Index

English

Radiofrequency digital chronothermostat CHRONOS RF

- Summer and winter operating mode

- Models available in white and black colours

- 7 programs available for the heating mode
  7 programs available for cooling mode

- Integrated radiofrequency module

- Touch screen display of capacitive type (sensible to the fingers' touch)

  - Wall-mounting or to coverage of box 503

  - Weekly programming with 3 different settable temperatures

DIMENSIONS
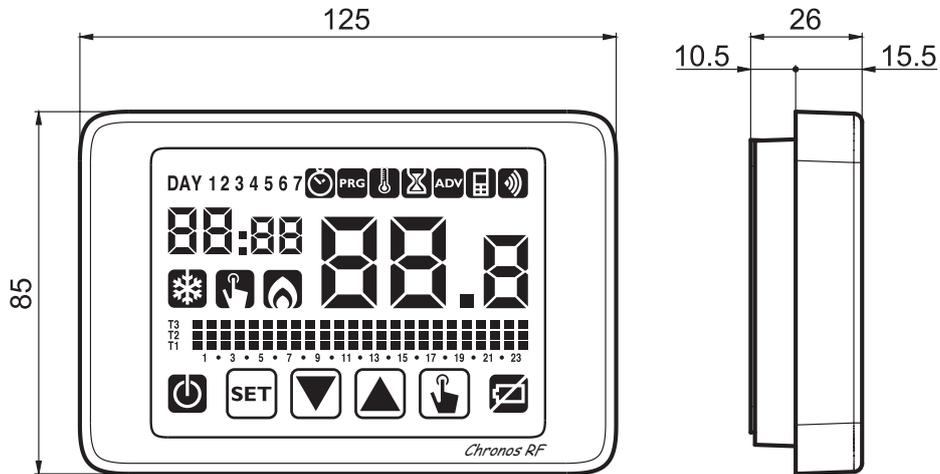
CONNECTION DIAGRAM

Load activation occurs through the remote actuator controlled by the chronothermostat by means of a radiofrequency signal.

Chronos RF   Remote actuator   Load
1 or more channels

For more detailed information about the instruments configuration see chapter "Installation" page. 7 and "Radiofrequency menu" on page 19.

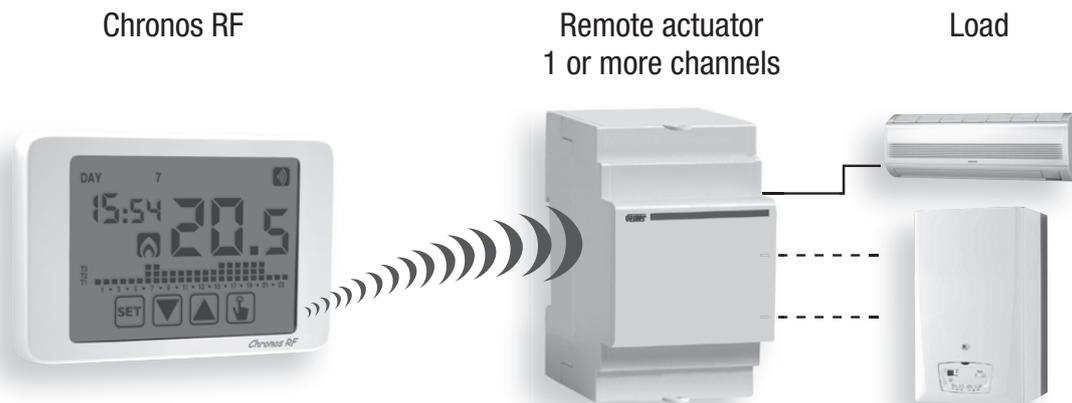**Chronos RF** is a weekly touch screen electronic chronothermostat to regulate the ambient temperature both in heating and cooling to control a remote actuator through a radiofrequency signal.

Powered by two batteries of AAA type, **Chronos RF** doesn't need any wiring. This allows to install the thermostat anywhere inside your room, without any intervention of masonry.

The wide touch screen display with backlighting on by pressing a key allows a clear viewing even in the dark.

SAFETY WARNINGS

■ **During product installation and operation it is necessary to observe the following instructions:**

1) **The instrument must be installed by a qualified person, in strict compliance with the connection diagrams.**
2) **Do not power the instrument if any part of it is damaged.**
3) **The instrument must be installed and activated in compliance with current electric system standards.**
4) **Do not use the instrument for purposes different from the one specified.**
5) **In case of malfunction do not perform repairs and contact immediately the technical support.**
6) **The instrument can be used in environments with category of measurement III and pollution degree 2.**

Code	Model	Description
VE484200	Chronos RF Bianco	Radiofrequency touch screen chronothermostat white
VE485900	Chronos RF Nero	Radiofrequency touch screen chronothermostat black

TECHNICAL SPECIFICATIONS

- Power supply:
  - 2 alkaline batteries 1.5 V (AAA type)
  - battery life: 1 year
  - battery charge level indication
  - charge reserve (for battery replacement): 1 minute
- Wall mounting or to coverage three-module in built box
- Temperature regulation:
  - On/off with hysteresis setting between 0,1 °C and 1°C
  - Proportional with settable band and period
- Summer (cooling) / winter (heating) operating mode
- Weekly programming (7 programs available for each operating mode)
- Daily resolution: 1 hour (possibility to set delay activation of 15, 30, 45 minutes independent for each hour)
- 5 settable temperatures:
  - T1, T2, T3 in automatic operation
  - Tm in manual operation
  - Toff in off mode (antifreeze)
- Measured temperature display: 0 ÷ 50 °C
- Measurement precision: ±0.5 °C: ±0.5 °C
- Measured temperature resolution: 0.1°C
- Setpoint range: 2 ÷ 35 °C
- Clock precision: ±1 second/day
- Summer/winter time automatic change (excludable)
- Operating temperature: 0 ÷ +50 °C
- Storage temperature: -10 ÷ +65 °C
- Operating humidity: 20÷90% non condensing
- Touch screen display with backlighting on with a key touch.
- Password protected lock keypad
- Communication with the actuator through a radiofrequency signal 433.92 MHz
- Maximum distance between thermostat and actuator: 50 m in free field
- Protection degree: IP40
- Insulation: reinforced among accessible parts (frontal) and all other terminals

