

Yokis[®]

URMET GROUP







DIGITAL THERMOSTAT WITH DIRECT OR WIRELESS CONNECTION



THERMARP

Cod. 5454489

INSTALLATION, PROGRAMMING AND USE INSTRUCTION MANUAL

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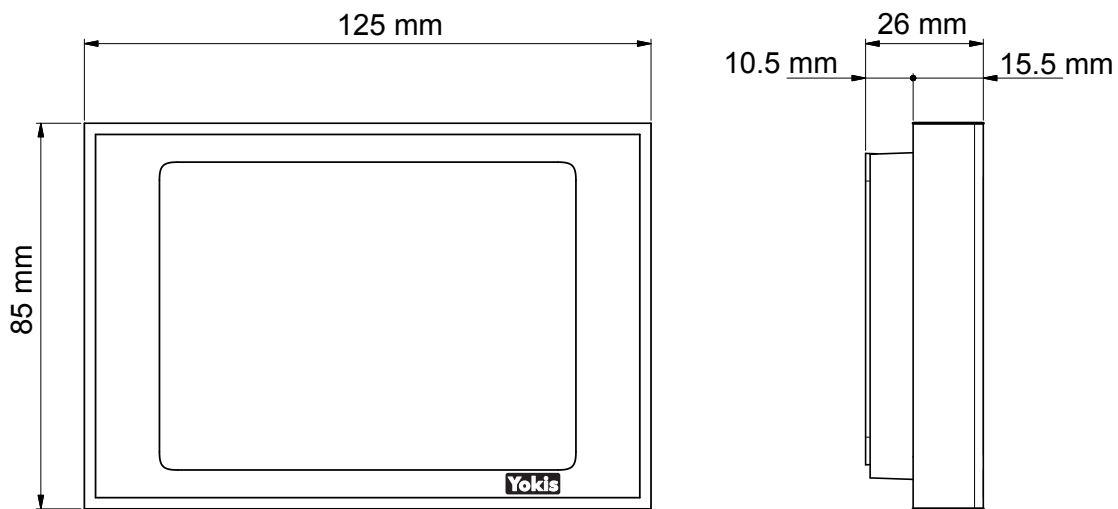
1. GENERAL DESCRIPTION

Thermarp is a weekly electronic touchscreen thermostat designed to control the room temperature in heating and cooling mode. The device can control a Yokis receiver by means of signals and radio-frequency. Thermarp is powered by two AAA batteries and no wiring is required. This means that the thermostat can be installed in any position inside the room without any masonry work. The large backlit touchscreen display provide a clear view even in the dark.

1.1. MAIN FEATURES

- Summer and winter operating modes.
- Model available in white.
- 1.5V AAA type battery power supply.
- Seven programs available for heating or cooling operation.
- Capacitive touchscreen display (finger-touch sensitive).
- Installation on wall or in 503 box.
- Weekly programming with three adjustable temperature levels.

1.2. DIMENSIONS



1.3. DESCRIPTION OF TERMINALS

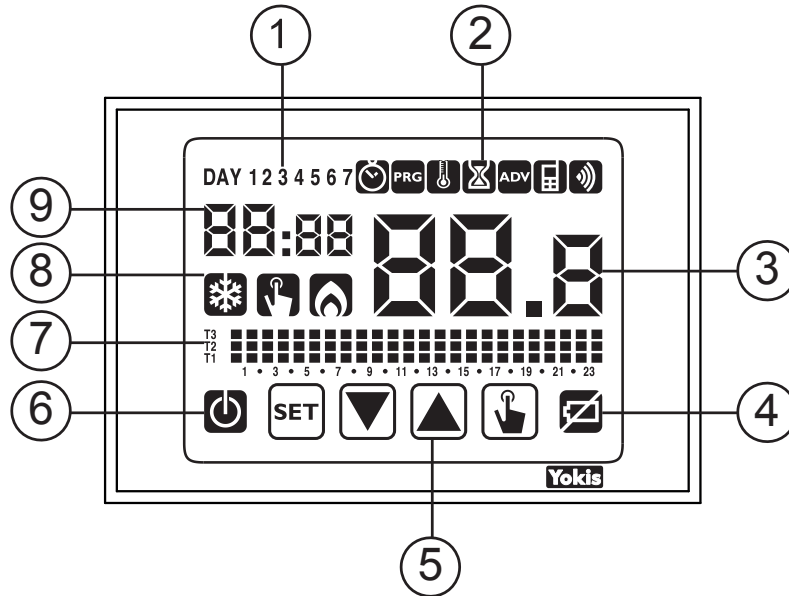
M1 terminal board

- ⊘] AUX Auxiliary inputs used for connecting to an external temperature sensor or for connection to a telephone dialler.

M2 terminal board


- ⊘ NA Normally open relay output contact
- ⊘ NC Normally closed relay output contact
- ⊘ C Common relay contact


1.4. DESCRIPTION OF COMPONENTS




1. Day of the week (DAY 1 = Monday)

2. Configuration menu:


 : set date/time and daylight saving time


 : edit program (for automatic operation)

 : set temperatures T1, T2, T3

 : timer menu

 : advanced configuration menu

 : not used

 : radio-frequency transmission menu

3. Measured ambient temperature


4. Low battery indication


5. Keypad (only active if the device is attached to the wall base)


6. Off operation

7. Chart of the active program for the current day (in automatic operation)

8. Indicators:

 : Active load in summer/cooling mode

 : Manual operation active

 : Active load in winter/heating mode

9. Hours and minutes

The functions on the keypad vary according to the status of the device. There are no multi-function buttons, i.e. situations which require the simultaneous pressing of two or more buttons.

There are two types of touches:

- short touch
- long touch, press lasting more than 3 seconds

When a button is pressed, the display is blue.

IMPORTANT: Press the buttons with your fingers. Do not use sharp objects.

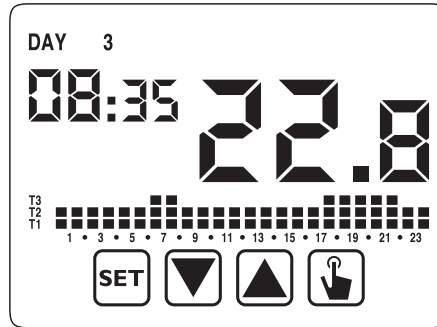
IMPORTANT: The keypad is not active until the device is properly attached to the wall base.

2. AUTOMATIC OPERATION

In automatic operation, the thermostat adjusts the temperature using T1, T2 or T3 as setpoint according to the day and time.

The lower part of the display shows the temperature values used in each time slot for the current day.

In the following example, the day 3 (Wednesday) 8:35 Tm is set to = T2.






The daily programs for automatic operation and the values of the three reference temperatures (T1, T2 and T3) can be set in the Configuration menu.

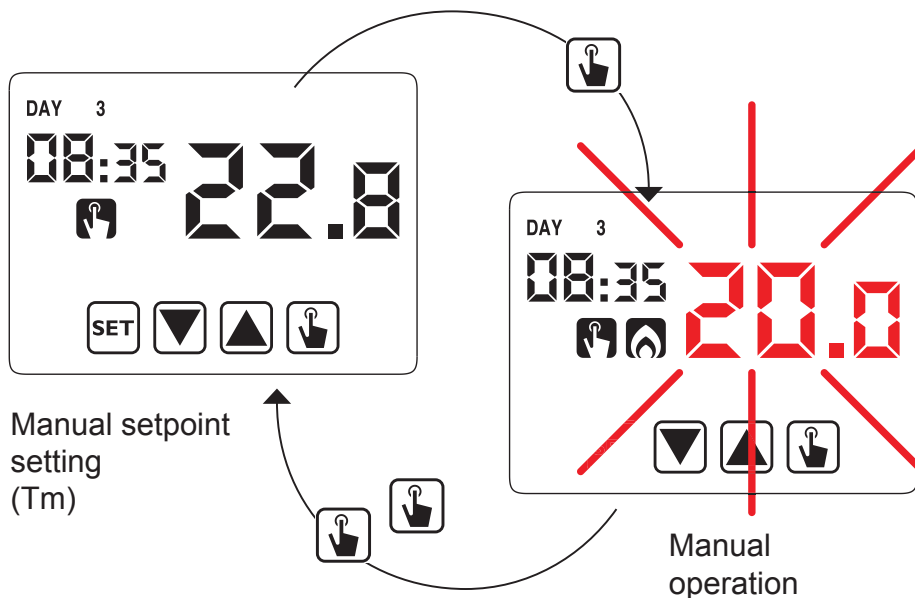
3. MANUAL OPERATION

In manual operation, the thermostat behaves like a normal thermostat, adjusting according to the Tm (manual setpoint) temperature, regardless of the day and time.

Manual operation is indicated by the  symbol which lights up.





To change the setpoint (Tm), press the button  to turn on the display, then press  again.


1. The currently setpoint (Tm) starts flashing.
2. Set the desired setpoint with button  and  and confirm by pressing button .
3. The room temperature will appear again at this point.

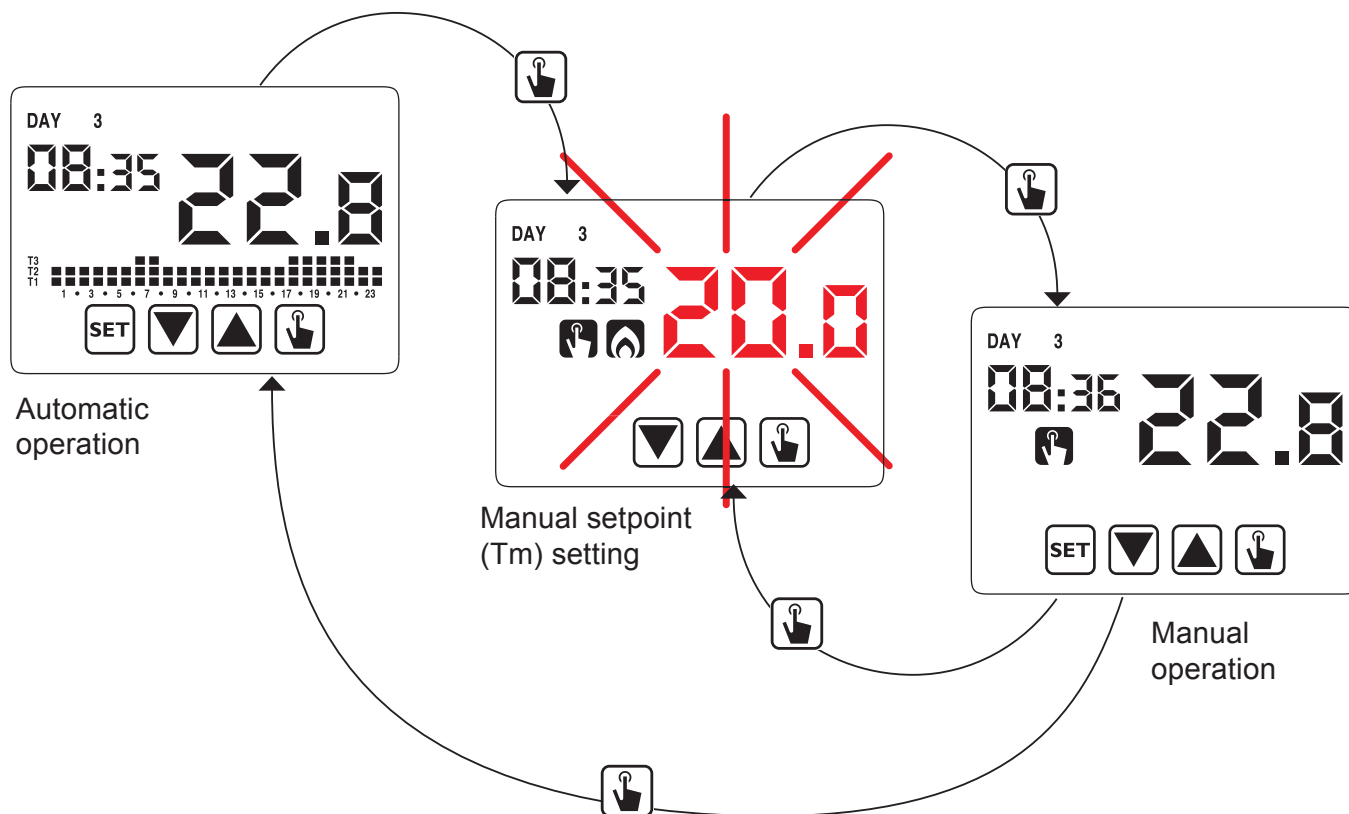


4. SWITCH FROM AUTOMATIC TO MANUAL OPERATION AND VICE VERSA

To switch from automatic to manual operation:

1. Press the button  twice. The previously set manual operation setpoint (Tm) will start flashing.
2. Confirm the Tm setpoint or change it, if required, using buttons  and . Press  to confirm the selection.
3. At this point, the room temperature value reappears and the thermostat operates in manual mode.

To switch between manual and automatic operation, hold button  pressed for about three seconds.





5. OFF OPERATION

In off mode, the thermostat does not make any adjustment but continues to display the day, time and the measured temperature.

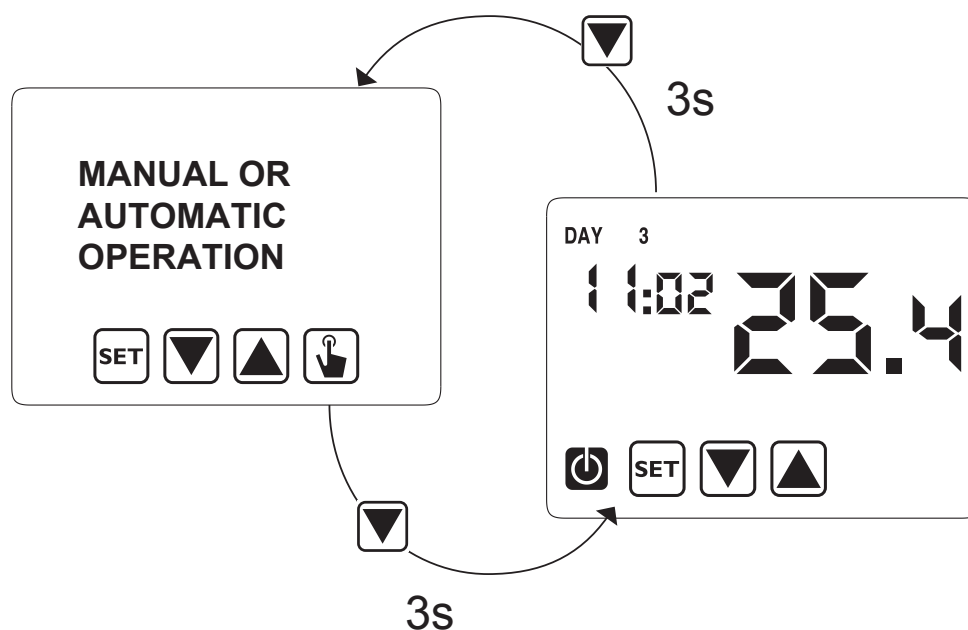
Note: In case of heating/winter operation, the thermostat maintains a minimum "Toff antifreeze temperature" in order to avoid freezing in the system or in the rooms in which the thermostat is installed.

The "Toff" parameter can be set to values from 1°C to 50°C or be excluded entirely. In the latter case, no minimum temperature is guaranteed.

By default, the parameter is set to 6°C but this value can be changed by accessing the Advanced Configurations (ADV) menu (see "Antifreeze temperature").



Hold button  pressed until the symbol  appears on the display.


To reactivate the adjustment, hold button  pressed for about three seconds.




6. MINIMUM AND MAXIMUM VALUES

In any operating mode (automatic / manual / off), it is always possible to display the minimum and maximum temperature values measured by the temperature sensor in use.

