AERMEC
air conditioning

INVERTER
TECHNOLOGY

Air-cooled heat pump

USER MANUAL

HBI

AERMEC
COMPANY QUALITY SYSTEM
ICIM
ISO 9001:2000 - Cert. n° 0128/5
CISQ IQNet
AERMEC S.P.A.

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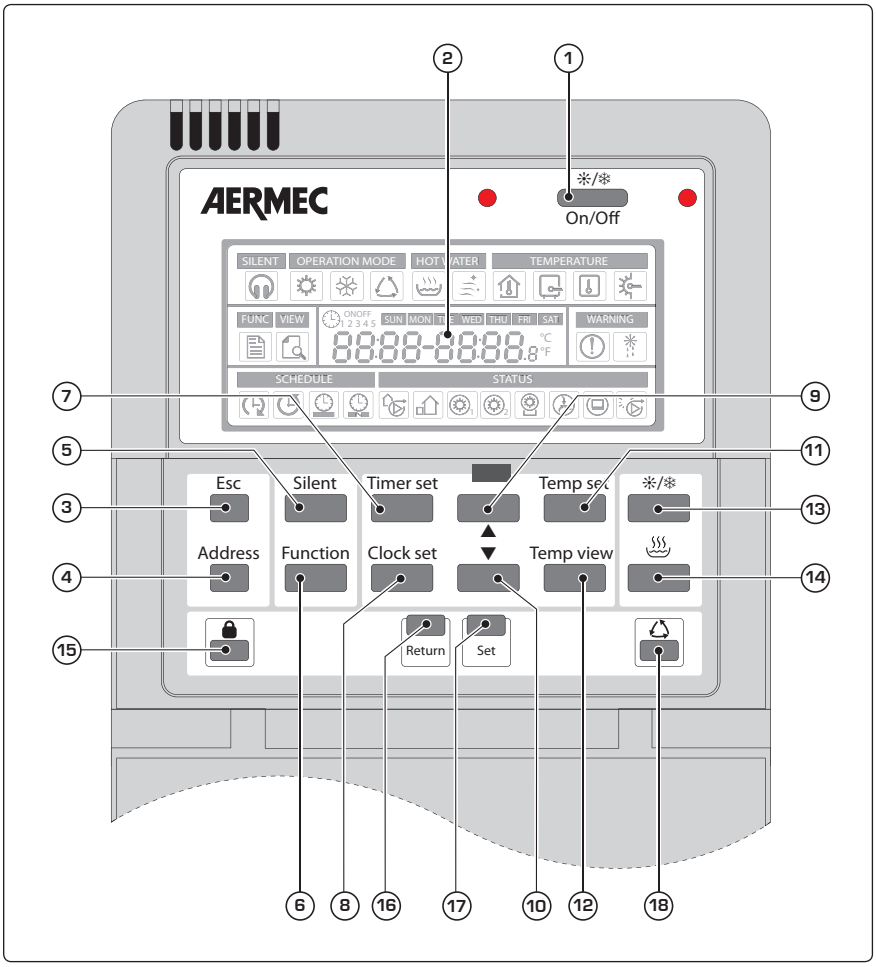
HBI control panel

The HBI air-cooled heat pump is managed via a control panel with LCD mounted on the indoor unit.

All information regarding machine functioning and system settings are inserted and/or displayed via this control panel.

The control panel is normally closed, therefore its keys are not visible and to access just open the lower door of the panel, revealing the function keys represented in the figure at the side.



Key	Function
1	Unit on/off key
2	LCD
3	Go back to main display key
4	Key used to set the internal unit address
5	SILENCED mode activation key
6	Key used to set the operational parameters
7	Key used to set the TIMER function
8	Key used to set the system clock
9	Key for increasing parameter value

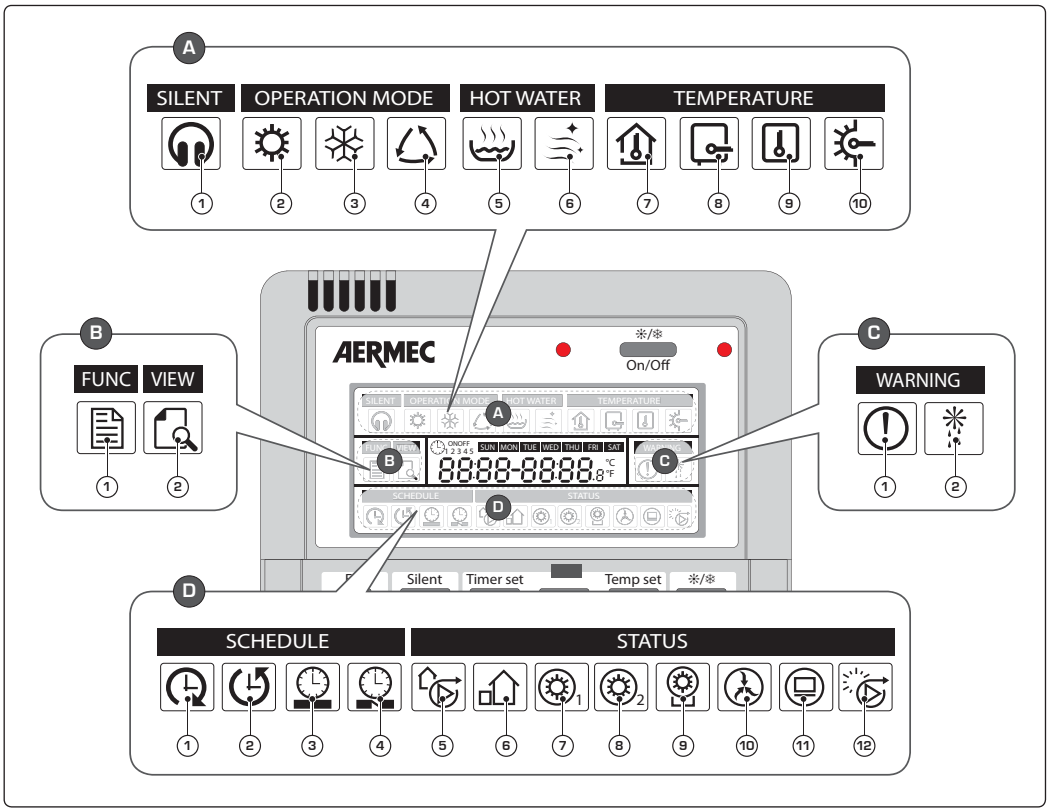
Key	Function
10	Key for decreasing parameter value
11	Key for setting the temperature range.
12	Key used to display the various system temperatures
13	Key used for functioning mode selection
14	Domestic hot water production ON/OFF key
15	Key used to block/release the protection for accidental pressing of the keys
16	Key used to go back to previous display
17	Key used to confirm selections
18	Key used for activation of AUTOMATIC heating mode

• Control panel display

The LCD with which the control panel is supplied, allows to display all information regarding system functioning or the active settings on the unit.

Every function or parameter is identified by one or more icons organised in different groups on the basis of the type of function to which they refer.

The layout at the side summarises all icons present on the control panel LCD.



Index		Icon	Function	Icon status	Meaning
A	1		Silenced mode	On	Active mode
				Off	Mode not active
	2		Heating mode	On	Active mode
				Off	Mode not active
				Flashing	Could indicate that: • the anti-freeze function is active • the instant hot water production function is active
	3		Cooling mode	On	Active mode
				Off	Mode not active
	4		Automatic heating mode	On	Active mode
				Off	Mode not active
				Flashing	Indicates that the automatic heating mode is active during the time periods set in the system.
	5		Domestic hot water production mode	On	Active mode
				Off	Mode not active
				Flashing	Indicates that the instant hot water production function is active, applied to the production of DHW
	6		Anti-legionella function	On	Function active
				Off	Function not active
				Flashing	Indicates that the anti-legionella cycle has not been completed correctly
	7		Environment air temperature	On	Indicates that a room air set is being set
				Off	Function not active
				Flashing	Indicates that the room air temperature function is active during the time periods set in the system.
	8		Temperature of the water produced by the HBI unit	On	Indicates that a produced water set is being set
				Off	Function not active
				Flashing	Indicates that the produced water function is active during the time periods set in the system.
	9		HBI WT/WTS storage tank temperature	On	Indicates that the temperature to be reached in the HBI WT/WTS DHW storage tank is being set
				Off	Mode not active
	10		Solar collector temperature	On	Indicates that the temperature of the water produced by the solar collector (if installed) is being set, at which the solar heating pump is to be activated
				Off	Mode not active

Index		Icon	Function	Icon status	Meaning
B	1		Parameters setting mode	On	Indicates that the parameters modification mode is active.
				Off	Indicates that the parameters modification mode is not active.
	2		Temperatures display mode	On	Indicates that the temperatures display mode is active.
				Off	Indicates that the temperatures display mode is not active.

Index		Icon	Function	Icon status	Meaning
C	1		Alarm in progress	On	Indicates that an alarm condition is in progress.
				Off	Indicates that there are no alarms active.
	2		Defrost function	On	Indicates that the defrosting function is in progress.
				Off	Indicates that the defrosting function is not in progress.

Index		Icon	Function	Icon status	Meaning
D	1		Timer function	On	Indicates that a switch-on/off timer has been set
				Off	No timer set
				Flashing	Indicates that a switch-on/off timer is being set
	2		Countdown function	On	Indicates that a countdown has been set for switch-on/off
				Off	No countdown set
				Flashing	Indicates that a countdown is being set for switch-on/off
	3		Weekly timer	On	Indicates that a weekly timer has been set
				Off	No timer set
				Flashing	Indicates that a weekly timer is being set
	4		Holiday timer	On	Indicates that a timer has been set for the holidays
				Off	No timer set
				Flashing	Indicates that a timer is being set for the holidays
	5		HBI internal unit pump	On	Indicates that the hydraulic pump of the indoor unit is running
				Off	Indicates that the HBI unit pump is not active.
	6		HBI outdoor unit	On	Indicates that the outdoor unit is active
				Off	Indicates that the outdoor unit is not active
	7		Electric resistance (power level 1)	On	Indicates that the HBI unit resistance is active at the first power level.
				Off	Indicates that the HBI unit resistance is not active at the first power level.
	8		Electric resistance (power level 2)	On	Indicates that the HBI unit resistance is active at the second power level.
				Off	Indicates that the HBI unit resistance is not active at the second power level.
	9		DHW electric resistance	On	indicates that the resistance in the HBI-WT/WTS DHW storage tank is active.
				Off	indicates that the resistance in the HBI-WT/WTS DHW storage tank is not active.
	10		Thermostat	On	
				Off	
	11		BMS connection system	On	Indicates that the unit is managed by an external supervision system (all HBI control panel keys will be disabled)
				Off	Indicates that the unit is not controlled via a BMS system
	12		Hydraulic pump on solar heating system	On	Indicates that the pump on the solar heating system unit is running
				Off	Indicates that the pump on the solar heating system unit is not running

HBI functioning mode

The HBI system is managed via the control panel on the indoor unit. This interface, as illustrated in the previous pages, allows to select the functioning mode and set the different functions available, via the use of the keys present on the panel.
The functioning modes possible on the HBI system are:

COOLING Mode:

This is the summer functioning mode. In this mode, the HBI system can produce water at a temperature between 7°C and 30°C; however this interval can vary on the basis of the type of utility (on the basis of the presence or not of fan coils in the system) and on the basis of the type of reference set on the panel of the indoor HBI unit (control based on the temperature of the water produced by the indoor unit, or based on the room temperature; **ATTENTION: to base the control of the HBI system on the room temperature it is necessary to install the room air sensor or an external thermostat as indicated in the installation manual**);
The intervals within which it is possible to set the job in cooling mode are:

Reference	Type of utility	Work temperature range
Temperature of water produced	System with fan coil	18°C ~ 25°C (default: 18°C)
	System without fan coil	7°C ~ 25°C (default: 7°C)
Environment air temperature	All	18°C ~ 30°C (default: 20°C)

HEATING Mode:

This is the winter functioning mode. In this mode, the HBI system can produce water at a temperature between 25°C and 55°C; however this interval can vary on the basis of the type of reference set on the panel of the indoor HBI unit (control based on the temperature of the water produced by the indoor unit, or based on the room temperature; **ATTENTION: to base the control of the HBI system on the room temperature it is necessary to install the room air sensor or an external thermostat as indicated in the installation manual**);
The intervals within which it is possible to set the job in heating mode are:

Reference	Type of utility	Work temperature range
Temperature of water produced	All	25°C ~ 55°C (default: 40°C)
Environment air temperature	All	18°C ~ 36°C (default: 26°C)

DOMESTIC HOT WATER PRODUCTION mode:

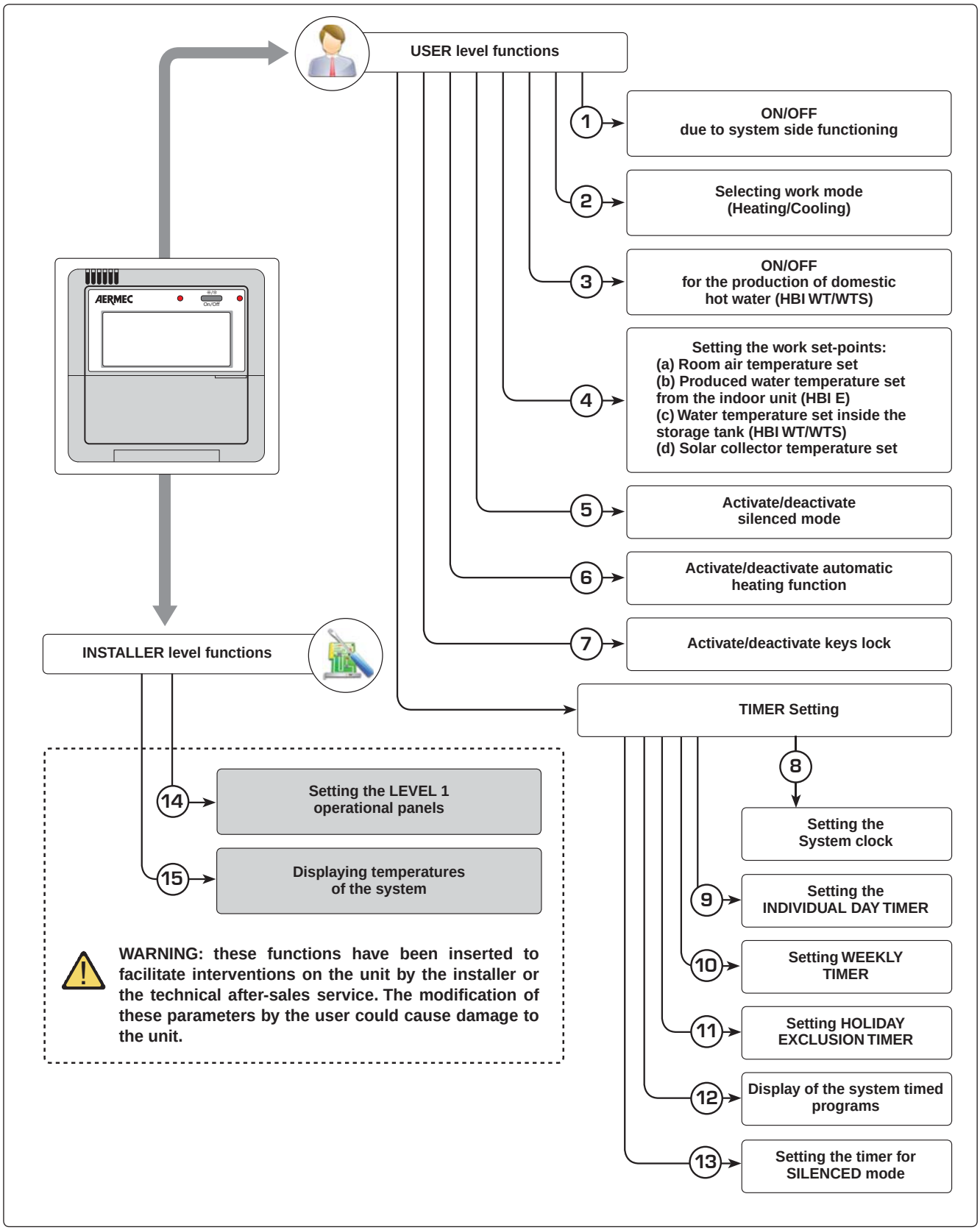
This is the specific functioning mode for the production of DHW. In this mode the HBI system can produce water at a temperature between 40°C and 80°C (default value 50°C).
WARNING: the indoor HBI unit does not produce DHW directly, but just hot water for heating the content of the HBI WT/WTS storage tank (to which the anti-legionella cycle can be applied).

COOLING or HEATING + DOMESTIC HOT WATER PRODUCTION:

The COOLING or HEATING mode can be combined with the PRODUCTION OF DOMESTIC HOT WATER; naturally, if these combined modes are used, the system will assign a priority to the system/domestic requests, on the basis of which the system will satisfy first one and then the other.
WARNING: the default settings envision that the priority is assigned to the COOLING or HEATING mode, with respect to the production of domestic hot water. Therefore, if the system receives two simultaneous requests,the first to be satisfied will be for cooling or heating.

Functions that can be performed from the control panel

Below find a summary layout of the functions that can be used via the control panel. These functions will be discussed in the following pages one by one in order to explain how these must be used and set on HBI systems.

