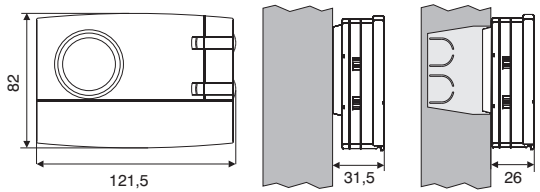
EN

1 - TECHNICAL DATA

Power:	2 alkaline Penlight batteries 1.5 V type AA LR6 (DURACELL or ENERGIZER batteries recommended)
Autonomy:	2 years
Autonomy from the flat battery (Symbol lighting up):	1 month
Type of action, disconnection and device:	1 / BU / Electronic
Software:	Class A
Rated impulse voltage:	4 kV
Type of output:	relay with changeover contact NO / COM / NC - Voltage-free - max 5(3)A / 250Vac
Wire section at relay terminals:	0.75 ÷ 2.5 mm^2
Input for phone programmer:	for NO contact, voltage free
Wire section at phone programmer terminals:	0.5 ÷ 1.5 mm^2
Type of insulation:	class II ⧈
Protection class:	IP 30
N° of programmable indices on the ring of the clock:	48
Minimum programmable time with key (tappet):	½ h
Pollution:	Normal
Scale of adjustment temperature via knobs:	
- t☼ Comfort	+5 ÷ +30 °C (default +20 °C) / +41 ÷ +86 °F (default +68 °F)
- t☾ Economy (energy saving)	+5 ÷ +30 °C (default +17 °C) / +41 ÷ +86 °F (default +62,6 °F)
Temperature limit (max t. set lock):	Step 0,1°C / 0 ,1 °F
Anti-freeze temperature (t❄):	+5 °C / 41 °F (fixed not adjustable)
Temperature setting accuracy:	± 0,1 °C / ± 0,1 °F
Scale of ambient temperature display:	0 ÷ +50 °C / +32 ÷ +122 °F
Room temperature reading tolerance:	± 0,5 °C / ± 0,9 °F
Operating temperature range:	0 ÷ +50 °C / +32 ÷ +122 °F
Storage temperature limits:	-20 ÷ +65 °C / -4 ÷ +149 °F
Temperature gradient:	max 1K / 15 min.
Type of temperature adjustment:	ON-OFF operation with differential settable on 0.3 - 0.5 - 0.7 - 0.9 °C Proportional operation with settable time cycles of 7-10-15-20 minutes
Energy classification ERP Reg. EU 811/2013:	
- in ON/OFF Differential mode	ERP Class I 1%
- in Modulating proportional mode	ERP Class IV 2%
Clock precision:	± 1 sec/day
CE Mark reference standard:	LVD and EMC EN60730-2-7 EN60730-2-9

2 - OVERALL DIMENSIONS



3 - INSTALLATION GUIDELINES

Chronothermostat installation: independent-fixed

Wall mounting - in round box - semi-recessed in rectangular box of 3 modules.

Install the device approximately 1.5 m off the ground well away from sources of heat, windows and anything else that can affect its normal state of operation.

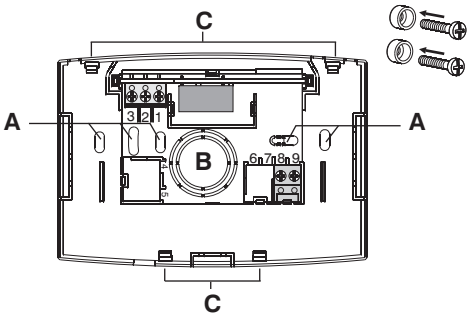
4 - ATTACHING THE BASE TO THE WALL

Switch off mains power to device

Using screws, attach the base to the wall, to the round or rectangular built-in box using the appropriate pairs of holes **A**.

If the wall where the base of the chronothermostat is to be attached is metal, insert the insulating washers into the two screws.

A - attachment holes
B - wire passage from round, rectangular box
C - chronothermostat attachment teeth



To ensure the chronothermostat is correctly fitted to the base on the wall, it must not in any way be buckled due to over tightening the screws fixing to the rectangular or round box built into the wall.

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5 - ELECTRICAL CONNECTIONS

The installation and electrical connection of the programmable thermostat must be implemented only by a qualified electrician and in conformity with current laws and regulations. The manufacturer declines all responsibility for the use of products that must conform to specific environmental and/or installation standards.

