficient to set the PIN to "000".

If you forget the value you entered, proceed as follows to reset the PIN:

1. Cut off power to the timer-thermostat and then restore it again.
2. Within the first 30 s, i.e. before going into Standby mode, go to the PIN menu and enter the new value.

10. Parameters table

Function	Parameters	Value range	Resolution	Default value
Temperature control mode	Selection TempCtrl	[Heat., Air-con.]	-	Heating
Control algorithm	Algorithm	[ON/OFF, PID]	-	ON/OFF
Hysteresis (ON/OFF)	δr (Differential)	[0.1,...,1]°C	0.1°C	0.2°C
Proportional band (PID)	Band	[0.5,...,5]°C	0.1°C	1°C
Adjustment period (PID)	Period	[10,...,30] minutes	1 min	20 min
External temperature probe	External probe mode	[Off, View, Temperature Control, Limitation]	-	OFF

Parameters table

Limitation	T _L (Temp. limit)	[30,...,50]°C	0.1°C	35°C
Unit of measurement (temperature)	Temperature unit	[°C , °F]	-	°C
Temperature offset	T _E (Offset temp.)	[0,...,±3]°C	0.1°C	0°C
Clock	Hours	[00,...,23]	1 h	00
	Minutes	[00,...,59]	1 min	00
	Day of the week	[Mon, Tue, Wed, Thu, Fri, Sat, Sun]	-	-
Audible warnings	Enable audio feedback	[ON, OFF]	-	ON
PIN number	Pin	[000,...,999]	1	000
Temperature set-point	T ₀ (Away-Heat.)	[T _G , 10..35]°C	0.1°C	16°C
	T ₁ (Economy-Heat.)	[10,...,35]°C	0.1°C	18°C
	T ₂ (Comfort-Heat.)	[10,...,35]°C	0.1°C	20°C
	T ₀ (Away-Aircon.)	[10,...,35,OFF]°C	0.1°C	29°C
	T ₁ (Economy-Aircon.)	[10,...,35]°C	0.1°C	27°C
	T ₂ (Comfort-Aircon.)	[10,...,35]°C	0.1°C	25°C
	T _M (Manual-Heat.)	[10,...,35]°C	0.1°C	18°C
	T _M (Manual-Aircon.)	[10,...,35]°C	0.1°C	26°C
Programs	Heating Prog.	[T ₀ ,T ₁ ,T ₂] (Heating) for each interval of time (24hx4x7d)	-	-
	Air Con. Prog.	[T ₀ ,T ₁ ,T ₂] (Aircon.) for each interval of time (24hx4x7d)	-	-
WiFi	Radio On	[ON, OFF]	-	ON
Cloud	Enable cloud	[ON, OFF]	-	ON
Clock synchronization	Enable synchronization via network	[ON, OFF]	-	ON
Network access code	Network PIN	4-10 numeric ASCII characters	-	1234
Display access code	Lock/unlock PIN	3 digits	1	000
Backlight configuration	Standby level	[OFF 1, ... , 7]	1	4

Configuring and checking alarms

11. Configuring and checking alarms

This paragraph explains how to set alarms managed by the timer-thermostat and signalled to the By-clima applications paired with it.

In particular, the device can be enabled for generating and then signalling the following alarm categories:

- Thresholds crossed by the regulated temperature.
- Thresholds crossed by the temperature measured by the auxiliary sensor.
- Limiter tripping.

11.1 Temperatures and control conditions on the regulated temperature

The temperature sensor used for temperature control (whether it is built into the device or the auxiliary one, if so configured) can be monitored in order to generate alarm notifications on crossing set thresholds for conditions both under and over the temperature.

The disappearance of the alarm condition takes account of the set hysteresis and is in turn signalled by the device.

The By-clima applications paired with the timer-thermostat can receive the set threshold crossing events in two ways:

- directly, if they were connected to the timer-thermostat when the event occurred;
- indirectly, through push notifications, if the cloud functionality is enabled on the timer-thermostat.