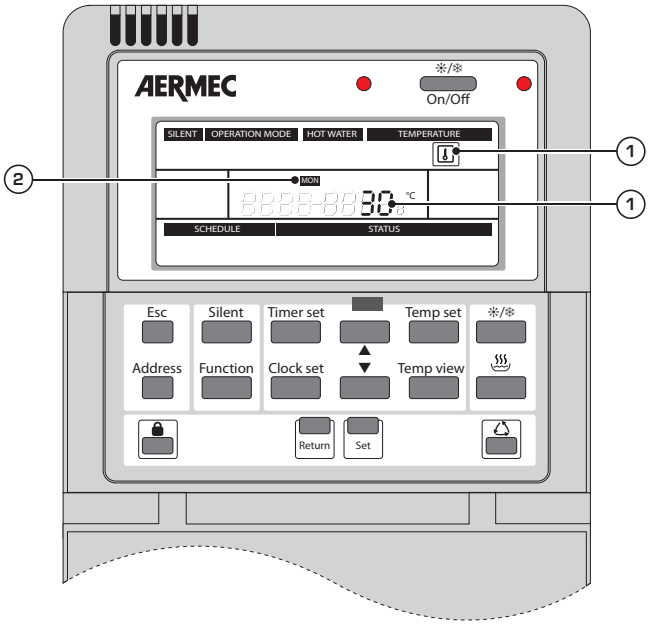


HBI control panel operational procedures

(1) ON/OFF due to system side functioning:

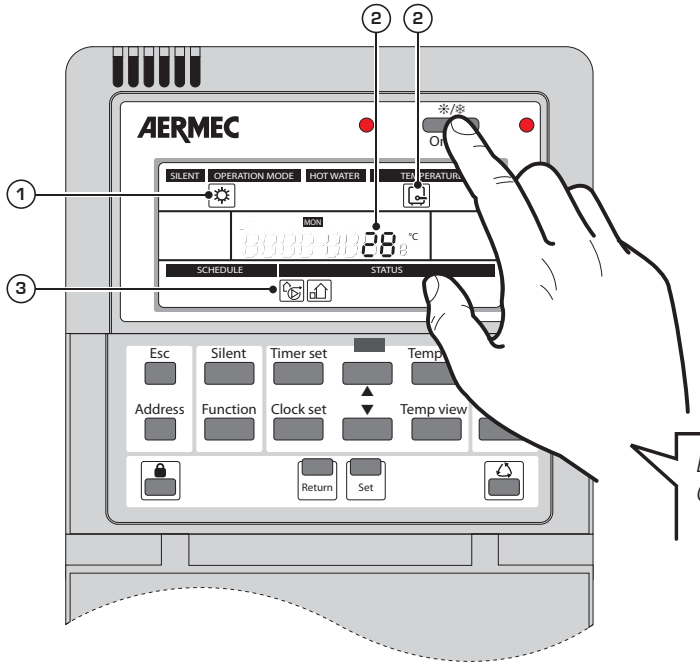
The HBI unit allows to manage both the heating/air conditioning system (radiant panels, fan coils, low temperature radiators) and the system for the production of domestic hot water (with HBI WT/WTS storage tank). These two systems can function independently, therefore the HBI unit allows to activate or deactivate each mode individually. This function allows to activate or deactivate the heating or cooling modes on the system side. **Note: the function does not set any specific mode, but activates the unit using the last work mode set.**

WARNING: if a room thermostat has been installed it will no longer be possible to activate or deactivate the HEATING or COOLING functioning mode from the control panel of the indoor HBI unit. The thermostat will be highlighted on the display by the icon if it is installed



In the example, a stand-by situation is taken as the starting point (i.e. the case in which no functioning mode is activated). The display will show the selected temperature (1), the example shows the temperature of the water inside the HBI WT/WTS storage tank, the day of the week (2), any information regarding the state of the system and information regarding time periods (if set).

Fig. (1)



In the example, the HEATING mode is activated (1), represented by the relative icon;
Moreover, the temperature displayed is modified (2) passing to the output temperature from the indoor unit (corresponding to the set work set-point for the active mode).; Other information is also displayed regarding the system status (3).
In this example the information is:
- Indoor unit pump active;
- Outdoor unit active.

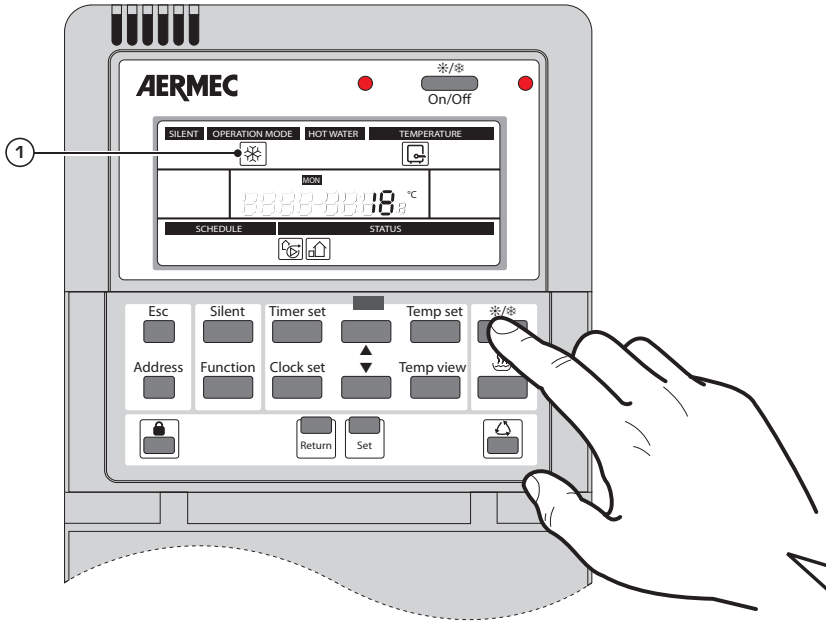
By pressing the key indicated, the HEATING or COOLING mode is activated (deactivated).

Fig. (2)

(2) Selecting functioning mode (system water):

This function allows to select the work mode from heating or cooling on the system side.
Note: this selection is only possible if the unit is on.

WARNING: if a room thermostat has been installed it will no longer be possible to select the HEATING or COOLING functioning mode from the control panel of the indoor HBI unit. The thermostat will be highlighted on the display by the icon if it is installed

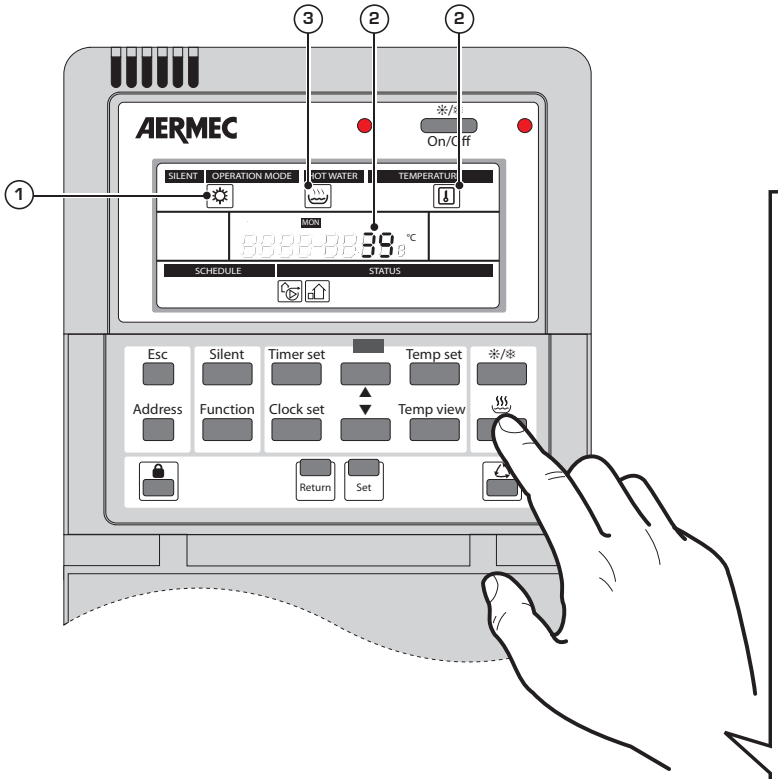


By pressing the key shown in the figure, the functioning mode can be modified for system water production (the domestic hot water production mode will be explained on the following pages). Pressing the key indicated will make the functioning mode change according to the following order:
(a) HEATING;
(b) COOLING;
Both modes will be indicated by the relative icon shown on the display (1).

Note: prolonged pressing (5 seconds) of the key indicated, will activate the hot water production function just with electric resistance. This function is indicated by the flashing heating icon and allows to produce hot water just using the indoor unit electric resistance. To exit this function, press the key indicated again for 5 seconds.

③ ON/OFF for the production of domestic hot water (HBI WT/WTS):

The HBI unit allows to manage both the heating/conditioning system (radiant panels, fan coils, low temperature radiators) and the system for the production of domestic hot water (with HBI WT/WTS storage tank). These two systems can function independently, therefore the HBI unit allows to activate or deactivate each mode individually. This function allows to activate or deactivate the domestic hot water production mode.
Note: the HBI unit cannot produce DHW directly, but produces hot water used for the successive production of DHW via the HBI WT/WTS storage tank.



By pressing the key indicated, the domestic hot water production mode is activated (deactivated).
In the example, the HEATING mode ① was already active and pressing the key indicated also activates the production of domestic hot water ③ (the priority between DHW as system hot water is set in the installer parameters). Moreover, the temperature displayed is modified ② by passing to the temperature inside the HBI WT/WTS storage tank.

Note: prolonged pressing (5 seconds) of the key indicated, will activate the hot water production function just with electric resistance. This function is indicated by the flashing icon ③ and allows to produce hot water just using the indoor unit electric resistance (and eventually that of the HBI WT/WTS storage tank, on the basis of the relative settings). To exit this function, press the key indicated again for 5 seconds.

4 Setting the work sets:

The HBI unit allows to manage the different parts of the system (room heating/air conditioning systems, domestic hot water production system, solar collector, etc...). To manage the system power requests correctly, the work set-point must be set.
These can be:

[1] [2] (a) System temperature set-point (based on the ROOM AIR temperature)
This value indicates which temperature must be reached in the room in which the room air sensor is installed, supplied with the HBI unit (for further information, refer to the installation manual). Once the sensor detects the desired temperature, it will stop functioning of the HBI unit. This set-point is only visible if:
- the room air control has been set in the operational parameters;
- the room air probe accessory has been installed;
- one of the following modes is active: heating, cooling;

[1] [2] (b) System temperature set-point (based on the PRODUCED WATER temperature)
This value indicates at which temperature functioning of the HBI unit will be stopped; the system return water temperature value is controlled using this logic and once this value is that set, the HBI unit stops. This set-point is only visible if:
- the return water control has been set in the operational parameters (default setting);
- one of the following modes is active: heating, cooling;

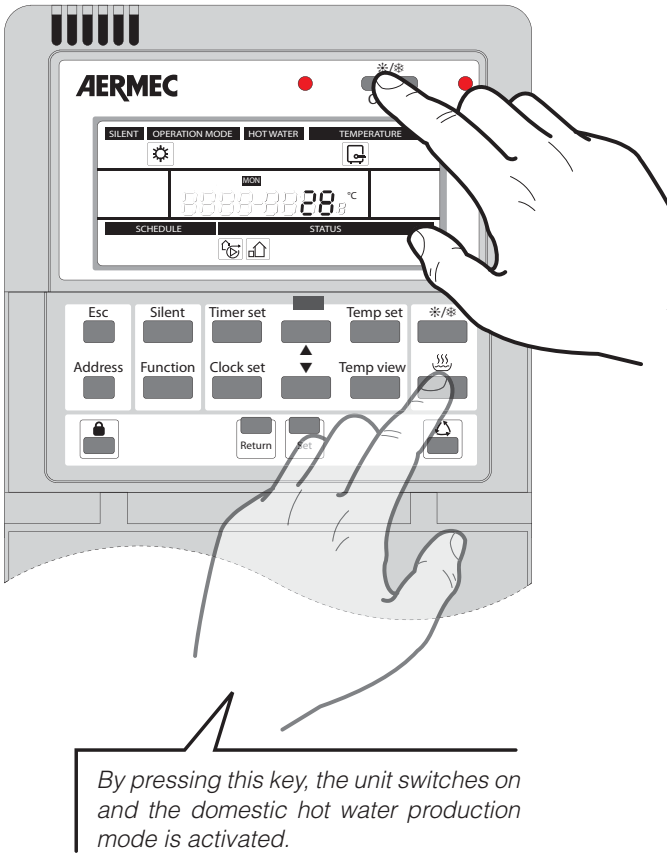
(c) HBI WT/WTS storage tank temperature set-point (domestic hot water production system)
The HBI unit can manage the request for DHW. Once it is requested, the HBI unit switches the flow from the system to the HBI WT/WTS storage tank (acting on the 3-way diverter valve, not supplied. For further information regarding system components necessary, refer to the installation manual) and will produce hot water until the temperature set in this temperature set-point is reached. Once the temperature requested inside the HBI WT/WTS storage tank has been reached, the unit will take the 3-way diverter valve towards the system. This set-point is only visible if:
- the presence of the HBI WT/WTS storage tank has been set in the operational parameters;
- the domestic hot water production mode is active;

(d) Solar collector temperature set-point
This value indicates at what temperature the pump must be activated on the solar collector; naturally to use this work set-point, the HBI unit must be installed on a system equipped with all components necessary for the management of a solar collector for integration on DHW (for further information, refer to the installation manual). This set-point is only visible if:
- the presence of a solar collector has been set in the operational parameters;
- the domestic hot water production mode is active;

[1] the system temperature set-points based on the room air and return water temperature are in no case displayed at the same time.

[2] during the automatic heating function it will not be possible to set any temperature value to apply to the system.

WARNING: if a room thermostat has been installed it will no longer be possible to set a work set-point from the control panel of the indoor HBI unit. The thermostat will be highlighted on the display by the icon if it is installed.

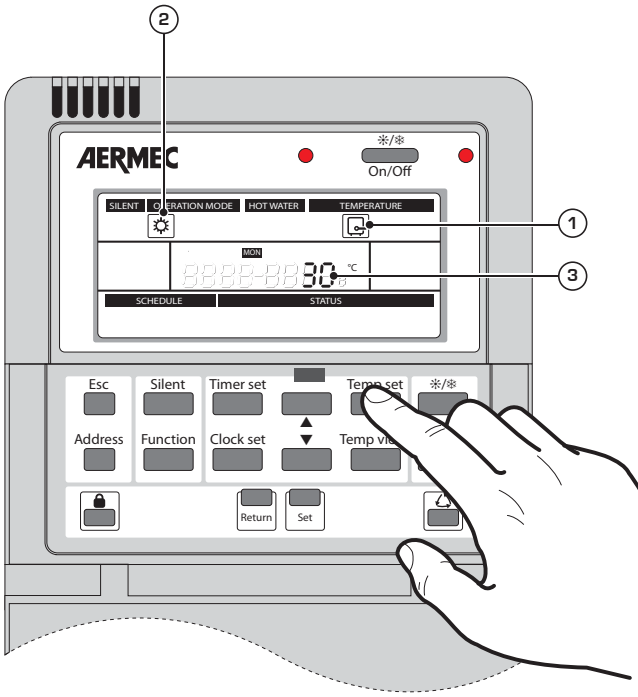


In order to set the work set-point, the HBI unit must be on, activating the HEATING, COOLING mode or the PRODUCTION OF DHW.

By pressing this key, the unit switches on and one of the two HEATING or COOLING modes is activated.

By pressing this key, the unit switches on and the domestic hot water production mode is activated.

Fig. (1)

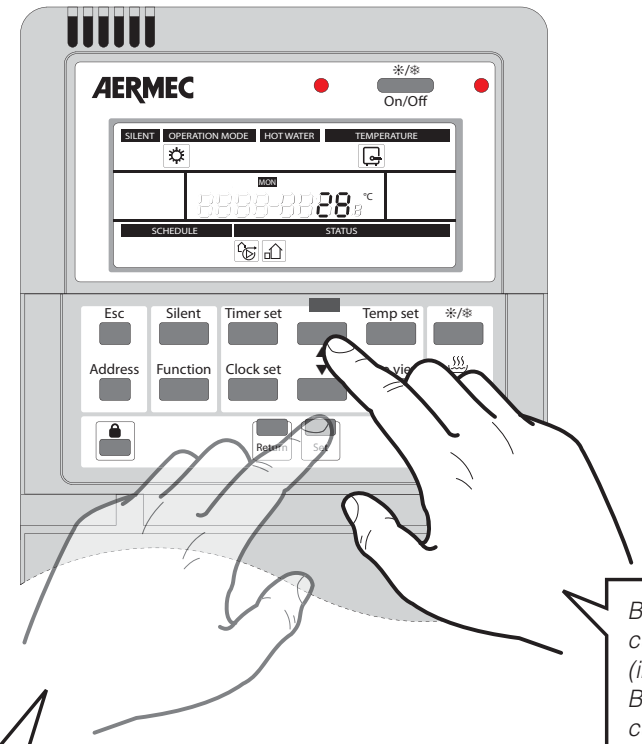


By pressing the key indicated, enter the work set-point setting mode. Every time this key is pressed means a move from one set-point to the next (on the basis of the set-points available for the work mode active). Information is given on the display:

- *The icon that represents the currently selected mode (1); which could be:*
  - *room air temperature set;*
  - *system return water temperature set-point;*
  - *HBI WT/WTS storage tank temperature set;*
  - *solar collector temperature set;*
- *The icon that represents the functioning mode (2);*
- *The current value set for the selected set-point (3);*

Fig. (2)

Fig. (3)

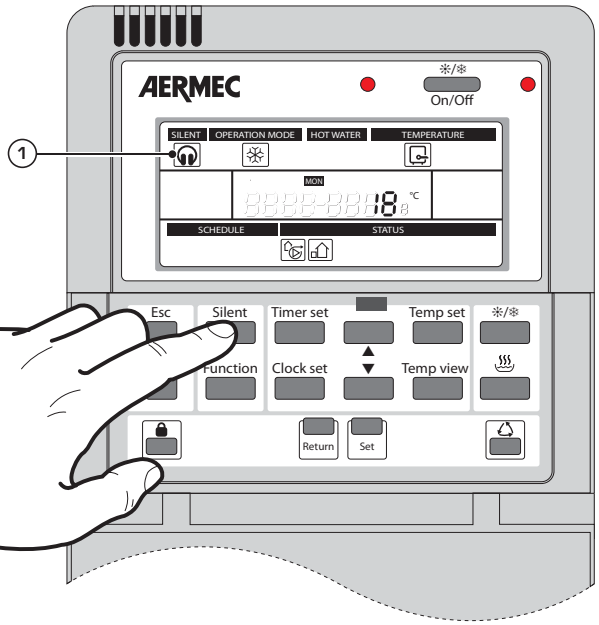


By pressing the (▲) key, the value of the currently selected set-point is increased (increase of 1°C every time it is pressed); By pressing the (▼) key, the value of the currently selected set-point is decreased (decrease of 1°C every time it is pressed);

By pressing this key, the currently selected set-point value is confirmed and the work set-point modification mode is exited.

