Regulation

RDZ
invisible heating and cooling

EASY CLIMA

USER MANUAL

WARNINGS

SAFETY WARNINGS

Read this manual carefully before installation and/or use of the equipment and keep it in an accessible place.

The Manufacturer's Technical Dept. is available at the numbers indicated on the back cover of this manual, for consultancy or particular technical requests.

- **CAUTION**
  Installation and maintenance must only be performed by qualified staff; if this is not the case the warranty will become null and void

• Only use original spare parts: failure to comply with this norm can make the warranty null and void.

DISPOSAL

In accordance with the provisions of the following European directives 2011/65/EU, 2012/19/EU and 2003/108/EC, regarding reducing the use of hazardous substances in electrical and electronic equipment, in addition to waste disposal.

The crossed out wheelie bins symbol on the equipment indicates that, at the end of its useful life, the product must be collected separately from general waste.
Therefore, at the end of its useful life, the user must take the equipment to a designated electrical and electronic waste collection point , or return it to the dealer that, against the purchase of an equivalent appliance, it is obliged to collect the product for disposal free of charge.
Appropriate differentiated waste collection for subsequent recycling, treatment and environment-friendly disposal of the discarded equipment helps preventing possible negative environmental and health effects and encourages recycling of the component materials of the equipment.
Illegal disposal of the product by the user entails the application of sanctions provided by the regulations in force.

INDEX

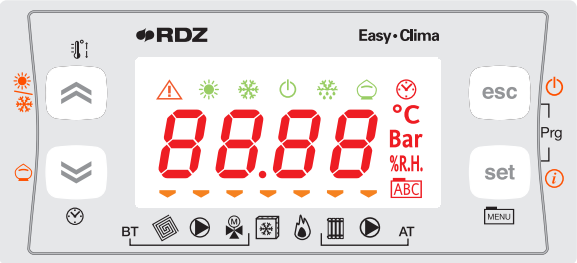
1 DESCRIPTION

GENERAL DESCRIPTION

The "local" user interface of Easy Clima device consists in:

- Display showing temperature/pressure, time, menu/parameters labels and parameter values.
- Icons to display machine status, the unit of measurement of the value displayed and the state of the resources.
- Keys for menu navigation, to set parameters, to silence the alarms, to enter programming, and for the activation of the direct functions.

The display of information and programming of the device via user interface are developed in menus with navigation using the four keys as described in the relevant section.



N.B. Easy Clima Controller can be coupled to hydraulic kits that manage **Low Temperature** and/or **High Temperature** systems such as:
Easy Clima Kit, LT only.
MTR Easy Clima both LT and HT.
The manual refers to the complete configuration for HT/LT management

DISPLAY DESCRIPTION

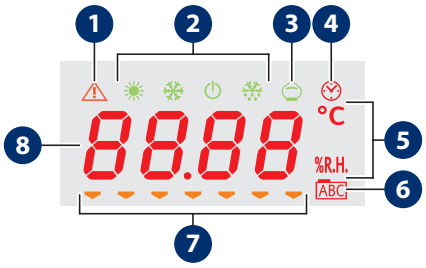
The display is used to show the following information:

Main Display: value that can be set from parameter (as specified further on in this chapter).

Menu Navigation: the status folders, parameters, etc. can be accessed.
Within every folder, it is then possible to enter the sub-folders or parameters list

Alarms Display: the Alarm icon will switch on in the event of alarms.
When accessing the Alarms menu, see the corresponding Alarm Code displayed in alternating mode.
If there are several alarms simultaneously, the one with the lowest index will be displayed: using the ⌃ and ⌄, keys it will be possible to display the alarm codes present at the same time.
If the fundamental value is also in error mode, the Alarm icon will be displayed, along with the "Err" string or "Outr".

DISPLAY KEY



Num	Description
1	Alarm icon
2	Mode icon
3	Economy icon
4	Clock icon
5	Unit of measurement of the value displayed
6	Menu navigation icon
7	Resources icon
8	Values display

Display icons table			
Icon	**Description**	**On with fixed light**	**On flashing**
	Cooling icon	SUMMER = ON (Cool)	
	Heating icon	WINTER = ON (Heat)	
	Stand-by icon	STAND-BY = ON	
	Dehumidification icon	DEHUMIDIFIER = ON	
	Economy icon	ECONOMY MODE = ON	
	Alarm icon	One or more alarms active	
	Time band operating icon	Time band operating enabled	
	Display values	values display	
	°C	the value displayed is a temperature value in °C	
	% R.H.	the value displayed is % relative humidity	
	Menu icon	The menu is shown in the display	
	Low temperature system solenoid valve icon	Low temperature system solenoid valve = ON	POST-CIRCULATION in progress, after the COOLING or HEATING request has stopped
	Low temperature system pump icon	Low temperature system pump = ON	POST-CIRCULATION in progress, after the COOLING or HEATING request has stopped
	Modulating mixing valve	VMIX completely OPEN (Pos.=100%) LED off = VMIX completely CLOSED (Pos.=0%)	VMIX in OPENING or CLOSURE mode, however in position different to 100% or 0% and in movement.
	3 point mixing valve	VMIX in OPENING mode (indicates the opening "direction" of the servomotor, NOT the duration of the impulse towards the actuator)	VMIX in CLOSING mode (indicates the closing "direction" of the servomotor, NOT the duration of the impulse towards the actuator)
	Chiller icon	CHILLER = ON	
	Boiler icon	BOILER = ON	
	High temperature system solenoid valve icon	High temperature system solenoid valve = ON	POST-CIRCULATION in progress, after the COOLING or HEATING request has stopped
	High temperature system pump	High temperature system pump = ON	POST-CIRCULATION in progress, after the COOLING or HEATING request has stopped

It is possible to decide which value to display in normal operating conditions (not in menu navigation mode, not in the event of alarm signals) using the **"SET/Info"** key.