To display these values, press button  (maximum value Hi) or  (minimum value L0).

While this is displayed, it is possible to reset one of the two values by holding button  pressed until the current temperature value appears.

Press button  also to check whether the thermostat is displaying its own internal temperature sensor (default) or an external temperature sensor (*).

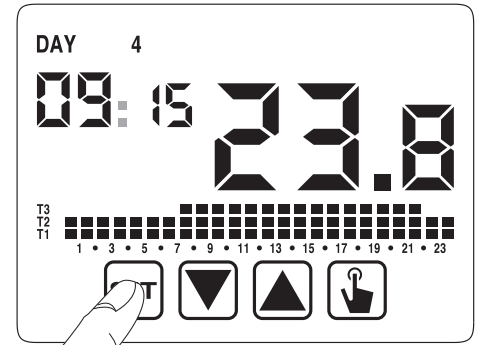
(* In this case, it is a temperature sensor connected to the AUX terminals, appropriately configured in the Advanced Configurations menu (see chapter 7.5).

7. CONFIGURATION MODE

The following operating parameters can be configured in the configuration menu:

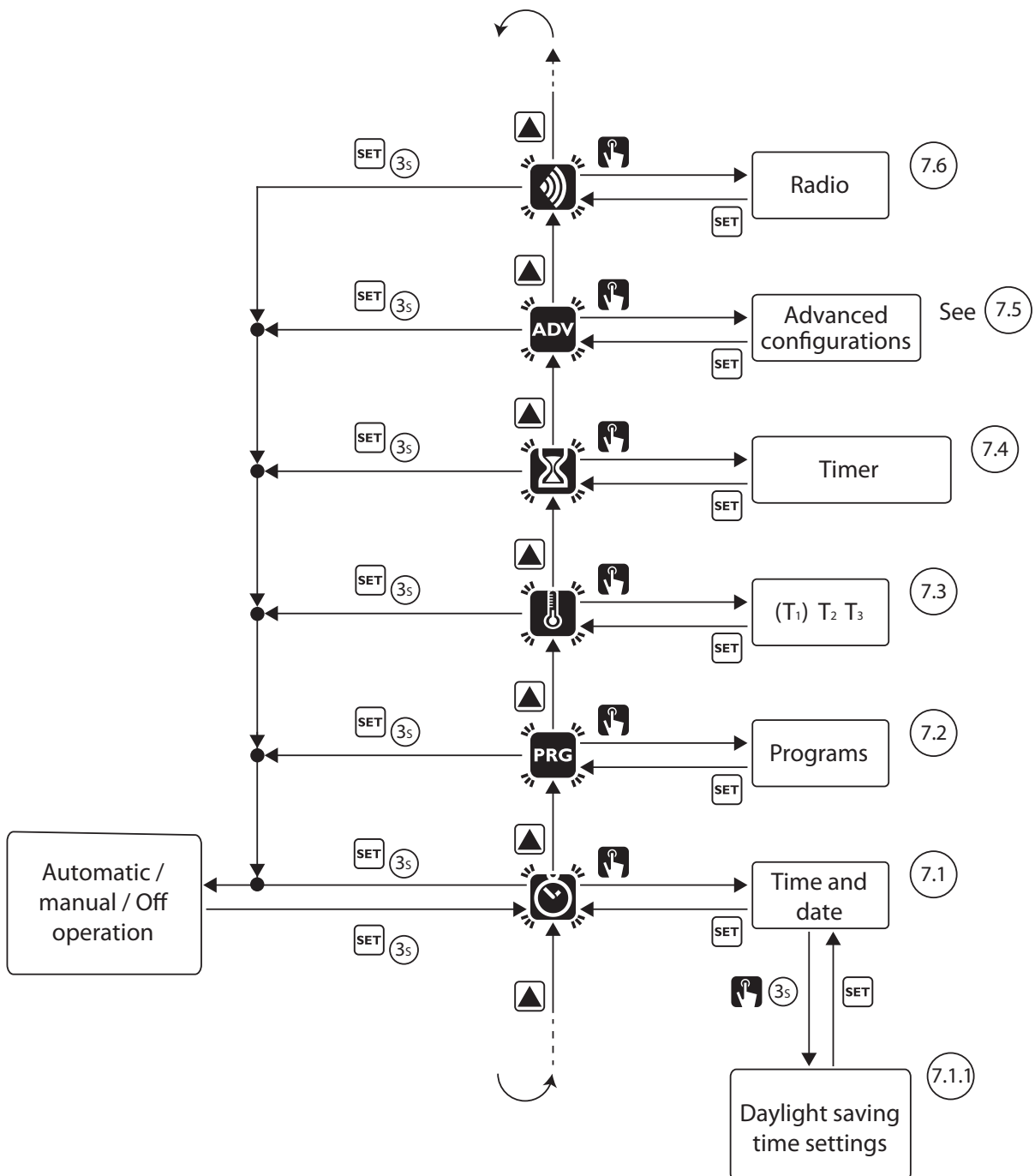
- Time and date
- Automatic operation: programming
- Automatic operation: temperatures T1/T2/T3
- Timer
- Advanced configurations (see Parag. 7.5)
- Radio-frequency menu

Hold button **SET** pressed for longer than 3 seconds to open configuration mode.















The following block chart summarises:

CONFIGURABLE PARAMETERS



7.1. TIME AND DATE

Proceed as follows to change the set time and date:

1. On the operating screen, hold button  pressed for three seconds. The icon  will start flashing on the display.
2. Press button  to access the parameter configuration. The icon  will stop flashing. The seconds field will start flashing.
4. Use buttons  and  to change the values. Press button  to confirm and move on to the next parameter.
The parameter sequence to be entered is: **seconds* -> minutes -> hours -> year -> month -> day.**
(*) For seconds, only resetting to 00 is possible by pressing the buttons  and .
5. Once all the parameters have been set, to exit and return to the configuration menu, briefly press the button . The icon  will start flashing again. To exit and return to normal operation (automatic, manual), hold button  pressed or wait for the timeout (approx. 40 seconds).

Note: this menu can also be used to change the parameters for the standard/daylight saving time switch, as described below.









7.1.1. Changing the daylight saving time settings

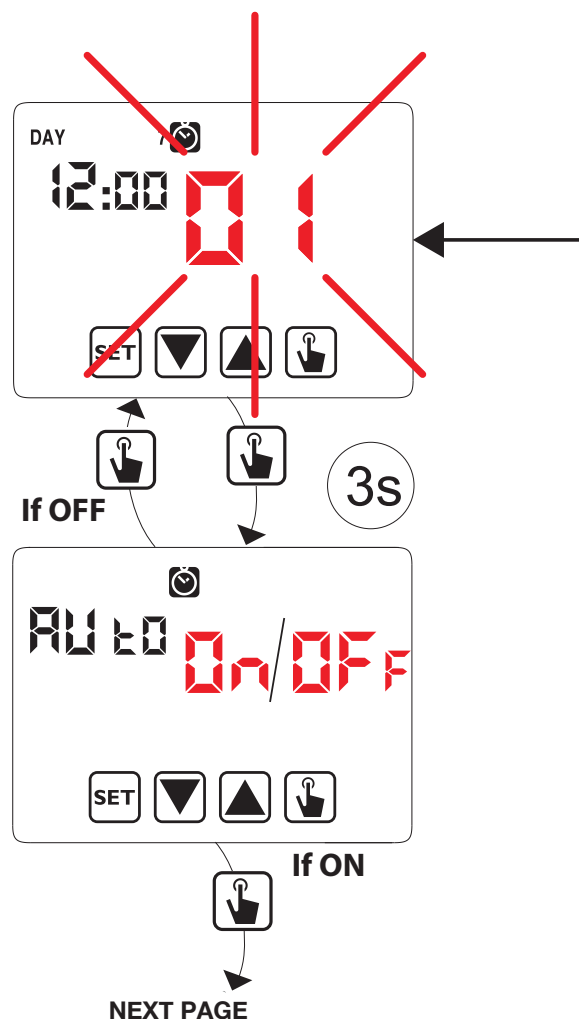
By default, the thermostat is configured to switch to daylight saving time on the last Sunday in March at 02:00 a.m. and to switch back to standard time on the last Sunday in October at 03:00 a.m. as customary in Europe.








Therefore, no changes are normally necessary.

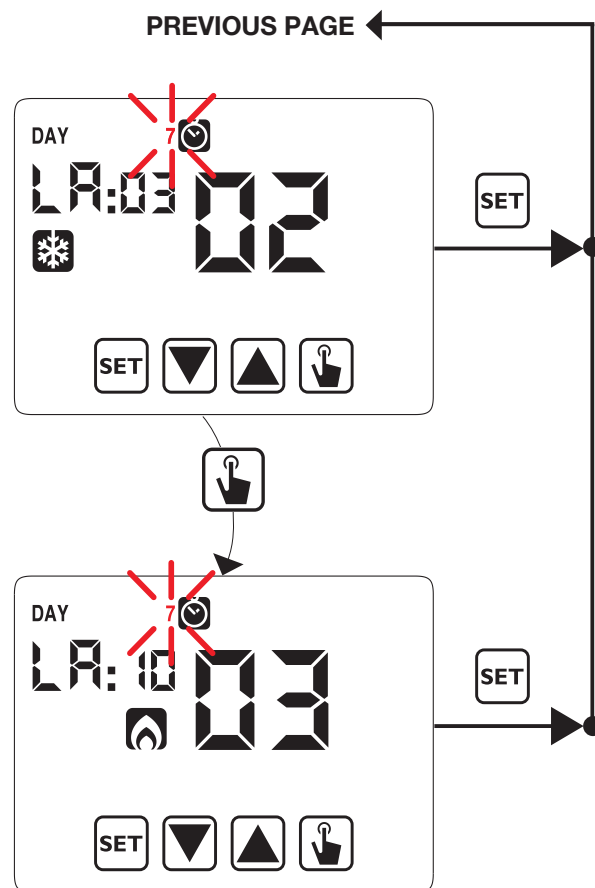
It is however possible, in the case of particular installations, to disable the automatic time switch or to change the date or time of the time switch.

Proceed as follows in this case:

1. When changing any of the parameters (seconds, minutes, hour, year, month or day), hold button  pressed until "Aut0" appears on the display.
2. Use buttons  and  to choose whether to keep the automatic time change (Aut0 On) or deactivate it (Aut0 OFF) and confirm with button .
3. Setting OFF will go back to time/date change. By setting On the daylight saving time switch setting (marked by the symbol ) is displayed. In the example:
 - a. Sunday (7) of the last week (LA) of March (03) at 2 a.m. (02)
 - b. If necessary, change the parameters using buttons  and , move on to the next parameter using the button . The sequence requires entering:
 - i. day (1...7) of the week
 - ii. week of the month (first, second, third, fourth, last - LA)
 - iii. month (1...12)
 - iv. time



4. Press the button  to display the PREVIOUS PAGE setting current for switching to the standard time (marked by symbol ). In the example:
 - a. Sunday (7) of the last week (LA) of October (10) at 3 a.m. (03)
 - b. If necessary, change the parameters using buttons  and  and go to the next parameter with button .
 The sequence includes the entering:
 - i. day (1...7) of the week
 - ii. week of the month (first, second, third, fourth, last - LA)
 - iii. month (1...12)
 - iv. time
5. Once all the parameters have been set, press button  to exit and return to the configuration menu.
6. To exit and return to normal operation, hold button  pressed or wait for the timeout (approx. 40 seconds).

















7.2. EDIT PROGRAMS

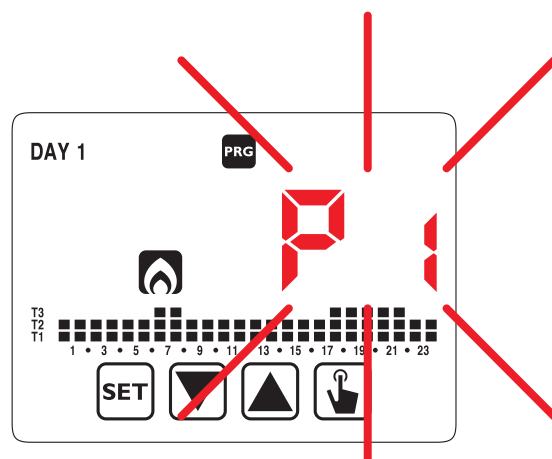
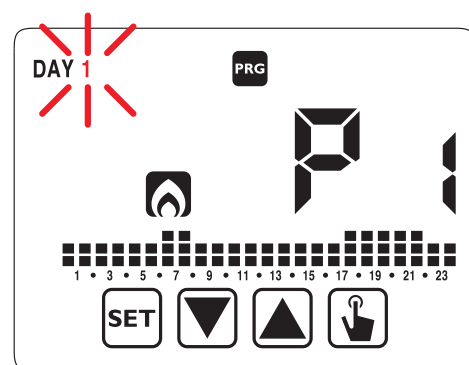
This menu can be used to modify the automatic operation programs. The thermostat is configured to run program P1 from Monday to Friday and P2 on Saturday and Sunday (program profiles can be found at the bottom of the booklet).









You can change this configuration if it does not meet your needs. In particular, for every day of the week, you can:

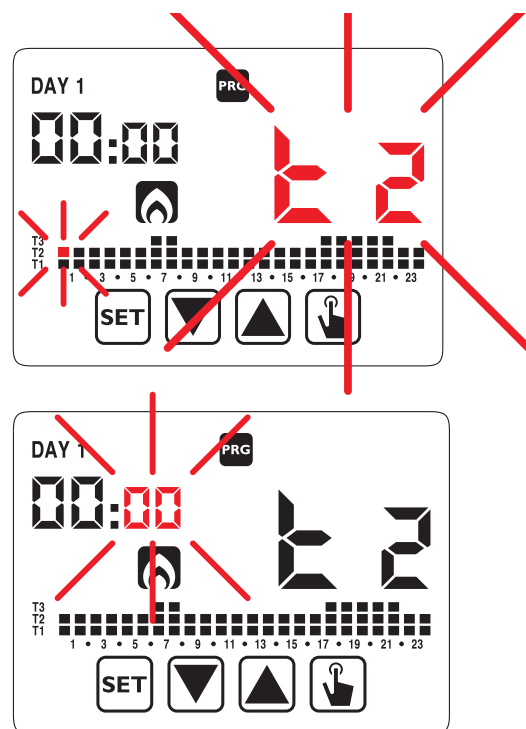
- choose a specific profile among the seven available ones;
- customise in detail the chosen profile.



Proceed as follows:

1. On the operating screen, hold button  pressed for three seconds. The icon  will start flashing on the display.
2. Briefly press button  until the symbol  flashes. Press button  to access parameter editing. The icon  will stop flashing.
3. The program page shows on the first day of the week (DAY 1) flashing, the current program (e.g. P1 with its operating mode  or ) and the profile corresponding to the program.
4. Press button  or  to select the day of the week for which you want to change the program. Press button  to edit the program.
5. The program indication icon starts flashing. Press button  or  to select one of the seven available programs. Press the button  to confirm and return to the previous screen (day selection).



- If no program exactly meets your needs, choose the program that comes closest and press  a second time to access the program profile edit.
- The time indicator shows 00:00, the temperature level icon (T1, T2 or T3) and the vertical bar corresponding to the time flash. Press button  or  to change the temperature level and button  to move on to the next hour. Set the desired temperature level for each hour of the day.
- For each hour, it is also possible to delay the start of adjustment by 15', 30' or 45' minutes. After setting the temperature as described above, press and hold the button  for 3 seconds to set a delay. The minute indicator will start flashing. Using button  or  set the delay time and press button  to confirm and move to the time hour.





