(5) Activate/Deactivate silenced mode:

The HBI unit is made up from an indoor and outdoor unit. The latter produces a determined sound level during its normal functioning. However, a function exists that allows to lower the sound level emitted by the outdoor unit. **Note: the lowering of the sound level implies lowering of performance as the unit limits the fan speed and the frequency of the inverter compressor.**

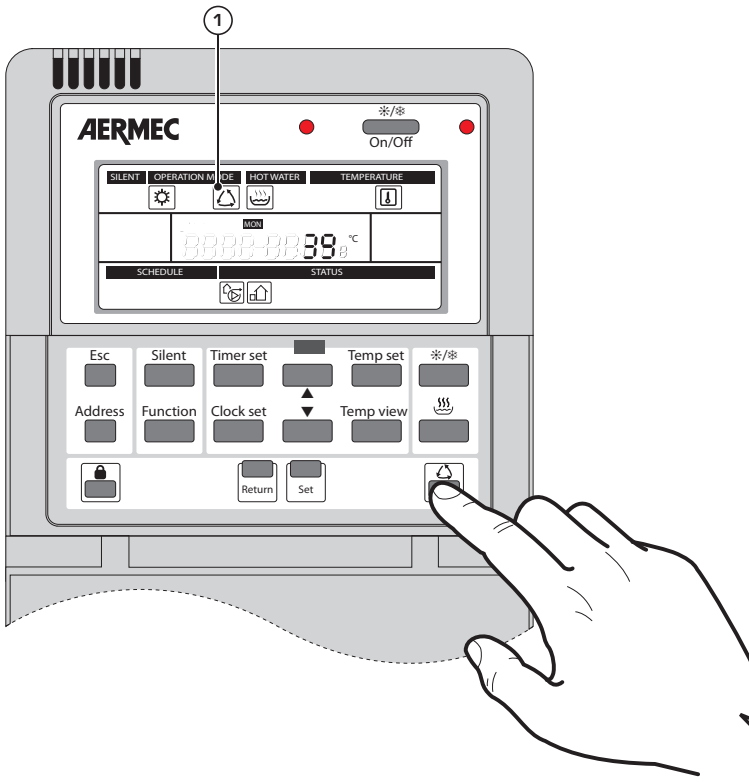


By pressing the key shown in the figure, the silenced mode can be activated or deactivated; this mode is identified by the (1) icon.

(6) Activate/Deactivate automatic heating function:

The HBI unit has an automatic heating function. This function allows the unit to autonomously calculate (on the basis of a climatic curve set in the opeational parameters) the temperature of the rooms in which the room air sensor is installed.

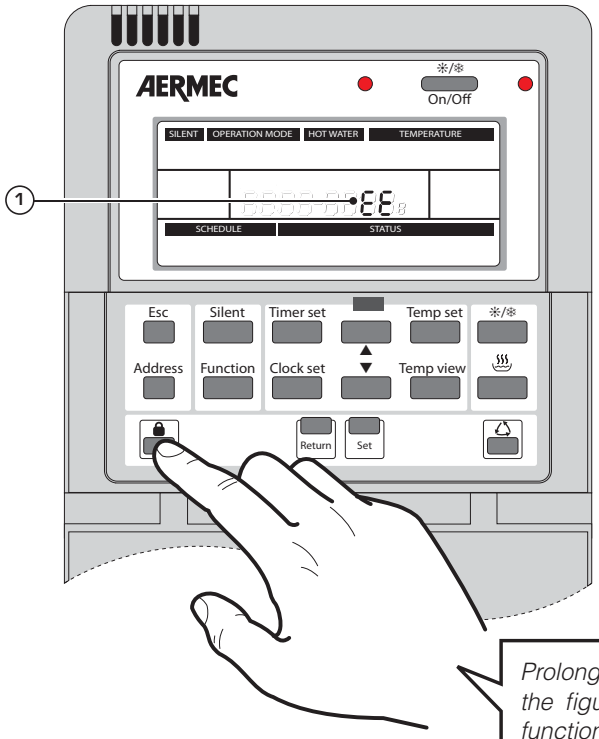
Note: this function can be applied only to the heating mode. It is not available for any other mode.



By pressing the key indicated, the automatic heating mode is activated (or deactivated).
In the example, the HEATING mode was already active and pressing the key indicated activates the automatic heating function, displaying the relative icon (1);

(7) Activate/Deactivate keys lock:

The HBI unit allows to lock the control panel keyboard in order to prevent accidental pressing of the keys. "EE" is shown on the display while this function is active.



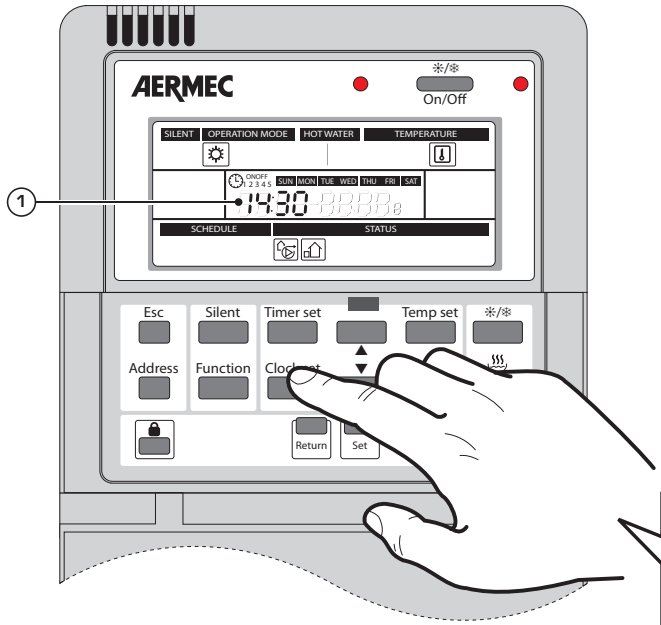
Prolonged pressing (5 seconds) of the key shown in the figure, can activate or deactivate the keys lock function; this mode is identified by the code (1) on the display.

8 Setting the system clock:

The HBI unit control panel allows to set different types of timer. To be able to use these functions it is first necessary to set the system clock.

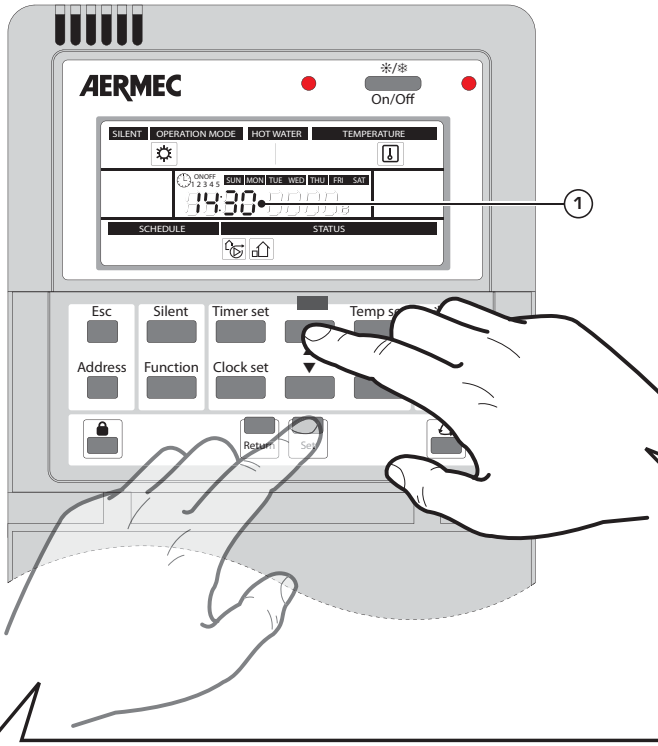
Note: the system time will be kept in the memory while the unit is live (also if in stand-by), therefore after every intervention that envisions removal of voltage from the unit it will be necessary to set the system clock again.

Fig. (1)



By pressing the key indicated, access system time setting. Once this key has been pressed, the current system time will be displayed (1); the characters relative to the hours will flash.

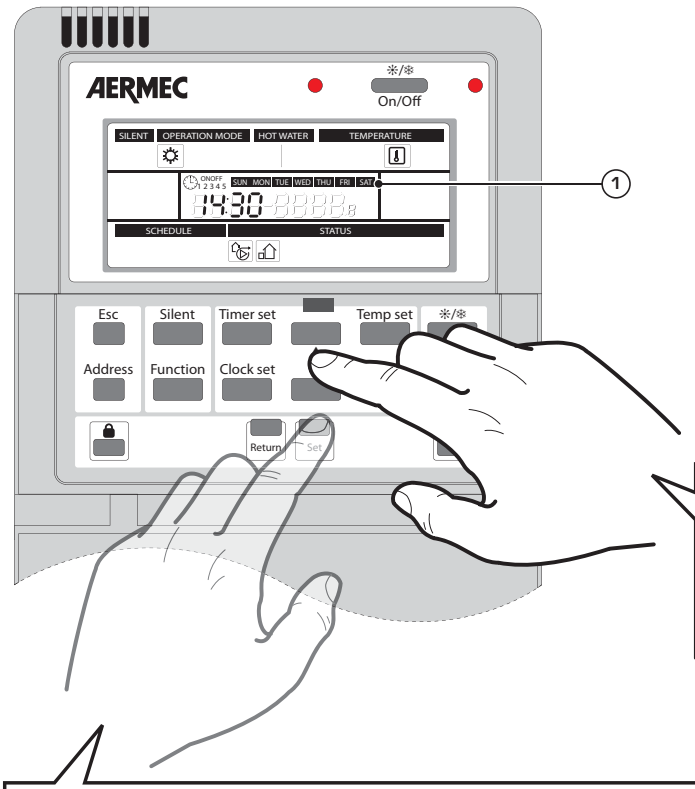
Fig. (2)



By pressing the (▲) key, the system hours increase (increase of one hour every time it is pressed);
By pressing the (▼) key, the system hours decrease (decrease of one hour every time it is pressed);

By pressing the key indicated, the hour is confirmed and pass automatically to setting the minutes (moreover, the characters relative to the minutes will flash (1)).

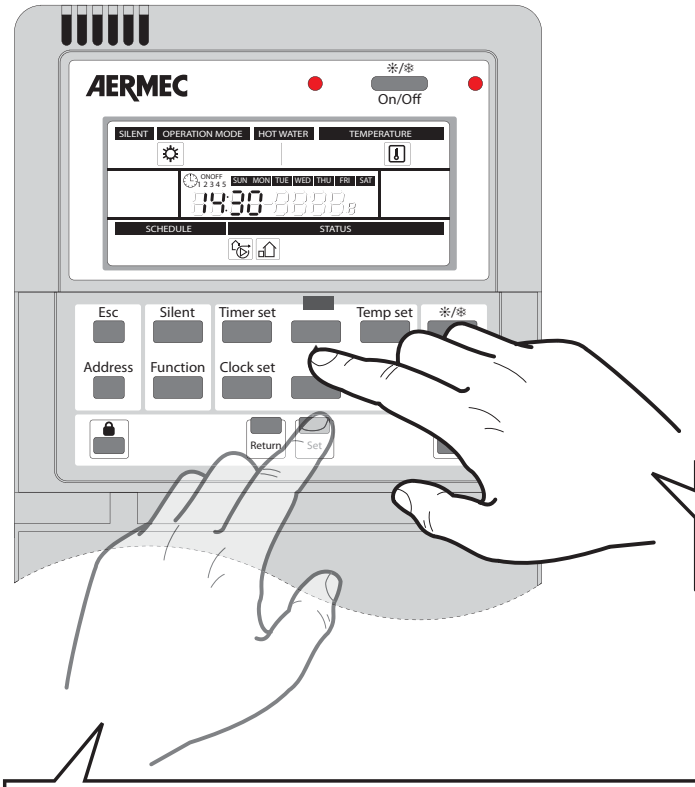
Fig. (3)



By pressing the (▲) key, the system hours increase (increase of one minute every time it is pressed);
By pressing the(▼) key, the system hours decrease (decrease of one minute every time it is pressed);

By pressing the key indicated, the minutes are confirmed and pass automatically to setting the day (moreover, the day icon currently selected will flash (1)).

Fig. (4)



Pressing the (▲) key, pass to the next day of the week;
Pressing the (▼) key, pass to the previous day of the week;

By pressing the key indicated, the current day of the week is confirmed, exiting from the system weekly time setting function.

(9) Setting the INDIVIDUAL DAY timer:

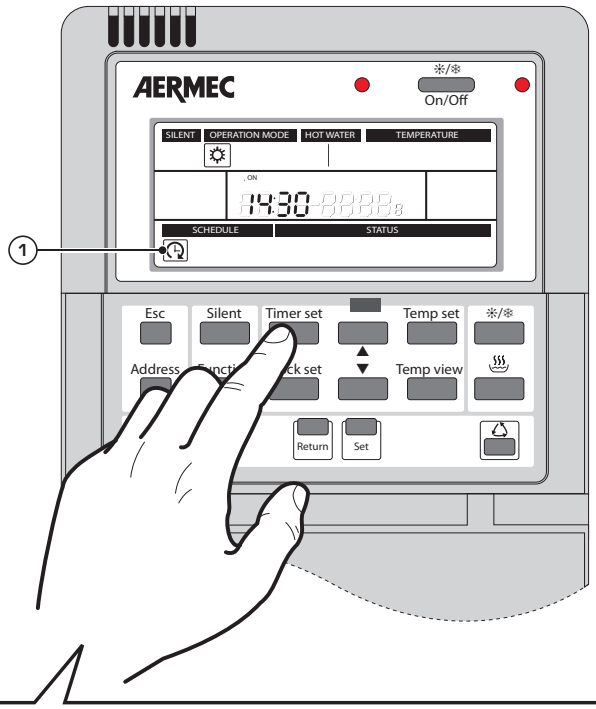
The HBI unit control panel allows to set a daily timer for automatic switch-on/off of the unit. During execution of this time period, the unit will activate the functioning mode and the work set-point set by the user for the same time period.

Note: The functioning mode and the work set-point set for the time period are only valid during execution of the same.

The HBI unit envisions two different functions for the use of the time periods:
- the first follows a logic called DIRECT, i.e. the user sets a switch-on time and a switch-off time, which represent the time period limits;
- the second follows a logic called COUNTDOWN, i.e. the user sets the start and the end of the time period, specifying the distance (in hours) from the moment it is set;

WARNING: The setting of the INDIVIDUAL DAY timer is valid just for the day in which this function is set. If the timer is to be repeated for several days, the WEEKLY TIMER function must be used (explained in the next pages).

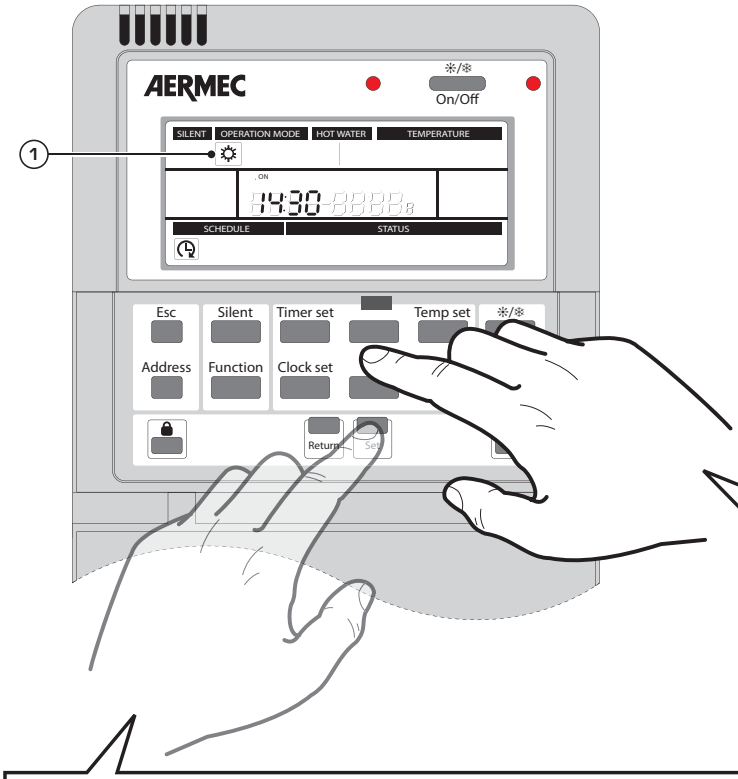
Fig. (1)



By pressing the key indicated, access timer setting. Every time this key is pressed, a different icon will be displayed, representing a particular timer mode:
(1) INDIVIDUAL DAY timer with direct logic;
(2) INDIVIDUAL DAY timer with countdown logic;
(3) WEEKLY timer;
(4) HOLIDAYS EXCLUSION timer;

To set the INDIVIDUAL DAY timer function, select possibility (1) or (2); for the remaining optionals, refer to the next section of this manual.

