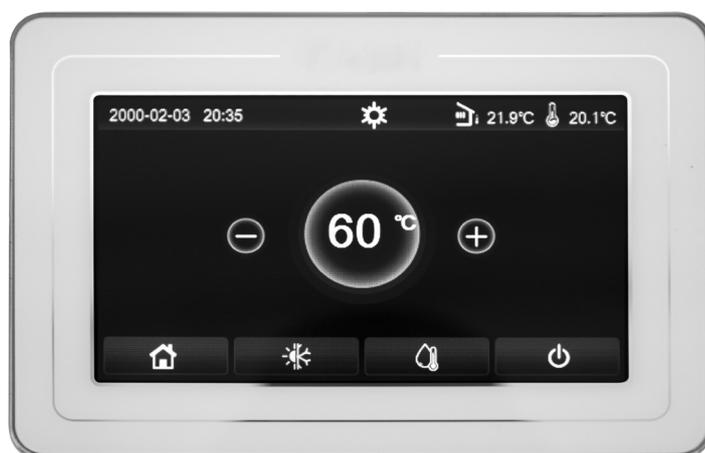# fondital

PROCIDA AWM - AWS

USER'S MANUAL

**CONTROL PANEL
AIR/WATER HEAT PUMP**

EN

Translation of the original instructions (in Italian)

Thank you for choosing a heat pump by Fondital. Carefully read this Manual before using the unit and keep it for future reference.

Notes

Thank you for choosing a product by Fondital. In order to use the product correctly, please carefully read this instruction manual before installation and use. To achieve the intended operation of the heat pump, please follow the recommendations below for the proper installation and use of the product:

1. This instruction manual is a universal manual; this means that some functions only apply to certain products. All drawings and data in this instruction manual are provided for reference only.

2. The product is subject to continuous improvements and innovations aimed at optimising its quality. We reserve the right to make any necessary changes to the product at any time for commercial or production reasons, as well as to revise the contents of the manual without prior notice.

3. Our company shall not be liable for personal injury, loss or damage to property caused by improper use, including improper installation and testing procedures, unnecessary maintenance, violation of applicable national laws, regulations and industry standards, and failure to follow this instruction manual.

4. The right of final interpretation of this instruction manual lies with Fondital.

This marking means that the product must not be disposed of as household waste in EU countries. Recycle the product with a sense of responsibility to promote sustainable reuse of resources and avoid any damage to the environment or human health resulting from uncontrolled disposal of waste. To return the used appliance, rely on sorted waste systems or contact the dealer where appliance was purchased. The dealer could take the product and recycle it in an environment-friendly manner.

R32:675

Safety warnings (to be strictly adhered to)

Do not install the control panel in a damp place or in direct sunlight.

If the heat pump is installed in a location that is potentially exposed to electromagnetic interference, it is recommended to use shielded twisted pairs for signal lines and other communication lines.

Ensure that communication lines are connected to the correct ports, otherwise normal communication operations will not be possible.

Do not expose the control panel to shocks, do not pull it, and do not disassemble and reassemble it too frequently. Do not operate the control panel with wet hands.

1. USER INTERFACE

1.1 General characteristics

Fig. 1 Home page

The display uses a capacitive touch-screen for command input. The screen turns black when the display light goes out (Fig. 1 Home page). This control is highly sensitive and also responds to foreign objects touching the display. It is therefore recommended to keep it clean during use.

Icon	Description
☼	Ambient heating
❋	Ambient cooling
◔	Water heating
⌂	Menu (Home page)
❄	Cooling/heating switch
➘	External temperature
⌀	Water temperature at main unit outlet, water temperature at aux. electric heater, remote ambient temperature
ⓘ	Error
ⓘ	Board off / Disinfection not completed successfully
⏻	ON/OFF

Notes:

- The ON/OFF icon becomes green when panel is on;
- When control mode is "Ambient temperature", the temperature displayed on top right corner is the water temperature at the outlet of the auxiliary electric heater in water heating mode, or water temperature at the outlet of the main unit in cooling/heating mode or combined modes.