Parameters	Functionality	Value range
Enable under-temperature/ over-temperature alarm	Enables monitoring and thus potentially generating the corresponding alarms	- OFF - ON
Temperature control probe lower temperature threshold	Threshold that when crossed generates a temperature control probe under-temperature alarm notification	[0..40]°C
Temperature control probe upper temperature threshold	Threshold that when crossed generates a temperature control probe over-temperature alarm notification	[0..40]°C
Temperature alarm reset hys- teresis (DTA)	Hysteresis used for automatically restoring the temperature alarm condition	[0..10]°C

11.2 Temperatures and control conditions on the temperature of the auxiliary probe

The auxiliary temperature sensor (if configured on limitation or viewing) can be monitored in order to generate alarm notifications on crossing set thresholds for conditions both under and over the temperature. The disappearance of the alarm condition takes account of the set hysteresis and is in turn signalled by the device.

The By-clima applications paired with the timer-thermostat can receive the set threshold crossing events in two ways:

- directly, if they were connected to the timer-thermostat when the event occurred;
- indirectly, through push notifications, if the cloud functionality is enabled on the timer-thermostat.

Warnings - Cleaning the device

Parameters	Functionality	Value range
Enable under-temperature/over-temperature alarm	Enables monitoring and thus potentially generating the corresponding alarms	- OFF - ON
Under-temperature alarm threshold on auxiliary probe	Threshold that when crossed generates a temperature control probe under-temperature alarm notification	[-20..50]°C
Over-temperature alarm threshold on auxiliary probe	Threshold that when crossed generates a temperature control probe over-temperature alarm notification	[-20..50]°C
Temperature alarm reset hysteresis (DTA)	Hysteresis used for automatically restoring the temperature alarm condition	[0..10]°C

11.3 Limitation alarm

If the auxiliary probe is configured on limitation, the alarm status can be monitored and communicated via the network interface in the By-clima applications paired with the timer-thermostat itself.

Parameters	Functionality	Value range
Enable limiter alarm	Enables monitoring and thus potentially generating the limiter trip alarm	- OFF - ON

12. Warnings

- The WiFi timer-thermostat cannot connect to "Enterprise Security" WiFi networks or networks requiring dynamic exchange of authentication certificates or ones that in any case require registration/login via a Web Browser.
- The WiFi timer-thermostat supports access to WiFi networks with WEP encryption with the following limitations:
 - 64 or 128 bit WEP with a 10 or 26 character key in hexadecimal format (not ASCII).
 - WEP with Open key (Open)
 - WEP with shared key (Shared) NOT supported
- Using a WiFi/3G router (which then uses the cellular network for access to the Internet) does not guarantee an uninterrupted connection to the outside; it could therefore temporarily not be possible to control the device remotely for reasons independent of Vimar Spa, but dependent on the telecommunications provider or the current contract.
- The WiFi timer-thermostat, if connected to the Vimar cloud service, generates periodic bidirectional network traffic; keep this in mind if you have an Internet connection with a pay-as-you-go plan.
- It is not possible to use the By-clima app with a phone acting as an access point for the WiFi timer-thermostat

13. Cleaning the device

The timer-thermostat, featuring a display with capacitive buttons, requires you to be gentle during the cleaning phase. Avoid using aggressive products. Clean the display with a special cloth for cleaning lenses.