DESCRIPTION OF KEYS

Key	Description	
set **SET key**	Short press	• From the main display, access is given to the user set-point menu. • From the operational parameters menu, the SET key allows you to: - access to the menu sub-folders - access to the value of any parameter of one of the menu sub-folders - confirm the parameter and/or output value
	Long press	From the main display, access is given to the selection of the fundamental value to be displayed.
esc **ESC key**	Short press	• With display off, the same is reactivated. • Exit menus, list of parameters and parameter value (without saving the value) and go back to the previous level
	Long press	From main display, the operating STATUS is changed from ON to STAND-BY and vice versa.
UP key	Short press	• Scrolling the folders and parameters display upwards • Parameter value increase • From the main display, the room set adjustment is activated at the current time (heating or cooling, comfort or economy) with flashing set value to be adjusted
	Long press	From main display, the operating condition is changed from heating to cooling and vice versa.
DOWN key	Short press	• Scrolling the folders and parameters display downwards • Parameter value decrease (if in parameter value modification mode) • From the main display, the system date and time adjustment is activated.
	Long press	From the main display, if enabled, the operating MODE from ON-Comfort to ON-Economy and vice versa.
set + esc	access is given to the parameter and machine status menus folders.	

2 SETTINGS

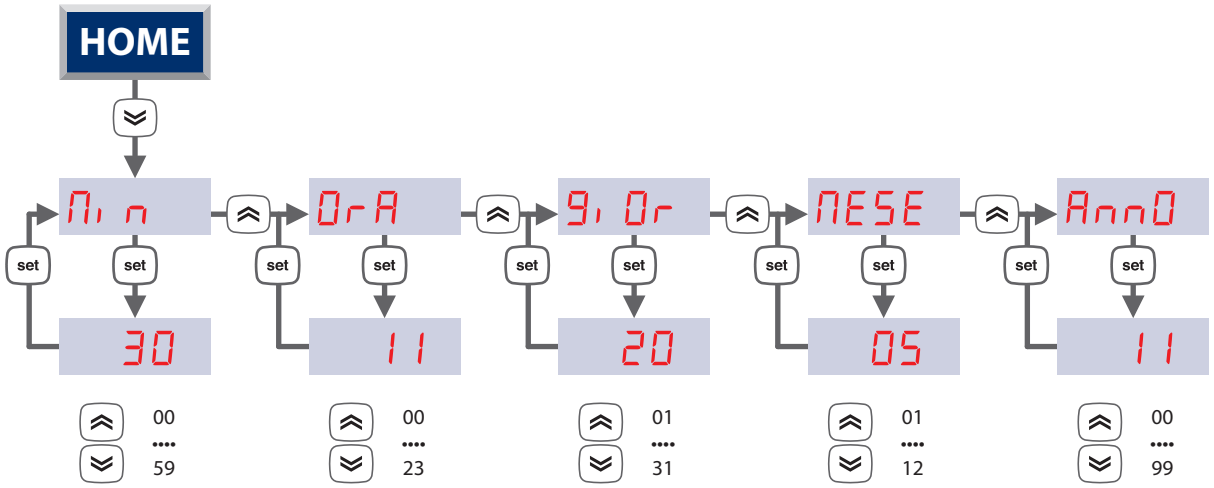
DATE AND TIME

This chapter describes the screenshots that can be accessed by a **short press** of the key.

Screenshot		Description
1	Min	Minutes set
2	Hour	Hour set
3	dAy	Day set
4	MESE	Month set
5	Anno	Year set

N.B. in the event of a power cut lasting more than two days, the device loses the date and time setting. In this case, the values must be reset.

DATE-TIME MODIFICATION PROCEDURE



USER SET-POINT

This chapter describes the screenshots that can be accessed by a **short press** of the set key.