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Note for the installer: if surface mounting (e.g. on a wall), have suitable raceways for the cables in compliance with current standards. Check that the relay load does not exceed the figure given in the technical data.

Switch off mains power to the device.

Connect the device to be controlled to the terminals:

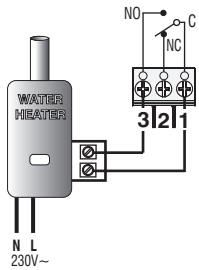
1 - common

2 - normally closed contact

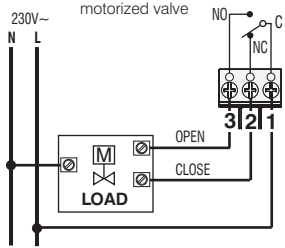
3 - normally open contact

Examples of electrical connections

Connection to a water heater

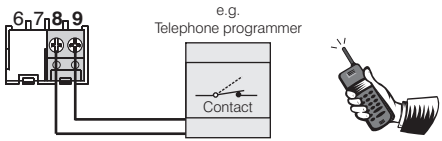


Connection to a motorized valve



Connecting a phone programmer for remote control

The terminals **8** and **9** of the chronothermostat are fitted for connecting a phone programmer with a normally open contact.



Functioning with the telephone programmer

The phone programmer governs the chronothermostat closing the contact connected to terminals **8** and **9**.

To turn on the chronothermostat with the phone programmer you need to set the switch onto one of the following types of operation: AUTOMATIC or t or t .

When the programmer is turned on (contact on terminals 8 and 9 closed) the chronothermostat passes from one of the conditions set with **the switch to always on comfort temperature** operation: besides showing all 48 indices on, the display will show the symbol for the phone programmer turned on and the Comfort symbol blinking.

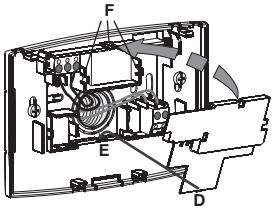
Turning off forcing with the phone programmer

Open the phone programmer contact (see programmer instructions) showing the chronothermostat in the current mode of operation at the time of switching on.

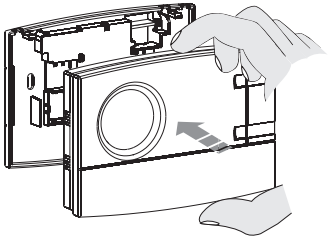
Note: the on and off controls are operative within 1 minute.

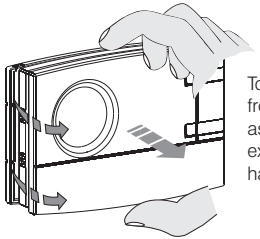
6 - ATTACHING OR REMOVING THE CHRONOTHERMOSTAT FROM THE BASE

Fit the cable cover on by inserting the tooth **D** into the slot **E** in the base, then secure it by lightly pressing on the hooks **F.**
Use a small screwdriver to remove the cover by levering on each hook in succession **F.**



Hook the chronothermostat onto the base, taking care to insert the contacts correctly, then exert light pressure until you hear the click of the attachment teeth.





To remove the chronothermostat from the base on the wall, grip it as shown in the figure, then extract it by turning it on the right-hand side.

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7- FITTING/REPLACING THE BATTERIES

When the flashing symbol appears, this indicates that the batteries are running out. From this moment, there are 30 days to change them. If the almost flat batteries are not replaced within the indicated time, the display will turn off and the symbol will remain constantly lit.

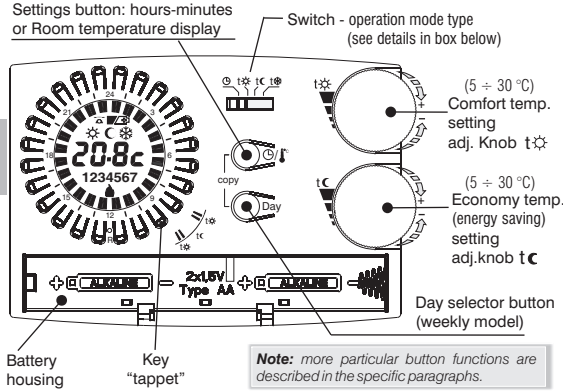
All thermoregulation operations are suspended and all settings are saved to be restored when the new batteries are inserted.