DISPLAY AND KEYBOARD
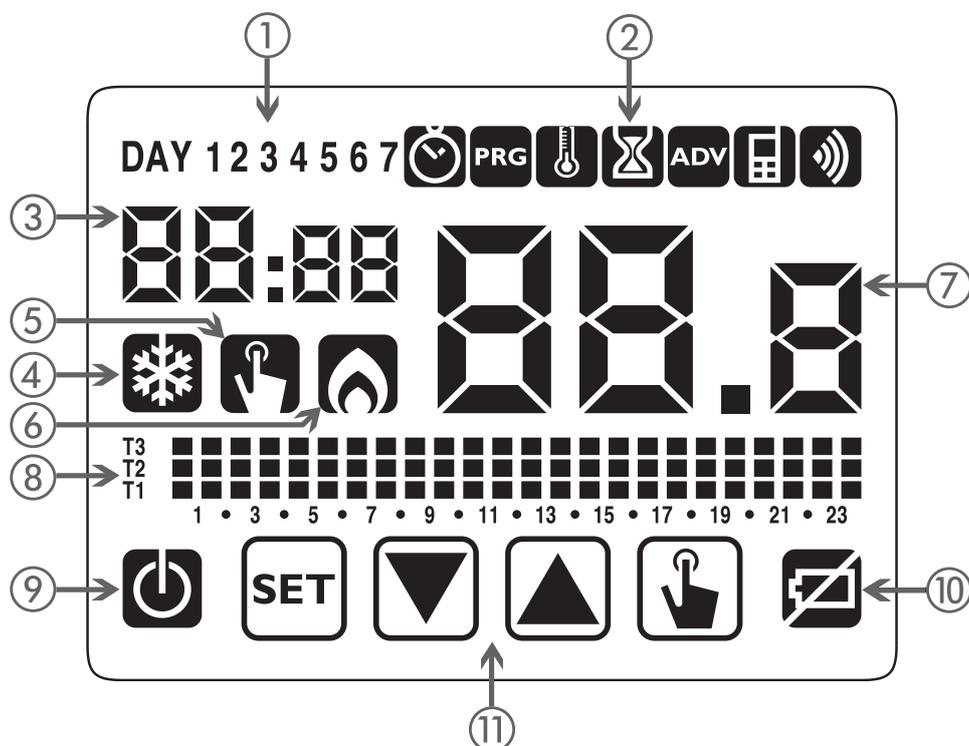
① Day of the week (DAY 1 = Monday)
② Programming menu:

    ⏰: date/time and summer time setting

    PRG: programs change mode (for automatic operating)

    🌡: temperatures setting T1, T2. T3

    ⌛: timing menu

    ADV: advanced programming menu

    ▦: *not used*

    📶: radiofrequency transmission menu

③ Time and minutes
④ Load activation in summer mode/ cooling
⑤ Manual operation activation
⑥ Load activation in winter mode/heating
⑦ Measured environment temperature
⑧ Program on graphic for the current date (in automatic operation)
⑨ Off operation
⑩ Depleted battery indication
⑪ Keyboard (the keys are active only if the instrument is correctly installed on wall-mounted base)

■ *Keyboard*

The keys carry out different functions on the basis of the instrument status and they will be described step by step in this user manual.

Multipurpose keys are not built into the instrument, that is to say contemporary pressures of 2 or more keys.

There are two types of pressure:
- brief pressures,
- long pressures, with duration higher than 3 seconds.

During the press of a button, the display is blue.

Attention: press the keys with your fingers, do not use sharp objects!

Attention: the keys are active only if the instrument is hooked to the base

■ *Cleaning the display*

To clean the display use a soft, lint-free cloth, without using excess force.

INSTALLATION

• Association between Chronos RF and remote actuator

Because the Chronos RF and a remote actuator can communicate correctly, it's necessary to perform a procedure called "self-learning", during which the remote actuator recognizes and stores the identity of Chronos RF.

To perform the self-learning proceed as follows:

1. Activate the channel configuration of the remote actuator (see the instructions). The actuator remains in configuration mode for a pre-set time, within which it must receive the configuration string from Chronos RF.
2. Insert the batteries in the Chronos RF, respecting the polarity indicated on the instrument (to access the batteries compartment it's necessary to unhook the thermostat from the base by pressing the tab at the bottom of the instrument). After about 3 seconds the Chronos RF initiates the configuration procedure (indicated by $ConF$ on the display) followed by a short test procedure (indicated by $tESt$ on the display) where Chronos RF sends the sequence on-off-on-off to the actuator.
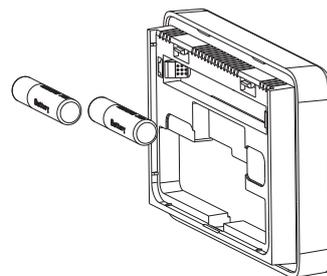
3. Upon receipt of the configuration string, the remote actuator is configured and resumes the normal operation while the Chronos RF requires date and time insertion (the programming keys will be active only after you have hooked the thermostat at the base)

    Note: to associate a second remote actuator, activate the configuration of the actuator channel and, while this last is in configuration mode, remove the thermostat from the base and re-put it (the cronothermostat starts the configuration procedure to which follows the testing procedure).

- **Indications for placement**

The Chronos RF is designed for wall-mounting installation or to cover the 503 box
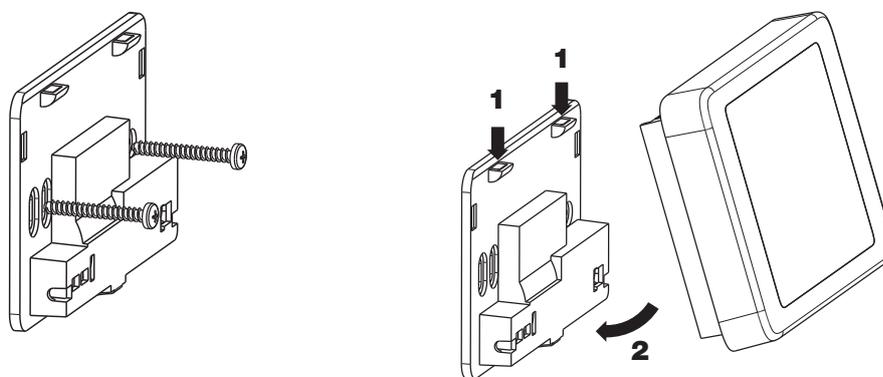
Fix the base on the wall using the screws supplied.

Attach the chronothermostat to the base, at first mating teeth first placed on the upper side.

Place the chronothermostat at a height at about 1.5 m above the floor, away from direct sunlight, away from doors, windows, heat sources, locations with excess or total lack of aeration.
The actuator is usually placed near the boiler to pilot.

Attention: the maximum distance between Chronos RF and remote actuator is about 50 m in free field. This value is reduced if there are obstacles in the middle (for example, reinforced concrete walls).

• Clock setting

Once the instrument is mains powered, set the clock (time and date insertion).
The parameters to enter are the following:
seconds (only synchronisation at value 00), minutes, hours, year, month, day.
Use the keys ▲ and ▼ to increase and decrease the values and the key 👆 to confirm and to move to the next parameter.