1.2 Menu screen page (Home page)

Fig. 2 Menu screen page (Home page)

After start-up, the display shows the menu screen page (Home page).

On this page it is possible to:

- select one of the available user menus;
- switch the unit on/off;
- view information concerning the operating mode, any active errors, as well as the system date and time.

Note: after 10 minutes without any interaction, the display automatically goes back to menu page.

Depending on active status and mode, the display can show one or several icons at the top:

Icon	Meaning	Icon	Meaning
☼	HEAT Mode on	〰	Floor debug function in fault [red icon]
✳	COOL Mode on	🗋	Device for Gate-Ctrl. open
〰	Domestic Hot Water mode	✽	Defrost in progress
〰|☼	Heat + Hot Water mode	📶	WIFI connection
〰|✳	Cool + Hot Water mode	↰	Key to go back to previous page/menu
🎧	Quiet mode	⌂	Key to go back to HOME page (menu selection)
▤	Disinfection in progress	🗎	Key to save settings on a specific page
☺	EMERGENCY function on	①	Error
🏠	HOLIDAY function on		
〰	Floor debug function on [black icon]		

⚠ **WARNING**

If energy saving function is enabled (recommended setting to increase display service life), it will turn off after 5 minutes of inactivity. Simply click on the display to turn it back on (in any point of the active area).

2. MENU LAYOUT

Function	• Mode (page 9) • Fast Hot Water (page 10) • Cool+Hot Water (page 10) • Heat+Hot Water (page 11) • Quiet mode (page 11)	• Weather depend (page 12) • Weekly timer (page 13) • Holiday release (page 14) • Disinfection (page 14) • Timer (page 15)	• Temp. timer (page 16) • Emergen. mode (page 17) • Holiday mode (page 17) • Preset mode (page 18) • Error Reset (page 19)	• Reset WiFi (page 19) • Reset (page 19)
View	• Status (page 21) • Parameter (page 22) • Error (page 22) • Error log (page 24) • Version (page 24)	-	-	-
Parameter	• WOT-Cool (page 20) • WOT-Heat (page 20) • RT-Cool (page 20) • T-Water tank (page 20)	• ΔT-Room Temp. (page 20) • ΔT-Cool (page 20) • ΔT-Hot water (page 20)	-	-

		• Ctrl. state (page 25) • Cool 2-way valve (page 26) • Heat 2-way valve (page 26) • Solar setting (page 26) • Water tank (page 27)	• Thermostat (page 27) • Other thermal (page 28) • Optional E-Heater (page 29) • Remote sensor (page 29) • Air removal (page 30)	• Floor debug (page 30) • Manual defrost (page 31) • Force mode (page 31) • Gate-Ctrl. (page 31) • C/P limit (page 32)	• Address (pag.32) • Refri. recovery (pag.32) • Tank heater (pag.33) • Gate-Ctrl Memory
Commission	Function				
	Parameter	• T HP max (pag.33) • Cool Run Time (page 34) • Heat Run Time (page 34)	-	-	-
General		• Temp. unit (page 35) • On/Off memory (page 35) • Beeper (page 35) • Back light (page 35) • Time&Date (page 35)	• Language (page 35) • WiFi (pag.35)	-	-

3. BASIC FUNCTIONS

3.1 Switch the unit on or off (On/Off)

Fig. 3 Menu screen page (Home page) (I)

To switch the unit on or off, it is necessary to press the button as indicated in Fig. 3 Menu screen page (Home page) (I). After that, system will prompt user to confirm switch-on or switch-off via a dialogue box. The same dialogue box can be used to confirm or cancel the switch-on or switch-off command.

Notes:

- Upon first start-up, this function will be set to "OFF".
- If the relevant function is activated, the value of this parameter will be saved in "On/Off memory" to **"On"** within **"General"** screen page. With this setting, the unit will automatically turn on when power is restored after a power failure. If parameter **"On/Off memory"** is set to **"Off"**, in case of power failure the unit will remain off (status "Off") even when power supply is restored.