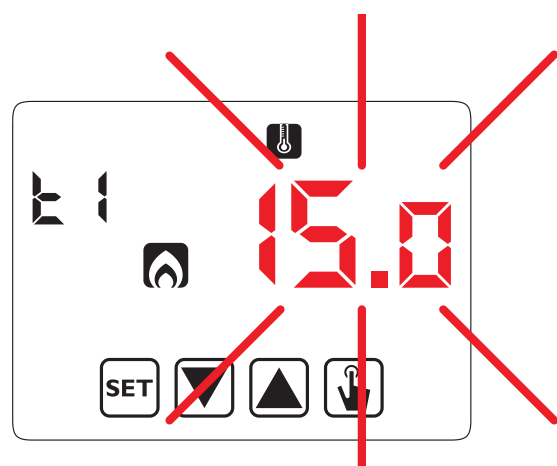
- When the program has been edited as required, go back to the day selection page by pressing button  twice and repeat, if necessary, the operations described above for the other days of the week. When all the changes have been made, exit the configuration menu by holding the button  pressed.

7.3. CHANGE TEMPERATURES (T1), T2, T3

This menu can be used to change the three automatic operation temperatures.

Proceed as follows to edit the program:

- On the operating screen, hold button  pressed for three seconds. The icon  will start flashing on the display.
- Briefly press button  until the symbol  flashes. Press button  to access the parameter editing function. The icon  will stop flashing.
- The T1 temperature value will flash. Change the value using buttons  and  and press the button  to confirm and go to editing T2.
- Change the value using buttons  and  and press the button  to confirm and go to editing T3.
- Change the value using buttons  and  and press the button  to go back to the T1 temperature editing page.
- Once all the parameters have been set, press the button  to exit and return to the programming menu. The icon  will stop flashing. To exit and go back to normal operation, hold pressed  or wait for the timeout (approx. 40 seconds).



(*)**IMPORTANT!**:

T1 cannot be configured in cooling mode.

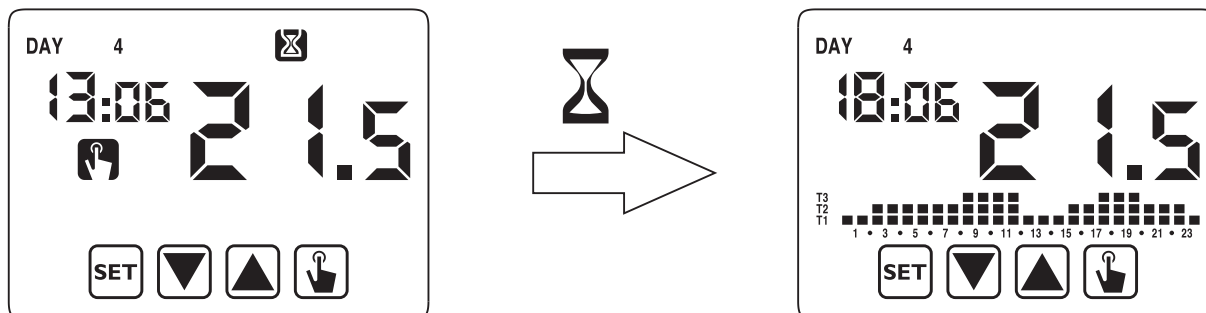
The set temperature values must comply with the condition: (T1)* ≤ T2 ≤ T3.

7.4. SETTING A TIMER

The timer makes it possible to maintain the current operation (manual, automatic and off) for a certain period (hours or days), after which the thermostat changes its operating mode, as described below. The timed operations are:

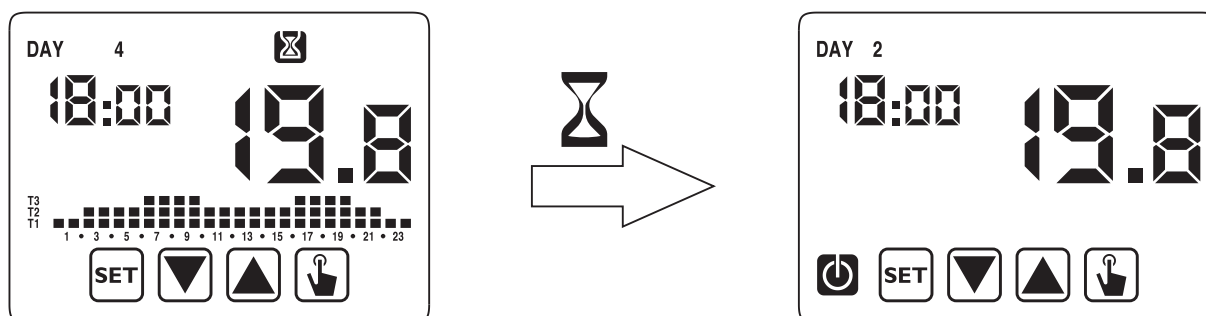
7.4.1. Manual timed

If a timer is set to manual state, manual state is maintained until the end of the timer after which the system switches to automatic operation.



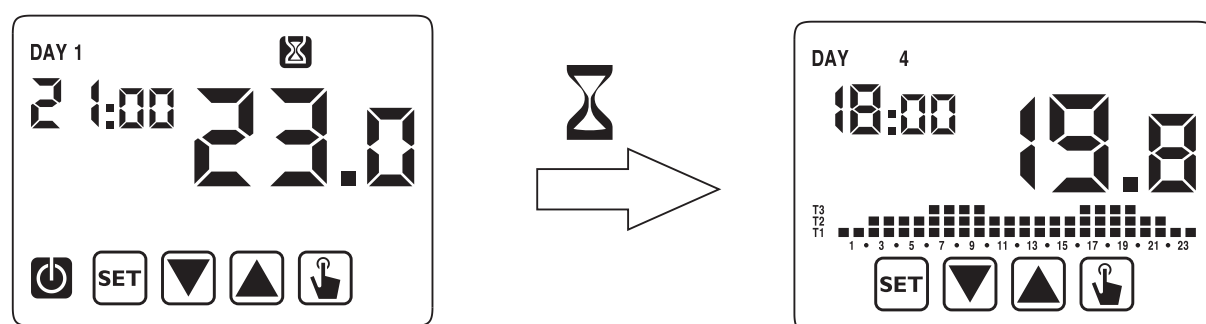
7.4.2. Automatic timed


If a timer is set in the automatic state, automatic state is maintained until the end of the timer after which the system it switches to off operation.



7.4.3. Off timed

If a timer is set to the off state, off state is maintained until the end of the timer after which the system switches to the operation it had before switching off (automatic or manual).











If a timer is set, the following symbol  appears on the display

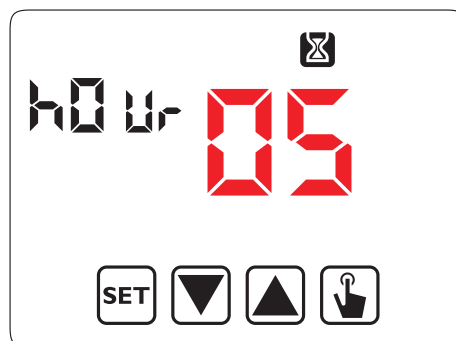
IMPORTANT: The timer is calculated in minutes and, therefore, if for example you set a 3-day timing at 12:15 on Tuesday it will expire at 12:15 on Friday.



IMPORTANT: The timers may end before their scheduled time if one of the following actions occurs:

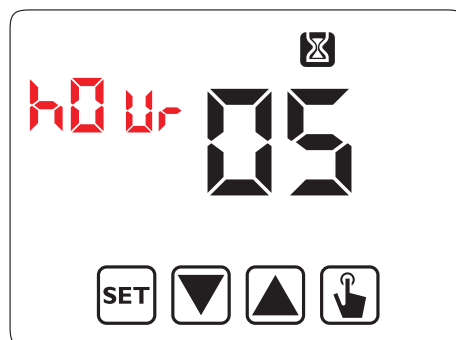
- change of time/date (including change of daylight saving time);
- manual change of operating mode;
- digital input switching;
- change of operating logic from winter to summer (or vice versa).

Proceed as follows to set a timer from current operation:

1. On the operating screen, hold button  pressed for three seconds. The icon  will start flashing on the display.
2. Briefly press button  until the symbol  flashes. Press button  to access the parameter editing function.
3. The icon indicating the timer value starts flashing (00 no timing). Enter the timer value (1 to 99) with buttons  or , press button  to confirm.



4. The icon indicating the unit value (h0ur or day) starts flashing. Use buttons  and  to choose whether the timer is in (h0ur) or days (day).












5. Once all the parameters have been set, press button  to exit and go back to the programming menu. To exit and go back to normal operation, hold button  pressed or wait for the timeout (approx. 40 seconds).

7.5. ADVANCED CONFIGURATION MENU

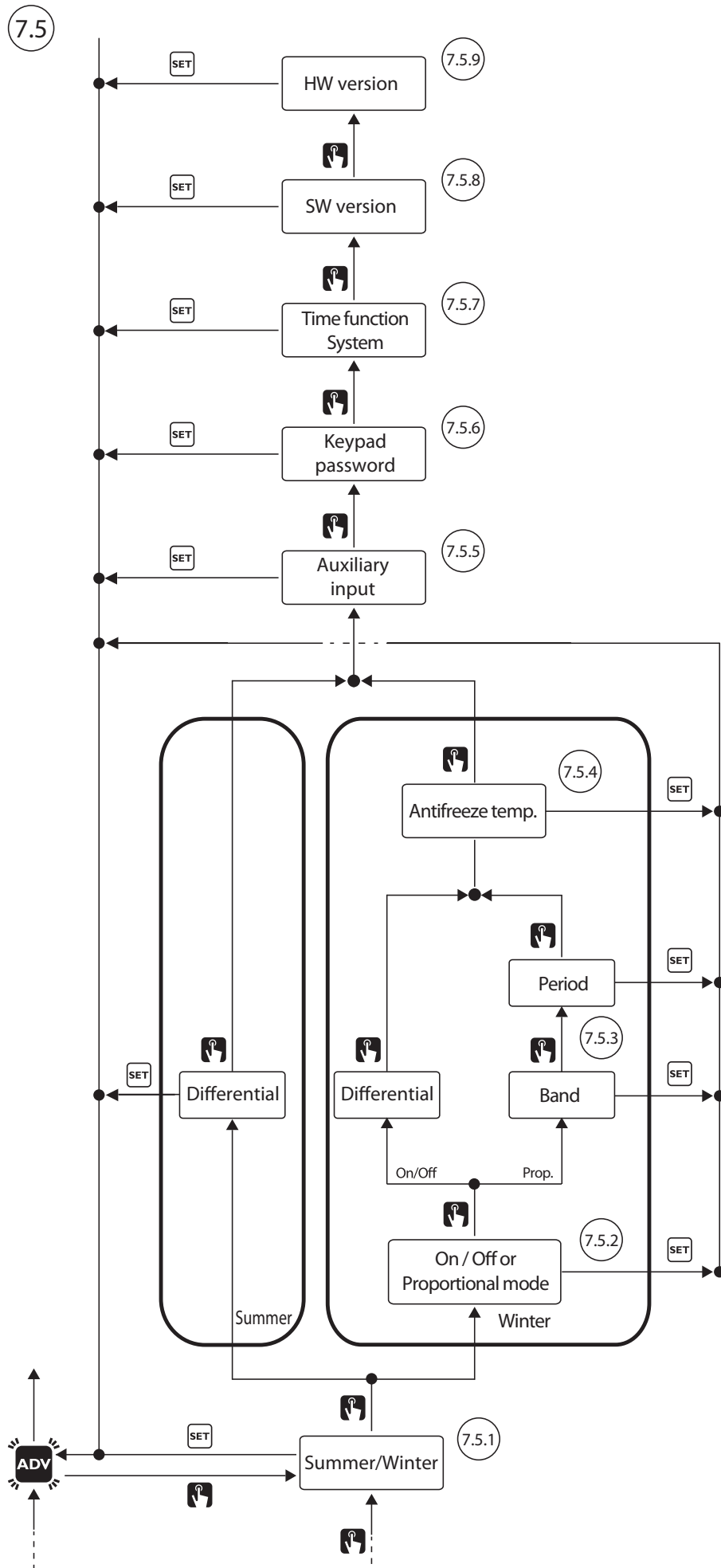
Using the advanced configuration menu (ADV), it is possible to modify or display the following operating parameters:

- Operating mode (heating or cooling)
- Control type (on-off or proportional)
- Parameters relating to adjustment type
- Antifreeze temperature
- Auxiliary input configuration
- Password for keyboard lock
- Operation hours
- Software version
- Hardware version



To access the ADV menu:

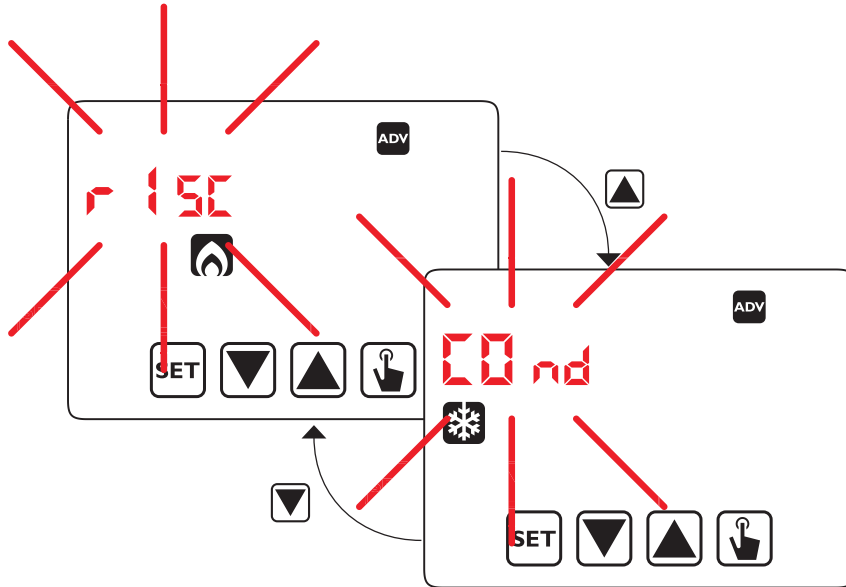
1. On the operating screen, hold button  pressed for three seconds. The icon  will start flashing on the display.
2. Briefly press button  until the symbol  flashes. Press button  to access the parameter editing function.
3. The first parameter in the menu starts flashing. Use buttons  and  to change the parameter and button  to confirm and go to the next parameter. Press  to exit the parameter editing function.

The following block chart summarises:
CONFIGURABLE ADVANCED PARAMETERS



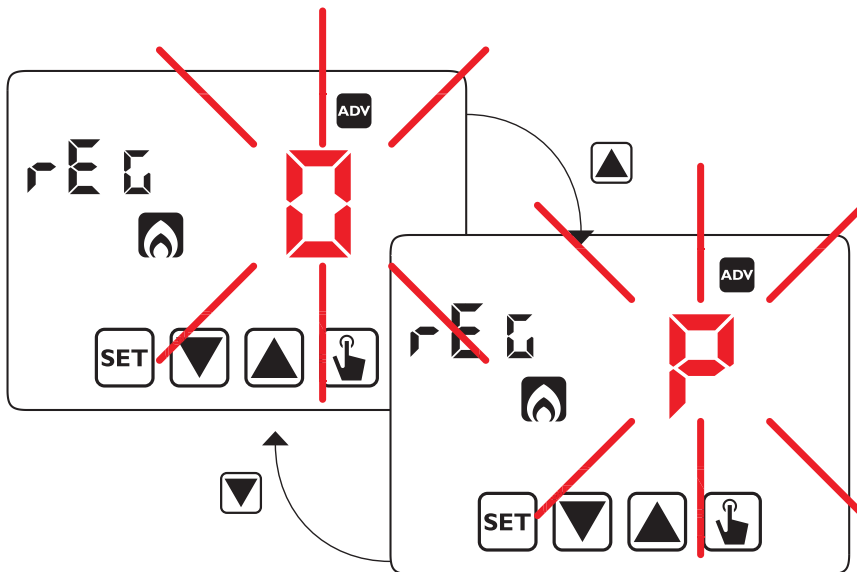
7.5.1. Operating mode

This parameter can be used to specify the operating mode of the thermostat between winter/heating  and summer/cooling .