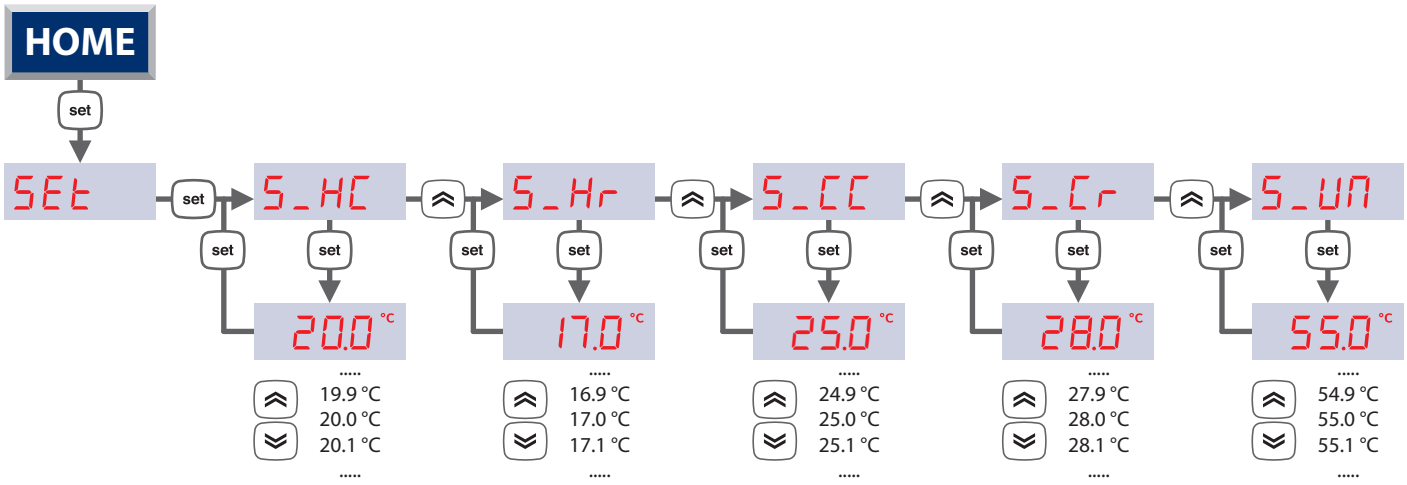
SEt appears on the DISPLAY. Use the ∧ and ∨ keys to scroll the items in the menu.
Use the set key to confirm the selection and access the value of the item selected.
Use the ∧ and ∨ keys to adjust the value within the pre-defined fields.
Use the set key to confirm the new value introduced.
Use the esc key, go back to the upper level until reaching the main display.

N.B. on the basis of the type of data, the temperature symbol °C or humidity symbol %R.H. switches on, or no symbol switches on (if it is a constant for example).

First level		Second level		Description of the third level screenshot
1	SEt	1	S_HC	Comfort temperature set in winter mode
		2	S_hr	Economy temperature set in winter mode
		3	S_CC	Comfort temperature set in summer mode
		4	S_Cr	Economy temperature set in summer mode
		5	S_Un	Humidity set
2	CF	1	nOdE	Setting the ON or OFF operating mode to control the LT Area and the HT Area. The VALUE field means "ON" or "OFF". If "OFF" is set, the main display will show "OFF".
3	ti nE	1	tE00	Setting TIME BAND or NORMAL operation. The VALUE field means "ON" or "OFF". If "ON" is set, the symbol switches on
4	hOUr	1	OrE	Display of the operating hours of the LT Area Pump, the timer is shown on the DISPLAY up to a maximum of 9999 hours.
		2	rSt	RESET procedure: "OFF" is shown, which can be switched to "ON" using the ∧ key.At this point, pressing the set key confirms the decision to reset the timer and then goes back to "rst".
5	ALL			Display of alarm codes in progress. **See relevant paragraph.**

ATTENTION: The set-point value will follow the trend of the room only in the presence of the Easy Clima Controller installed. If this is not the case, the set-point set can affect the system flow temperature.
The humidity set-point will have no function if there is no humidity probe installed in the room.

SET-POINT MODIFICATION PROCEDURE



MAIN VALUES SHOWN ON THE DISPLAY

In this chapter, select the data that will be displayed in the main screenshot and vary between the options described in the table below.

Access the menu with a long press of the set key, and then:

- by pressing the ▲ / ▼ keys, scroll the main values displayed
- by pressing the esc key, exit the menu
- by pressing the set key, the value is transferred into the main screenshot and the menu is exited

First level			Description
1	AMb		The **LT area room temperature** value will start to flash after a few seconds. If the room probe is configured but not connected or in short circuit conditions, flashing will be shown OUEr on the DISPLAY. If the room probe IS NOT configured, this screenshot will not be displayed
2	ESt		The **external temperature** value will start to flash after a few seconds. If the external probe is configured but not connected or in short circuit conditions, flashing will be shown OUEr on the DISPLAY. If the external probe IS NOT configured, this screenshot will not be displayed.
3	UMid		The **LT area room humidity** value will start to flash after a few seconds. If the room probe is configured but not connected or in short circuit conditions, flashing will be shown OUEr on the DISPLAY. If the humidity sensor IS NOT configured, this screenshot will not be displayed
4	MAnd		The flow temperature value will start to flash after a few seconds. If the flow probe is configured but not connected or in short circuit conditions, flashing will be shown Err on the DISPLAY.
5	SEtM		After a few seconds the **Set-Point calculated for the Area mixed system flow** will start to flash.
6	POS		After a few seconds the current value of the **position from 0% to 100% of the area 1 mixing valve** starts to flash.
(*) Levels visible only with parameter tE00 = ON (see paragraph USER SET-POINT on page 8)			
7	OrA	(*)	After a few seconds **the time in progress** is displayed in hours and minutes (e.g. 12:00) in a permanent way, with the flashing.
8	gi Or	(*)	After a few seconds the value of the **day of the month** in progress will be displayed (from 1 to 31)
9	MESE	(*)	After a few seconds the value of the **month** in progress will be displayed.
10	AnnO	(*)	After a few seconds the value of the year in progress will be displayed. The last two characters indicating the year are displayed (e.g. for 2011 will be displayed 11).