Seconds synchronisation

Minutes setting

Time setting

Year setting

Month setting

Day setting
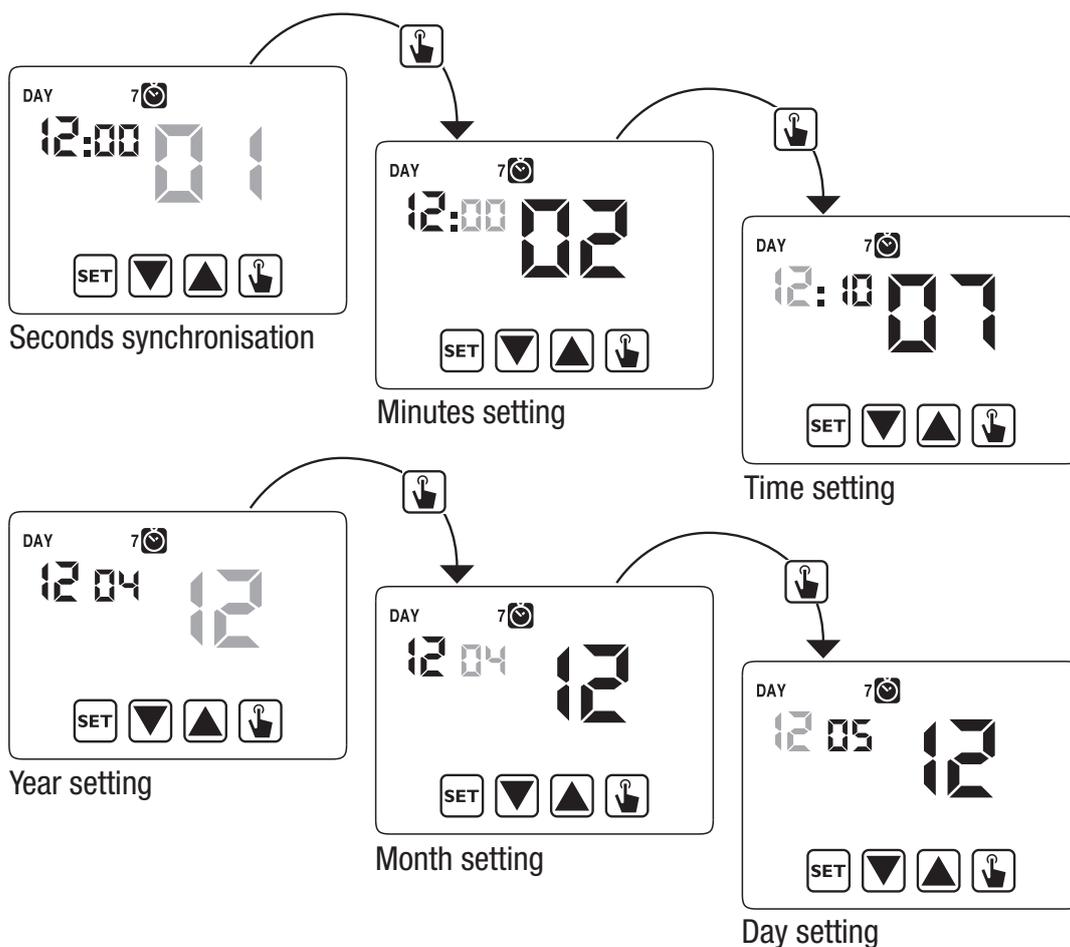
Once all values are set, press for a long time (3 seconds) the key SET to exit the menu of the clock synchronisation.

English

At this point the chronothermostat will begin to operate with the set default parameters (see page 33) displaying the day of the week, the time, the environment temperature and the graphic of the program on.
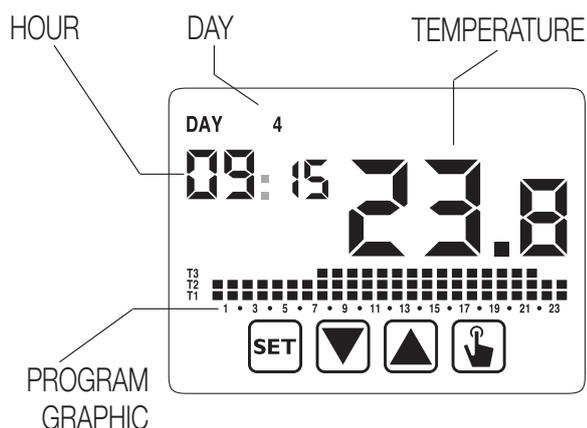
When Chronos RF sends an on or off command to the remote actuator, icon ◓ (field 2) lights for a moment.

HOUR   DAY   TEMPERATURE

DAY   4

09:15   23.8

T3
T2
T1
1 • 3 • 5 • 7 • 9 • 11 • 13 • 15 • 17 • 19 • 21 • 23

SET ▼ ▲ 👆

PROGRAM
GRAPHIC

Attention:
To operate correctly the chronothermostat requires the time and date insertion.

If once mains powered, no value is set within about 30 seconds, the chronothermostat begins to operate in off mode, displayed with the symbol ⏻. The time lack is displayed with flashing dashes (_ _:_ _).

DAY   7

--:--   24.8

⏻ SET ▼ ▲ 👆
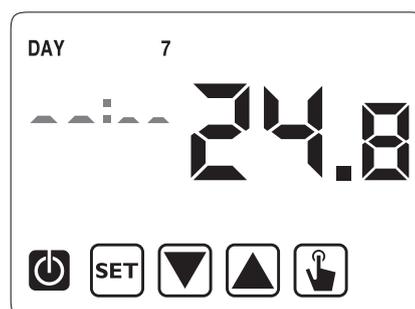
The chronothermostat remains in off operation condition until when the hour is not inserted, ensuring in this way the saving of the antifreeze temperature (6°C).

In this condition, the pressure of any key reactivates the menu of date/time insertion for other 30 seconds about.

PROGRAMMING MENU

With this menu it's possible to modify the following operating parameters:
- Date and time
- Automatic operation programs
- Automatic operation temperatures
- Timings
- Advanced functions.
- Radiofrequency menu
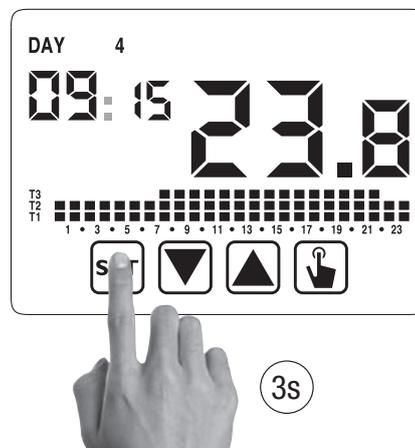
Time and date modification ⏲

To modify the hour and the date set:

1. From normal operating display, press for a long time the key [SET] until the symbol ⏲ starts flashing on field **(2)**

2. Press the key [👆] to access parameters modification. The seconds field starts flashing. Parameters sequence to set:

   seconds* -> minutes -> hours -> month ->day

3. Use the keys [▲] and [▼] to modify the values and the key [👆] to confirm moving to the next parameter.
   (*) for seconds it's possible only the synchronisatin at value 00

4. Once all parameters are set, to exit and to go back to the programming menu, press a short time the key [SET].
   To exit and to go back to the normal operating (automatic, manual) press for a long time [SET] or wait for the time-out expiration (30 seconds about).

   Inside this menu it's also possible to modify the parameters for winter/summer time change. The procedure is described in a detailed way in the chapter "Summer time change" on page 22.

Programs modification PRG

This menu allows to modify the programmings of the automatic operation.
In default status the instrument is configured to perform the program P1 from Monday

to Friday and P2 on Saturday and on Sunday (the programs profile is described at the end of this manual on page 34-35).
If this programming doesn't satisfy the user needs it' s possible to change it.

To modify the programming:

1. From the normal operation display, press for a long time the key [SET] until the symbol ⏰ starts flashing on field **(2)**

2. Press for a short time the key [▲] until the symbol **PRG** flashes and press the key [👆] to access the parameters modification.

3. The programs page is displayed:
the first day of the week (DAY 1) flashing, the current program (for example P1) of the current operating mode (🔥 o ❄) and the corresponding profile of the program.

3.1. If the set program is good, move to the next day with the keys [▲] and [▼].

3.2. If the set program is not good, press the key [👆].
The set program flashes: choose a different program among the 7 available programs pressing the keys [▲] and [▼].