7.5.2. Adjustment mode type for heating

For the heating operation mode, you can choose between on/off control (rEG 0) or proportional control (rEg P).



7.5.3. Adjustment parameters

In the case of **on/off** adjustment (rEG 0), the only parameter to be set is the differential (dIF), which can assume values between 0.1°C and 1°C (parameter to be set also for cooling mode).

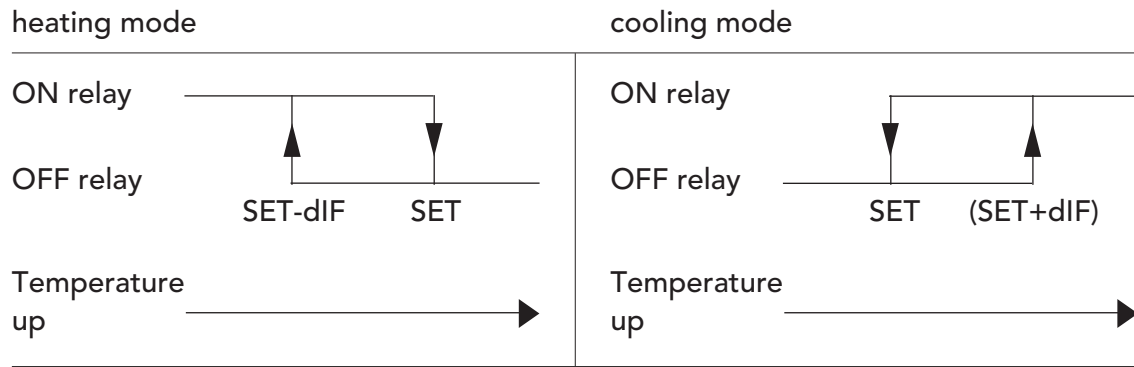
In the case of **proportional** control (rEg P), the parameters to be set are the control band (bnd) and the control period (PEr).

Note: The presettings are suitable for most situations. Change these settings only when actually needed.

The difference between the two types of adjustment is summarised here.

7.5.3.1. On/off adjustment

In on/off mode, the thermostat measures the room temperature once a minute and controls the system according to the following logic:



SET is the setpoint and dIF is the differential or hysteresis (this is useful to avoid continuous switching on and off which could be detrimental to the system when the setpoint is reached).

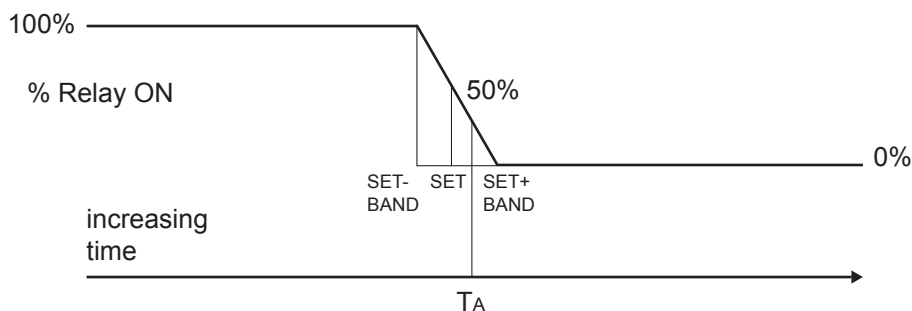
7.5.3.2. Proportional adjustment TPI (1) (warm-up only)

In heating mode, **proportional** control is also available in addition to on/off control to allow more precise control in order to obtain a constant temperature.

This setting requires you to specify two parameters:

- the band, which develops symmetrically to the right and left of the setpoint. It can assume values between 0.5°C and 5°C. Outside these values, the heating will always be on (if room temperature < (setpoint - band) or always off (if room temperature > setpoint + band);
- the control period which is the duration of the control cycle (on time + heating off time) and can take values of 10, 20 or 30 minutes.

During operation, at the beginning of the control period, the thermostat measures the room temperature (T_A) and compares it with the setpoint. According to the difference, the switch-on time (and consequently also the switch-off time) within the next control period is calculated. The closer the measured temperature is to the setpoint - band value, the more the on time will be predominant over the off time. Conversely, the closer the measured temperature is to the setpoint + band value, the more the off time will be predominant than the on time (²).



After the control time (10, 20 or 30 minutes), the thermostat compares the room temperature with the setpoint again and updates the on/off times for the new period.

The proportional control performance is subject to the correct choice of parameters.

Select the setting band value as follows:

- broad band (5°C) for systems with high thermal gradient (³);
- narrow band (0.5°C) for systems with low thermal gradient (³).

Select the value of the setting period as follows:

- 10' for low thermal inertia systems (fan-coil)
- 20' for medium thermal inertia systems (aluminium radiators)
- 30' for high thermal inertia systems (cast iron radiators)

IMPORTANT: The thermostat is configured by default to operate in on/off mode with differential set at 0.3°C.

(¹) Thermapr when used with TPI adjustment mode complies with Control Class IV of the ErP/Energy related Products Directive of 26/09/2015.

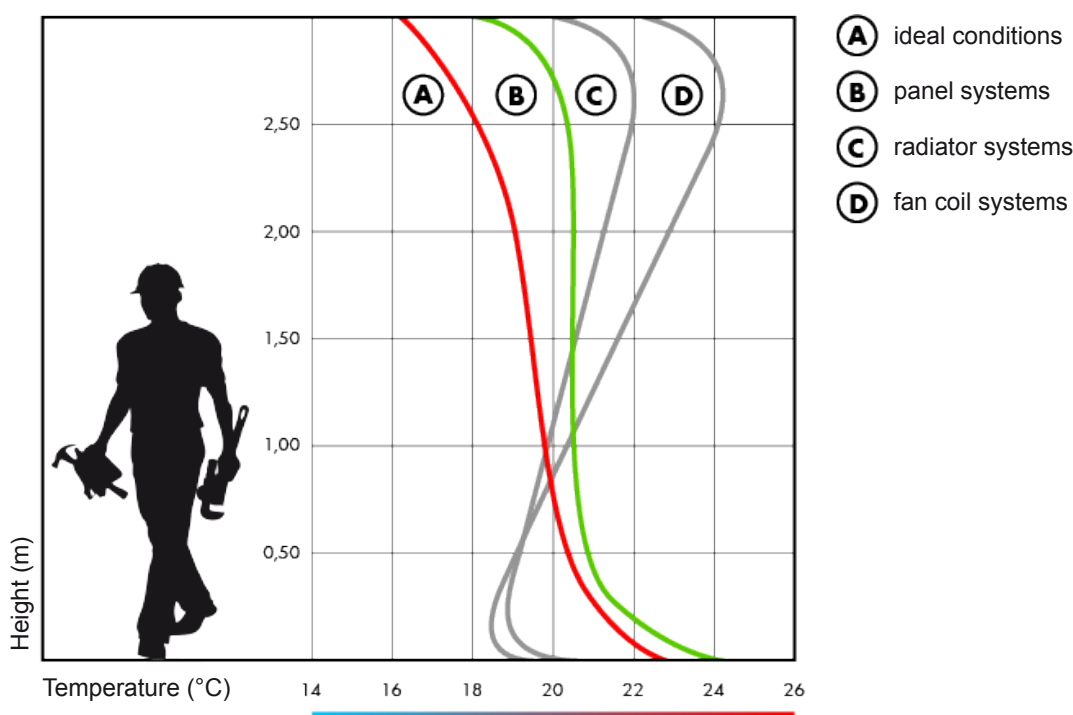
Time Proportional & Integral (TPI) control reduces the average temperature of the heating water, improves ambient temperature control accuracy and increases the overall system efficiency.

The ErP Directive estimates that TPI control allows a seasonal energy saving of 2%.

(²) Example: with SET= 19°C BAND=1°C and TA=19.3°C, the on % is equal to 35%. If the set period is 20 minutes, we will have an on time of 7 minutes, followed by an off time of 13 minutes.

(³) The ambient temperature gradient is the temperature variation curve between floor and ceiling. Floor systems generate a minimum thermal gradient, close to the optimum, with very similar floor and ceiling temperatures. Radiator systems and especially connector systems generate a higher gradient curve, in which the ceiling temperature is higher than the floor temperature.

Vertical thermal gradient with different types of heating elements




7.5.3.3. Emergency control (winter operation only)

The thermostat makes an emergency adjustment if an error occurs during the reading of the sensor or if the time is lost.

In case of **sensor error**, if the antifreeze function is not excluded, the thermostat activates the load for 10 minutes every 4 hours. The display shows "Err" in field (7).

In the event of a **loss of time** (due to battery discharge or blackout lasting longer than the power reserve), the thermostat restarts from off operation, adjusting according to the antifreeze temperature, if it has not been previously deactivated. Reset the date/time to return to normal operation (program changes and settings are retained in memory).


7.5.4. Antifreeze temperature

In heating mode, it is possible to set a safety temperature (antifreeze temperature - Off) to be maintained even if the thermostat is turned off. It is possible to choose a value between 1°C and 50°C. It is also possible to disable the antifreeze function by holding down the button  until “_ _.” appears on the display. In this case, if the thermostat is switched off, no safety temperature is maintained.

7.5.5. Auxiliary input management


The thermostat has a configurable input to connect an external temperature sensor or a voltage-free contact in case you want to connect a telephone dialler to turn the thermostat on or off remotely.

The word “ESt” appears. Select:

- “---” if nothing is connected to the input.
- “dIG” if you want to hook up a dialler.
-  if you want to connect an external temperature sensor.



7.5.6. Keypad locking password


It is possible to set a keyboard which is useful if the thermostat is installed in public places or if you want to prevent anyone from changing the operating parameters.

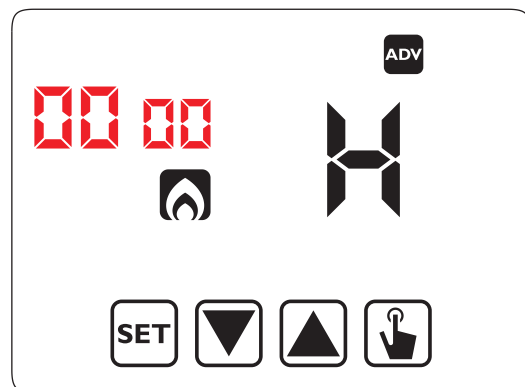
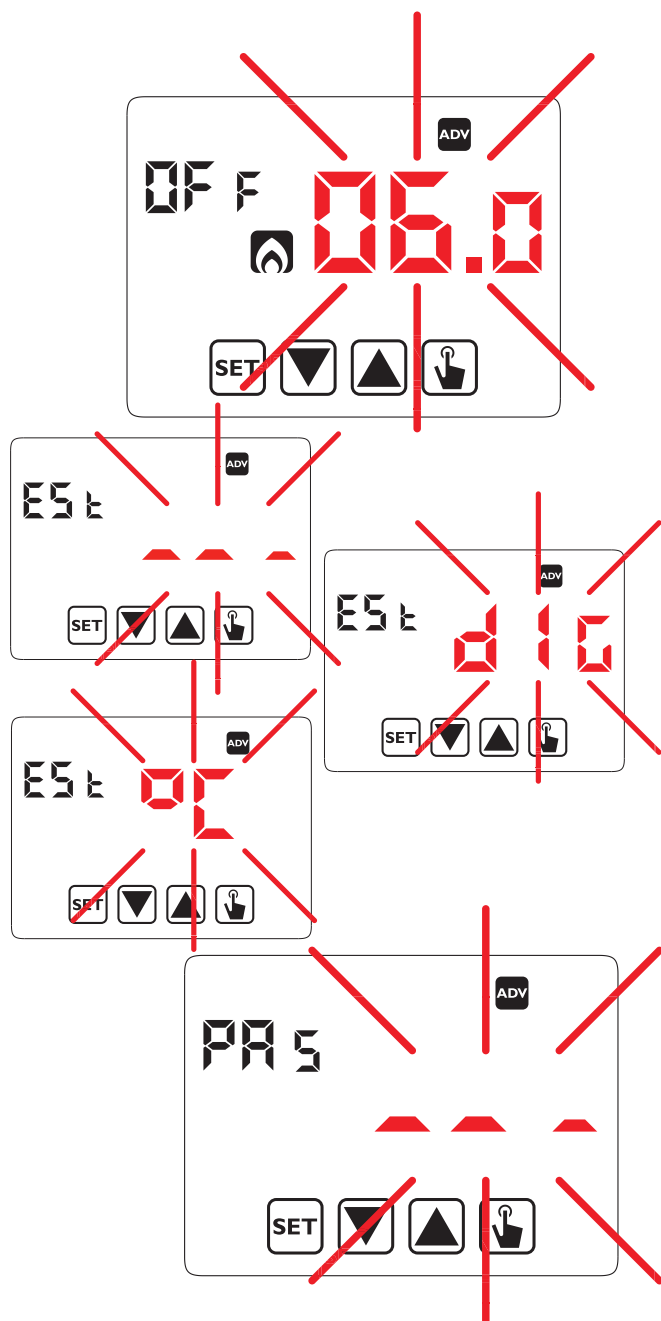
To set a password, enter a value between 001 and 999 in the “PAs” field. To deactivate the password, hold  pressed the key until “_ _.” appears.

When the keypad is locked, the thermostat performs all its functions using the set control parameters. If the keypad lock is active and a button is pressed, the display shows “bL0c” with and the dashes will flash for a few seconds. Enter the password to unlock the keypad, which will remain unlocked for 30 second from the last touch.

7.5.7. Hours of system operation

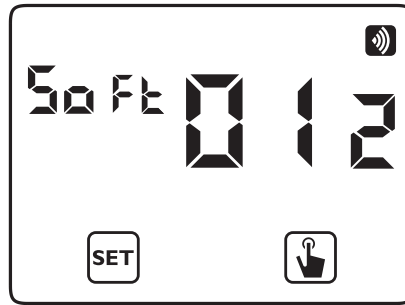
This page shows the total number of hours of operation of the system (relay ON) in the operating mode (identified by icons  or ).

It is a four-digit counter which can be reset by holding down the button  until 0000 appears.



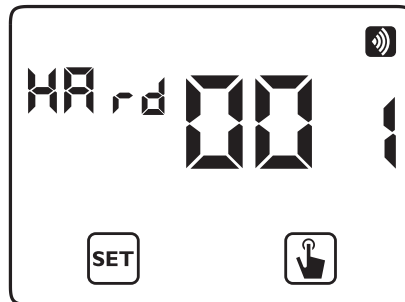
7.5.8. View SW version



This screen shows the software version of the thermostat.



7.5.9. View HW version

This page shows the hardware version of the thermostat.








Once all the parameters have been set, press button  to exit and return to the configuration menu. To exit and go back to normal operation, hold button  pressed or wait for the timeout (approx. 40 seconds).