Replace the dead batteries with two 1.5 V AA **alkaline Penlight** batteries (LR6) paying attention to their polarity.

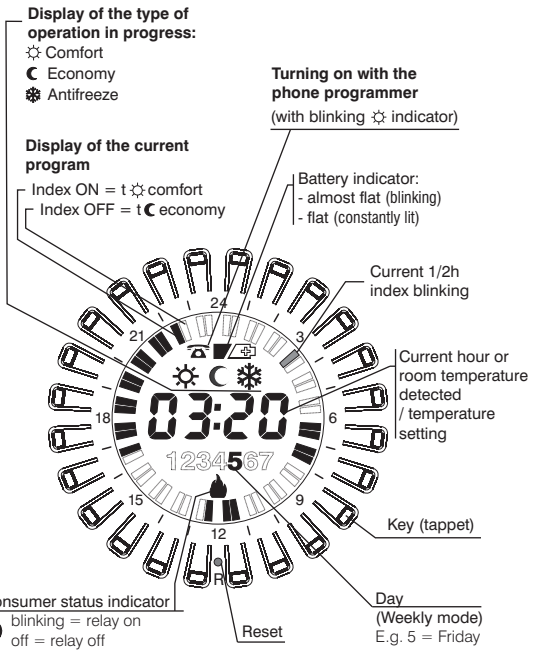
CAUTION: when changing batteries, the time available to perform the operation without losing data is about 1 minute**.**

Dispose of flat batteries in the proper containers.

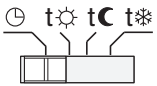
8 - GENERAL VIEW, DISPLAY LEGEND AND KEY FUNCTIONS



Note: *more particular button functions are described in the specific paragraphs.*



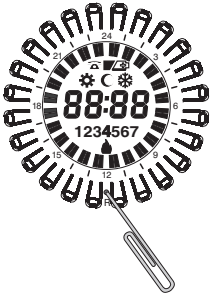
TYPE OF OPERATION THAT CAN BE SELECTED WITH THE SWITCH



- AUTOMATIC - **Comfort or Economy** adjustable from 5 to 30 °C; as per indices programming with the key (tappet)
- t☼ Always **Comfort**, adjustable from 5 to 30 °C (all 48 indices on)
- t☾ Always **Economy**, adjustable from 5 to 30 °C (all 48 indices off)
- t❄ Always **Antifreeze**, temperature fixed on 5 °C (all 48 indices off)

9 - RESET

When switching on for the first time or if the chronothermostat shows anomalous displays or improper functioning, etc., insert a thin rod (max 1 mm) into the hole on the ring between the key (tappet) marked **R** then press briefly. The display will switch on all the segments for a few seconds The display will show all segments for a few seconds, as shown in the diagram to the side, and all data present in the memory will be deleted, restoring all default settings (except for settings with microswitches).



The chronothermostat will be ready for programming again (see Chapter 10).

Easy Programming

All the operations described in the following paragraph can be carried out before securing the chronothermostat to the base on the wall; this allows you to do the programming while being comfortably seated.

⚠ CAUTION !

If the chronothermostat is programmed before being attached to the base on the wall, once installation is complete the symbol on the display (off or blinking) might not correspond to the actual state of the relay. Within **max 1 minute** of attaching the chronothermostat to the base on the wall, the relay will turn on as indicated on the display (off or blinking).

10 - PROGRAMMING

Set the switch on AUTOMATIC operation ◷ .

IMPORTANT: do a RESET

After a few seconds, the device shows 00:00 blinking, enter the current hours and minutes as described below.

Entering current hours and minutes

Press button ◷/°C to program the hour:

- keeping it pressed adjusts the hours;
- repeatedly pressing sets the minutes;

(on the daily model, wait for 5 seconds for the display to show the symbol ☾ and the ½ h index corresponding to the programmed time blinking).

Entering current day (weekly model only)

The display shows day **1** corresponding to **Monday** blinking.

Select the day of the current week with the **Day** button (wait for 5 seconds for the display to show the ☾ symbol and the half hour index corresponding to the programmed time blinking).