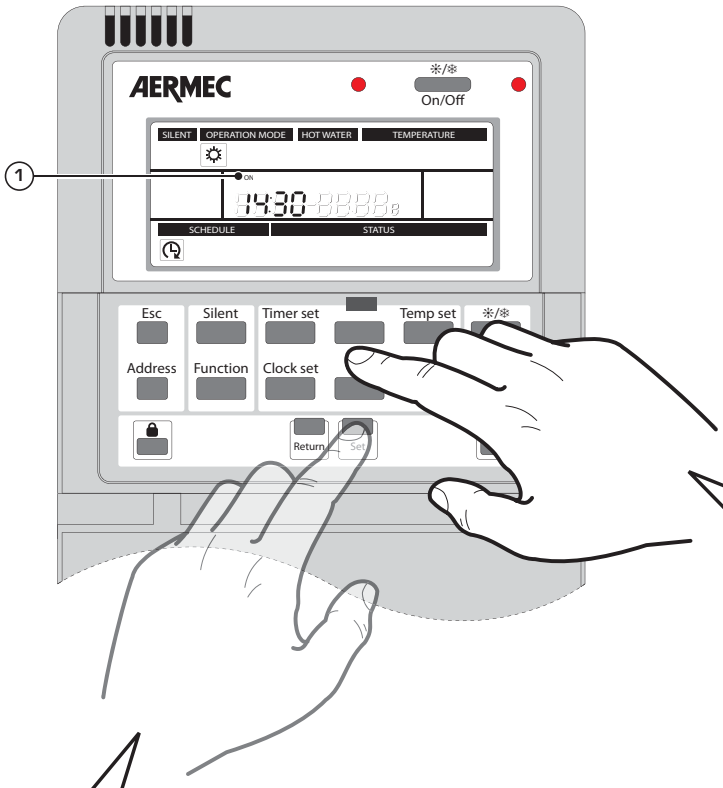
Fig. (2)



These keys allow to select the functioning mode to associate to the time period of the timer that is being set;

By pressing the key indicated, the functioning mode selected is confirmed (1) If there is already a daily time period on the system, pressing this key would cause it to be deleted, taking the user to the main menu.

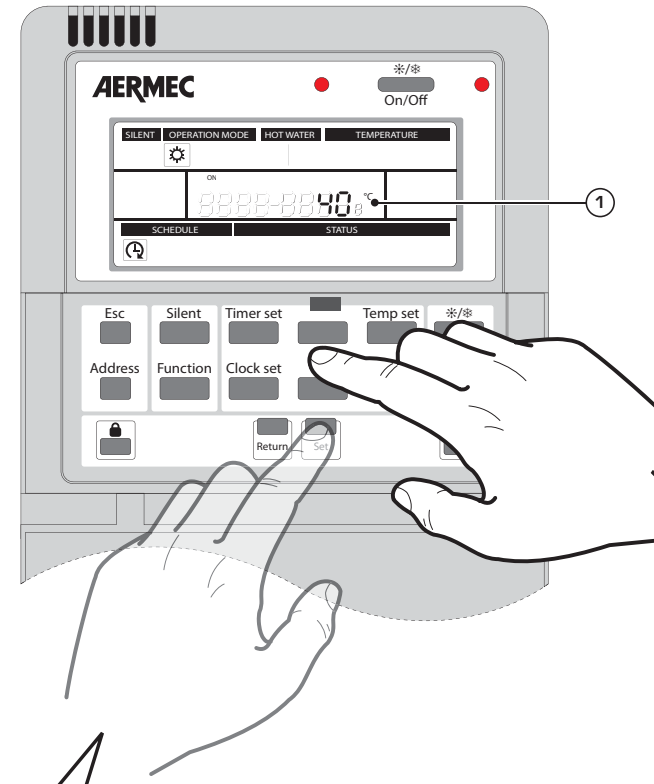
Fig. (3)



These keys allow to select the type of automatism to associate to the time period of the timer that is being set:
- *Automatic switch-on (ON);*
- *Automatic switch-off (OFF);*

By pressing the key indicated, the type of automatism selected is confirmed (1)

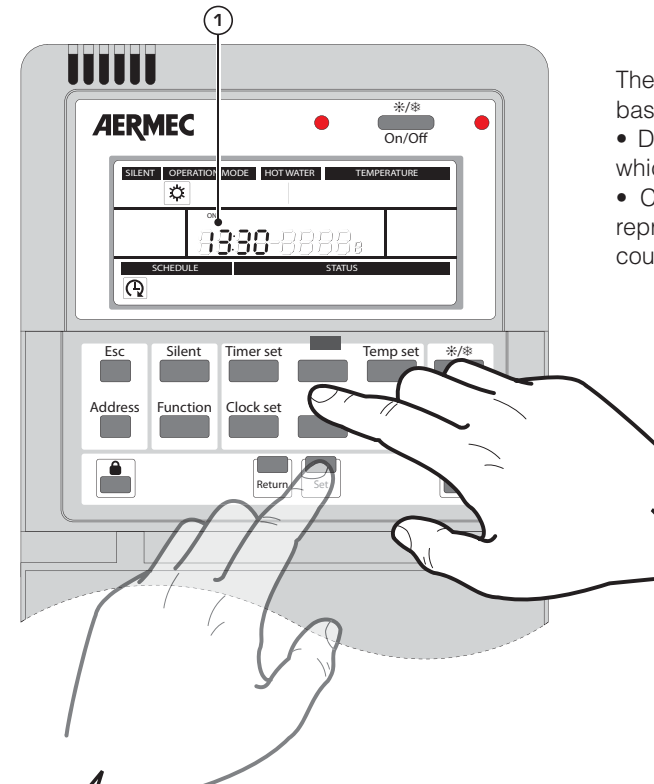
Fig. (4)



These keys allow to select the work temperature to associate to the time period of the timer that is being set;

By pressing the key indicated, the work set-point value selected is confirmed (1)

Fig. (5)



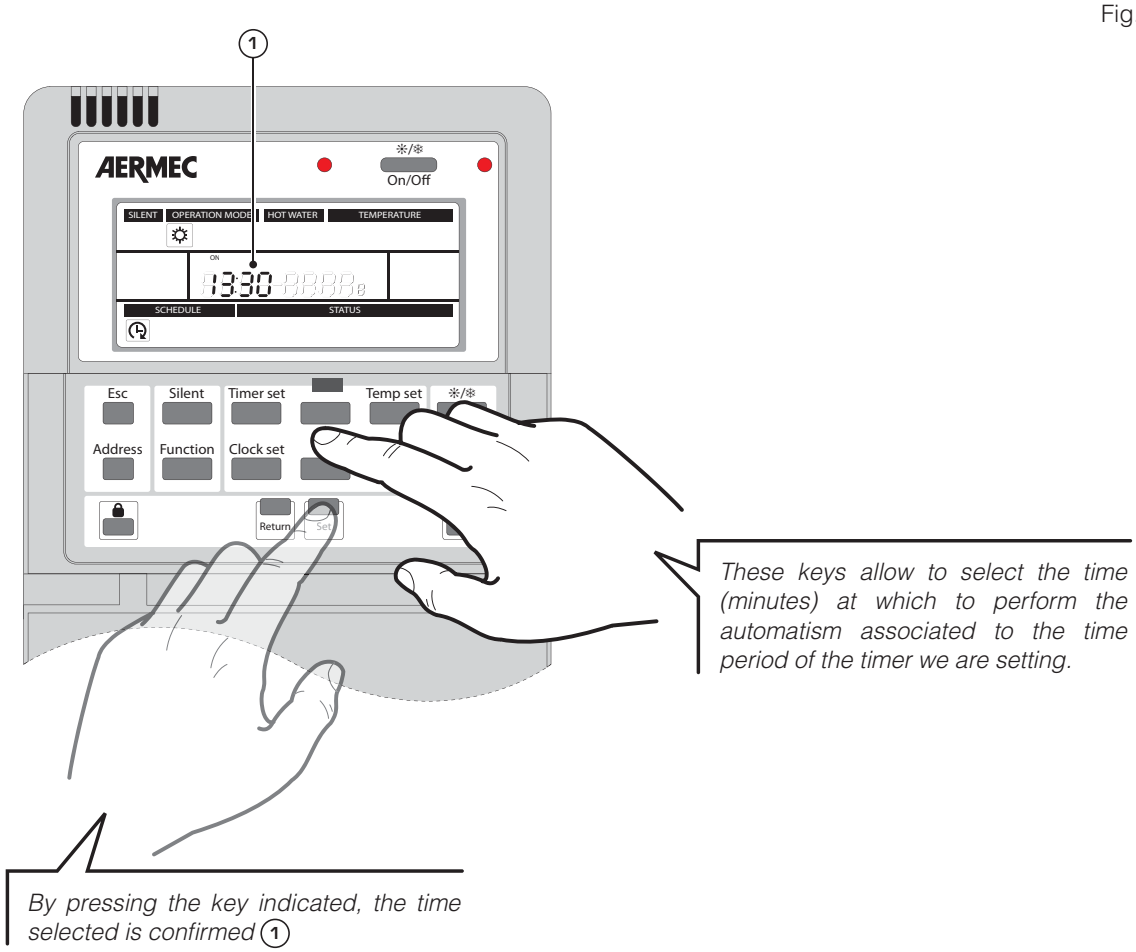
The time setting (hours and minutes) can vary on the basis of the type of timer selected:

- Direct logic timer; into which the time is inserted at which the desired action is to be performed;
- Countdown logic timer; in which the time inserted represents the amount of time (from insertion) to countdown before the desired action is performed.

These keys allow to select the time (hours) at which to perform the automatism associated to the time period of the timer we are setting.

By pressing the key indicated, the time selected is confirmed (1)

Fig. (6)

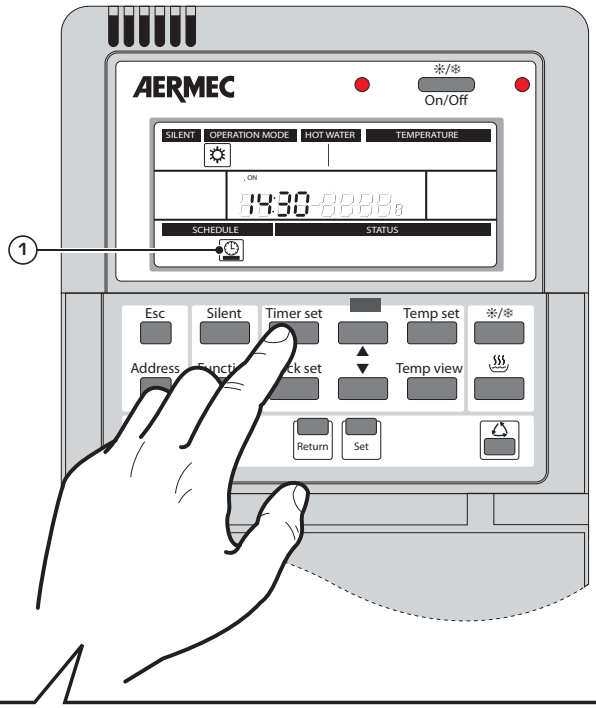

1
AERMEC
On/Off
SILENT
OPERATION MODE
HOT WATER
TEMPERATURE
13:30
SCHEDULE
STATUS
Esc
Silent
Timer set
Temp set
Address
Function
Clock set
Return
Set
These keys allow to select the time (minutes) at which to perform the automatism associated to the time period of the timer we are setting.
By pressing the key indicated, the time selected is confirmed (1)

(10) Setting the WEEKLY timer:

The HBI unit control panel allows to set a weekly timer for automatic switch-on/off of the unit. During execution of these time periods (up to 5 for every day of the week) the unit will activate the functioning mode and the work set-point set by the user for the same time period.

Note: The functioning mode and the work set-point set for the time period are only valid during execution of the same.

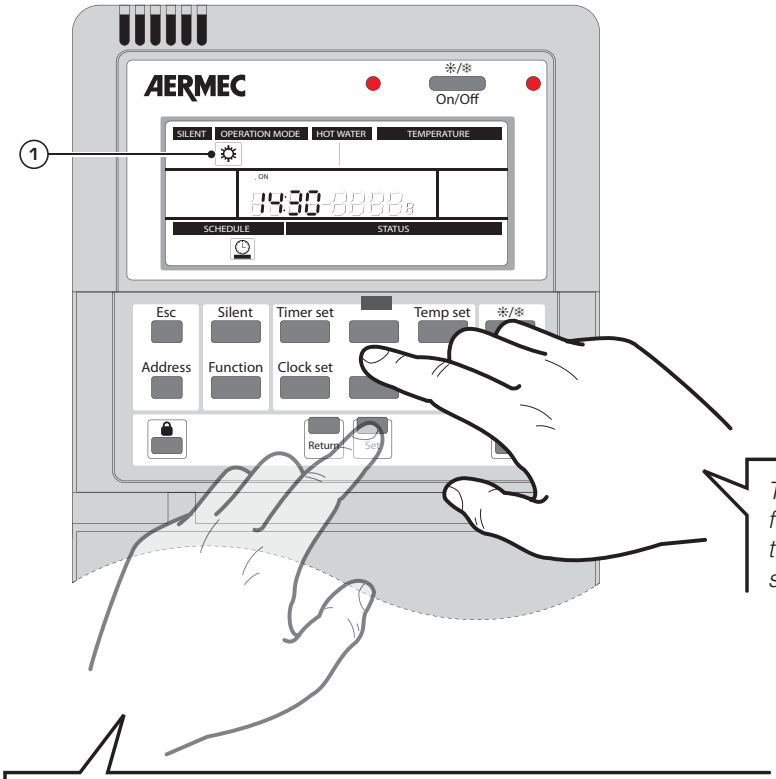
Fig. (1)



By pressing the key indicated, access timer setting. Every time this key is pressed, a different icon will be displayed, representing a particular timer mode:
(1) INDIVIDUAL DAY timer with direct logic;
(2) INDIVIDUAL DAY timer with countdown logic;
(3) WEEKLY timer;
(4) HOLIDAYS EXCLUSION timer;

To set the WEEKLY timer function, select possibility (3); for the remaining optionals, refer to the next section of this manual.

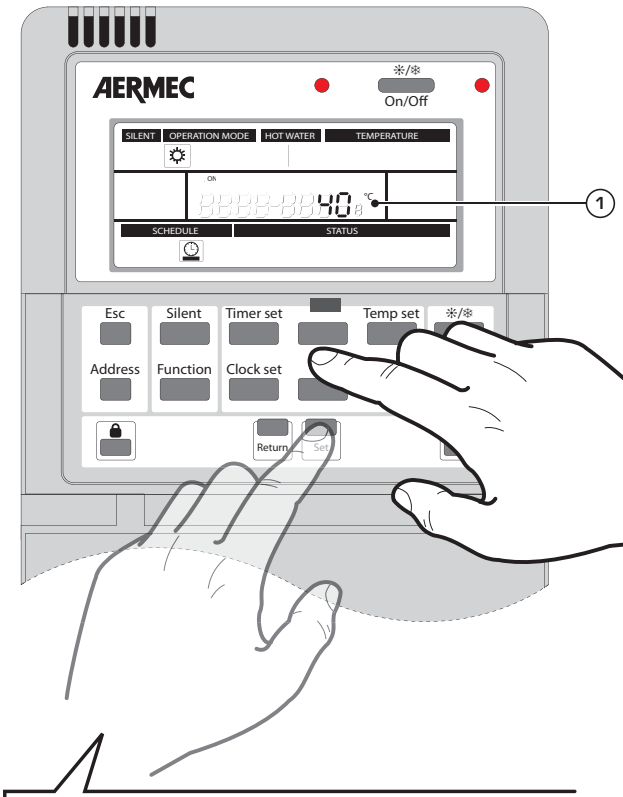
Fig. (2)



These keys allow to select the functioning mode to associate to the time period of the timer that is being set;

By pressing the key indicated, the functioning mode selected is confirmed (1)

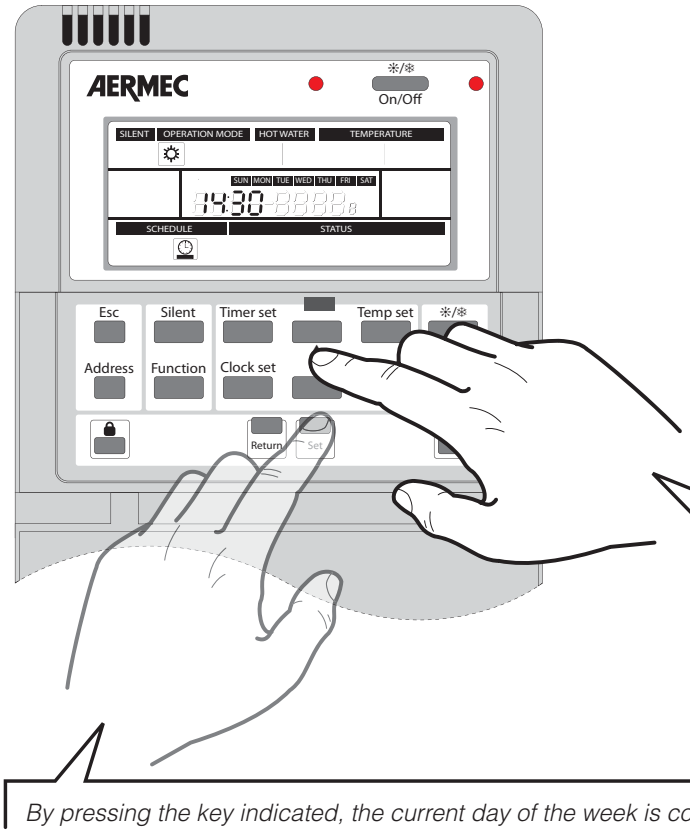
Fig. (3)



These keys allow to select the work temperature to associate to the time period of the timer that is being set;

By pressing the key indicated, the work set value selected is confirmed (1)

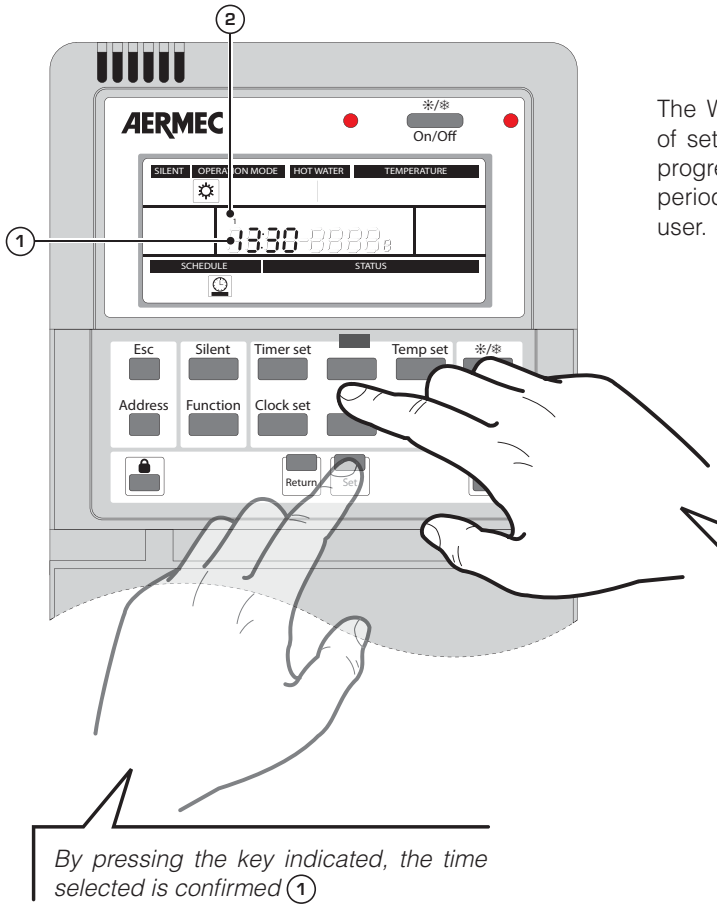
Fig. (4)



Pressing the (▲) key, pass to the next day of the week;
Pressing the (▼) key, pass to the previous day of the week;

By pressing the key indicated, the current day of the week is confirmed

Fig. (5)



The WEEKLY timer function, envisions the possibility of setting up to 5 daily time periods (indicated by a progressive number on the display (2)), every time period envisions a start and end time, specified by the user.