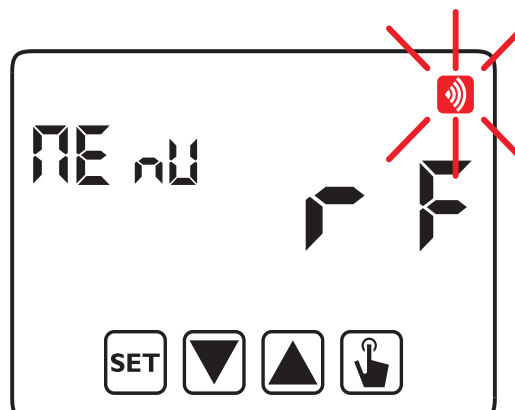
7.6. RADIO-FREQUENCY MENU

The "RF menu" item provides access to all the wireless settings of the thermostat:

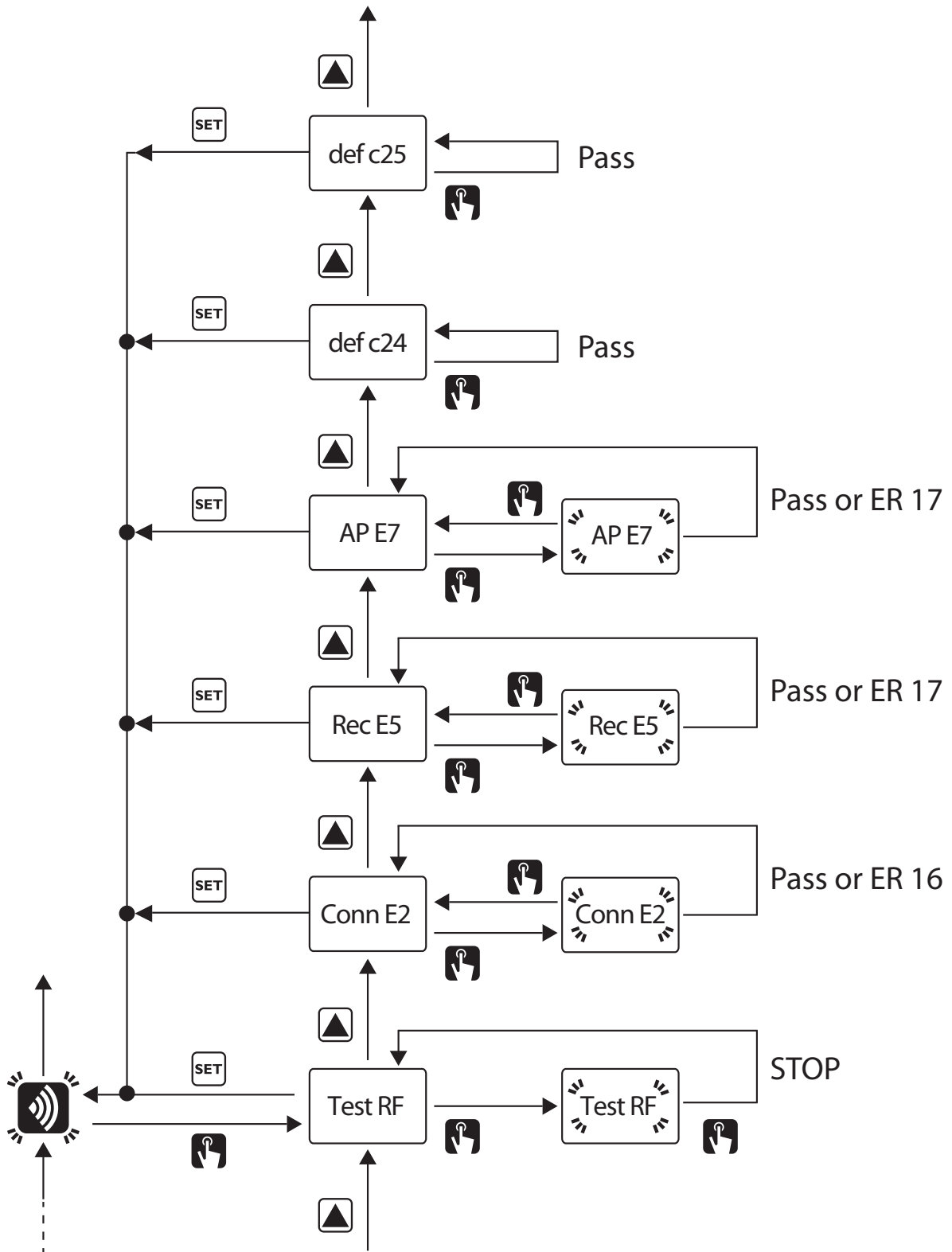
- Connected MTR wireless actuator connection test.
- Configuration reception from AppPRO (as Control Point).
- Wire connection to an MTR actuator set-up.
- Radio Bus Access Point connection set-up.
- Erase access points.
- Erase all wireless settings.

Proceed as follows to access the RF menu:

1. On the operating screen, hold button  pressed for three seconds. The icon  will start flashing on the display.
2. Press button  briefly until the symbol  flashes then press the button .

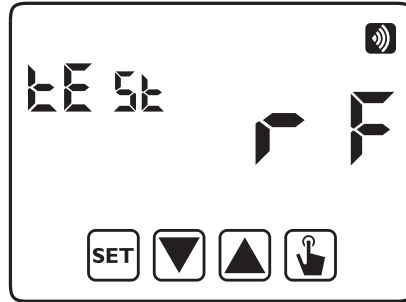


The following figure summarises the navigation through the various radio-frequency menu items:









7.6.1. RF Test:

This can be used to check the quality of the wireless connection between the thermostat and the MTR actuator relay. Navigate through the menu until you reach the RF Test item:




Press  to start the test.

The message "RF test" will flash and symbol  (if the thermostat is set to heating mode) or  (if the thermostat is set to cooling mode) will switch every 3 seconds between the present and absent conditions. The relay of the connected MTR (or MTRs) will switch accordingly from closed with symbol  or  on the display, or otherwise open.

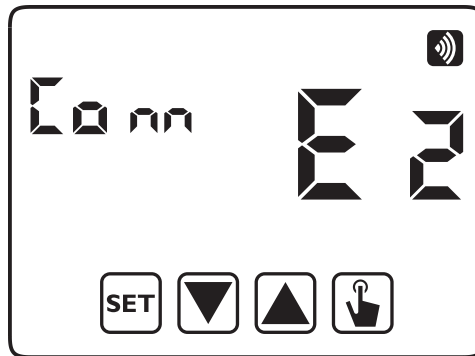
Press the button  again to stop the test or  to return directly to the beginning of the radio-frequency menu.

IMPORTANT: There is no timeout to release the thermostat from RF Test condition.

7.6.2. Configuration reception from AppPRO

Although this menu item is accessible, its direct use is not necessary. This item is automatically called up during the Programming Procedure of the Thermostat from AppPRO after double-tapping the button  on the thermostat itself.

See paragraph "10.4.5. YOKIS PRO: Single-zone thermostat configuration with wireless connection (MTR)".



7.6.3. Rec E5 : Connection to one MRT module

Menu item to be used, in absence of AppPRO for configuration, to control a boiler or a solenoid valve by means of an MTR2000ERP(X) or MTR2000MRP(X) wireless receiver relay.

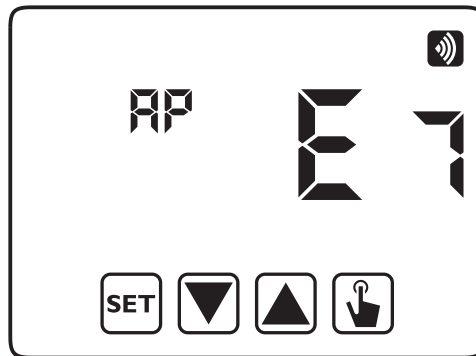
See paragraph "10.4.1. Single-zone thermostat configuration with direct wiring".



7.6.4. Ap E7 : Access point definition

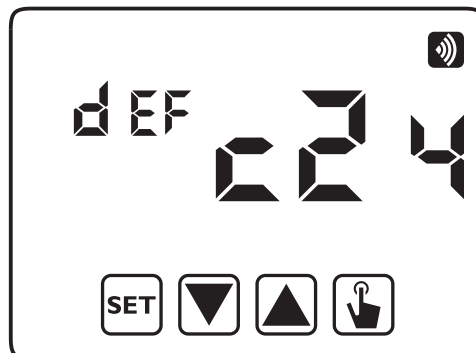
This control is used to define an access point on the Radio Bus if the distance between the thermostat and the actuator module is excessive.




This is a menu item to be used in case of wireless configuration without AppPRO. See paragraph "10.4.3. How to extend the range".



7.6.5. Def 24 : Erase access points

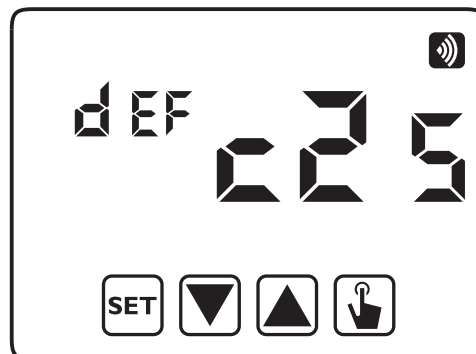
This control can be used to delete all access points previously programmed on the thermostat. Deleting the access points is recommended before reconfiguration after deleting a module on the radio bus. It is mandatory to delete the access point if the access point has been modified or removed from the installation.






The access points are only deleting on the thermostat and it is not necessary to intervene on the module or modules to be eliminated. To perform this configuration, press buttons  and  until "def c24" appears. Then press button  to run the function which immediately erases all access points. If the programming is performed correctly, the message "PASS" will appear on the thermostat to confirm the successful outcome of the operation.

7.6.6. Def 25 : Thermostat wireless configuration reset

This control resets the wireless configuration of the thermostat to default settings ONLY. This include erasing the wireless access points and the wireless receivers connected to the thermostat. Note that the rest of the thermostat configuration (planning, setpoint temperatures, etc.) is not concerned by this operation.





The reset is performed only on the thermostat. It is not necessary to intervene on the module(s) which are erased. To perform this programming procedure, press buttons  and  until "def 25" appears. Then press button  to run the function which immediately erases the access points and the receivers. If the programming is performed correctly, the message "PASS" will appear on the thermostat to confirm the successful outcome of the operation.

8. REMOTE SWITCH-OFF

The device has two inputs (AUX) for connecting a potential-free contact to which a telephone dialler can be connected, for example, to remotely switch the thermostat on and off using a telephone.

The contact can be in one of the following positions:

- open: normal operation (according to the programming set via keypad).
- closed: thermostat in off operation.

The remote off condition is indicated on the display by the flashing of the symbol  to differentiate it from the keypad off  condition.


Note: This function must be operated via the Advanced Configuration (ADV) menu. The auxiliary input parameter must be set to "diG".

IMPORTANT: Remote off condition (contact closed) takes priority over any other programming and therefore the thermostat will remain in the off condition until the contact returns to the open position.

9. THERMOSTAT RESET

This can be used to delete any settings made and reload the default settings.

Proceed as follows:

1. Disconnect the thermostat from the wall base and reconnect it.
2. While the buttons are flashing, keep the button  pressed until "dEF" appears on the display.

Resetting to default settings will clear all settings in the configuration parameters:

- Time and date
- Edit programs
- Change temperature (T1), T2, T3
- Timer setting
- Advanced menu configurations

IMPORTANT: Resetting to default parameters will not delete the wireless configurations made on the thermostat. To delete the wireless configurations, see chapter "[7.6.6. Def 25 : Thermostat wireless configuration reset](#)".

10. INSTALLATION

10.1. SAFETY WARNINGS

The following instructions must be observed when installing the product:

1. The product must be installed by a qualified professional, scrupulously respecting the wiring diagram.
2. Do not power or connect the product if any of its parts are damaged. Do not carry out repairs and contact technical support directly.
3. Do not use the product for purposes other than those specified.
4. The device must be installed and put into operation in accordance with current legislation on electrical systems.
5. The product can be used in a category 3 and grade 2 pollution measurement environment.
6. Where it is necessary to guarantee galvanic insulation towards the boiler, it is essential to install the REL1C accessory (see diagram SD541-6054 in the MTR2000 product card).

10.2. HOW TO START THE THERMOSTAT

The Thermarp accessory is ideal for wall mounting. Alternatively, it can be installed on a flush mounting box Mod. 503.

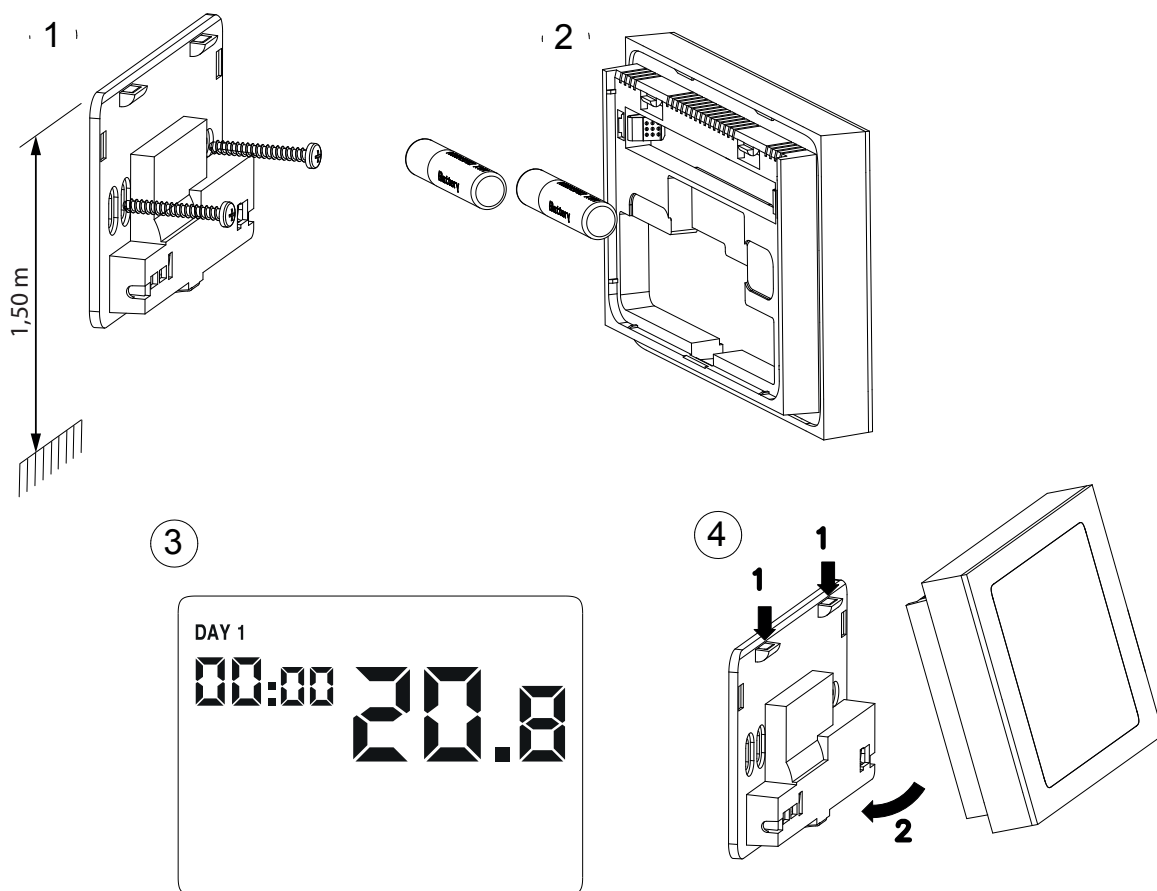
The thermostat must be installed at a height of about 1.5 m above the floor, protected from direct radiation, away from doors, windows, heat sources, positions with excess or total lack of ventilation.

The YOKIS THERMARP thermostat runs on batteries (2 x 1.5 V AAA / LR03 type batteries).

1. Fix the base to the wall using the screws provided.
2. Open the rear compartment of the thermostat timer to **insert the batteries**, checking the polarity indicated on the battery compartment.

3. After the batteries have been inserted correctly, the thermostat will display the following screen (3) after about 20 seconds.

4. Do not connect the thermostat to the base **until the previous screen (3) is displayed**. Couple first the teeth on the top side.