3.2.1. If no program exactly satisfies the user's needs, choose any program which best meet them and press the key [👆] to access the modification of the program profile. On field **(3)** *00:00* appears while on field **(7)** flashes the temperature level (T1, T2 o T3) set for that specific time (00:00).
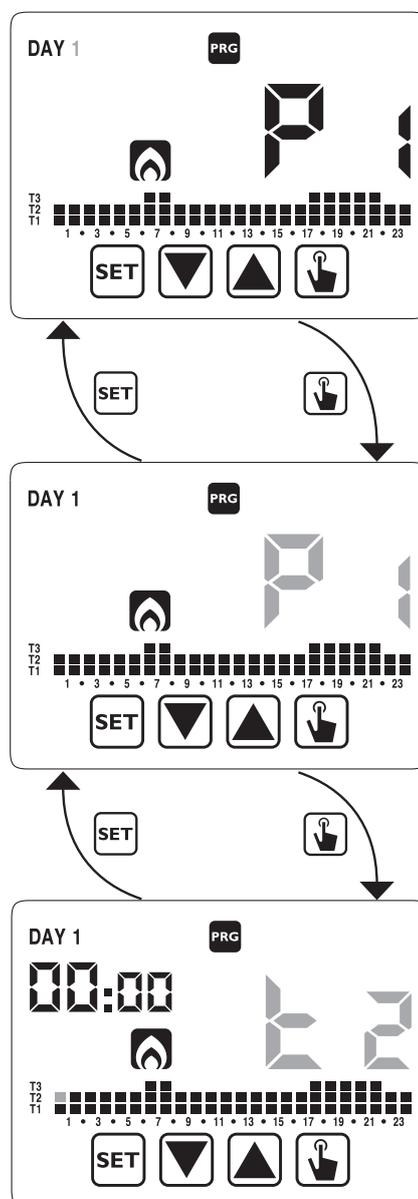
Use the keys ▲ and ▼ to change the temperature level and the key 🖱 to move to the next hour. Set like this the desired level temperature for each hour of the day.

3.2.1.1. For each hour it' s possible to delay the start of th regulation of 15', 30' or 45'
After setting the temperature as described above, press for a long time the key 🖱 to set a delay.
The minutes field flashes (field **3**): set with the keys ▲ and ▼ the delay and press the key 🖱 to move to the next hour.
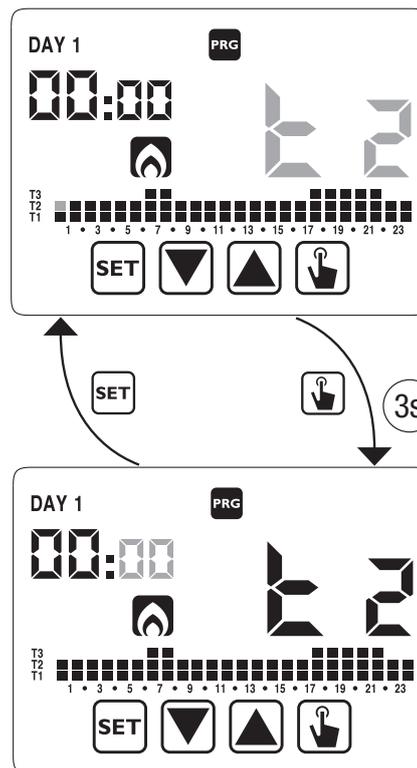
4. When the program satisfies the user's needs, go back to the days pressing twice the key SET and repeat for the other days of the week the operations.
When all modifications have been performed, exit the programming menu pressing for a long time the key SET.

Temperatures T1, T2, T3 modification 🌡

To modify the 3 temperatures of automatic operation:

1. From the normal operation display, press for a long time the key SET until the symbol ⏱ starts flashing on field **(2)**

2. Press for a short time the key ▲ until the symbol 🌡 flashes. Press the key 🖱 to access the parameters modification.

3. The value of the flashing T1 temperature is displayed. Modify the value with the keys ▲ and ▼ and press the key 👆 to move to the modification of T2.

4. The value of the flashing T2 temperature is displayed. Modify the value with the keys ▲ and ▼ and press the key 👆 to move to the modification ofi T3.
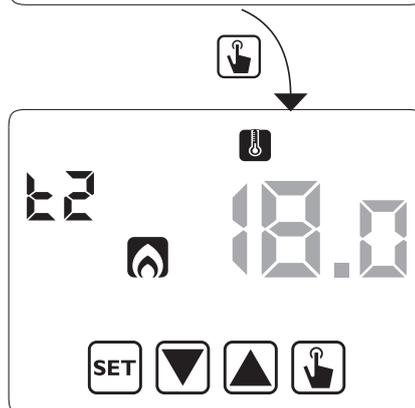
5. The value of the flashing T3 temperature is displayed. Modify the value with the keys ▲ and ▼ and press the key 👆 to go back to the page of T1 temperature.
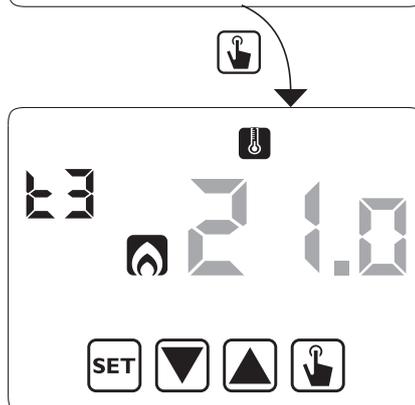
6. Once all parameters are set, to exit and to go back to the programming menu, press for a short time the key SET. To exit and to go back to the normal operation press for a long time the key SET or wait for the time-out expiration (30 seconds about).

Attention: the values of set temperatures must respect the condition: T1 ≤ T2 ≤ T3. In cooling mode T1 is not settable and equals off system.

Timing setting ⌛

This menu allows the setting of a timing on the current operating mode, expressed in hours and days.

> For further information about timings, see the chapter "Timings: what they are" on page 26).

To set a timing:

1. From the normal operation display, press for a long time the key [SET] until the symbol [⏱] starts flashing on field **(2)**

2. Press for a short time the key [▲] until the symbol [⌛] flashes and press the key [☝] to access the parameters modification.
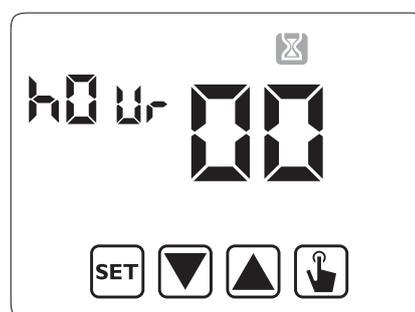
3. The value of the timing currently set flashes (00= no timing). Enter the timing value (from 1 to 99) with the keys [▲] and [▼] and press the key [☝] to move to the measurement unit change (hours and days).
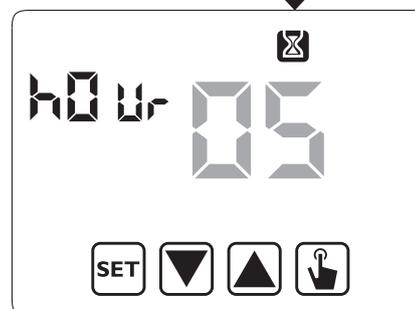
4. The measurement unit starts flahing (hoUr or dAY). Press the keys [▲] and [▼] to choose a timing in hours (hoUr) or days (dAY).
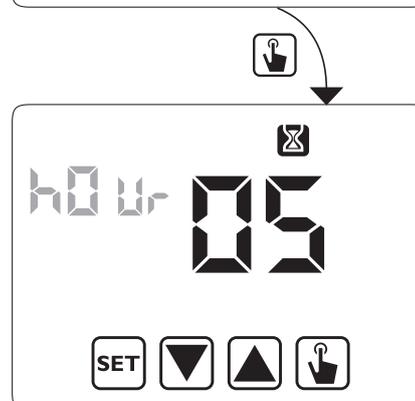
5. Once all parameters are set, to exit and to go back to the programming menu, press for a short time the key SET.
To exit and to go back to the normal operation (automatic, manual) press for a long time the key SET or wait for the time-out expiration (30 seconds about).