These keys allow to select the time (hours) at which to perform the START of the time period being set.

By pressing the key indicated, the time selected is confirmed (1)

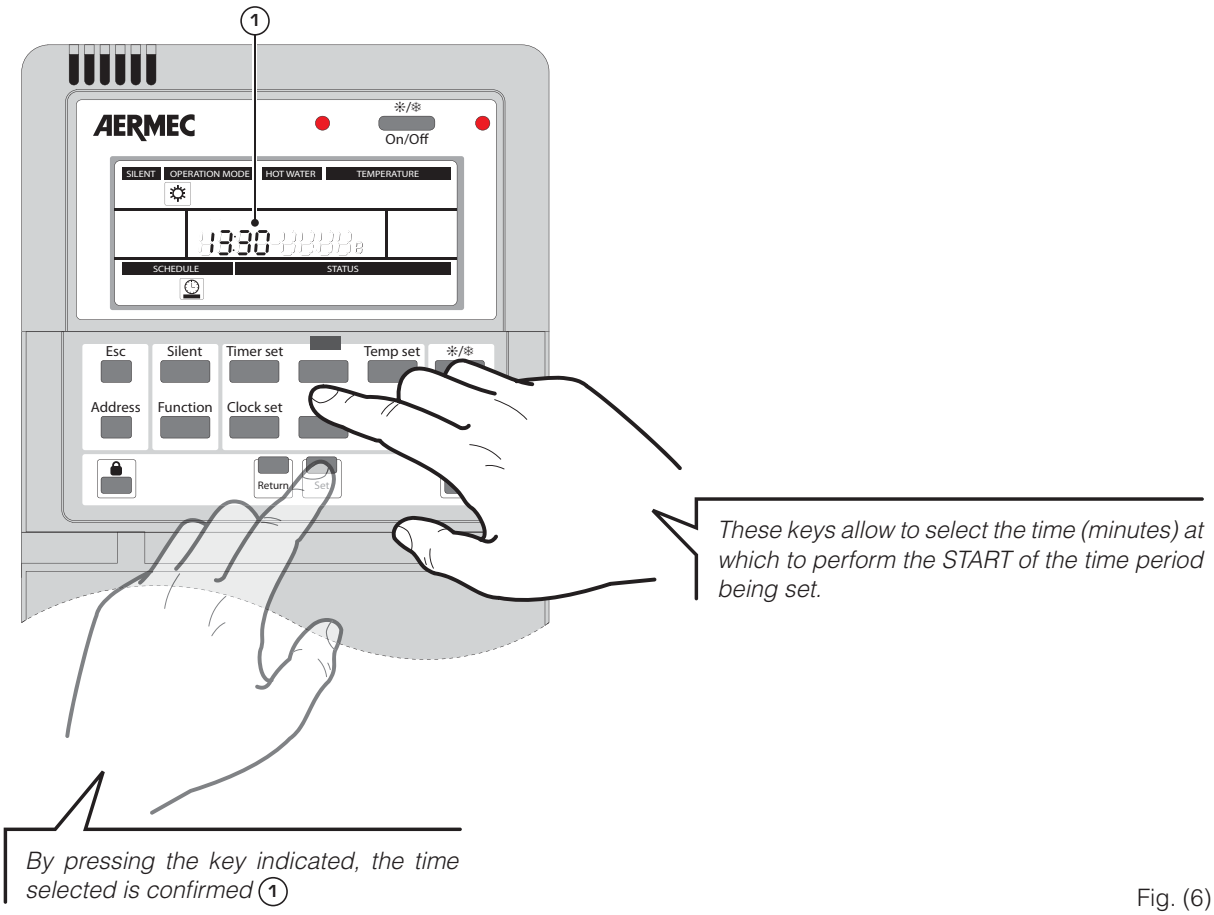

1
AERMEC
On/Off
SILENT
OPERATION MODE
HOT WATER
TEMPERATURE
13:30
SCHEDULE
STATUS
Esc
Silent
Timer set
Temp set
Address
Function
Clock set
Return
Set
These keys allow to select the time (minutes) at which to perform the START of the time period being set.
By pressing the key indicated, the time selected is confirmed 1

Fig. (6)

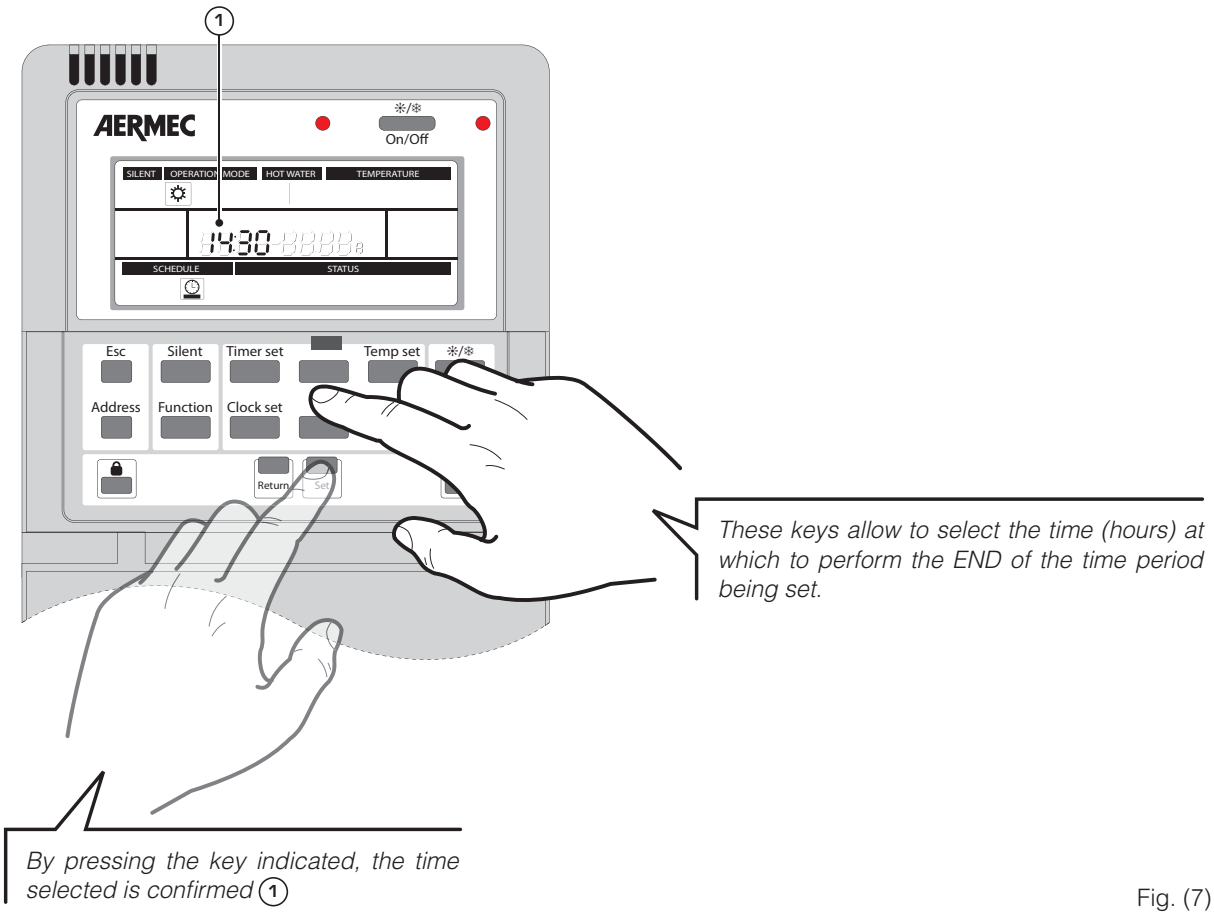

1
AERMEC
On/Off
SILENT
OPERATION MODE
HOT WATER
TEMPERATURE
14:30
SCHEDULE
STATUS
Esc
Silent
Timer set
Temp set
Address
Function
Clock set
Return
Set
These keys allow to select the time (hours) at which to perform the END of the time period being set.
By pressing the key indicated, the time selected is confirmed 1

Fig. (7)

Fig. (8)

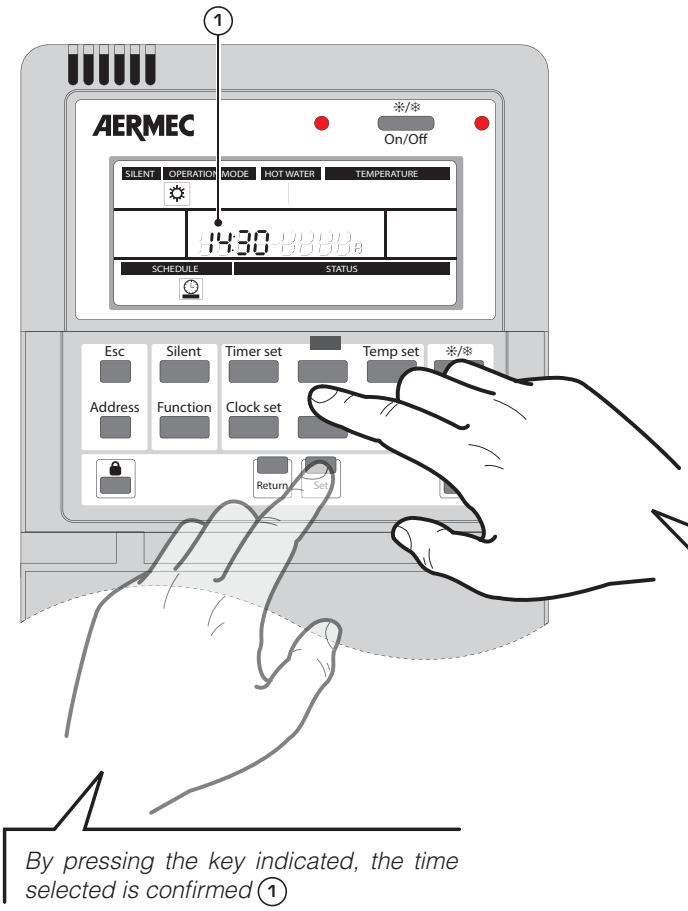
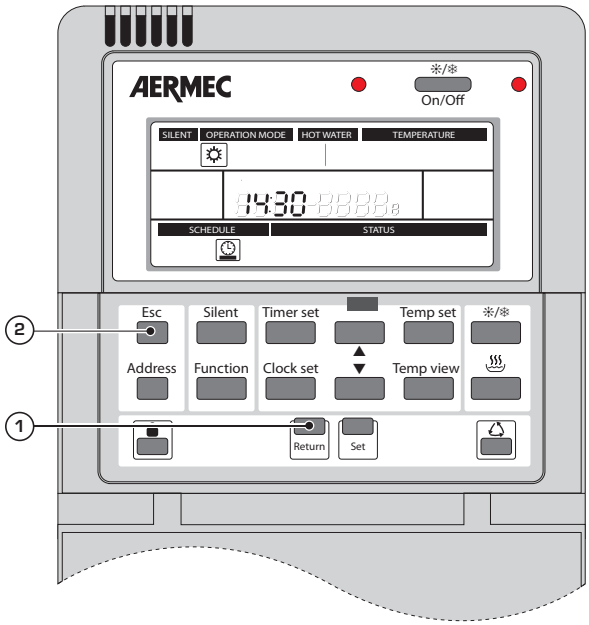


Fig. (9)



Once the insertion of the time period has been completed (setting the start and end time), the system will take the remote panel to the situation described in Fig. (5), ready to insert the successive time period for the day selected. At this point the user can choose whether to:

• Insert a new time period by following the procedure illustrated by Fig.(5) up to Fig.(8) (this selection can be made a maximum of 5 times consecutively, because the system can manage up to 5 time periods every day);

• Interrupt the time periods insertion (for the day selected) by pressing the (1) key. In this case, the system will re-start from the window illustrated in Fig.(4) (selecting the day on which to set the time periods) and it will be possible to set the time periods (by repeating the operations from Fig.(5) to Fig.(8)) for another day of the week.

• Exit the WEEKLY timer function by pressing the (2) key. In this case, the time period settings set in the WEEKLY timer will be activated.

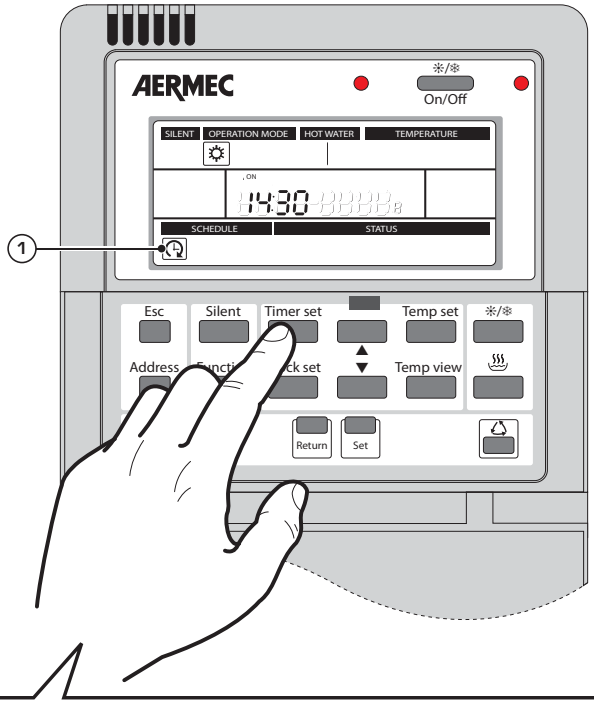
(11) Setting the HOLIDAYS EXCLUSION timer:

The HBI unit control panel allows to temporarily exclude one or more days from those set in the WEEKLY timer function, in a way to prevent the unit respecting the time periods when it is not necessary (for example during a holiday period where no use is envisioned).

Note: this function does not switch the unit on or off but is limited to preventing that one or more timed programs envisioned by the WEEKLY timer function are carried out.

WARNING: The setting of the HOLIDAYS EXCLUSION timer is only valid if the WEEKLY timer function has been previously set.