IMPORTANT: No programming or changes can be made to the set parameters until the device is properly attached to the wall base.

IMPORTANT: The maximum distance between Thermapr and a Yokis receiver is 250 m in open range, inside a 100 m² house with perpendicular crossing of a master wall or floor slab. These values may be reduced by the presence of metallic elements, crossing of walls or partitions.

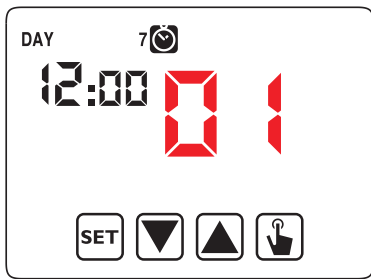
5. The clock must be set (by entering time and date) after the thermostat is powered.

IMPORTANT: The thermostat requires the time and date to be entered in order to operate correctly.

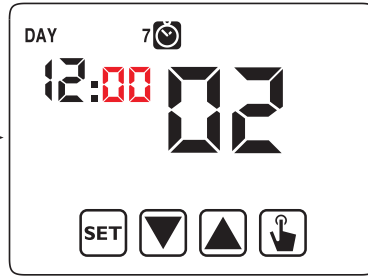
The parameters to be set are:

- seconds (only synchronisation to 00 value)
- minutes
- hours
- year
- months
- days

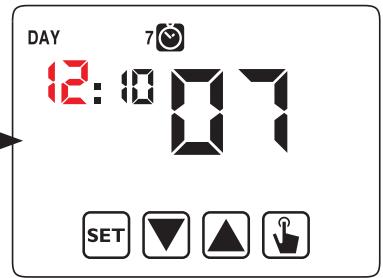
6. To set the time, see paragraph 7.1 TIME AND DATE in detail.



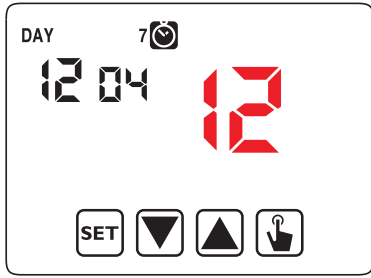
Seconds synchronisation



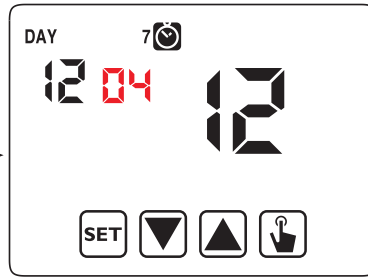
Minute synchronisation



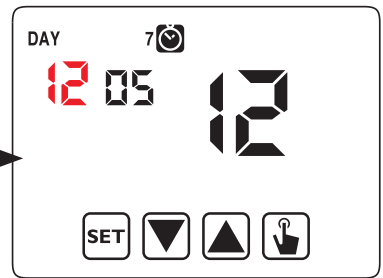
Hour synchronisation



Setting the year



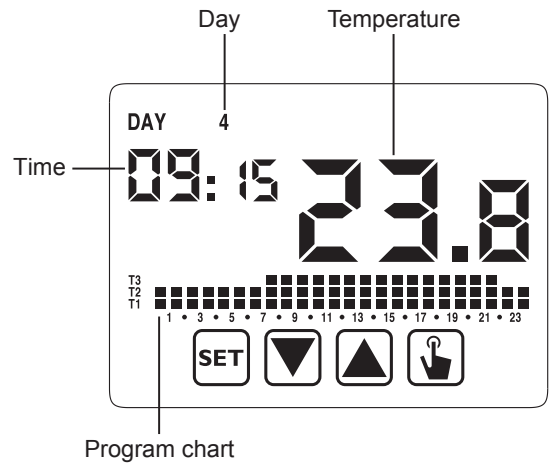
Month settings



Day settings

- Once all parameters have been set, hold button **SET** pressed for 3 seconds to exit the clock synchronisation menu.

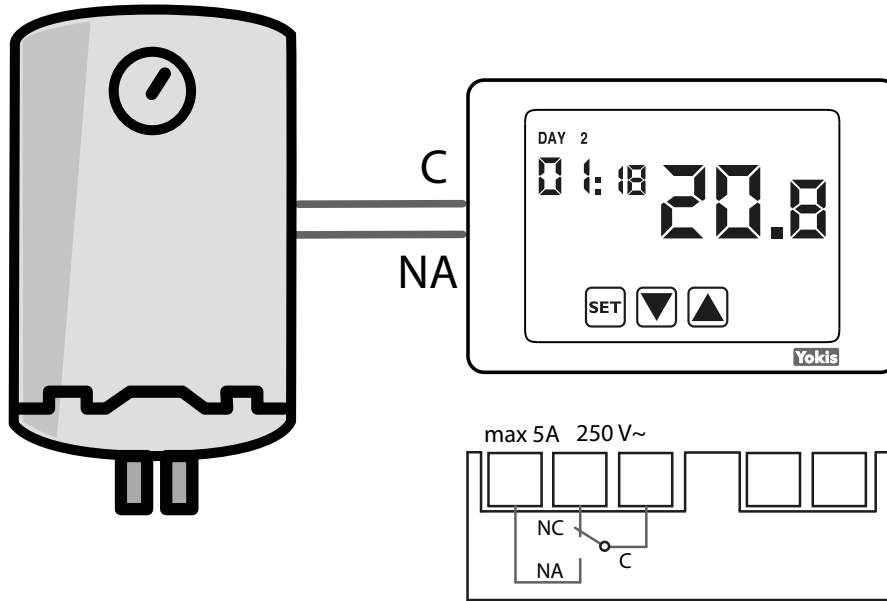
At this point, the thermostat will start operating with the set parameters, displaying the day of the week, the time, the room temperature and the chart of the active program.



10.3. CONNECTIONS

The THERMARP thermostat can be used to control a boiler or a 230V solenoid valve directly via its internal relay or via the relay of a wireless receiver: MTR2000ERP(X) or MTR2000MRP(X).

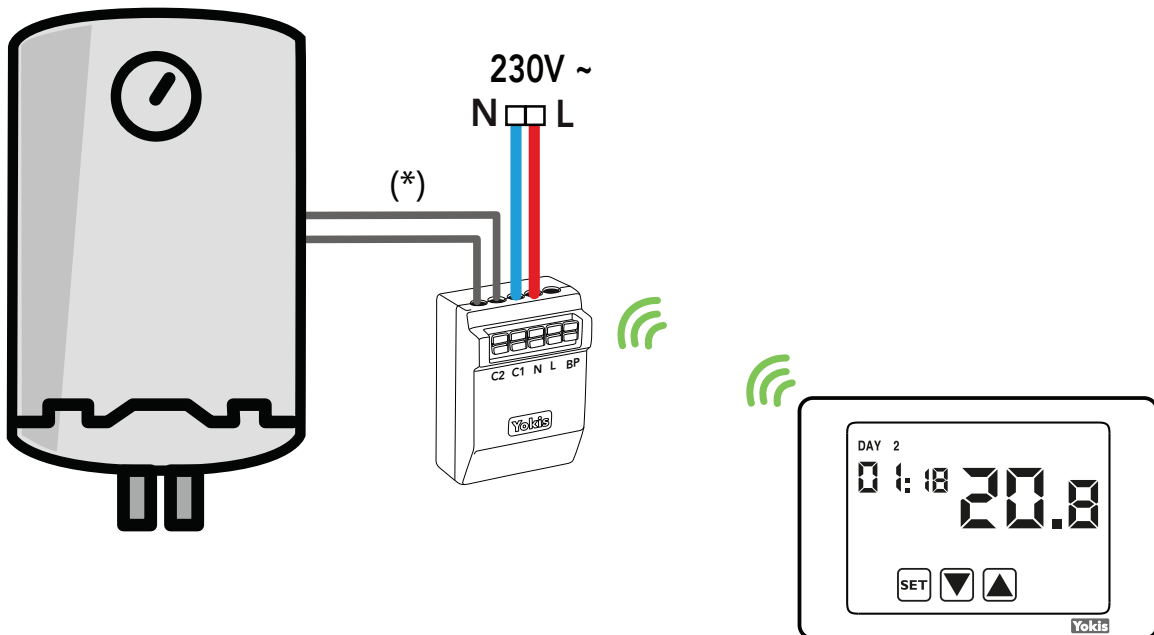
Direct single-zone wiring



Wires with cross-section area of 0.5 mm² or larger must comply with IEC 60332-1-2; wires with cross section area smaller than 0.5 mm² must comply with IEC 60332-2-2.

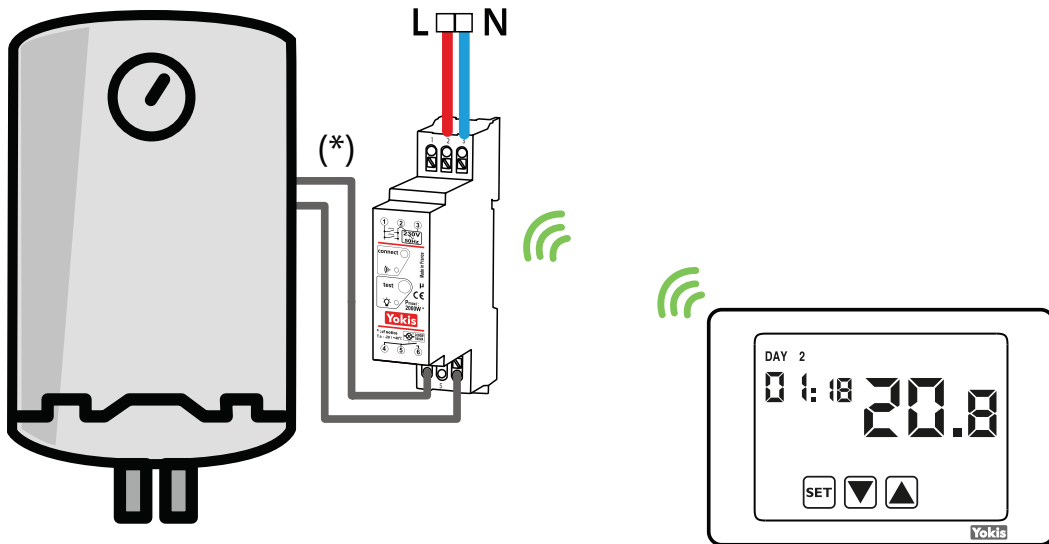
In the case of a wireless receiver, before pairing the thermostat and the wireless receiver, the MTR2000ERP(X) or MTR2000MRP(X) receiver must be wired and powered.

Single zone wiring via MTR2000ERP(X)

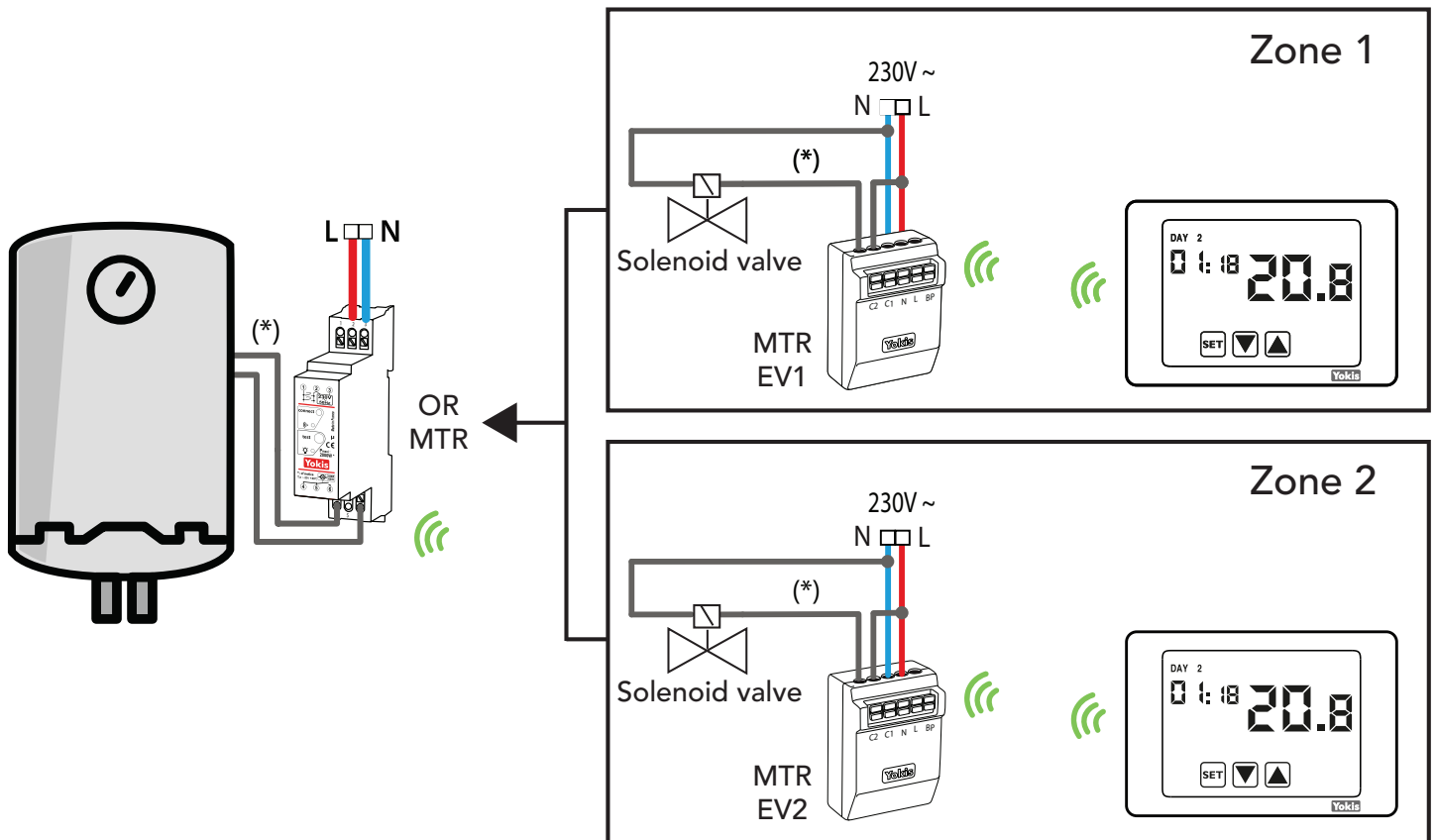


(*) **Important:** Where it is necessary to guarantee galvanic insulation towards the boiler or the solenoid valve, it is essential to install the REL1C accessory (see diagram SD542-6054 in the MTR2000 product card).

Single zone wiring via MTR2000ERP(X)



Multi-zone wiring with OR function



(*) **Important:** Where it is necessary to guarantee galvanic insulation towards the boiler or the solenoid valve, it is essential to install the REL1C accessory (see diagram SD542-6054 in the MTR2000 product card).

10.4. CONFIGURATIONS

10.4.1. Single-zone thermostat configuration with direct wiring





In this case, it is possible to configure the thermostat locally using its configuration menus. It is not necessary to configure the wireless part and therefore it is not necessary to access the Radio-frequency menu.