If a timing is active, the display shows the symbol ⧗.
To interrupt a timing, access again the menu and set the value *00*.

Advanced functions menu ADV

With the ADV menu it's possible to modify the following operation parameters:

- operating mode (heating or cooling)
- regulation type (on-off or proportional)
- parameters relative to regulation type
- antifreeze temperature
- password for key lock
- system operation hours.
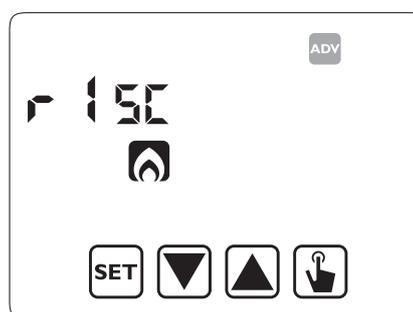
To access the menu ADV:

1. From the normal operation display, press for a long time the key SET until the symbol ⏰ starts flashing on field **(2)**.

2. Press for a short time the key ▲ until the symbol ADV starts flashing and press the key 👆 to access the parameters modification.

3. At this point the first parameter of the menu starts flashing:
press the keys ▲ and ▼ to modify the parameter and the key 👆 to confirm and to move to the next parameter.
To exit the parameters modification press the key SET.

Operating mode

This parameter allows to specify the operating mode of the chronothermostat, between winter-heating (⬡) and summer-cooling (❄).
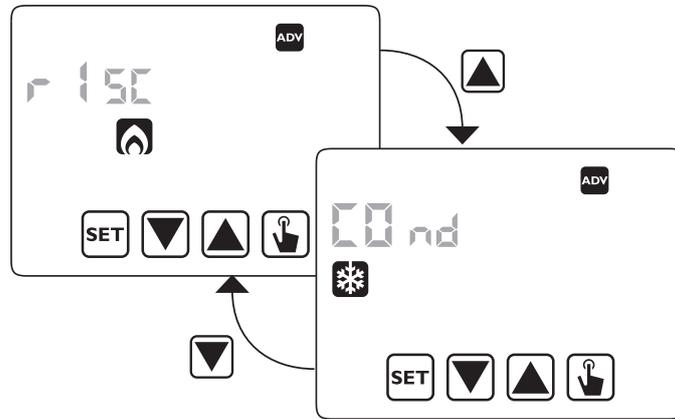
For further information about the operating mode see the chapter "Regulation types" on page 24.

Regulation type (only for heating mode)

For heating mode it's possible to choose between on/off regulation (rEG 0) or proportional (rEG P) or proportional programming (rEG tP) to use if the remote actuator is a valve for ThermoPro RF radiators).
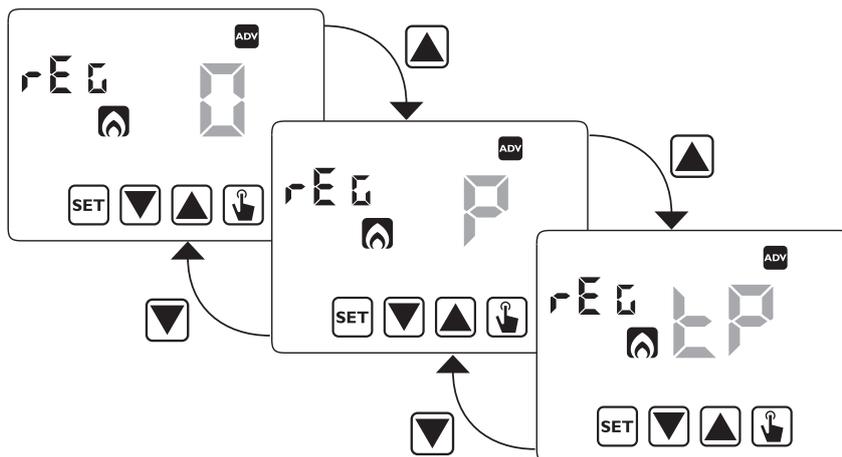
For further information about regulation type see the chapter "Regulation types" on page 24.

Regulation parameters

In case of **on/ off** regulation the only parameter to set is the hysteresis (*d IF*), which can have values between 0.1°C e 1°C.

In case of proportional regulation the parameters to set are the regulation band (*bnd*) e il periodo di regolazione (*PEr*).

> For further information about how to choose these values see the chapter "Regulation types" on page 24.
> But remember that the preset settings are suitable for the most part of the situations: to change these settings only if it's really necessary.

Antifreeze temperature (only for heating mode)

For the heating mode it's possible to set a safety temperature (antifreeze temperature – *OFF*) to maintain also if the chronothermostat is switched off.
It's possible to choose a value between 1°C and 10°C. It's also possible to deactivate the antifreeze function pressing the key ▼ until the display shows **"_ _._"**. In this case, if the chronothermostat is switched off, no safety temperature is maintained.
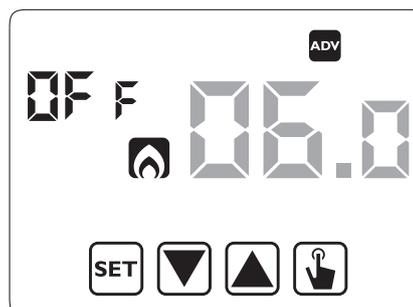
Password for key lock

It's possible to set a key lock if the chronothermostat is installed in public places or however if you want to prevent anyone from modifying the operation parameters.

To set a password, enter on field *PAS* a value between 001 and 999. To deactivate the password press the key ▼ until **"_ _._"** appears.
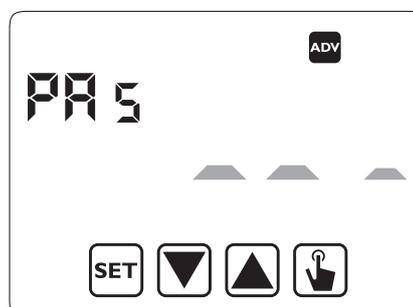
When the keyboard is locked, the thermostat performs all its functions using the set regulation parameters.

If the key lock is active and one key is pressed, the display shows for a few seconds the writing *bLoc* with flashing dashes: enter the password to unlock the keyboard, which will be locked for 30 seconds from the last pressure.