Programming comfort temperature at desired times

Press and release the key (tappet) arranged in a ring on the display corresponding to the times for activating the comfort temperature (temperature level set with knob t ☼), proceeding as follows:

1st press and release to activate the entire hour
2nd press and release to activate the first half hour
3rd press and release to activate the second half hour
4th press and release to deactivate the entire hour

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Copying the program to other days (weekly model only)

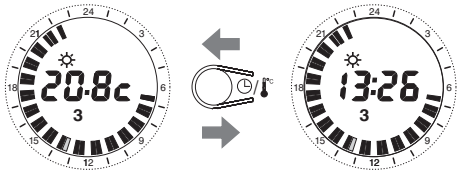
After programming the day you can copy it **(copy)** onto the next day by **pressing simultaneously buttons** ◷/℃ and **Day**.

If you want to set other programs, choose the day with the **Day** button then do the programming by pressing the key (tappet) as described above.

Displaying programs entered relating to the days of the week (weekly model only)
Press and release the **Day** key repeatedly.

Note: When you finish programming or viewing, 5 seconds after last pressing the button, the chronothermostat will automatically go into the operating state (index of the current ½ h blinking).

It is possible at any time to pass from viewing the display of the current time to the ambient temperature (degrees centigrade) and vice versa, by briefly pressing the ◷/℃ button.



Display Set temperature t☼ and/or tc set
refer to paragraph 11

CHANGING SETTINGS

Changing the current time

Keep ◷/℃ button pressed until the current time blinks

Change the hour and/or minutes with the ◷/℃ button as described above.

Changing the current day (weekly model only)

Keep the **Day** button pressed until the number corresponding to the current day blinks.

Set the new current day by pressing the **Day** button

Changing the entered programs

Daily model

Change the program by using the key (tappet) as described above

Weekly model

Change the program for the current day by using the key (tappet) as described above

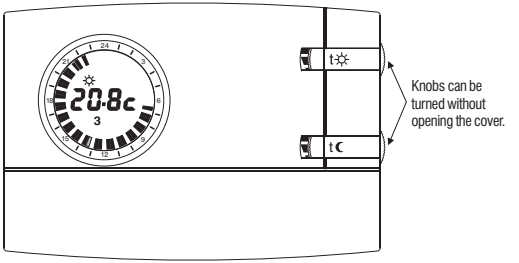
To change the program for the others day of the week select the desired day with the **Day** button and use the key (tappet) as described above

Note: when you finish making your changes, 5 seconds after last pressing the buttons, the chronothermostat will automatically go into the operating state (index of the current ½ h blinking).

Modify T Set temperature t☼ and/or tc set
refer to paragraph 11

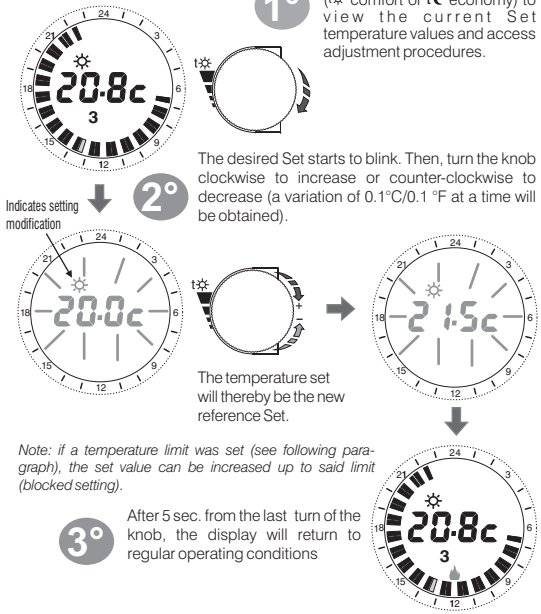
11 - DISPLAY/MODIFY SET TEMPERATURES (via knobs): t☼ COMFORT / t☾ ECONOMY

The display normally shows room temperature detected or current hours and minutes.



upon first start-up of the chronothermostat or after reset operation, preset default temperatures are:
Comfort Temperature Set t☼ = 20.0 °C / 68.0 °F (upper knob)
Economy Temperature Set t☾ = 17.0 °C / 62.6 °F (lower knob)

In any chronothermostat operating condition, to display the current settings, simply slightly turn the relative knob until the set itself blinks. After 5 sec., the display will return to normal operation visualisation. If settings do not meet user needs, it is possible to modify them as desired at any time, from +5°C to +30 °C (from +41 °F to +86 °F), as per procedure shown to the side.