3 TIME BAND MANAGEMENT

For various reasons, mainly linked to the necessity to save energy, it is useful to be able to differentiate device operation into time bands.
The "time band" control is only relative to the LT Area system.

The device allows time band management, with the division of each day of the week into time periods (time bands) in which the LT system controller can vary, on the basis of the program performed, from Comfort to Economy operating mode or in Stand-by.

EVENTS

The "event" concept is introduced to identify the various time bands.
For every event:
- The starting time (in hours and minutes)
- The operating mode that is activated (Comfort, Economy or Stand By

PROFILES

To distribute the various events per day of the week, the "profile" concept is introduced.
For every profile:
- The profile number (up to a maximum of 3 different profiles can be defined)
- The distribution of the events within every profile, up to a maximum of 4 events for every profile

The profile to be associated can be specified for every day of the week. The default association will be "profile 1".

Note: as the events available for every profile are HOWEVER 4, to disable an event (i.e. to reduce the number of time bands for a specific profile), it will be sufficient to give them the same start point and the same operating mode as the previous event.

PARAMETERS

To access the parameters modification described in the table below, follow the procedure given:

	Mask	Description	U.M.	Min	Max	Note	Default
	tE00	Enabling of time band management	Num	On	Off		Off
WEEKLY PROGRAMMING	tE01	Profile selection, Monday	Num	1	3	1 = Profile 1 2 = Profile 2 3 = Profile 3	1
	tE02	Profile selection, Tuesday	Num	1	3		1
	tE03	Profile selection, Wednesday	Num	1	3		1
	tE04	Profile selection, Thursday	Num	1	3		1
	tE05	Profile selection, Friday	Num	1	3		1
	tE06	Profile selection, Saturday	Num	1	3		2
	tE07	Profile selection, Sunday	Num	1	3		2

N.B. On Easy Clima Controller display TE01, TE02, ... TE07 screenshots are called MON, TUE, WED, THU, FRI, SAT, SUN

PROFILE 1	tE 10	Event 1 start hours, profile 1	hh	0	23		6
	tE 11	Event 1 start minutes, profile 1	mm	0	59		30
	tE 12	Operating mode from event 1, profile 1	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	0
	tE 17	Event 2 start hours, profile 1	hh	0	23		8
	tE 18	Event 2 start minutes, profile 1	mm	0	59		30
	tE 19	Operating mode from event 2, profile 1	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	1
	tE24	Event 3 start hours, profile 1	hh	0	23		17
	tE25	Event 3 start minutes, profile 1	mm	0	59		30
	tE26	Operating mode from event 3, profile 1	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	0
	tE31	Event 4 start hours, profile 1	hh	0	23		22
	tE32	Event 4 start minutes, profile 1	mm	0	59		30
	tE33	Operating mode from event 4, profile 1	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	2
PROFILE 2	tE38	Event 1 start hours, profile 2	hh	0	23		7
	tE39	Event 1 start minutes, profile 2	mm	0	59		30
	tE40	Operating mode from event 1, profile 2	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	0
	tE45	Event 2 start hours, profile 2	hh	0	23		13
	tE46	Event 2 start minutes, profile 2	mm	0	59		30
	tE47	Operating mode from event 2, profile 2	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	1
	tE52	Event 3 start hours, profile 2	hh	0	23		17
	tE53	Event 3 start minutes, profile 2	mm	0	59		30
	tE54	Operating mode from event 3, profile 2	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	0
	tE59	Event 4 start hours, profile 2	hh	0	23		23
	tE60	Event 4 start minutes, profile 2	mm	0	59		30
	tE61	Operating mode from event 4, profile 2	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	2

PROFILE 3	tE66	Event 1 start hours, profile 3	hh	0	23		0
	tE67	Event 1 start minutes, profile 3	mm	0	59		0
	tE68	Operating mode from event 1, profile 3	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	0
	tE73	Event 2 start hours, profile 3	hh	0	23		0
	tE74	Event 2 start minutes, profile 3	mm	0	59		0
	tE75	Operating mode from event 2, profile 3	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	0
	tE80	Event 3 start hours, profile 3	hh	0	23		0
	tE81	Event 3 start minutes, profile 3	mm	0	59		0
	tE82	Operating mode from event 3, profile 3	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	0
	tE87	Event 4 start hours, profile 3	hh	0	23		0
	tE88	Event 4 start minutes, profile 3	mm	0	59		0
	tE89	Operating mode from event 4, profile 3	Num	0	2	0 = Comfort 1 = Economy 2 = Stand by	0

ENABLING

"Time band" operation can be activated with the tE00 time band management enabling parameter. Moreover, the RTC (internal clock) must be present and enabled to operate (it must not be faulty and/or not regulated, for further details refer to the specific alarms).
The "Time band" operating mode only affects the operating mode change from ON-Comfort to STAND-BY, from ON-Economy to STAND-BY, from ON-Comfort to ON-Economy, and vice versa.
The mode change procedure always takes place with the rules (times, etc.) envisioned by the basic adjustment. The time band management is an exclusive function of the parameters set.