System operation hours

This page shows the total number of hours of the system operation (relais ON) for the current mode (indicated by the icons ❄ o 🔥).
The hour meter has got 4 digits and it's resettable pressing for a long time the key 👆 until *0000* appears.
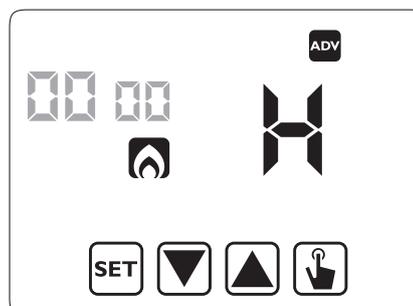
Radiofrequency menu 📶

The radiofrequency menu RF allows you to manage communication between Chronos RF and remote actuator. In particular it is possible to make a communication test.

Test - *tESt*
The test is used to verify the correct communication between Chronos RF and actuator and can last 10 minutes at max.
To activate it, choose *tESt* key and press the key 👆 for at least 3 seconds.
During the test the commands of on and off are sent to the actuator every 10 seconds.

You can stop the test by pressing the key SET for at least 3 seconds.

MANUAL OPERATION

During manual operation the instrument performs as a normal thermostat, adjusting on the basis of the Tm temperature (manual setpoint), independently from the day and the time where it is.

The manual operation is signalled with the switch on of the symbol 🖐 on field **(5)**.

To move from the automatic operation to the manual one:

1. press for a short time the key 🖐. In the field **(7)** the setpoint (Tm) currently set flashes
2. set the desired setpoint with the keys ▲ and ▼ and confirm with the key 🖐
3. at this point on field **(7)** the value of the environment temperature reappears and the instrument operates in manual.

If you want to change the setpoint (Tm) press the key 🖐 and repeat the points 2 and 3.

To go back to the automatic operation press for a long time the key 🖐 (about 3 seconds).

Automatic operation

Manual setpoint (Tm) setting

Manual operation

English
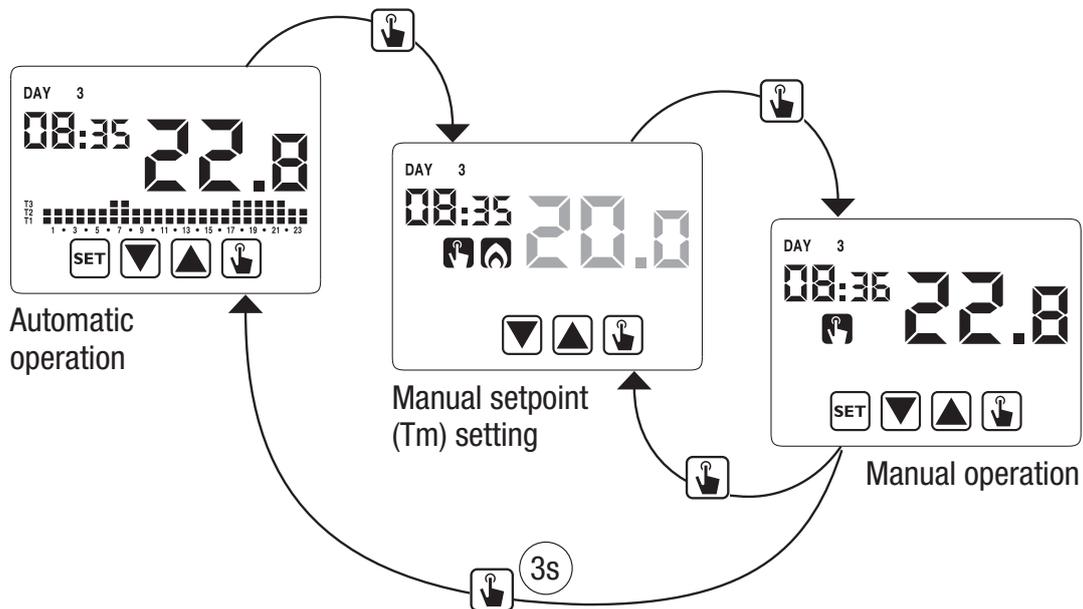
OFF OPERATION

In off mode the instrument doesn't perform any regulation (*) but it continues to display the day, the time and the measured temperature.

(*) When in heating / winter mode the instrument maintains a minimum temperature - Toff antifreeze temperature - to avoid the freezing of the systems where the instrument is installed.
Toff can have values between 1°C and 10°C or it can be completely shut down; in this last case the saving of minimum temperature is not guaranteed. The set default Toff is 6°C but it's possible to modify this value entering the ADV menu (see "Antifreeze temperature" page 18).

To switch the instrument off press the key ▼ until the symbol ⏻ is displayed (field **(9)**).

To reactivate the regulation, switching back to the operating (automatic or manual) which is before the switching off, press the key ▼ for about 3 seconds.
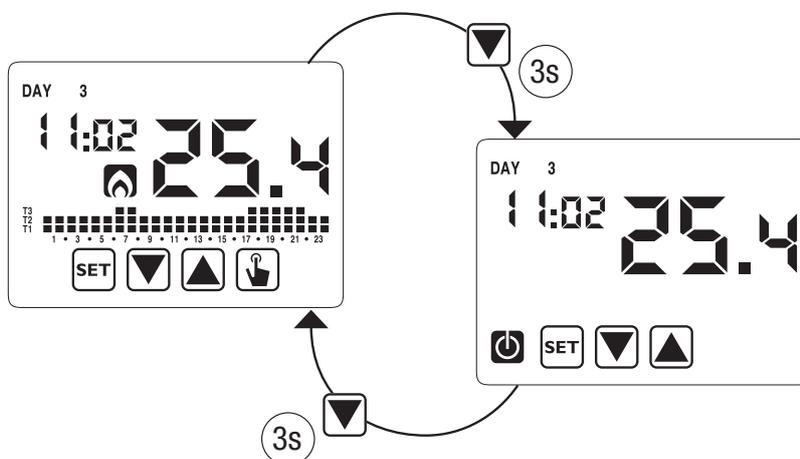
MINIMUM AND MAXIMUM VALUE

It's possible to display the measured values of minimum and maximum temperature. To display these values press the key ▲ (maximum value h i) or ▼ (minimum value L 0).

During the display it's possible the resetting of these values pressing the key 👆 until 3 dashes appear in place of the temperature.

SUMMER TIME CHANGE

Summer time is the convention to step up of one hour the dials of the clocks during the summ er period in order to prolong the lighting time in the late afternoon to the loss of the early morning.
In European countries summer time starts the last Sunday of march and ends the last Sunday of october.

The chronothermostat manages the summer/winter time change as follows:
- increasing of one hour to move from winter time to summer time
- decreasing of one hour to move from summer time to winter time

In off status the instrument is configured to move from summer time the last Sunday of march at 02:00 o' clock to go back to winter time the last Sunday of October at 03:00 o' clock in accordance with Europe convention.
However it's possible to deactivate the automatic time change or to change the date and the hour of the time change.
To change settings:

1. access the menu of time and date change, pressing for a long time the key SET until the symbol 🕑 starts flashing.
2. press the key 👆 to access the time and date modification. At this point, during the modification of any parameter (seconds, minutes, hour, year, month or day) press for a

long time the key 👆 until the display shows the writing *AUtO* appears on field **(3)**.

3. Choose with the key ▲ and ▼ the automatic time change activation (*AUtO On*) or its deactivation (*AUtO OFF*) and confirm with the key 👆.