Perform the same procedure to set the Set economy temperature with knob t☾

EN

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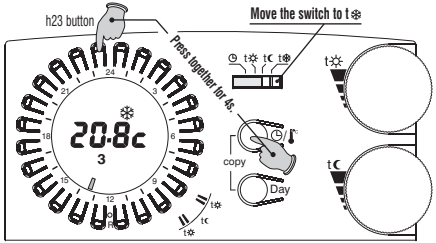
12 - COMFORT AND/OR ECONOMY TEMPERATURE MAX SET LIMIT (LOCKED SETTING)

In some particular installations, for instance in public offices, hotels, etc., it may be useful to lock the chronothermostat temperature settings to avoid incorrect settings being entered by unauthorised personnel.



It will then be possible to lock the maximum Set temperature values (comfort and/or economy) as follows:

1 - Move the switch to anti-freeze mode t ❄ (set fixed at +5°C, not adjustable)

2 - Press the h23 button on the ring and the ◷/🌡 button simultaneously for 4 sec.; the display will show: bL:- - (i.e. default setting= no lock).

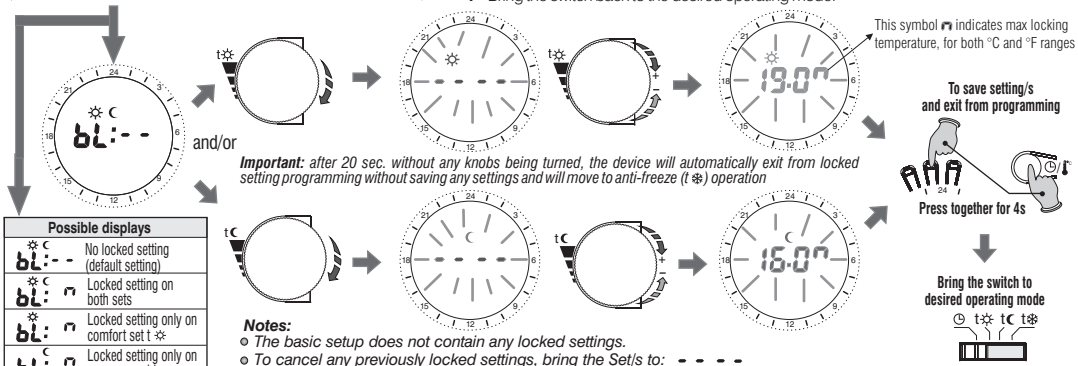
3 - Slightly turn the desired set knob (t ☼ or t ☾) to view the current setting.

4 - The Set will start to blink. After 3 sec., set the block setting (limit) from +5,1°C to +29,9°C, turning the knob clockwise to increase or counter-clockwise to decrease (a variation of 0.1°C at a time will be obtained).

5 - If desired, repeat the operations indicated in points 3 and 4 with the other hand piece.

6 - Within 20 sec., save the setting/s and exit from programming, pressing the h 23 button on the ring and button ◷/🌡 simultaneously for 4 sec.

7 - Bring the switch back to the desired operating mode.



Important: *after 20 sec. without any knobs being turned, the device will automatically exit from locked setting programming without saving any settings and will move to anti-freeze (t ❄) operation*

Possible displays	
bL:- -	No locked setting (default setting)
bL: ⌐	Locked setting on both sets
bL: ⌐	Locked setting only on comfort set t ☼
bL: ⌐	Locked setting only on economy set t ☾

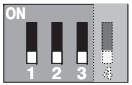
Notes:

- *The basic setup does not contain any locked settings.*
- *To cancel any previously locked settings, bring the Set/s to: - - - -*
- *The reset control will cancel any locked settings*

The settings of the microswitches (dip-switches) on the back of the chronothermostat must be made by qualified personnel.

13 - TEMPERATURE DIFFERENTIAL

The chronothermostat works in ON-OFF differential mode (Dip 3 OFF) with the default differential setting of **0,3°C** (0,54 °F).
The differential can be changed by moving the microswitches (dip-switches) as shown in the table.