PRIORITY

In the "time band" management ambit, the change events mode has the same priority as the local change mode via keyboard and serial port, clearly limited to ON-Comfort, ON-Economy and STAND-BY.
Refer to that stated in the "Selection of the operating mode" (priority level 4).
For example: if a change intervenes in manual mode from keyboard, which implements an ON-Economy with time band management enabled, which managed an ON-Comfort, the effect of this manual ON-Economy operation will have immediate priority, but will ONLY remain valid until the successive event envisioned by the "time band" management, which will then retake control of the operating mode.
The events all have the same priority level: the controller behaves according to the last event occurring. In the event of simultaneous events, the one with the lowest index is performed (1,2,3 or 4).

BLACK OUT

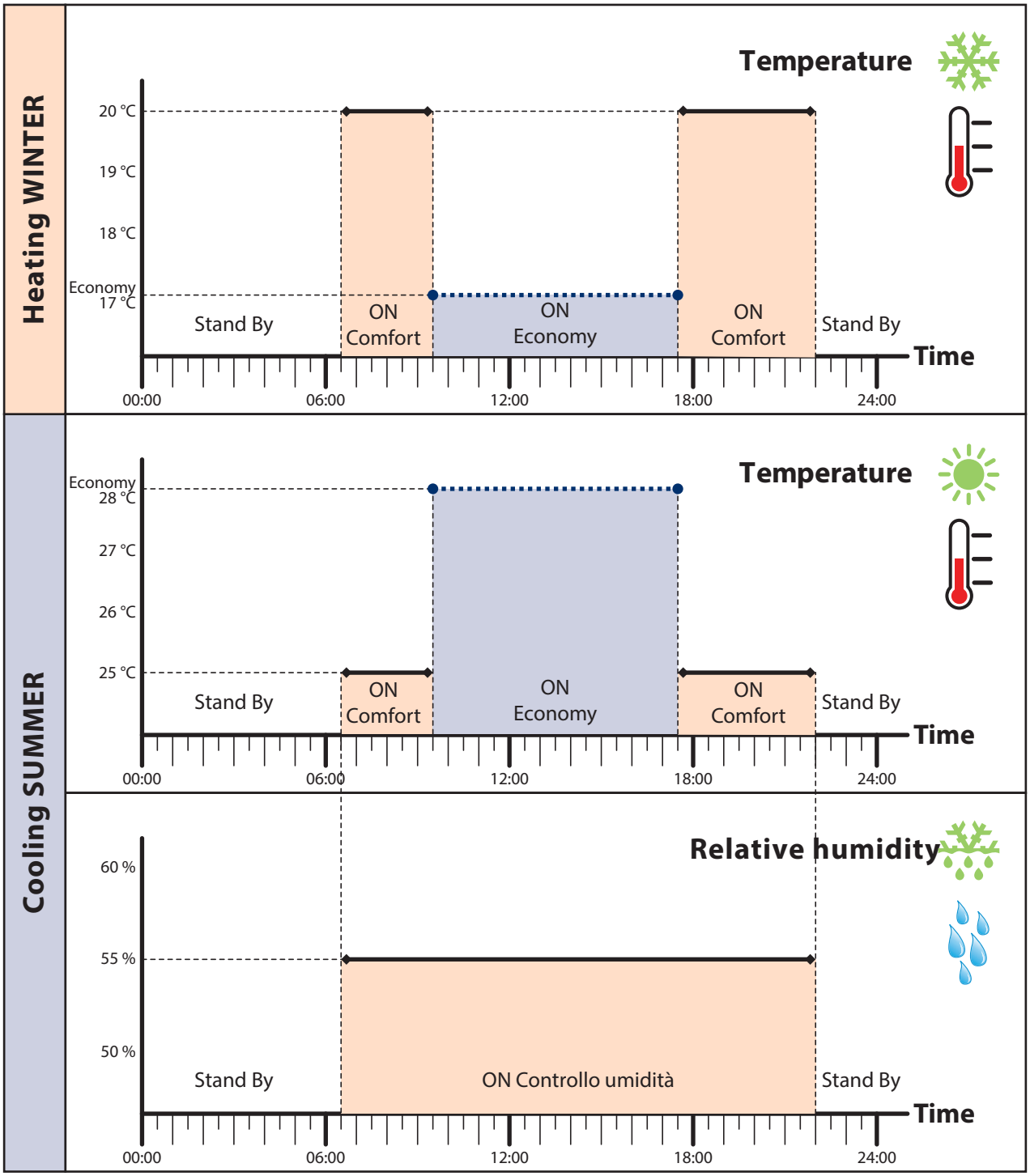
1. Time band management DISABLED: when the black-out is restored, the device behaves with mode already defined.
2. Time band management ENABLED: when black-out is restored, the device assumes the status of the last event occurring before the black-out.