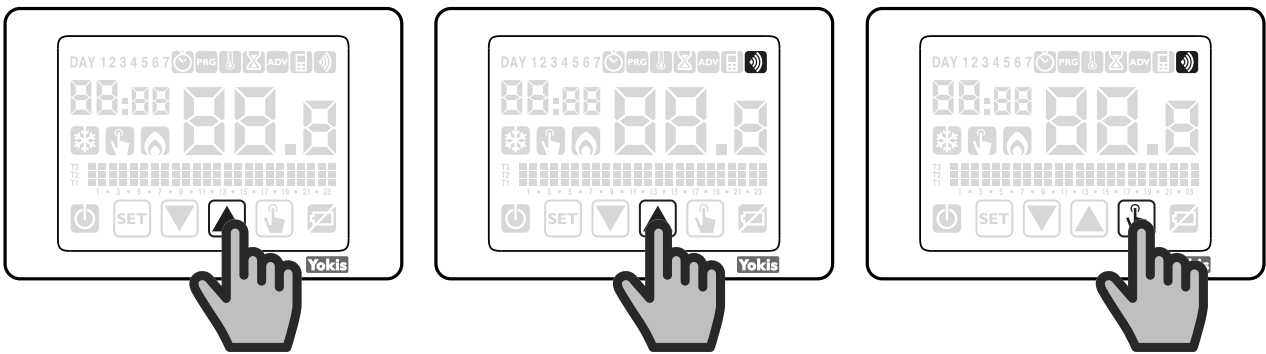
Note: When configured in this way, the thermostat cannot be accessed remotely or locally via the Yno app. In order to do so, it must be installed in a Yokis system equipped with hub and configured using the YokisPRO app instead of its own menus. See below.

10.4.2. Single-zone thermostat configuration with wireless connection (via MTR) and check

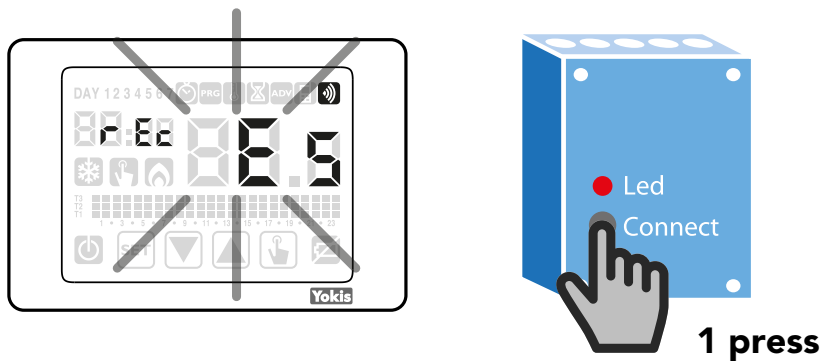
Again, in this case, it is possible to configure the thermostat locally, using only its configuration menus.

It is obviously necessary to configure the wireless connection with the MTR2000ERP(X) or MTR2000MRP(X) receiver module as described here.

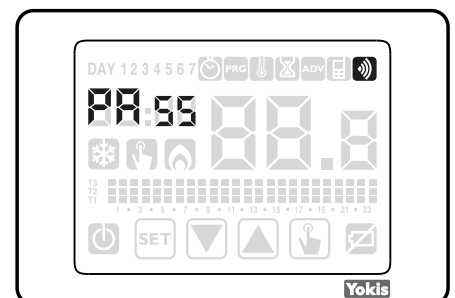
- ▶ Wire and power the MTR2000ERP(X) or MTR2000MRP(X) receiver module.
- ▶ Use the arrows  and  to move through the various items of the configuration menu until the RF WIRELESS  menu is displayed. Tap on the "Validate" icon .



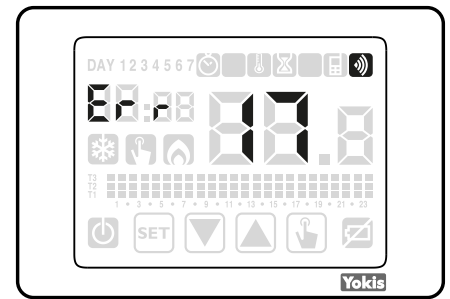
- ▶ While the message "rec E5" flashes for 30 seconds, briefly press in the "Connect" hole on the receiver module with a sharp, properly insulated tool.



- ▶ The THERMARP thermostat will briefly display the PASS message if the pairing was successful.
- ▶ The THERMARP thermostat is now correctly paired with the receiver and controls the receiver to adjust the boiler or solenoid valve to 230V according to the set temperature values.



Note: The THERMARP thermostat may not be able to communicate with the receiver if it is out of range. The message Err. 17 will appear on the display in this case. See the "How to extend the range" paragraph.



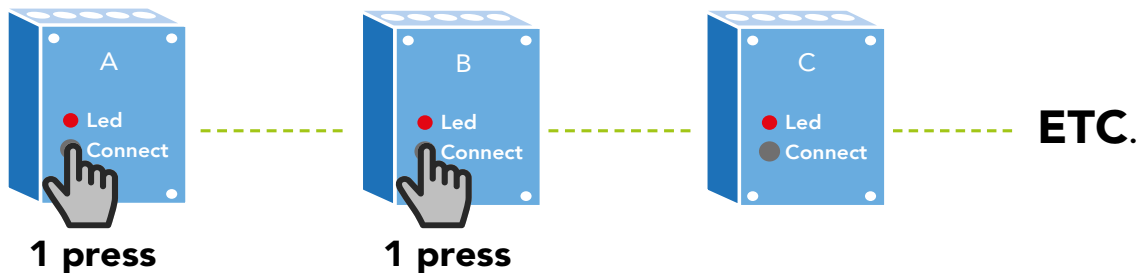
10.4.3. How to extend the range

All YOKIS wireless receivers also serve as signal repeaters. By adding one or more modules, you can significantly extend the wireless range by creating a wireless bus between the various modules on the system.

1) Create the wireless bus

- ▶ Press the **Connect button on module A once** (the LED on module A will start flashing), then **press the Connect button on module B once** (the connection between A and B is established and the 2 modules stop flashing).

The two presses must occur **within a maximum time of 30 seconds**.







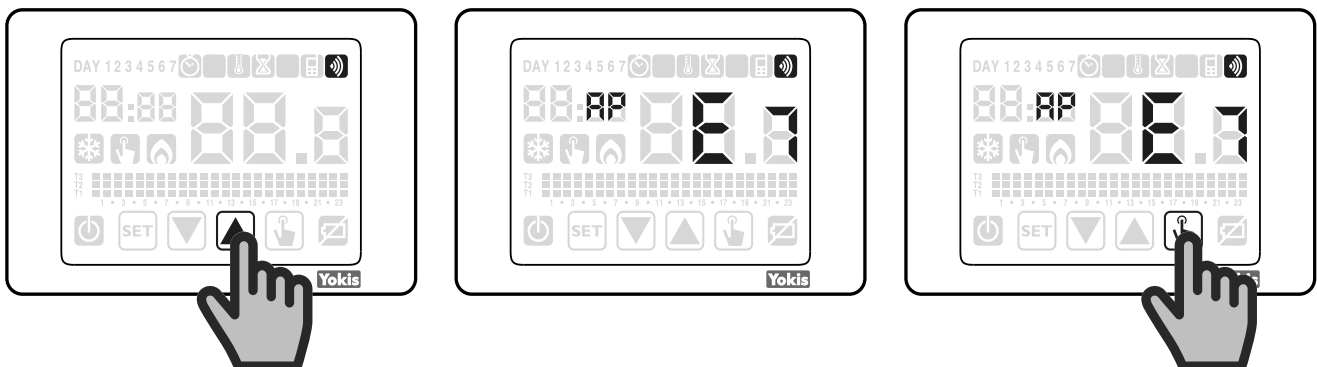
- ▶ Repeat the same operation on modules B and C and so on, for all the others.

2) Pair the THERMARP thermostat with the module that controls the boiler

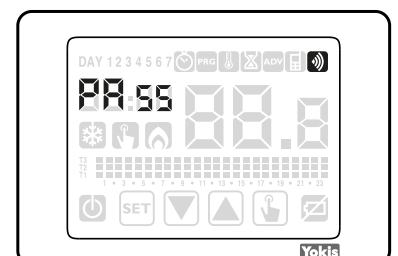
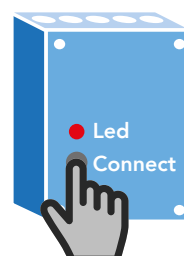
- ▶ After creating the wireless bus, temporarily move the thermostat to near the module that controls the boiler. Pair the THERMARP thermostat with the module that controls the boiler, following the steps described above.



3) Set the access point on the wireless bus

- ▶ Place the thermostat in its final position.
- ▶ Return to the Wireless menu  of the THERMARP thermostat.
- ▶ Use the buttons  and  to navigate the configuration menu to the AP E7 "Bus Access Point" submenu, then tap the "Confirm" icon .







- ▶ Once the mode has been validated, the message **AP E7** starts flashing to confirm that the THERMARP thermostat is in "Bus access point" pairing mode. Press the "Connect" button of the module closest to the THERMARP thermostat once to establish the connection. The PASS message appears briefly to confirm the connection.





Access the RADIO RF menu to check the correct operation of the wireless connection. Use the two buttons  and  to navigate through the menu until it appears on the display:



Press  to start the test.

The message "RF test" will flash and symbol  (if the thermostat is set to heating mode) or  (if the thermostat is set to cooling mode) will switch every 3 seconds between the present and absent conditions. The relay of the connected MTR (or MTRs) will switch accordingly from closed with symbol  or  on the display, or otherwise open.

Press the button  again to stop the test or  to return directly to the beginning of the radio-frequency menu.

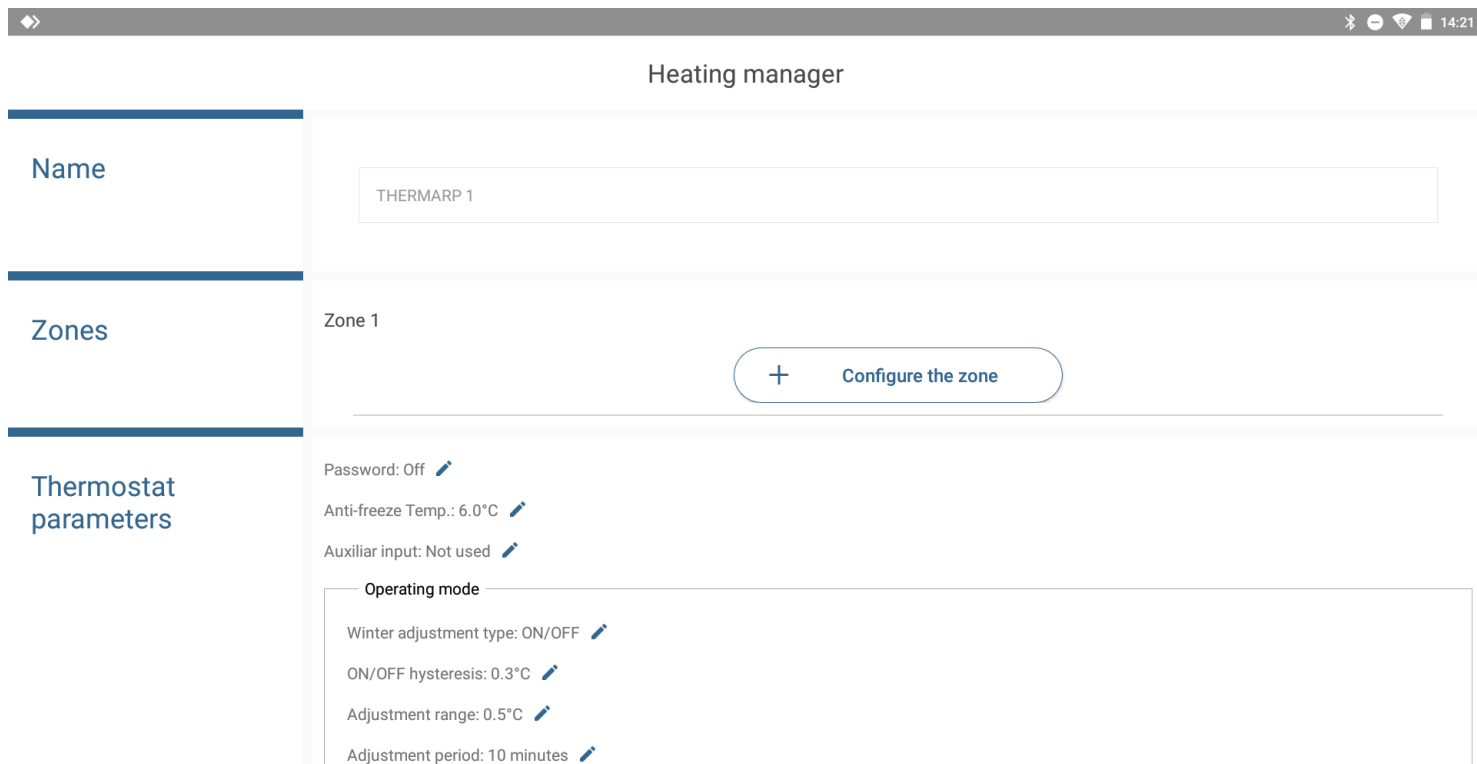
IMPORTANT: There is no timeout to release the thermostat from RF Test condition.

Note: When configured in this way, the thermostat cannot be accessed remotely or locally via the Yno app. In order to do so, it must be installed in a Yokis system equipped with hub and configured using the YokisPRO app instead of its own menus. See below.


10.4.4. YOKIS PRO: Single-zone thermostat configuration with direct wiring

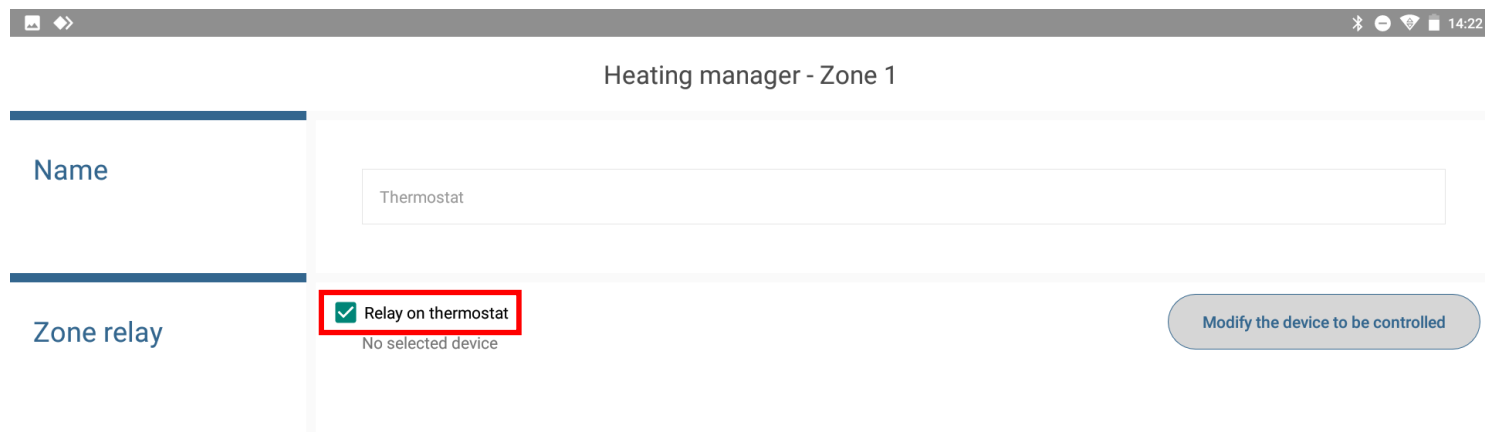
The thermostat is considered as a Control Point in the AppPRO.

To configure it, it must therefore be added, like any other control point (e.g. remote controls), to the room where it will be installed.




After you have given it a name (e.g. "Thermostat"), configure the various parameters, which appear at the bottom of the screen.

Then tap on button  and on the new screen which appears, leaving the “Relay on thermostat” option selected.



When you have finished configuring the zone, store the programming by pressing “Store”.

Go back to the point on the previous page, you must now transfer the configuration from the App to the thermostat. To do this, similarly to what you are used to do with a remote control, tap on the button at the bottom right, “Program” and, on the thermostat, press the button  twice as soon as the app prompts you to.