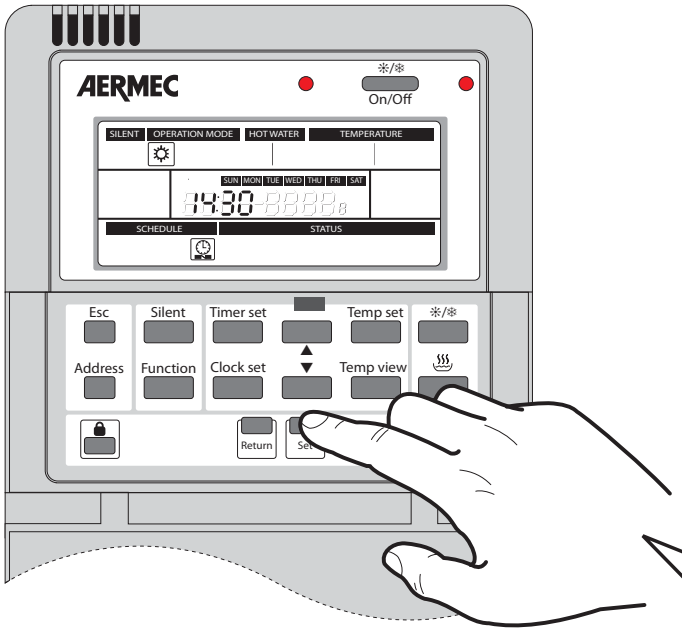
Fig. (1)



By pressing the key indicated, access timer setting. Every time this key is pressed, a different ion will be displayed, representing a particular timer mode:
(1) INDIVIDUAL DAY timer with direct logic;
(2) INDIVIDUAL DAY timer with countdown logic;
(3) WEEKLY timer;
(4) HOLIDAYS EXCLUSION timer;

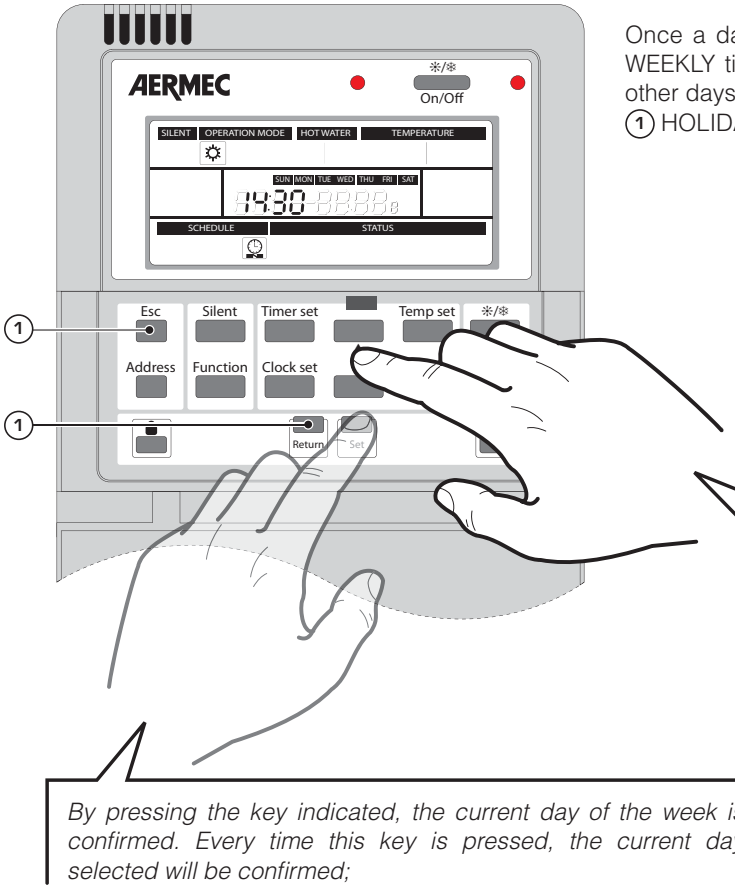
To set the HOLIDAYS EXCLUSION timer function,select possibility (4);

Fig. (2)



By pressing the key indicated, access the setting mode for the HOLIDAYS EXCLUSION timer function;

Fig. (3)



Once a day has been selected on which to exclude the WEEKLY timer, the system will allow to continue to select other days until the user presses one of the keys to exit the (1) HOLIDAYS EXCLUSION Timer function;

Pressing the (▲) key, pass to the next day of the week;
Pressing the (▼) key, pass to the previous day of the week;

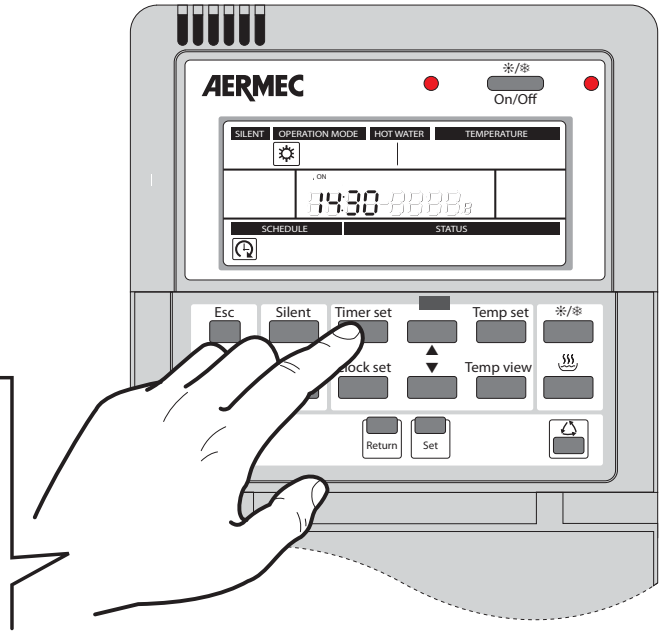
By pressing the key indicated, the current day of the week is confirmed. Every time this key is pressed, the current day selected will be confirmed;

(12) Display of the system times programs

The HBI unit control panel allows the activation of a daily and a weekly timer. This function allows to summarise the clock settings set on the system.

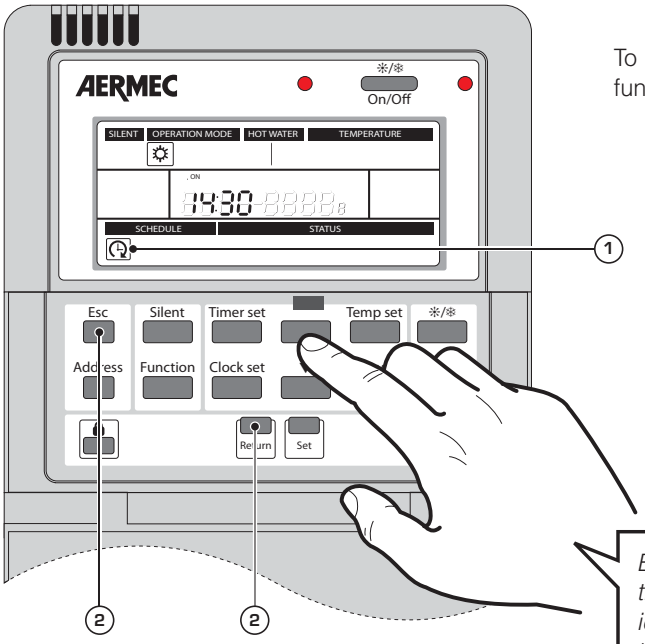
Note: this function does not modify any time setting, but only displays all settings linked to the system timer.

Fig. (1)



By pressing the key indicated and, HOLDING IT DOWN for 5 seconds, access the system time programs display. If this operation does not generate any display it means that no daily or weekly timings have been inserted into the system.

Fig. (2)



To exit the system timed programs display function, press one of the (2) keys;

By pressing the keys indicated, the different icons in the (1) position will be displayed; on the basis of this icon, it will be possible to establish to which type of timer the data displayed refer:

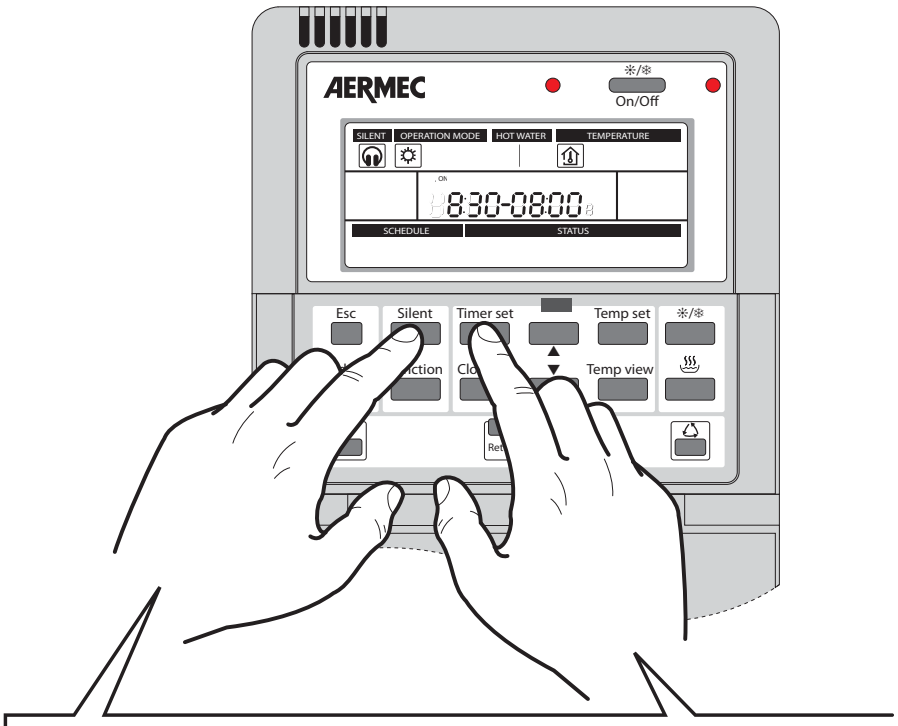
- *INDIVIDUAL DAY (direct logic);*
- *INDIVIDUAL DAY (countdown logic);*
- *WEEKLY;*
- *HOLIDAYS EXCLUSION;*

(13) Setting the timer for silenced mode

The HBI unit control panel allows to set a timer or the silenced function.

Note: for further information regarding silenced functioning, refer to function number (5).

Fig. (1)



By pressing the keys indicating and HOLDING DOWN for 5 seconds, the timer is activated for the silenced mode.

Fig. (2)

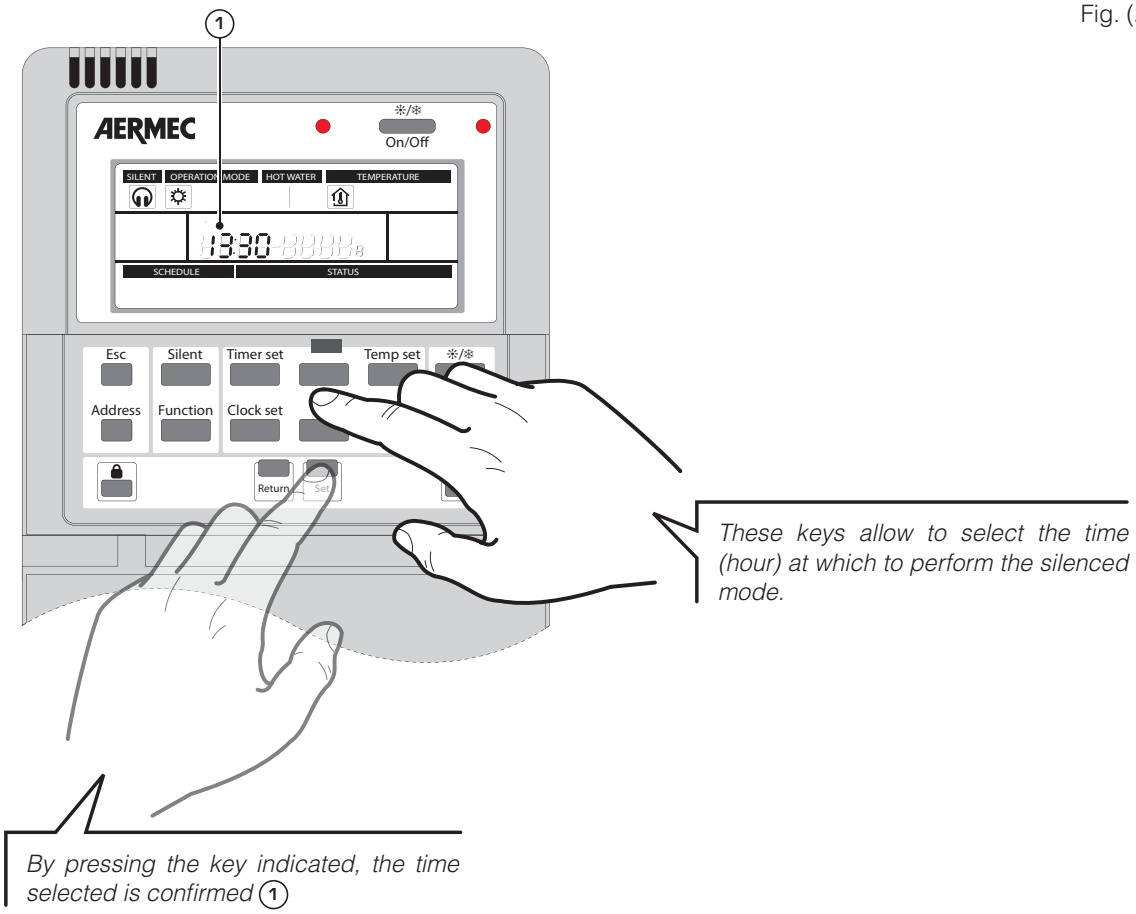

1
AERMEC
On/Off
SILENT
OPERATION MODE
HOT WATER
TEMPERATURE
13:30
SCHEDULE
STATUS
Esc
Silent
Timer set
Temp set
Address
Function
Clock set
Return
Set
These keys allow to select the time (hour) at which to perform the silenced mode.
By pressing the key indicated, the time selected is confirmed 1

Fig. (3)

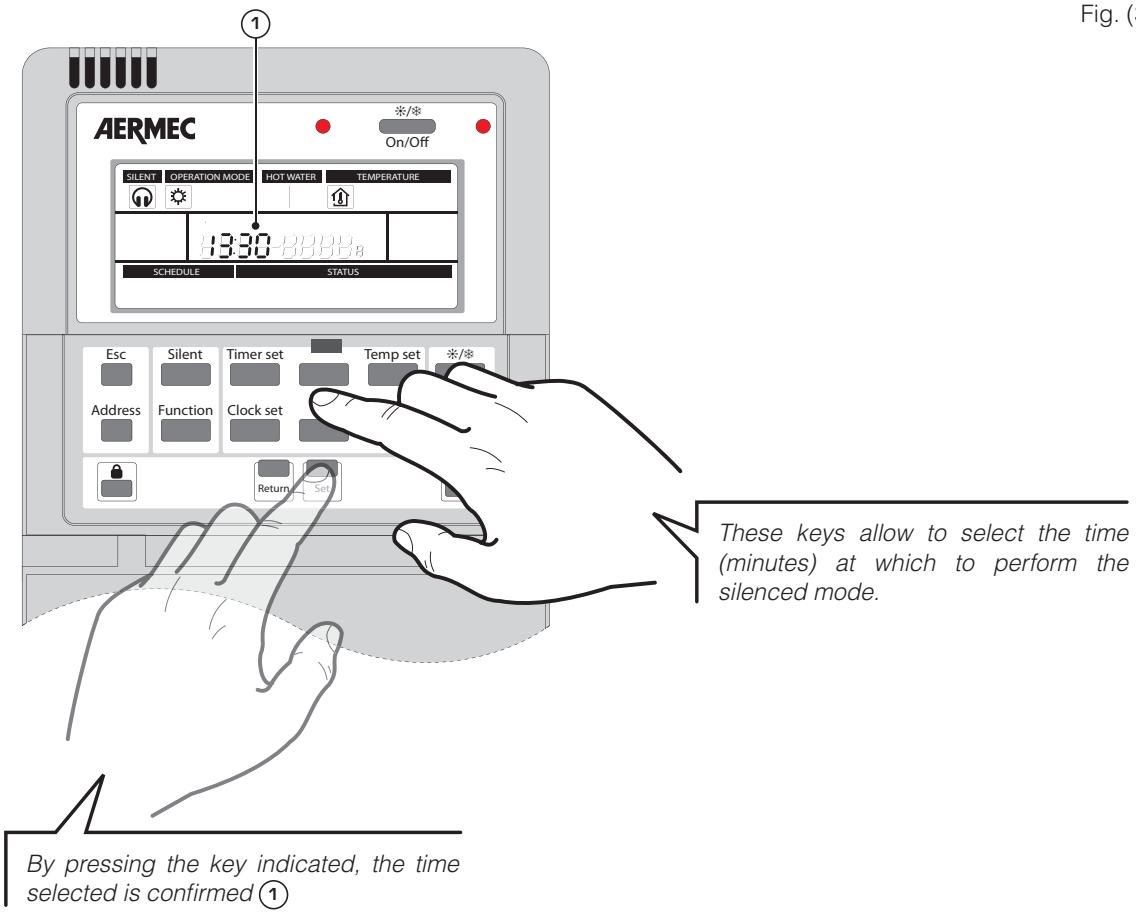

1
AERMEC
On/Off
SILENT
OPERATION MODE
HOT WATER
TEMPERATURE
13:30
SCHEDULE
STATUS
Esc
Silent
Timer set
Temp set
Address
Function
Clock set
Return
Set
These keys allow to select the time (minutes) at which to perform the silenced mode.
By pressing the key indicated, the time selected is confirmed 1

Fig. (4)