EXAMPLE OF TIME BANDS PROGRAMMING

Below find and example of the structure of profile 1 containing 4 events:

- Event 1 = start time 06.30 – ON-Comfort operating mode
- Event 2 = start time 09.30 – ON-Economy operating mode
- Event 3 = start time 06.30 – ON-Comfort operating mode
- Event 4 = start time 22.00 – Stand-By operating mode

SYSTEM OPERATING WITH PROFILE 1 GRAPHICS



N.B. Dehumidification is only enabled in the summer. Its operation is forced in Stand-By (dehumidifier off) in concomitance with the stand-by event set. In the other cases, dehumidification is controlled with the set in the S_UM parameter.

WEEKLY MANAGEMENT TABLE

Below find an assignment example of the 3 profile in the days of the week:

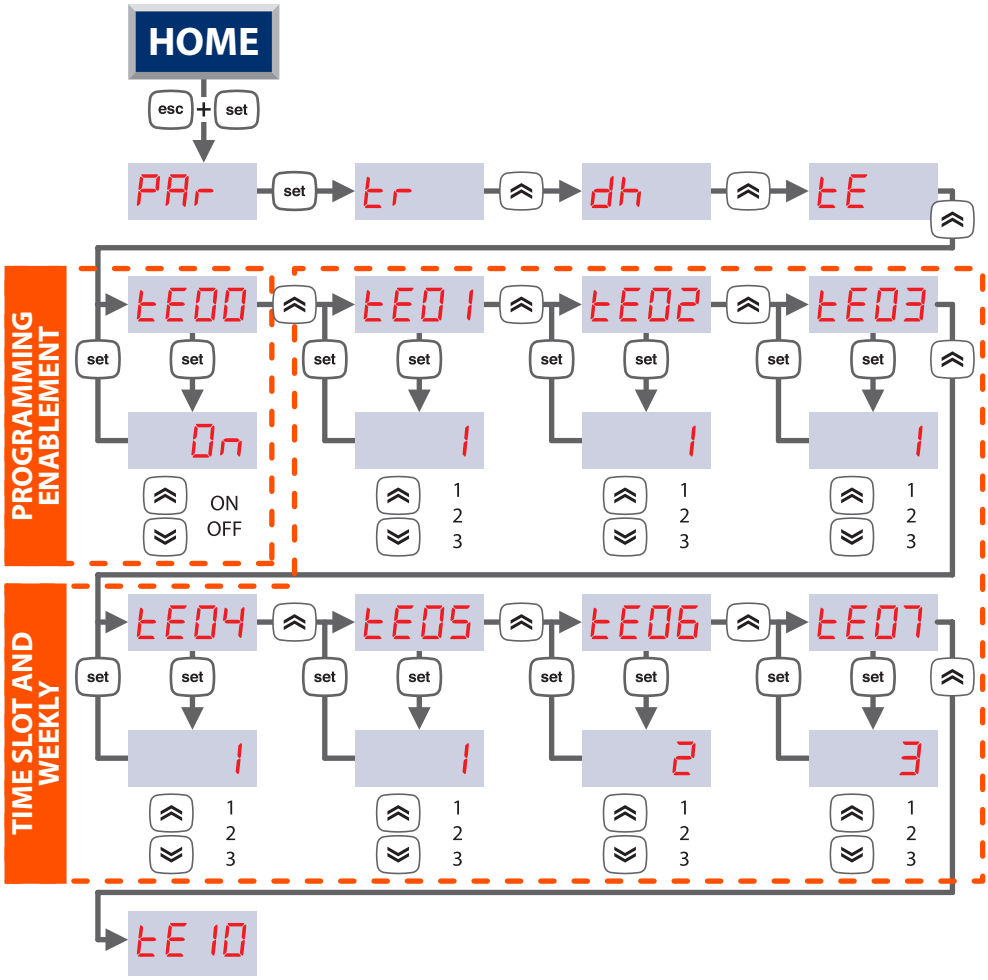
Screenshot	Day	Profile
tE01	Monday	1
tE02	Tuesday	1
tE03	Wednesday	1
tE04	Thursday	1
tE05	Friday	1
tE06	Saturday	2
tE07	Sunday	3