At the end of the transfer, “PASS” will be briefly displayed on the thermostat. If the transfer was not successful, “Err 16” will appear instead. In that case, try again.

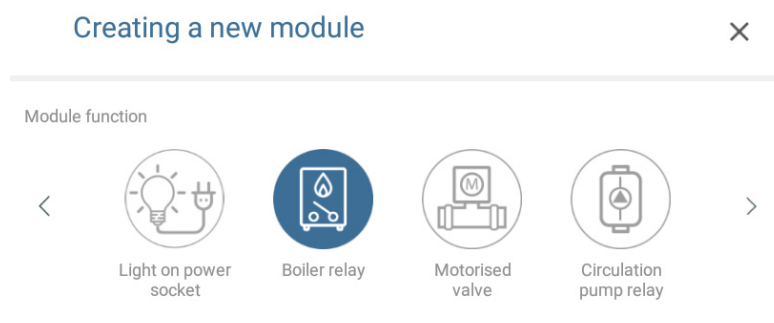
Note: When configured in this way, the thermostat cannot be accessed remotely or locally via the Yno app. To be so, a Yokis Hub must also be also installed in the system..

10.4.5. YOKIS PRO: Single-zone thermostat configuration with wireless connection (MTR)

Three steps are required in this case:


- Add the MTR module that will control the boiler.
- Add and configure the thermostat, which is considered a Control Point in the app.
- Connect the thermostat to the MTR actuator module.

The MTR module must be added to the Yokis PRO app in the usual way (automatic or manual detection). However, it is necessary to specialise its function and it is suggested to select the “Boiler relay” type in single-zone systems.



Then add the thermostat as the Control Point and configure it.

After adding and configuring the thermostat, to “connect” it to your MTR, tap on the button .

On the screen that appears, firstly uncheck the “Relay on thermostat” option, then touch .



On the screen that appears, select the MTR with the boiler symbol, previously added and confirm. Store the settings by pressing "Store".

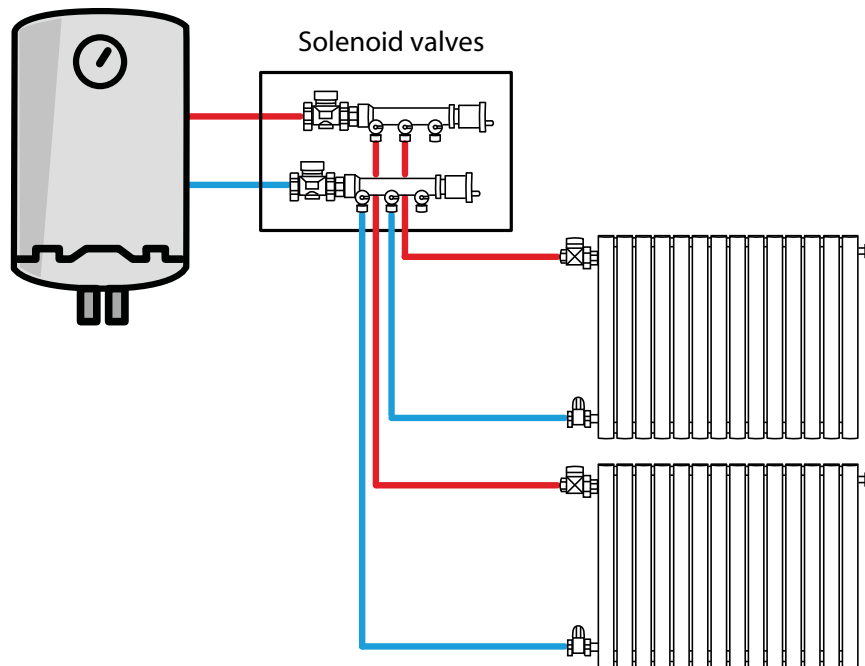
Go back to the point on the previous page, you must now transfer the configuration from the App to the thermostat. To do this, similarly to what you are used to do with a remote control, tap on the button at the bottom right, "Program" and, on the thermostat, press the button **SET** twice.

At the end of the transfer, "PASS" will be briefly displayed on the thermostat. If the transfer was not successful, "Err 16" will appear instead. Try again, in this case.

Note: When configured in this way, the thermostat cannot be accessed remotely or locally via the Yno app. To be so, a Yokis Hub must also be installed in the system.

10.4.6. Configuration of multiple thermostats, one in each zone, in a multi-zone system

This is typically the case in a single-family house with several floors, where the heating is managed by means of a zone solenoid valve and the temperature is controlled by a dedicated thermostat on each floor.



In this case, it is worth noting when a thermostat controls the opening of its own solenoid valve, it is necessary to ensure that the boiler and its circulation pump also come into operation.

This is called OR operation, because the boiler must come into operation when:

either solenoid valve 1 **or** solenoid valve 2 is open

Three installation solutions are possible

A. With direct connection of the thermostats to the solenoid valves. In this case, the installer is responsible for managing the boiler in OR mode. This is usually achieved by means of solenoid valves which have a dedicated electrical output which is energised when the solenoid valve is open.

- B. With wireless connection (via Yokis MTR module) to the solenoid valves and to the boiler. The installer is responsible for managing the OR function of the boiler again in this case and this is usually achieved by means of solenoid valves which have a dedicated electrical output which is energised when the solenoid valve is open.
- C. With wireless connection (via Yokis MTR module) to the solenoid valves and boiler. In this case, no specific wiring is needed to implement the OR function. However, the presence of a Yokis Hub is indispensable in the system.

Case A)

Simply follow the instructions in the two previous paragraphs for each thermostat according to whether or not you use the Yokis PRO app for configuration:

- **Single-zone thermostat configuration with direct wiring**
- **YOKIS PRO: Single-zone thermostat configuration with direct wiring**

However, in this case it is necessary to prepare the wiring from each thermostat to its own zone solenoid valve and also to manage the OR function towards the boiler using the usual wiring techniques (mainly using solenoid valves with dedicated output).

Note: *When configured in this way, the thermostat cannot be accessed remotely or locally via the Yno app. To be so, a Yokis Hub must also be also installed in the system.*

Case B)

Simply follow the instructions in the two previous paragraphs for each thermostat according to whether or not you use the Yokis PRO app for configuration:

- **Single-zone thermostat configuration with wireless connection (via MTR) and check**
- **YOKIS PRO: Single-zone thermostat configuration with wireless connection (via MTR)**

However, in this case it is necessary to prepare the wiring from each thermostat to its own zone solenoid valve and also to manage the OR function towards the boiler using the usual wiring techniques (mainly using solenoid valves with dedicated output).

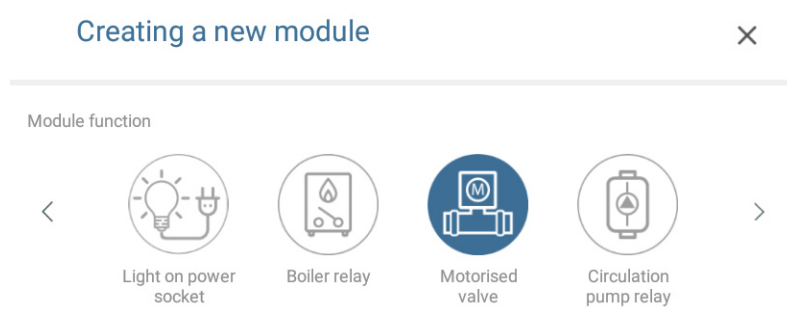
Note: *When configured in this way, the thermostat cannot be accessed remotely or locally via the Yno app. To be so, a Yokis Hub must also be also installed in the system.*

Case C)

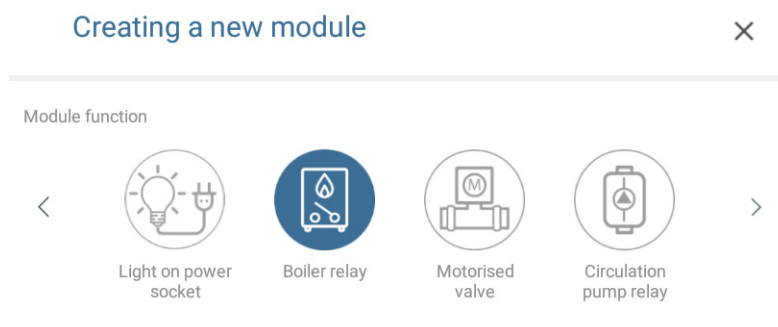
Four steps are required in this case:

- Add the MTR modules which will control the zone solenoid valves.
- Add an additional MTR to control the boiler (in OR mode).
- Add and configure the thermostats, one for each zone. Thermostats are all considered as the Control Points by the app.
- Connect each thermostat to its own MTR actuator module (for the solenoid valve in your area) AND to the boiler MTR module.

The MTR modules must be added to the Yokis PRO app in the usual way (automatic or manual detection). However, it is necessary to specialise their function. Therefore, all MTRs which will be connected to the zone solenoid valves must use the motorised valve symbol:



The only MTR that will drive the boiler must have the boiler icon:

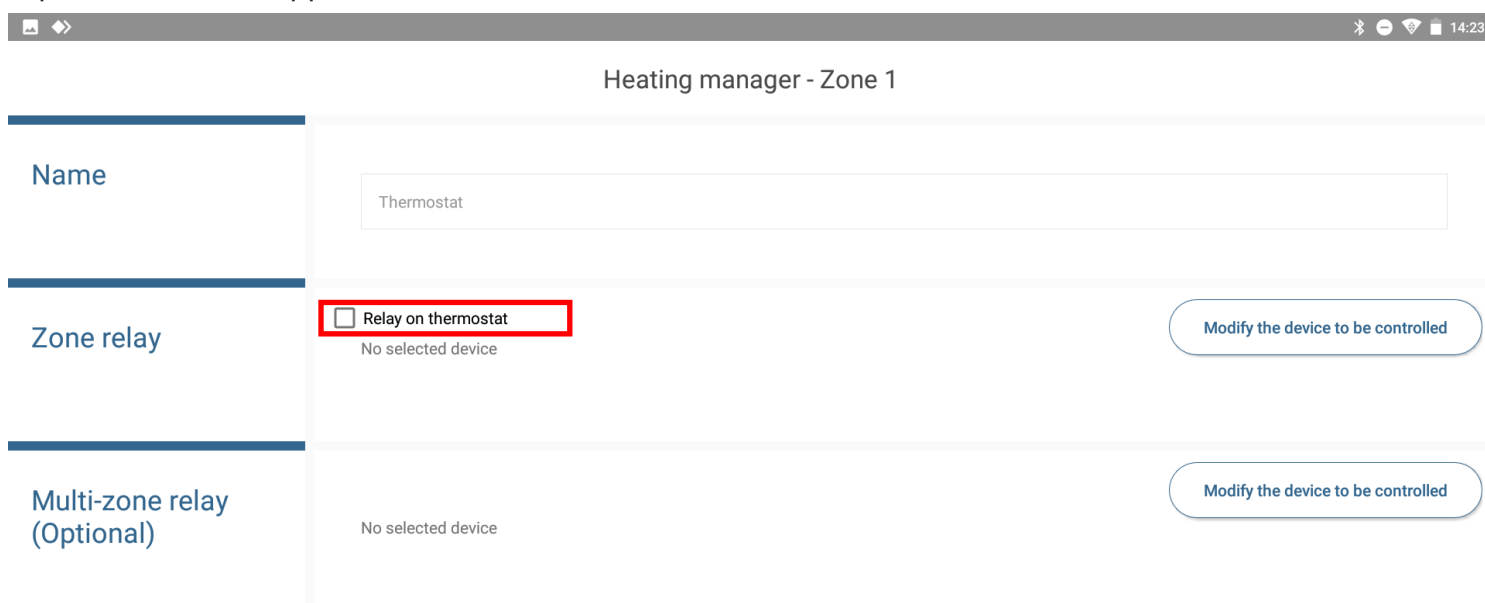


Then add the thermostats as the Control Points and configure them.

Each zone thermostat, after being configured, must be "connected" both to the MTR of the corresponding zone solenoid valve and to the boiler MTR.

To do so, touch button  [Configure the zone](#).


A page like this will appear:



On the screen which appears, firstly uncheck the "Relay on thermostat" option

Firstly, touch button  at the label **Zone relay**.


On the screen which appears, select the MTR with the solenoid valve symbol which corresponds to the concerned zone and confirm.

Then touch button  at the label **Multi-zone relay (Optional)**.

On the screen that appears, select the MTR with the boiler symbol and confirm.

Note: This boiler MTR must be connected on all of the system as a multi-zone relay.

Store the settings by pressing "Store".

Go back to the point on the previous page, you must now transfer the configuration from the App to the thermostat. To do this, similarly to what you are used to do with a remote control, tap on the button at the bottom right, "Program" and, on the thermostat, press the button  twice. At the end of the transfer, "PASS" will be briefly displayed on the thermostat. If the transfer was not successful, "Err 16" will appear instead. Try again, in this case.

Try again for all thermostats.

Note: The thermostats will be accessible remotely and locally via the Yno App. In this configuration the presence of the Yokis Hub is indispensable.

11. REPLACING THE BATTERIES

Thermarp indicates the low battery condition by turning on symbol  and flashing the display.

In this condition, adjustment is guaranteed but we recommend replacing the batteries as soon as possible! (*)

If the battery charge level drops further, the thermostat will switch to low-power mode, turning off the display and not making any adjustments.

(*) Remove the flat batteries and replace them with new ones in a maximum time of one minute (power reserve) to avoid losing the date and time settings (the programs made are kept in memory even after this limit).

IMPORTANT: After replacing the batteries, the display may take up to 15 seconds to turn on again.

IMPORTANT: Risk of explosion if the battery is replaced with a different type from the one shown. Dispose of batteries respecting local regulations in force.

12. TECHNICAL SPECIFICATIONS

Control Class IV according to ErP (Energy related Products) Directive of 26/09/2015	
Seasonal energy saving:	2%
Power supply:	2 alkaline batteries, 1.5V (type AAA)
Battery life:	1 year
Maximum range between thermostat and Yokis receiver	<ul style="list-style-type: none"> • 250 meters in open range. • In a 100m² home with perpendicular crossing of main wall or ceiling. Note: In both cases the range may be reduced by the presence of metallic elements, crossing of walls or partitions
Communication with the Yokis receiver via radio-frequency signal:	2,4 GHz
Working temperature range:	0° C ÷ +50° C
Degree of protection:	IP40

13. DEFAULT SETTINGS

parameter	min	max	step	default
winter manual setpoint	2.0°C	50.0°C	0.1°C	21°C
summer manual setpoint	2.0°C	50.0°C	0.1°C	25°C
T1 winter	2.0°C	T2	0.1°C	15.0°C
T2 winter	T1	T3	0.1°C	18.0°C
T3 winter	T2	50.0°C	0.1°C	21.0°C
T2 summer	10.0°C	T3	0.1°C	23.0°C
T3 summer	T2	50.0°C	0.1°C	25.0°C
antifreeze temperature	1.0°C	50.0°C	0.1°C	6.0°C
operating mode	winter	summer	-	winter
adjustment type	ON/OFF	PROP	-	ON/OFF
ON/OFF differential	0.1°C	1.0°C	0.1°C	0.3°C
proportional band	0.5°C	5.0°C	0.1°C	0.5°C
proportional period	10'	30'	10'	10'
password	0	999	1	000 (disattivato)
winter hour counter	0	9999	1	0
summer hour counter	0	9999	1	0
daylight saving time/standard time, enable	ON	OFF	-	ON
change daylight saving time/standard time				Summer: LAST DAY7 March 02:00
				Winter: LAST DAY7 October 03:00
activation delay	0'	45'	15'	0'
timed operations	0h	99d	1h	0h
input for external contact	digital input	external sensor	-	---

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