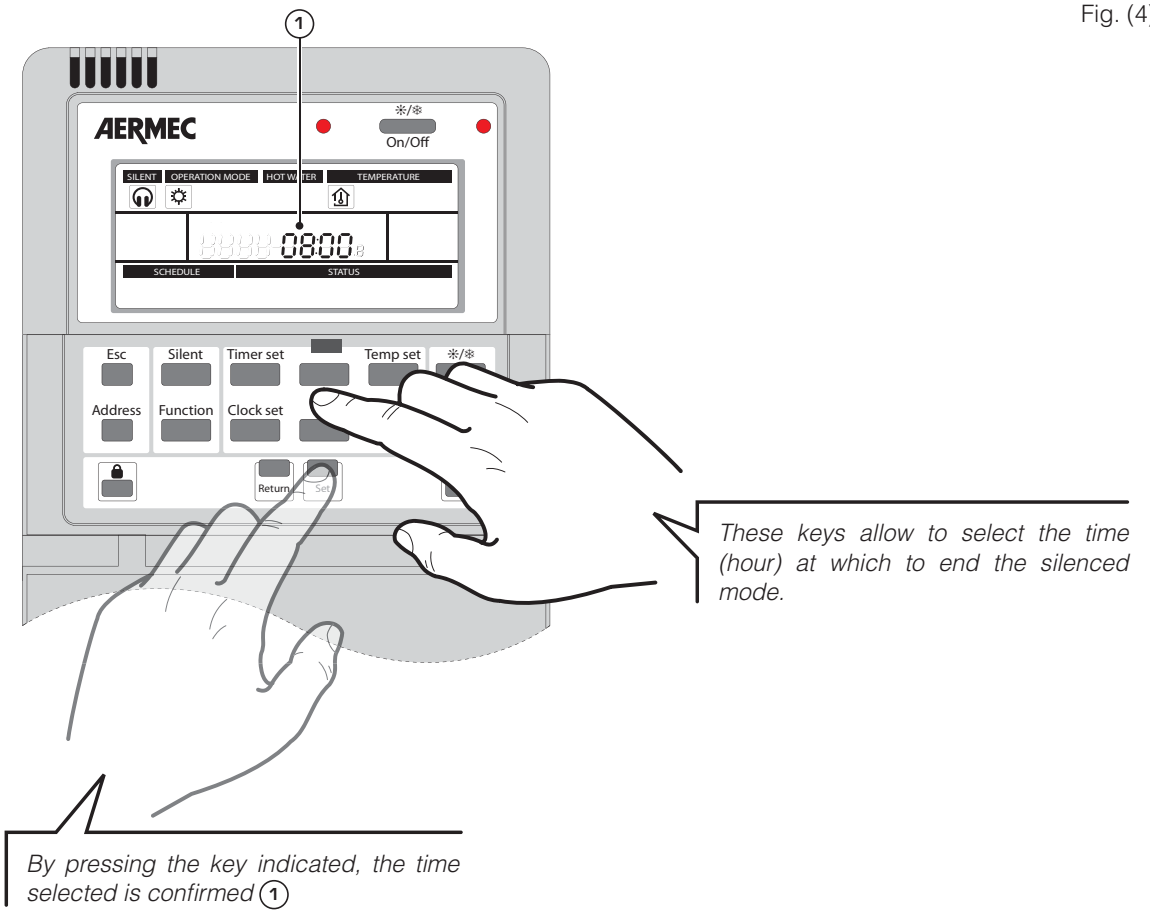
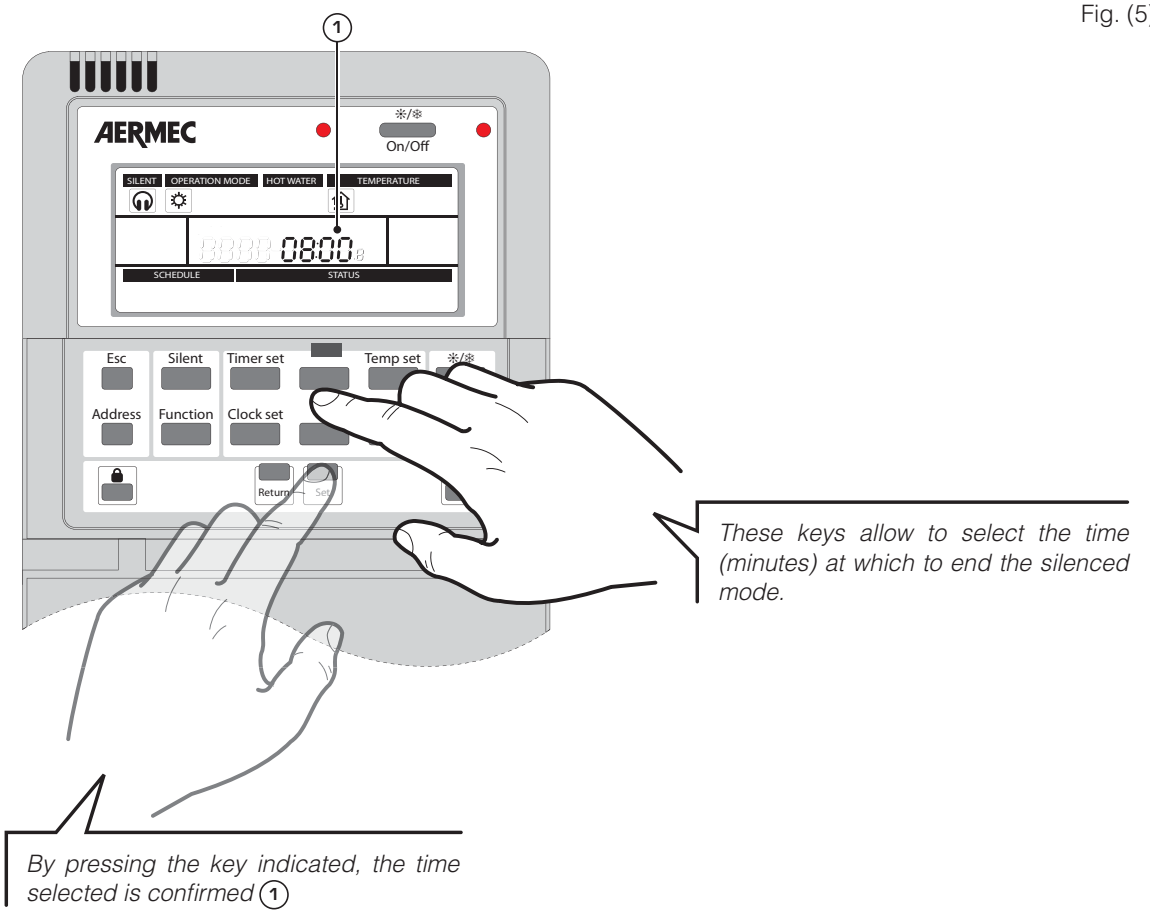

1
AERMEC
On/Off
SILENT
OPERATION MODE
TEMPERATURE
08:00
SCHEDULE
STATUS
Esc
Silent
Timer set
Temp set
Address
Function
Clock set
Return
Set
These keys allow to select the time (hour) at which to end the silenced mode.
By pressing the key indicated, the time selected is confirmed 1

Fig. (5)


1
AERMEC
On/Off
SILENT
OPERATION MODE
HOT WATER
TEMPERATURE
08:00
SCHEDULE
STATUS
Esc
Silent
Timer set
Temp set
Address
Function
Clock set
Return
Set
These keys allow to select the time (minutes) at which to end the silenced mode.
By pressing the key indicated, the time selected is confirmed 1

(14) Setting the LEVEL 1 operational parameters:

This function allows to set a series of parameters (total 27 parameters) necessary for the correct functioning of the unit. These parameters regulate unit functioning on the basis of the type of installation carried out.

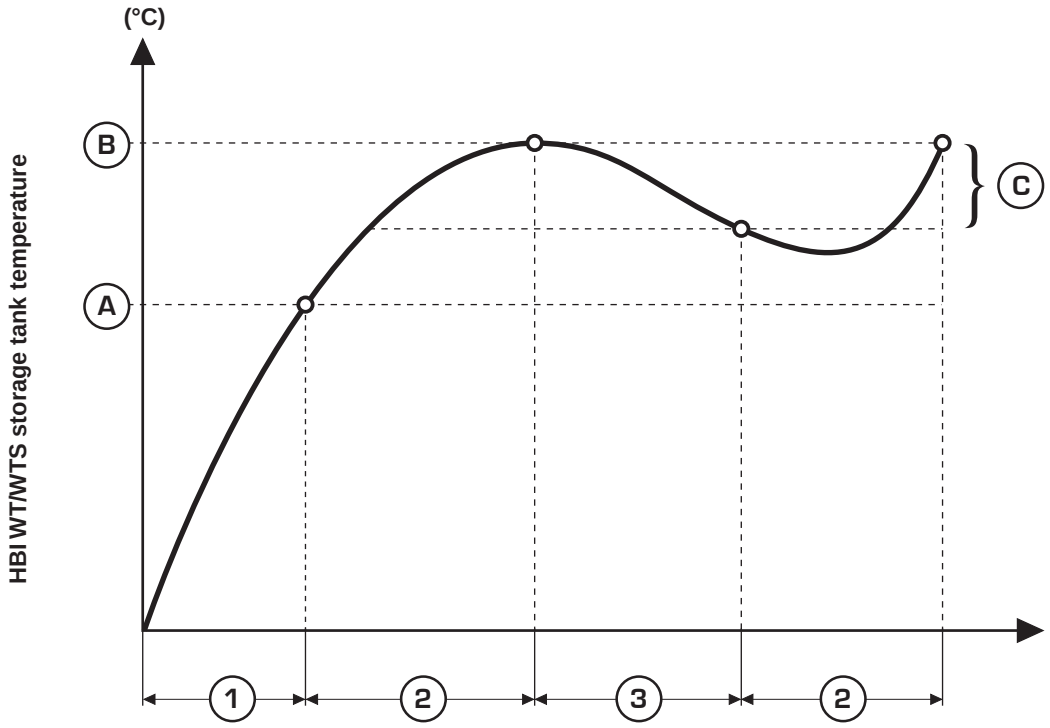
WARNING: this function is dedicated to the installer of the technical after-sales staff, as it is necessary to know the system in which the unit has been installed. The correct setting of these parameters is NECESSARY for the correct functioning of the unit.

Index	Description	Value	Settings	Default
01	This parameter indicates which type of reference is used for management of the unit;	0	Regulation based on the temperature of the water produced (this setting is mandatory if the room air sensor or dedicated room thermostat have not been installed);	0
		1	Regulation based on the room temperature (this setting is ONLY possible if the room air sensor or dedicated room thermostat have been installed);	
02	This parameter enables or disable the test mode; **WARNING:** **• The unit must be OFF before activating this mode;** **• If the value of this parameter is 1 or 2, the test mode in cooling mode or in heating mode activates, switching the unit on and stops, switching it off. Otherwise this stops automatically after 15 minutes of continuous functioning;**	0	The test mode is disabled;	0
		1	The test mode is activated in COOLING mode; This setting is to be used in the following cases: • If necessary, top-up the refrigerant load; • If commissioning takes place with outdoor air temperature below 10°C;	
		2	The test mode is activated in HEATING mode; This setting is to be used in the following cases: • If commissioning takes place with outdoor air temperature over 35°C;	
03	This parameter sets the unit of measurement for the temperature display;	0	Unit of measurement °C (degrees Celsius);	0
		1	Unit of measurement °F (degrees Fahrenheit);	
04	This parameter indicates the presence of a dedicated air thermostat;	0	Room air thermostat NOT INSTALLED;	0
		1	Dedicated room air thermostat INSTALLED;	
05	This parameter enables or disables the contemporaniety of loads (HBI unit and electric resistance inside HBI WT/WTS storage tank) during the production of DHW;	0	The contemporaniety of the loads is DISABLED; This means that if the production of DHW is requested, the HBI unit will be the only load to be used;	0
		1	The contemporaniety of the loads is ENABLED; This means that in the event of a request for the production of DHW, the HBI unit and electric resistance inside HBI WT/WTS storage tank are activated simultaneously;	
06	This parameter enables or disable the anti-legionella cycle; **WARNING:** **If theunit envisions the installation of a HBI WT/WTS storage tank for the production of DHW, it is mandatory to enable the anti-legionella cycle;**	0	Anti-legionella cycle DISABLED;	0
		1	Anti-legionella cycle ENABLED;	
07	This parameter enables or disables the anti-freeze function. This function allows to maintain the room temperature (room air sensor mandatory) within a determined safety threshold in order to prevent the room temperature from dropping too much.	0	Anti-freeze function DISABLED;	0
		1	Anti-freeze function ENABLED;	
08	This parameter sets the priority between cooling request and that for production of domestic hot water, during cooling mode.	0	Priority to the cooling request. This means that during functioning in cooling mode, the arrival of a request for the production of DHW, DOES NOT block unit functioning, satisfying the request for DHW only after having completed the conditioning system request.	0
		1	Priority to the request for production of DHW. This means that during functioning in cooling mode, the arrival of a request for the production of DHW, blocks unit functioning, satisfying the request for DHW and after having completed it, re-starts with the conditioning system request.	
09	This parameter sets the priority between heating request and that for production of domestic hot water, during heating mode.	0	Priority to the heating request. This means that during functioning in heating mode, the arrival of a request for the production of DHW, DOES NOT block unit functioning, satisfying the request for DHW only after having completed the heating system request.	0
		1	Priority to the request for production of DHW. This means that during functioning in heating mode, the arrival of a request for the production of DHW, blocks unit functioning, satisfying the request for DHW and after having completed it, re-starts with the heating system request.	

Index	Description	Value	Settings	Default
10	This parameter indicates how to manage the electric resistance power, positioned in the indoor unit;	1	Limits the electric resistance power to 50% of its nominal capacity. With this setting, the power supplied by the electric resistance is 3 kW;	1
		2	The electric resistance power is used at 100% of its nominal capacity. With this setting, the power supplied by the electric resistance is 6 kW;	
11	This parameter indicates on which day the anti-legionella cycle must be performed (this setting is subject to activation of the cycle itself, set in parameter 6);	0	Set SUNDAY as the day on which to perform the anti-legionella cycle	6
		1	Set MONDAY as the day on which to perform the anti-legionella cycle	
		2	Set TUESDAY as the day on which to perform the anti-legionella cycle	
		3	Set WEDNESDAY as the day on which to perform the anti-legionella cycle	
		4	Set THURSDAY as the day on which to perform the anti-legionella cycle	
		5	Set FRIDAY as the day on which to perform the anti-legionella cycle	
		6	Set SATURDAY as the day on which to perform the anti-legionella cycle	
12	This parameter indicates the time the anti-legionella cycle is to be performed, during the day selected in the previous parameter. This cycle will be repeated every week on the day and at the time envisioned. The value of this parameter can be selected within the range of values from 00 to 23;	00	The anti-legionella cycle is performed at 24:00	23
		01	The anti-legionella cycle is performed at 01:00	
		02	The anti-legionella cycle is performed at 02:00	
		03	The anti-legionella cycle is performed at 03:00	
		...	...	
		23	The anti-legionella cycle is performed at 23:00	
13	This parameter enables or disables the use of the electric resistance inside the HBI WT/WTS storage tank;	0	The resistance inside the HBI WT/WTS storage tank is disabled;	1
		1	The resistance inside the HBI WT/WTS storage tank is enabled and switches on if the external temperature is lower than 0°C during the production of DHW, switching off after the external unit compressor has stopped or if the external air temperature has risen to over 2°C;	
14	This parameter specifies the amount of temperature probes mounted on the storage tank. HBI WT/WTS; **WARNING: the HBI WT/WTS accessory is supplied with two probes; for further details refer to the accessory installation manual;**	1	Indicates that one temperature probe has been installed;	2
		2	Indicates that two temperature probes have been installed;	
15	This parameter specifies the presence or not of the HBI WT/WTS storage tank;	0	Indicates that the HBI WT/WTS accessory has NOT been installed	0
		1	Indicates that the HBI WT/WTS accessory HAS been installed	
16	This parameter specifies whether any integrative heat sources are present; **WARNING: only using the HBI WT/WTS accessory is it possible to envision any integrative sources; for further details refer to the accessory installation manual;**	0	Indicates that integrative heat sources are not envisioned;	0
		1	Indicates that integrative heat sources are envisioned, connected to the secondary coil of the HBI WTS storage tank;	
17	This parameter specifies if fan coil terminals have been installed in the system;	0	Indicates that fan coils have not been envisioned in the system and supposing that the system envisions radiant panels, their use in cooling mode could cause a condensation effect (if fed with water that is too cold), therefore if this parameter is set at 0, the minimum value that can be set for the water produced in cooling mode is 16°C;	0
		1	Indicates that fan coil terminals are installed in the system; if a mixed fan coil/radiant panels system is envisioned, it becomes necessary to install a 2-way valve (piloted from the HBI unit board) on the radiant panels line, which excludes them during functioning in cooling mode; **for further information, refer to the installation manual;**	
18	This parameter specifies whether the room air remote probe has been installed. The room air remote probe accessory is supplied. For further information, refer to the HBI unit installation manual; **WARNING: the value of this parameter must be in line with that set in parameter 1;**	0	Indicates that the probe has NOT been installed	0
		1	Indicates that the probe HAS been installed	
19	This parameter indicates the maximum threshold for the water produced in heating mode;	0	The temperature range of the produced water is from 25°C to 55°C; this setting is envisioned only if radiant floors are not present in the system (in order not to allow water that is too hot feeding the radiant panels);	1
		1	The temperature range of the produced water is from 25°C to 45°C; this setting is envisioned if radiant floors are present in the system;	

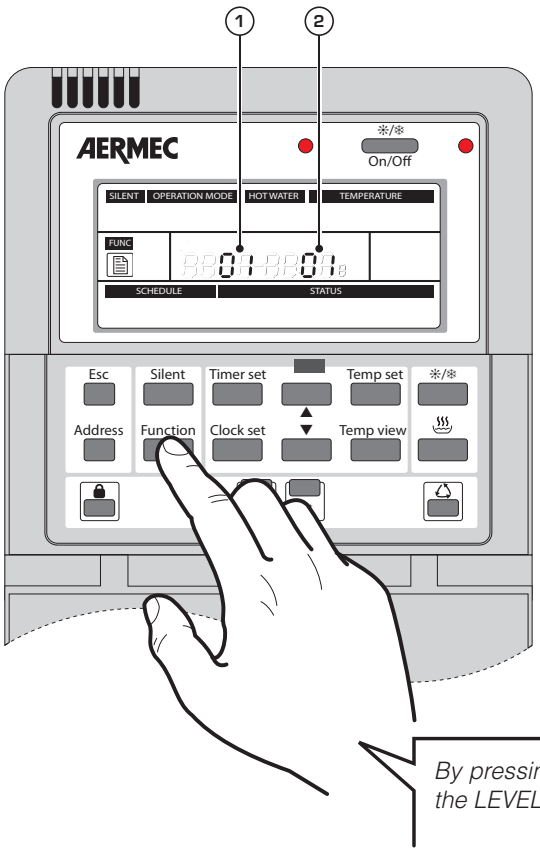
Index	Description	Range of values	Default
20	This parameter indicates what is the temperature range within which the electric resistance is activated inside the HBI indoor unit in DHW production mode (for heating or production of DHW);	-20°C ~ 18°C	**0°C**
21	This parameter indiates the water temperature threshold inside the HBI WT/WTS storage tank, over which the HBI indoor unit stops heating the water, leaving the electric resistance inside the tank to take the water to temperature set-point;	40°C ~ 50°C	**50°C**
22	This parameter specifies the temperature at which the anti-legionella cycle will be performed:	40°C ~ 70°C	**70°C**
23	This parameter indicates the lower limit for the outdoor air in automatic heating mode (for further information regarding the function, refer to function number 6 in this manual):	-20°C ~ 5°C	**-15°C**
24	This parameter indicates the upper limit for the outdoor air in automatic heating mode (for further information regarding the function, refer to function number 6 in this manual):	10°C ~ 20°C	**15°C**
25	This parameter represents the differential applied to the system water or room air temperature set-point, in cooling functioning mode;	2°C ~ 10°C	**3°C**
26	This parameter represents the differential applied to the system water or room air temperature set-point, in heating functioning mode;	2°C ~ 10°C	**3°C**
27	This parameter represents the differential applied to the system water or room air temperature set-point, for the production of hot water;	2°C ~ 8°C	**3°C**