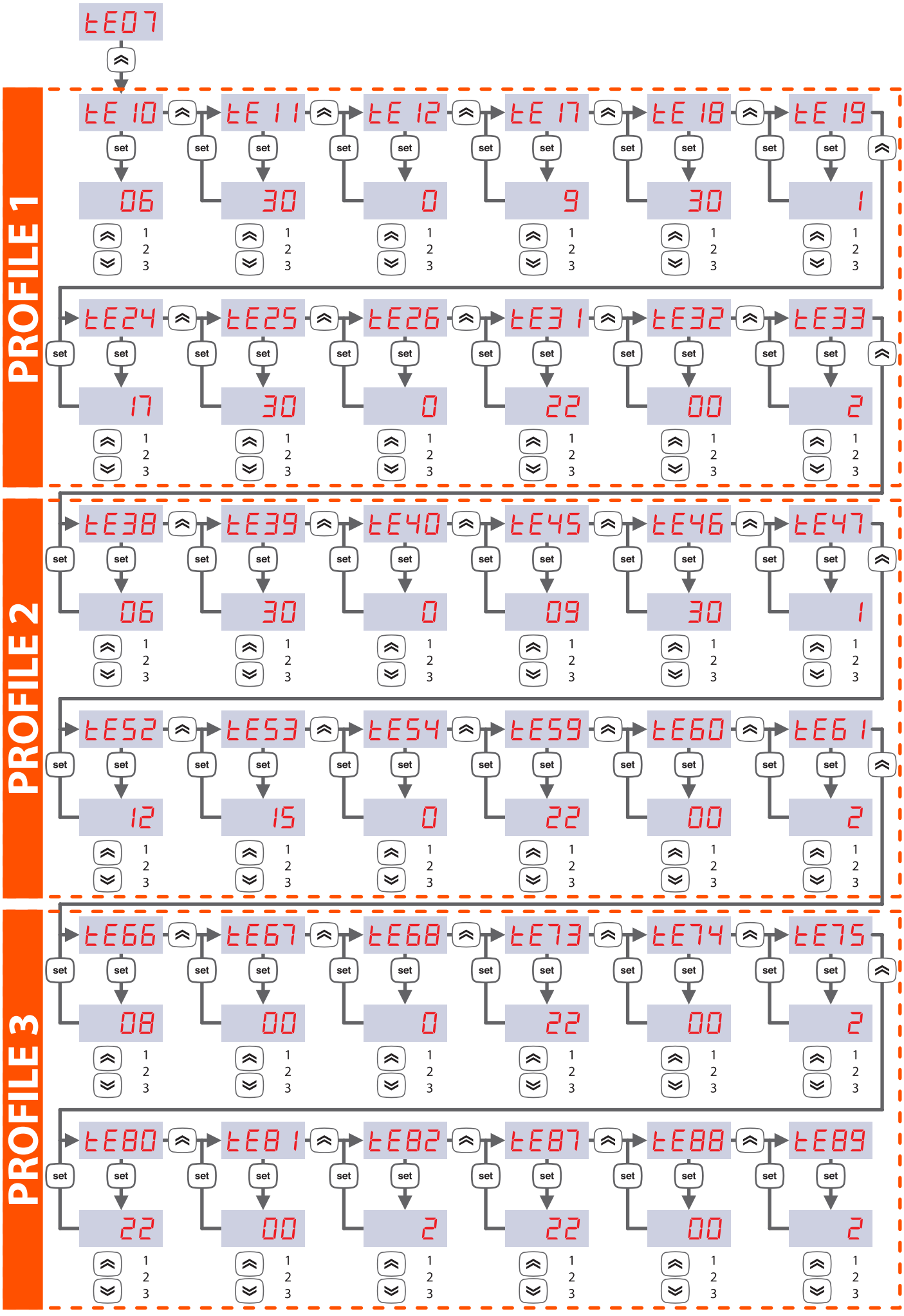
TIME BAND PROGRAMMING PROCEDURE

Below find and example of the structure of profile 2 containing 4 events:
- Event 1 = start time 06.30 – ON-Comfort operating mode
- Event 2 = start time 09.30 – ON-Economy operating mode
- Event 3 = start time 06.30 – ON-Comfort operating mode
- Event 4 = start time 22.00 – Stand-By operating mode

Below find and example of the structure of profile 3 containing 4 events:
- Event 1 = start time 06.30 – ON-Comfort operating mode
- Event 2 = start time 22.00 – Stand-By operating mode

events 3 and 4 will be programmed as the event 2 so that these are annulled.




tE07
PROFILE 1
tE10
tE11
tE12
tE17
tE18
tE19
06
30
0
9
30
1
tE24
tE25
tE26
tE31
tE32
tE33
17
30
0
22
00
2
PROFILE 2
tE38
tE39
tE40
tE45
tE46
tE47
06
30
0
09
30
1
tE52
tE53
tE54
tE59
tE60
tE61
12
15
0
22
00
2
PROFILE 3
tE66
tE67
tE68
tE73
tE74
tE75
08
00
0
22
00
2
tE80
tE81
tE82
tE87
tE88
tE89
22
00
2
22
00
2
set
1
2
3

4 EASY CLIMA CONTROLLER

DESCRIPTION

Room interface from Easy Clima Controller is an optional device that can be coupled to Easy Clima controller. The interface allows you to remote control the information on the Easy Clima controller in the room. Fitted with temperature and humidity probe, it allows to control the winter temperature, the summer temperature and dehumidification.

DESCRIPTION OF KEYS

Short press keys table*

Key	Description
⌃⌃	Modification of the temperature set-point
⌄⌄	Modification of the temperature set-point
set	Set-point modification

* Operation from main display, for the use from menu, see the successive user paragraphs

Long press keys table

Key	Description
⌃⌃ (☀/❄)	Season change
⌄⌄ (⏦)	Economy/Comfort
set	Set main display
esc (⏻)	Stand by/On

Key combination table

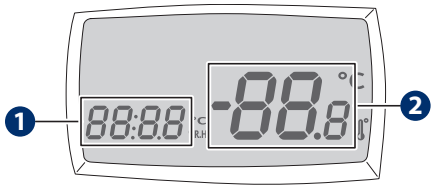
Key	Description
set + esc	• Time Band programming • Parameters programming (see technical manual)

DESCRIPTION OF SYMBOLS AND ICONS

Summary table of the symbols and icons

Icon	Description	Icon	Description
☀	Cooling icon	ABC	Menu icon
❄	Heating icon		Low temperature system solenoid valve icon
⏻	Stand-by icon		Low temperature system pump icon
❄	Dehumidification icon		Modulating mixing valve
⏦	Economy icon		Chiller icon
⚠	Alarm icon		Boiler icon
①—②—③—④—Ⓨ	Time band operating icon		High temperature system solenoid valve icon
°C	°C		High temperature system pump
%R.H.	% R.H.		