3.2   Menu selection

Fig. 4 Menu screen page (Home page) (II)

To open one of the menus available to the user, it is necessary to click on the corresponding icon. Once opened, each menu (depending on the one selected) will allow the user to browse the various pages or to open other sub-menus linked to specific functions.

4.   FUNCTION MENU
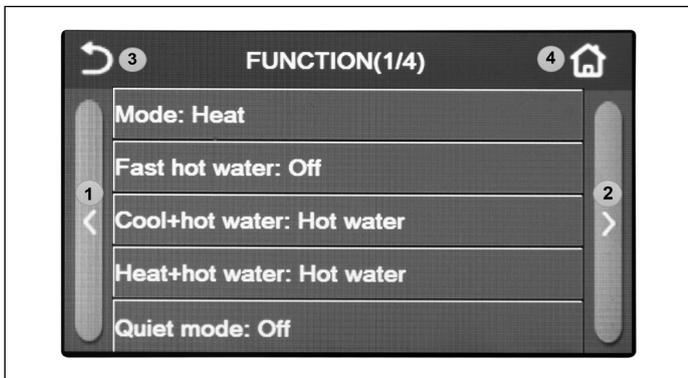
4.1   Navigating the "Function" menu

Fig. 5 "Function" selection screen page

On menu screen page, touch button **"Function"** to open the page for selecting the function, as shown in Fig. 5 "Function" selection screen page.

To navigate this menu, the system provides the following keys:

1.   Go to previous page;
2.   Go to the following page;
3.   Go back to higher level menu;
4.   Go back to menu screen page.

To open a function, click on the corresponding text.

Note: while browsing through menu pages, the header (i.e. the top and darker area) will indicate the current page of the selected menu.

4.2   Setting the operating mode (Mode)
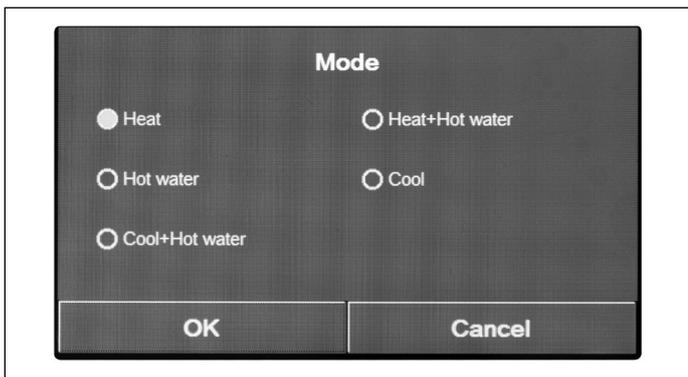
Fig. 6 "Mode" screen page

After opening the "Mode" function, user can choose one of the available modes by directly selecting the required option and then confirming with "OK", which allows saving the selected settings, while "Cancel" will delete them without saving.

Notes:

• Before changing the operating mode, the unit must be "OFF". If that is not so, a message will warn user to switch unit off before changing the operating mode;

• After changing the settings of a function, if that function in **"On/Off memory"** is set to **"On"** on **"General"** page so as to store data in case of power failure, then the new settings will be automatically saved, will stay in the memory and be used upon the following switch-on;

- If there is no storage tank, the available modes will only be "Heat" and "Cool";
- If a storage tank is fitted, the **"Cool"**, **"Heat"**, **"Cool + Hot water"** and **"Heat + Hot water"** modes will be available, as shown in the image above.
- **"Cool"** mode is available for units with heat pump; **"Cool + Hot water** and **"Cool"** modes are not available for units featuring only the heating function;
- The default value for this parameter is: "Heat".