4. If *OFF* we go back to the date/time change; if *On* the current setting for the passage to summer time is displayed (indicated with the symbol ❄). In the example:
   a. the Sunday (*7*) of the last week (*LA*) of march (*03*) at 2 o' clock (*02*)
   b. b. if it's necessary change the parameters with the keys ▲ and ▼ and move to the next parameter with the key 👆. The sequence requires the insertion of:
      i. day (1…7) of the week
      ii. the week of the month (first, second, third, fourth, last – *LA*)
      iii. the month (1…12)
      iv. the hour

5. press the key 👆 the current setting for the passage to the winter time is displayed (indicated with the symbol 🔥). In the example:
   a. the Sunday (7) of the last week (*LA*) of october (*10*) at 3 o' clock (*03*)
   b. if it's necessary change the parameters with the keys ▲ and ▼ and move to the next parameter with the key 👆. The sequence requires the insertion of:
      i. day (1…7) of the week
      ii. the week of the month (first, second, third, fourth, last – *LA*)
      iii. the month (1…12)
      iv. the hour

6. Once all parameters are set, to exit and to go back to the programming menu, press for a short time the key *SET*.
   To exit and to go back to the normal operation press for a long time the key *SET* or wait for the time-out expiration (30 seconds about).

CHRONOS RF Radiofrequency digital chronothermostat User Manual
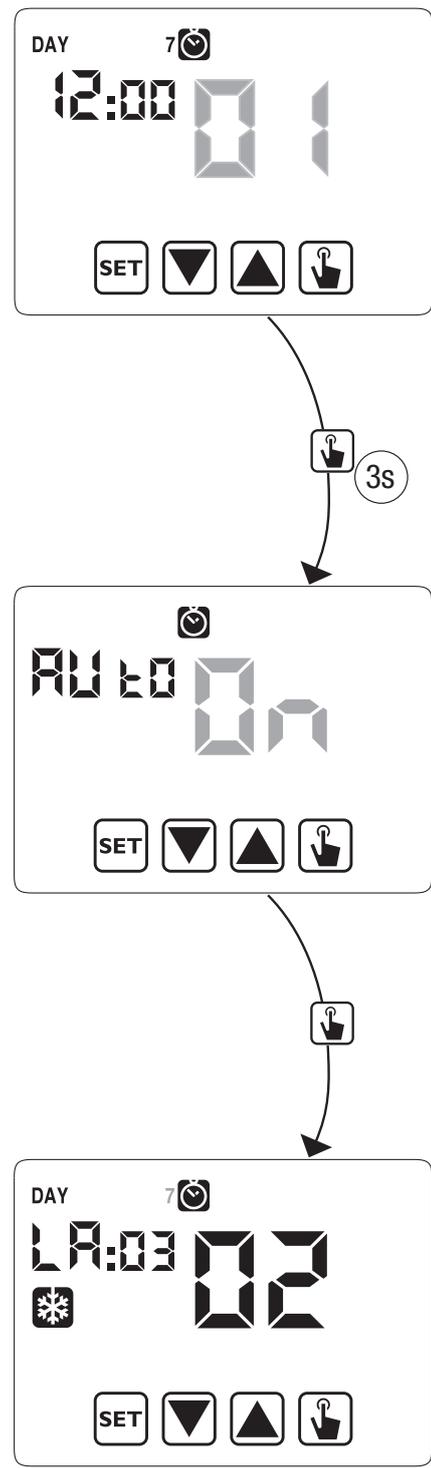
REGULATION TYPE

The Chronos has got two types of regulation:

- ## ON/OFF regulation

    During **ON/OFF** regulation the chronothermostat measures once a minute the environment temperature and it carries out the regulation on the basis of the following logic:

heating mode		cooling mode	
relay ON		relay ON	
relay OFF	SET-DIFF SET	relay OFF	SET SET+DIFF
Temperature increasing	→	Temperature increasing	→
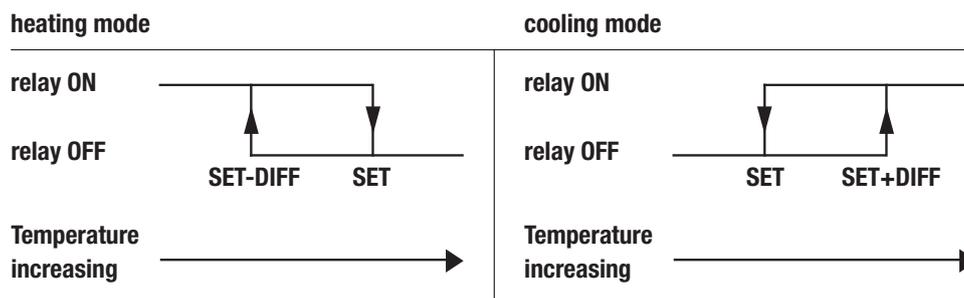
    where SET represents the setpoint and DIFF the hysteresis (useful to avoid continuous switches on/switches off dangerous for the system in proximity to the reaching of the setpoint).

- ## Proportional regulation (only in heating)

    In heating mode, the on/off regulation is available and also the **proportional** regulation which in some systems allows a more precise regulation to obtain a constant temperature.

    This regulation requires to specify two parameters:
    - the band, which represents the temperature values with whom to perform the proportional regulation. The band is centered on the setpoint and it can have values between 0.5°C and 5°C; outside these values the heating will be always on (if setpoint-band > environment temperature) or always off (if setpoint + band < environment temperature).

    - The regulation period which represents the duration of the regulation cycle (activation time + deactivation time of heating) and it can have values of 10, 20 or 30 minutes.

    During the operating, at the beginning of the regulation period, the instrument measures the environment temperature and it compares it with the programmed setpoint; on the basis of this difference the activation time is calculated (and consequently the deactivation time). The more the measured temperature is next

English

to the setpoint value – band, the more the activation time will be predominant in comparison with the deactivation time; on the contrary, the more the measured temperature is next to the setpoint value + band, the more the deactivation time will be predominant in comparison with the activation time).
Once regulation period is passed, the instrument compares again the environment temperature with the setpoint and it updates the activation and deactivation times for the new period.

The result of the proportional regulation is subordinated to the correct selection of the parameters.

Select the value of the regulation type as follows:

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

Select the regulation band value as follows:

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

Attention: in default status the instrument is configured to operate in on/ off with hysteresis set at 0.3°C. This configuration is suitable for the most part of the situations and for this reason it's advisable to modify it only in particular situations.

To modify the regulation type, hysteresis values (on/off regulation), band and period (proportional regulation) see "Regulation parameters" at page 18).

• **tP regulation**

Note. This regulation should be used only if you are controlling a valve for ThermoPro RF radiators.

This type of regulation allows you to make the ThermoPro RF valve work "by the opening modulation". In this way, the valve opens in proportional mode according to the difference between the set temperature (setpoint) and the detected temperature.
Selecting one of the other regulation types, the valve will not work in proportional mode, but it will be completely open or completely closed according to the difference between the set temperature and the detected temperature.

- **Emergency regulation (for heating mode only)**

  The instrument performs a regulation of emergency if an error occurs during the reading of the probe or in case of time loss.

  In case of **probe error**, if the antifreeze function is not deactivated, the instrument activates the load for 10 minutes every 4 hours. The display shows the writing Err on field **(7)**.