Logic for domestic hot water production:



1. The water inside the HBI WT/WTS storage tank is heated via the hot water produced by the indoor unit;
2. The water inside the HBI WT/WTS storage tank is heated via the electric resistance present in the storage tank itself;
3. The water inside the HBI WT/WTS storage tank is not heated;

- A Parameter 21;
- B DHW set-point:
- C Parameter 27;



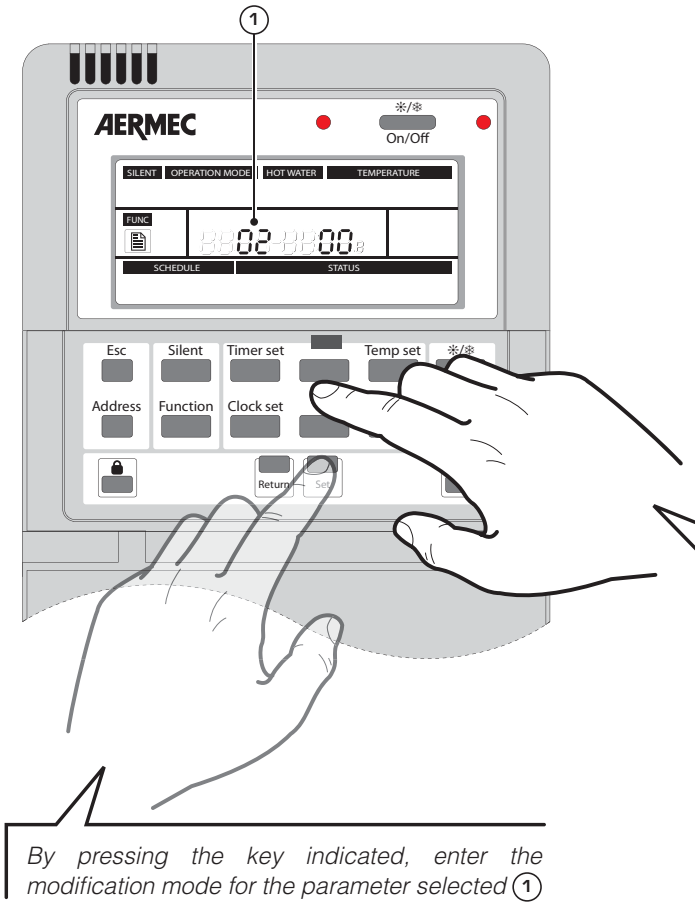
ONCE THE UNIT IS INSTALLED, MAKE SURE THAT ALL OPERATIONAL PARAMETERS ARE SET CORRECTLY.

The function allows to modify the parameters indicated in the previous tables. Every parameter will be identified by an index (1) and a value (2) on the panel display. The first is found in the previous tables and used to identify the meaning of the parameter, the other determines the value at which it is currently set.

By pressing the key shown in the figure, access the LEVEL 1 installer parameters setting menu;

Fig. (1)

Fig. (2)



Pressing the (▲) key, pass to the next parameter;
Pressing the (▼) key, pass to the previous parameter;

By pressing the key indicated, enter the modification mode for the parameter selected (1)

Fig. (3)

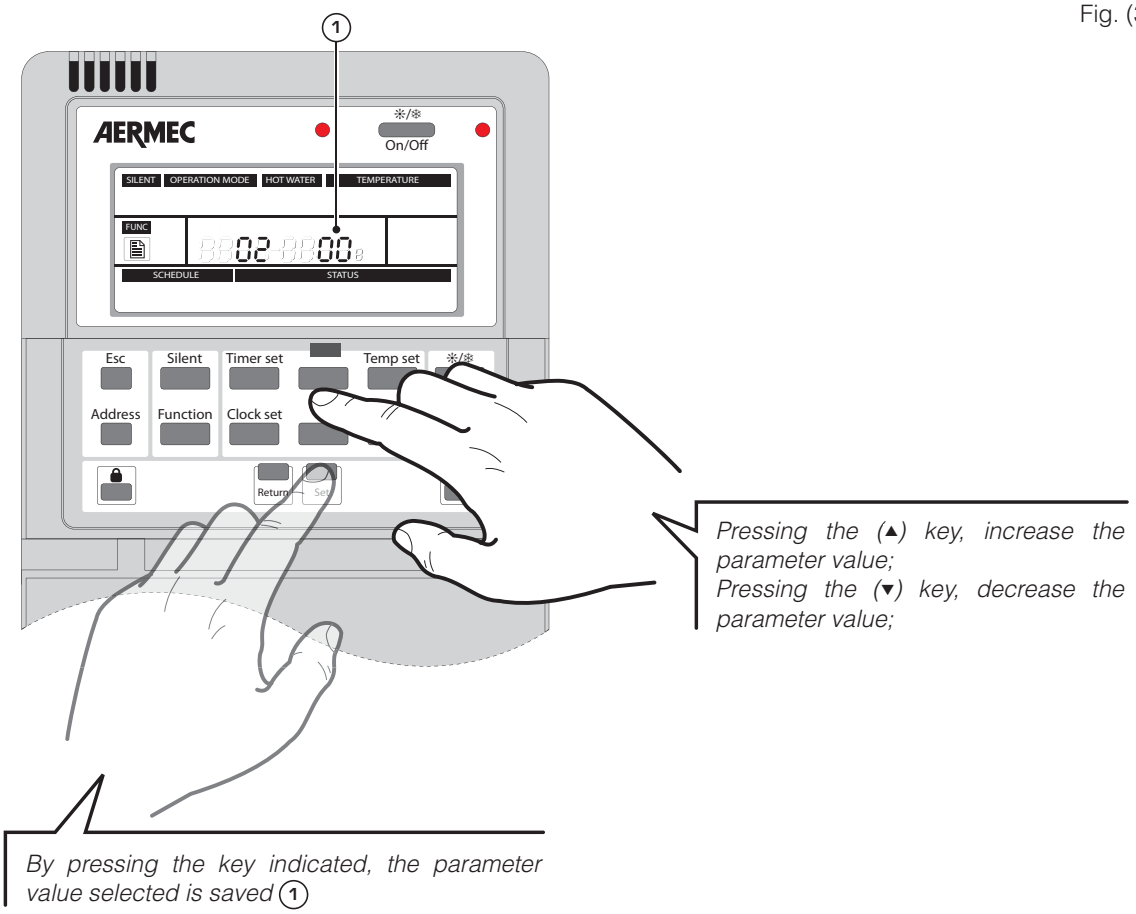
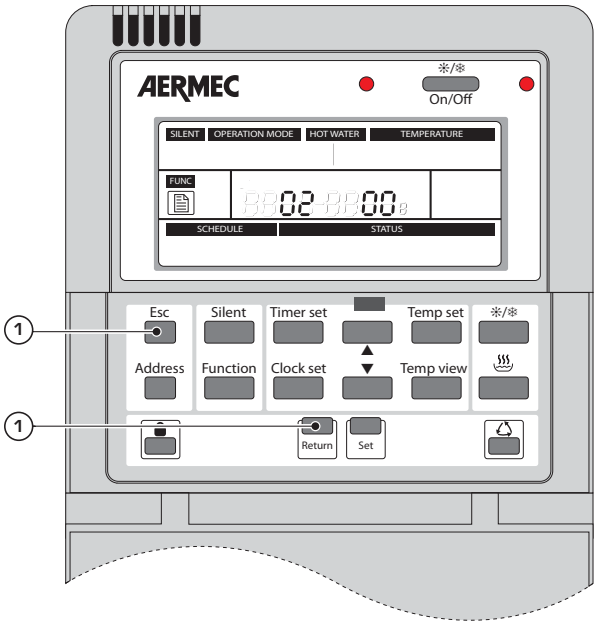


Fig. (4)

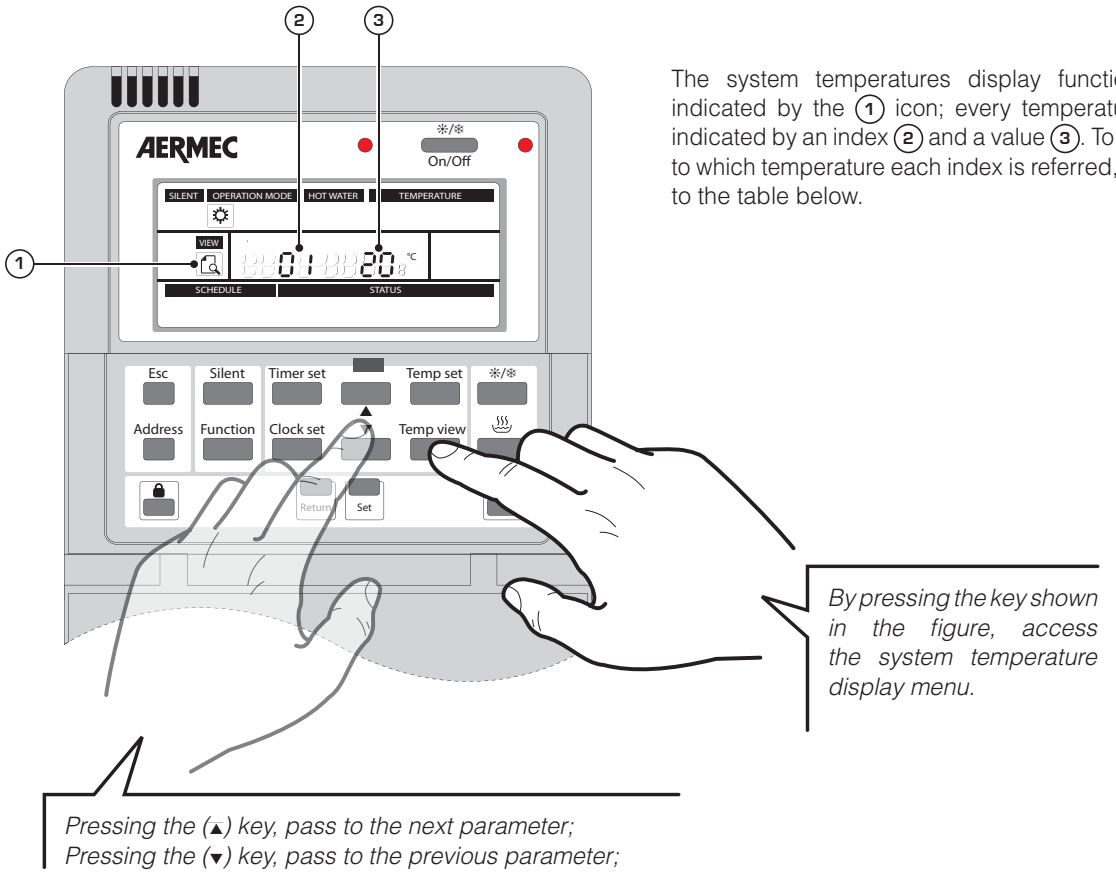


Once the operations described in Fig.3 have been completed, the panel goes back to the situation described in Fig.2 (parameter selection). From here it will be possible to select a new parameter and modify it in the same way in which the previous one was modified, until one of the two keys indicated in (1) have been pressed, to exit the LEVEL 1 installer parameters modification function;

(15) System temperature display:

This function allows to display the temperatures detected by the different unit probes. This information can be used by the installer or technical after-sales staff to evaluate unit functioning

WARNING: This function is dedicated to the installer or technical after-sales assistance staff.



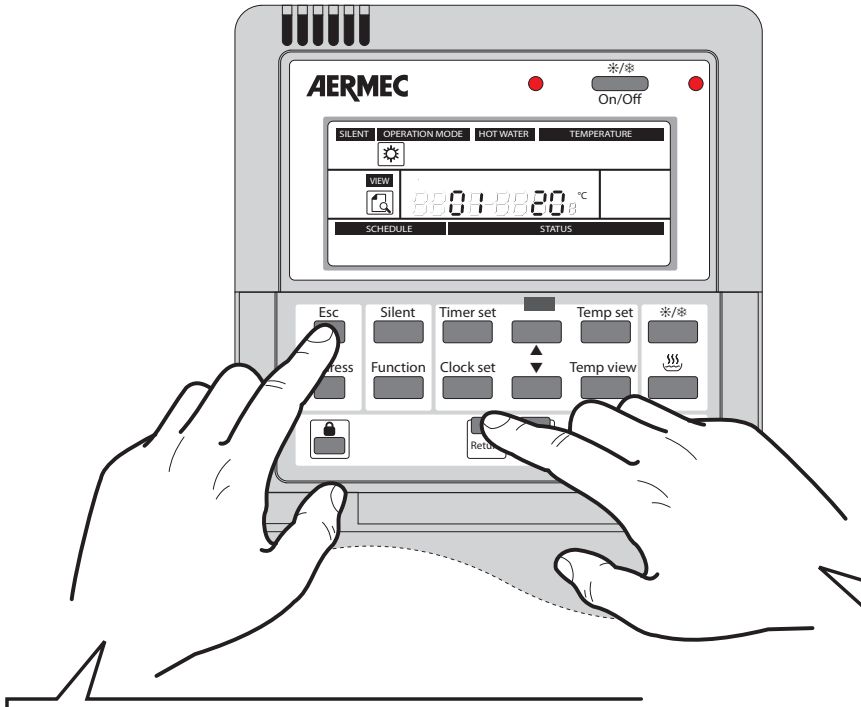
The system temperatures display function is indicated by the (1) icon; every temperature is indicated by an index (2) and a value (3). To know to which temperature each index is referred, refer to the table below.

By pressing the key shown in the figure, access the system temperature display menu.

Pressing the (▲) key, pass to the next parameter;
Pressing the (▼) key, pass to the previous parameter;

Index	Temperature
01	Outdoor air temperature
02	Compressor temperature (INTAKE)
03	Compressor temperature (PRESSING)
04	Defrost temperature
05	Cooling circuit temperature (LIQUID SIDE)
06	Water inlet temperature
07	Water outlet temperature
08	Water temperature in the electric resistance
09	STORAGE TANK temperature (probe 2 = LOWER)
10	STORAGE TANK temperature (probe 1 = UPPER)
11	Room temperature (ROOM PROBE)
12	Cooling circuit temperature (GAS SIDE)
13	NOT USED

Fig. (1)



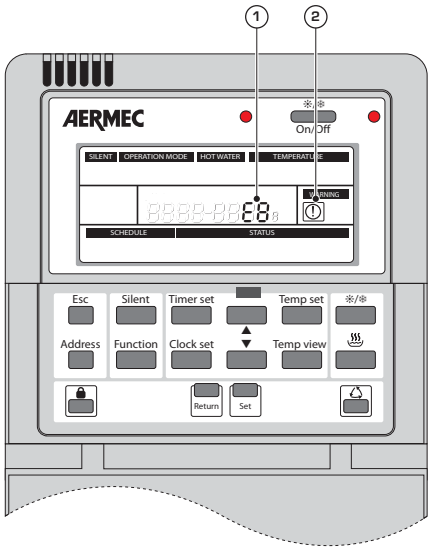
By pressing the key shown in the figure, escape the function by displaying the temperatures and return to the main menu.

By pressing the key shown in the figure, escape the function by displaying the temperatures and return to the main menu.

Fig. (2)

Alarms summary table

WARNING: In the event of an error, consult the installer or technical after-sales assistance staff.



If an alarm condition should occur, it is signalled on the remote panel display, via the general attention icon (2), and the icon (1) that represents the error code. To establish the cause, refer to the error code table given below;

Error code	Cause of the error
F4	Outdoor air temperature probe malfunctioning (outdoor unit)
F6	Probe malfunctioning for the defrosting function
F7	Probe malfunctioning on the compressor pressing line
F5	Probe malfunctioning on the compressor intake line
EF	Outdoor unit fan malfunctioning
E5	Compressor load protection error/Inverter driver malfunction
E1	High pressure alarm
E3	Low pressure alarm
E4	High temperature alarm on the pressing line
C5	Indoor unit management malfunctioning
E6	Communication error between indoor and outdoor unit
Fc	High pressure switch malfunctioning
F9	Water outlet probe malfunctioning
dH	Water outlet probe malfunctioning (2)
F1	Malfunctioning of the temperature probe on the liquid line
F8	Water inlet probe malfunctioning
FE	Malfunctioning on probe number 2 on the HBI WT/WTS storage tank
FL	Malfunctioning on probe number 1 on the HBI WT/WTS storage tank
F3	Malfunctioning of the temperature probe on the gas line
dF	Integrative heating systems output error
F0	Malfunctioning of the room air remote probe
Ec	Malfunctioning of the 3-way diverter valve
E2	Indoor unit anti-freeze alarm
EH	First stage malfunctioning of the HBI indoor unit resistance Second stage malfunctioning of the HBI indoor unit resistance Malfunctioning of the HBI WT/WTS storage tank electric resistance

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