### 4.3   Activate the function for fast hot water production (Fast Hot Water)
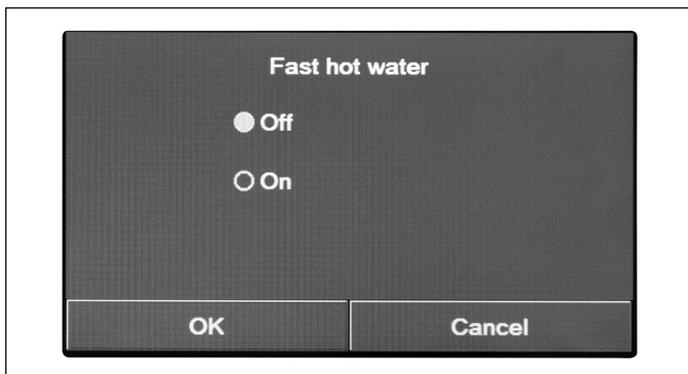
After opening the "Fast hot water" function, user can select the required option, and confirm it with "OK"; the selected setting will hence be saved and the display will go back to function selection screen page (Fig. 5 "Function" selection screen page).

Fig. 7 "Fast hot water" screen page

Notes:

- This function can be activated by directly clicking **"On "** and then confirming with **"OK "**, only if a storage tank is present;
- If there is no storage tank, this function will not be available;
- For greater energy saving, it is recommended to disable this function;
- The setting will be saved in the event of a power failure;
- The default value for this parameter is: "Off".

4.4   Cooling and domestic hot water production (Cool + Hot water)
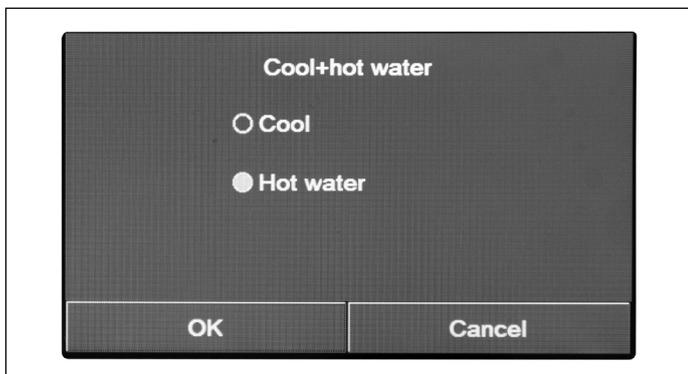
After opening the"Cool + Hot water" function, user can select the required option. Once the priority has been selected, press "OK" to confirm.

Selecting the "Cool" option will force the unit to satisfy the terminal side of the system first; conversely, selecting the "Hot water" option will give priority to domestic hot water production, only if a storage tank is installed.

Fig. 8 "Cool + Hot water" screen page

Notes:

- If there is no storage tank, this function will not be available;
- The setting will be saved in the event of a power failure;
- The default value for this parameter is: "Cool".
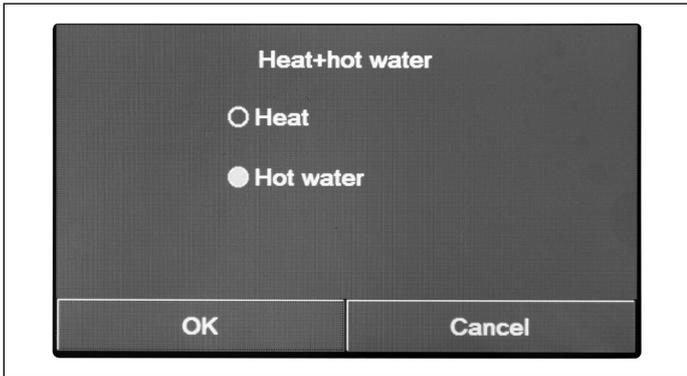
4.5   Heating and DHW production (Heat+Hot water)

Fig. 9 "Heat+Hot water" screen page

After opening the "Heat+Hot water" function, user can select the required option. Once the priority has been selected, press "OK" to confirm.