  In case of **time loss** (because of depleted batteries or blackout of a duration higher than the charge reserve) the instrument restarts from the off mode, adjusting on the basis of the antifreeze temperature, if it hasn't been deactivated before. Reset date/ time to go back to the normal operation (programs modifications and settings remain memorized).

TIMINGS: WHAT THEY ARE

Timings allow to maintain the current operation (automatic, manual, off) for a certain period (times or days) and once passed the chronothermostat changes the operating mode, as explained below.

The timed operations are the following:

Timed automatic

If in automatic status you set a timing, such off status will be maintained until the end of the timing; operation will then switched to off mode.
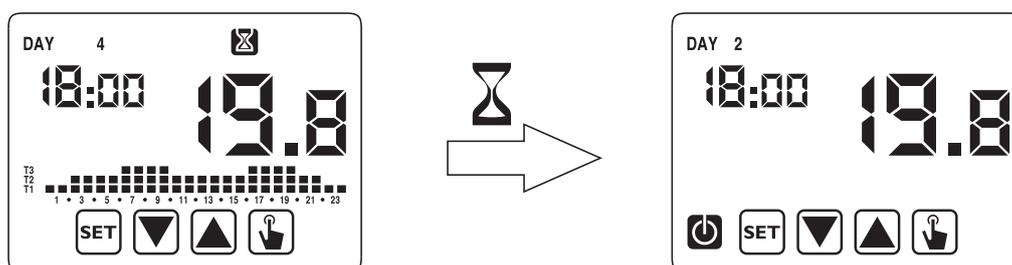
Timed manual

If in manual status you set a timing, such off status will be maintained until the end of the timing; operation will then switched to automatic mode.
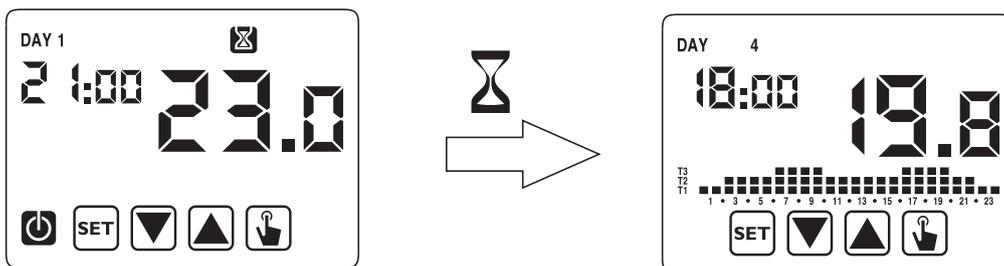
Timed off

If in off status you set a timing, such off status will be maintained until the end of the timing; operation will then switched to the one active before the deactivation (automatic or manual).
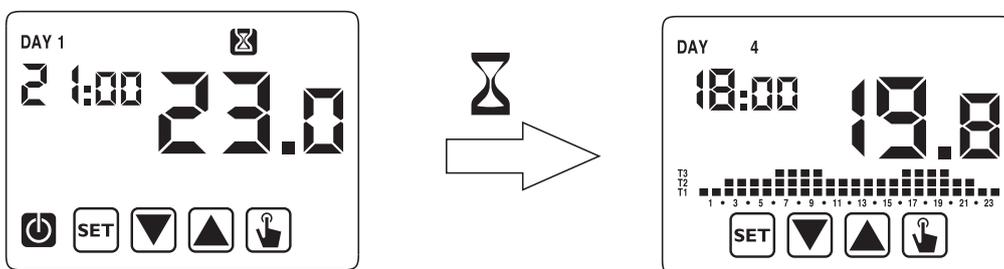
If you set a timing, the display shows the symbol ⧖.

Attention: the timing is calculated in minutes and for this reason if for example you set a timing of 3 days at 12:15 on Tuesday it will expire at 12:15 on Friday.

Attention: the timings can end before their programmed expiration if one of these actions occur:

- time/ date modification (modification of the summer time change included)
- manual modification of the operating mode
- switching of digital input (only for battery models)
- change of the operating logic from winter to summer (or viceversa)

To set a timing, see chapter "Timing setting" at page 16.

INSTRUMENT RESET

If you want to erase all performed settings and to recharge the default values, proceed as follows:

1. to switch off and to switch on the power of the chronothermostat (230 V versions) or to disconnect the time thermostat from the wall-mounted base and reconnect it (battery versions).
2. during the flashing of the keys press the key SET until the display shows the writing *dEF*.

Default values are indicated on page 30 of this manual.

BATTERY REPLACEMENT

The Chronos RF signals the status of depleted batteries switching on the symbol 🔋 (field **(10)**) and making the display to flash.
In this status the regulation is always guaranteed, but it's advisable to replace the batteries as soon as possible! (*)

If the charge level of batteries further decreases, the chronothermostat enters into less consumption mode, it switches off the display and it doesn't perform any regulation.

(*) Remove the depleted batteries and replace them with the new ones in a maximum time of one minute (charge reserve) to avoid to lose the settings of date and time (the performed programmings on the contrary remain memorized even if this limit is surpassed).

Attention: after batteries replacement, the display will switch on within 15 seconds at max.

⚠ **Dispose of the used batteries observing the laws in force in relation to the disposal of hazardous waste**.

REFERENCE STANDARDS

Compliance with Community Directives:
2014/53/EU (RED). 2014/30/EU (EMCD)
is declared with reference to the following harmonized standards:

• **ETSI EN 300 220-1** • **ETSI EN 300 220-2**
• **ETSI EN 301 489-1** • **ETSI EN 301 489-3**

DEFAULT VALUES

Parameter	min	max	step	default
winter manual setpoint	2.0°C	35.0°C	0.1°C	21°C
summer manual setpoint	2.0°C	35.0°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	35.0°C	0.1°C	21.0°C
T2 summer	10.0°C	T3	0.1°C	23.0°C
T3 summer	T2	35.0°C	0.1°C	25.0°C
antifreeze temperature	1.0°C	10.0°C	0.1°C	6.0°C
operating mode	winter	summer	-	winter
regulation type	ON/OFF	PROP	-	ON/OFF
ON/OFF hysteresis	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 (deactivated)
winter hour meter	0		1	0
summer hour meter	0		1	0
summer hour meter, enable	ON	OFF	-	ON
winter/summer time change				Summer: LAST DAY7 march 02:00
				Winter: LAST DAY7 october 03:00
activation delay	0'	45'	15'	0'
timed operations	0h	99d	1h	0h

CHRONOS RF Radiofrequency digital chronothermostat User Manual

WINTER PRESET PROGRAMS

P1

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3							■	■										■	■	■	■	■		
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P2

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P3

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3							■	■					■	■				■	■	■	■	■		
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P4

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3							■	■	■	■	■	■	■	■	■	■	■							
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P5

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3							■	■							■	■	■	■	■	■	■	■		
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P6

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3																								
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P7

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3																								
T2																								
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

English

English

P1

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3	■	■	■	■	■	■			■	■	■	■	■	■	■	■	■						■	■
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P2

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3	■	■	■	■	■	■	■																■	■
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P3

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3	■	■	■	■	■	■			■	■	■	■			■	■	■						■	■
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P4

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3	■	■	■	■	■	■	■												■	■	■	■	■	■
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P5

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3	■	■	■	■	■	■			■	■	■	■	■	■									■	■
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P6

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3																								
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P7

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3																								
T2																								
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■