DESCRIPTION OF DISPLAY



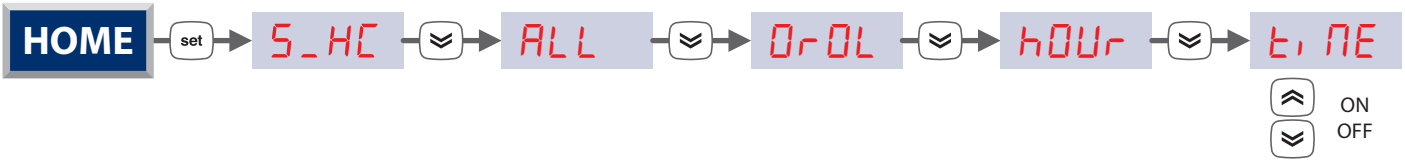
Num	Description
1	small display for showing: • time (hh: mm) • label menu • label parameters • label alarms
2	large display for showing: • temperature • parameters folders • parameters value

SET-POINT MODIFICATION

Label				Parameters
First level		Second level		Description
1	S_HC			Comfort temperature set in winter mode
2	S_hr			Economy temperature set in winter mode
3	S_CC			Comfort temperature set in summer mode
4	S_Cr			Economy temperature set in summer mode
5	S_UM			Humidity set
6	MOdE			Setting the ON or OFF operating mode to control the LT Area and the HT Area. The VALUE field means "ON" or "OFF". If "OFF" is set, the main display will show "OFF".
7	ti ME			Setting TIME BAND or NORMAL operation. The VALUE field means "ON" or "OFF". If ON is set, the ① ② ③ ④ symbol switches on
8	hOUr			Display of the operating hours of the LT Area Pump, the timer is shown on the DISPLAY up to a maximum of 9999 hours.
9	OrOL	1	HOUr	Hour set
		2	Mi n	Minutes set
		3	gi Or	Day set
		4	MESE	Month set
		5	AnnO	Year set
10	ALL			Display of alarm codes in progress. **See relevant paragraph.**

TIME BAND MANAGEMENT

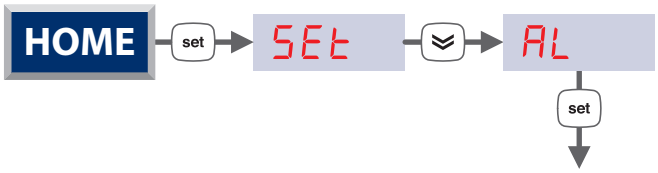
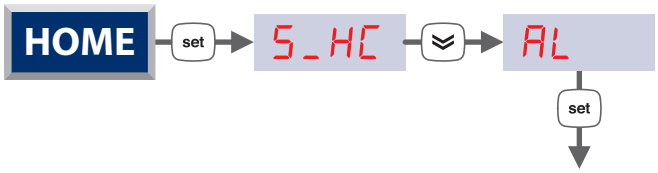
"Time band" operation by Easy Clima controller can be activated with the "time" band management enabling parameter.



For management of the time bands follow the instructions described below to access the parameters and "**3 Time Band Management**" chapter for all details regarding programming.

5 DIAGNOSTICS

The diagnostics consists in the management of everything that is associated to the alarms. For Easy Clima device, all alarms have "automatic rearm".

Easy Clima Control unit	Easy Clima Controller
	

Below find the list of various alarm codes that appear and their diagnostic meaning:

Code	Alarm	Alarm management	Digital/Analogue
Er00	General alarm	All outputs are switched off	Digital
Er01	LT Flow Temperature Probe Error	All outputs are switched off	Analogue
Er02	External Temperature Probe Error	Operation without Ext. probe	Analogue
Er03	Area 1 Room Temperature Probe Error	Operation without Env. probe	Analogue
Er04	Area 1 Room Humidity Probe Error from AIL2	Operation only with humidistat in DIL5 or with 4-20 mA probe in AIL3	Analogue
Er04	Area 1 Room Humidity Probe Error from AIL3	Operating only with humidistat in DIL5	Analogue
Er05	Clock fault error	Operating without automatism of the time bands (reset date/time)	Digital
Er06	Exceeding humidity maximum threshold in progress	Dehumidifier switch-off with Chiller and system (HT or LT) remaining in operating mode	Digital
Er07	Automatic stand-by in progress	Anti-freeze management only	Digital
Er08	LT system temperature below lower SAFETY limit, parameter Er31	Switch-off of all LT system loads. Manual rearm in main page with long pressure of the "ESC" key until the error disappears	Digital
Er09	LT system higher temperature SAFETY limit exceeded, parameter Er30	Switch-off of all LT system loads. Manual rearm in main page with long pressure of the "ESC" key until the error disappears	Digital
Er46	Clock to adjust error	Operating without automatism of the time bands	Digital

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invisible heating and cooling

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