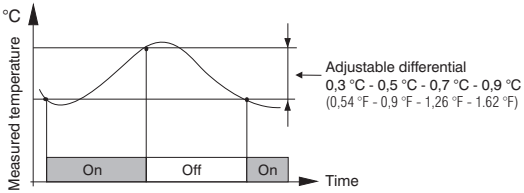


ON

OFF

Dip 1	Dip 2	Dip 3	Differential
OFF	OFF	OFF	0,3 °C (0,54 °F)
OFF	ON	OFF	0,5 °C (0,9 °F)
ON	OFF	OFF	0,7 °C (1,26 °F)
ON	ON	OFF	0,9 °C (1,62 °F)

The differential must be set according to the system's thermal inertia; a low setting is recommended for systems with radiators (e.g. made of cast iron) and a high setting for systems with fan-coils.

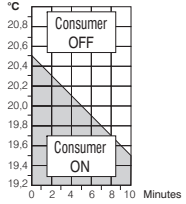


14 - PROPORTIONAL OPERATION

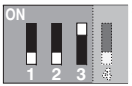
As an alternative to the differential, it is possible to adjust the temperature proportionally (Dip 3 ON); this system enables saving on energy consumption and also on the wear of the burner by limiting the number of ignitions. The duration of each ignition depends not only on the set cycle but also on the difference between the set temperature and the measured temperature (see example).

Example of setting t = 20 °C - Cycle = 10 min

t = 20,5 °C Consumer always OFF
t = 20,4 °C Consumer 1 min ON - 9 min OFF
t = 20,3 °C Consumer 2 min ON - 8 min OFF
t = 20,2 °C Consumer 3 min ON - 7 min OFF
t = 20,1 °C Consumer 4 min ON - 6 min OFF
t = 20,0 °C Consumer 5 min ON - 5 min OFF
t = 19,9 °C Consumer 6 min ON - 4 min OFF
t = 19,8 °C Consumer 7 min ON - 3 min OFF
t = 19,7 °C Consumer 8 min ON - 2 min OFF
t = 19,6 °C Consumer 9 min ON - 1 min OFF
t = 19,5 °C Consumer always ON



The duration of the cycle is determined by the position of the microswitches (dip-switches) on the back of the chronothermostat, as shown in the table. A long cycle is recommended for systems with high thermal inertia (cast-iron radiators, floor systems) and a short cycle for systems with low thermal inertia (fan-coils).



ON

OFF

Dip 1	Dip 2	Dip 3	Duration Cycle
OFF	OFF	ON	7 min
OFF	ON	ON	10 min
ON	OFF	ON	15 min
ON	ON	ON	20 min

EN

EN

15 - TEMPERATURE SCALE °C or °F

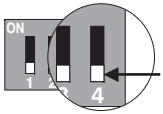
ATTENTION:
the chronothermostat is preset to operate in Celsius degrees and can be modified by the installer or an expert user to function in Fahrenheit degrees (°F).

Microswitch **4** on the back of the chronothermostat is default set to the **OFF** position (Celsius degrees).

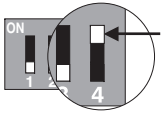
It can be moved to the **ON** position: the display,after performing a RESET operation, will show room and Set temperature in Fahrenheit degrees (°F).

To return to Celsius display, bring microswitch **4** to the **OFF** position and perform a RESET operation.

In both cases, reprogramme the chronothermostat as indicated in chapter 10).



OFF = Celsius degrees (°c) range
(default setting)



ON = Fahrenheit degrees (°F) range

16 - WARNINGS

Read this manual carefully before using the product as it provides important guidelines regarding safety, installation and use. The manual must be preserved with care for future reference.

The chronothermostat is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or by those with a lack of experience and knowledge of the instructions, unless they are supervised or have received the necessary instructions concerning use of the device by a person responsible for their safety. Children should be supervised to ensure that they do not play with the device.

The figures shown in the manual depict the display with settings in C° (Celsius degrees).

If the display shows an ambient temperature of **00.0 °C or 50,0 °C** blinking, it means that the **measured temperature is off the scale**.

Use only 1,5V AA alkaline batteries LR6 (not included in the package), using inappropriate batteries may cause the entered programming to be lost.
N.B.: the product has been tested and it ensures its characteristics with DURACELL or ENERGIZER alkaline batteries.

Important: battery life may be more than 2 years. However, it is recommended to replace them at least every 24 months to avoid them discharging when you are away (e.g. Christmas holidays, etc.)

If necessary, clean the chronothermostat with a slightly moist cloth.

The manufacturer reserves the right to make all technical and manufacturing modifications deemed necessary without prior notice.