14. Features

- Rated supply voltage: 230 V~, 50-60Hz
- Max power drawn from the grid: 3 VA
- Operating temperature range: 0-40°C (-T40)
- Temp. measurement accuracy (built-in probe): 0.5°C between +15°C and 30°C, 0.8°C at the ends.
- Relay output with clean change-over contacts: 5(2) A 230 V~
- Terminals: Relay C, Relay NC, Relay NO, 2 external temp. probe (art. 02965.1)
- WiFi network: complies with 802.11 b/g/n; IP address: static or DHCP
- Controlled via local interface (touchscreen) or remotely via WiFi (with Vimar By-clima App for Android, iOS, Windows Phone).
- WiFi access via cloud (for queries/updates/notifications) and via private network
- WiFi network configuration via the Vimar By-clima App
- Configurable in Heating/Air-Conditioning mode (winter/summer)
- Temperature control algorithms: ON/OFF or PID selectable via user interface.
- Operating modes: Off, Antifreeze (heating only), Away, Manual, Automatic, Timed Manual.
- 6 settable temperature set-point/offset (economy, comfort, manual, away, antifreeze, reduction).
- Action type: 1.CU. Degree of pollution: 2 (normal).
- Rated pulse voltage: 4000 V.
- ErP classification (Reg. EU 811/2013): ON/OFF: class I, contribution 1%; PID: class IV, contribution 2%.
- Frequency range: 2412-2472 MHz
- RF transmission power: < 100 mW (20dBm)
- Appliances of class II: 
- Number of handling cycles for manual (3000) and automatic (100000) operation;
- Disconnection type: micro switch;
- PTI=175;
- Room temperature during transport: -25°C ÷ 60°C;
- Pollution level: 2;
- Software class: A;
- Nominal pulse voltage: 4000V;
- Clock error: ≤ 1s per day

15. Installation rules

Installation should be carried out by qualified personnel in compliance with the current regulations regarding the installation of electrical equipment in the country where the products are installed.

16. Regulatory compliance

RED Directive.

Standards EN 60730-2-7, EN 60730-2-9, EN 301 489-17, EN 300 328, EN 62311.

Vimar SpA declares that the radio equipment complies with Directive 2014/53/EU. The full text of the EU declaration of conformity is on the product sheet available at the following Internet address: www.vimar.com.



RAEE - Informazione agli utilizzatori

If the crossed-out bin symbol appears on the equipment or packaging, this means the product must not be included with other general waste at the end of its working life. The user must take the worn product to a sorted waste center, or return it to the retailer when purchasing a new one. Products for disposal can be consigned free of charge (without any new purchase obligation) to retailers with a sales area of at least 400 m², if they measure less than 25 cm. An efficient sorted waste collection for the environmentally friendly disposal of the used device, or its subsequent recycling, helps avoid the potential negative effects on the environment and people's health, and encourages the re-use and/or recycling of the construction materials.

17. Glossary: names and meaning of network and WiFi parameters

WiFi: name commonly used for wireless communication systems based on the IEEE 802.11 protocol. The following characters (eg b/g/n) describe the type of modulation and/or the main frequency at which the wireless device operates.

SSID: WiFi network name (eg: "Home WiFi network").

WPA/WPA2: security systems for accessing a password-based WiFi network (recommended).

WEP: security system for accessing an old type of WiFi network (not recommended: if you have a router with this type of security system, you should modify it with WPA or WPA2). See paragraph 12, note 2.

IP: communication protocol on which the entire Internet network is based.

IP Address: the address that every device must have in order to communicate with other devices, via the IP protocol. It consists of four numbers separated by periods (e.g.: 192.168.0.123).

Subnet mask: (useful for devices that direct IP traffic) indicates the method of determining that a device belongs to a subnet, that is its "class" (e.g.: 255.255.255.0 = class C).

DHCP: method of automatically assigning IP addresses to devices. Typically the router in our home acts as a "DHCP server", in other words it automatically assigns the IP address to all the devices connected to it.

Appendix 1 - Data on the WiFi network

18. Appendix 1 - Data on the WiFi network

18.1 WiFi Timer-Thermostat

Serial number	
---------------	--

18.2 WiFi Router

Main router of the installation site.

Brand	
Model	
Notes	

18.3 Additional Access Point

If there is an additional device that extends the WiFi coverage inside the home/site.

Brand	
Model	
Notes	



029111EN 02 1712



VIMAR

Viale Vicenza, 14
36063 Marostica VI - Italy
www.vimar.com