Selecting the "Heat" option will force the unit to satisfy the terminal side of the system first; conversely, selecting the "Hot water" option will give priority to domestic hot water production, only if a storage tank is installed.

Notes:

• If there is no storage tank, this function will not be present;
• The setting will be saved in the event of a power failure;
• The default value for this parameter is: "Heat".
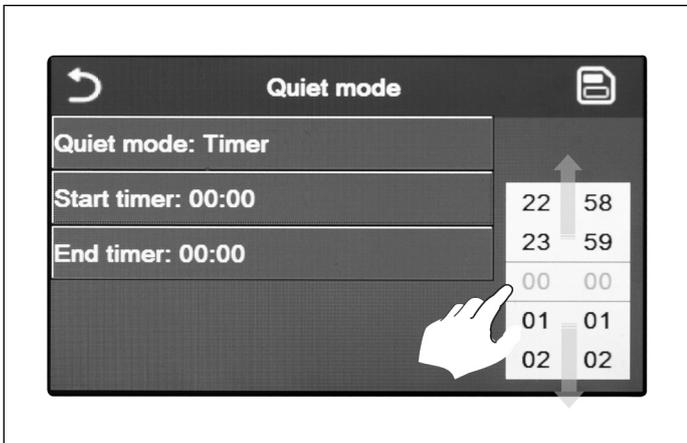
4.6   Noise reduction function (Quiet mode)

Fig. 10 Timer for the "Quiet mode"

After opening the "Quiet mode" function, a selection box opens in which the "Quiet mode" option can be set to **"On"**, **"Off"** or **"Timer"**.

If you choose the "Timer" function, you will be prompted to set the "Start Timer" and "End Timer" parameters in which to activate the "Quiet mode" function; to set the values, you will need to press on the time label to be set and set the values for hours and minutes by sliding your finger up or down (the value to be set will be the one highlighted in blue, in the centre of the selection box), as shown in Fig. 10 Timer for the "Quiet mode".

The setting can be saved by touching the icon in the top right corner.
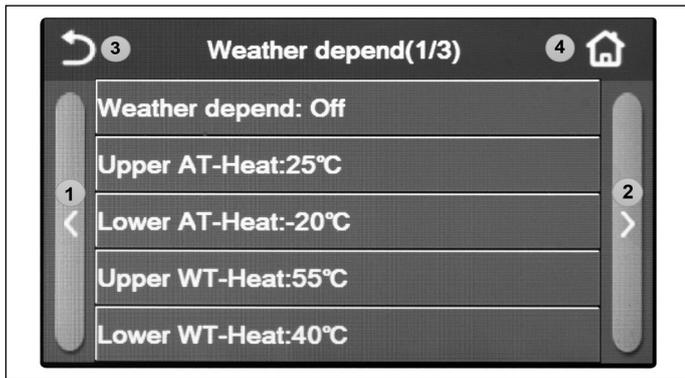
Notes:

• The setting can be made in either the "On" or "Off" state, but is only applied if the main unit is switched on;
• If the setting is **"On"**, the function automatically reverts to **"Off"** when the main unit is switched off; if the chosen setting is **"Timer"**, the function remains active even with the main unit switched off and can only be cancelled manually;
• The setting will be saved in the event of a power failure;
• The default value for this parameter is: "Off".

4.7 Weather depend

Fig. 11 "Weather depend" screen page

To navigate this menu, the system provides the following keys:

1. Go to previous page;
2. Go to the following page;
3. Go back to higher level menu;
4. Go back to menu screen page.

Once entered, click the "Weather depend" function (first item on the first page) and a selection box will open to allow user to choose between "On" or "Off". Once the "On" option has been selected, press "OK" to confirm.

The next step is to set the temperature according to the climate. The parameters that make up the climate curves, represent the curves that the system will use to automatically vary the set-point of the flow temperature, or the room air temperature (if air-based control is set, using the accessory air probe) in both hot and cold conditions.
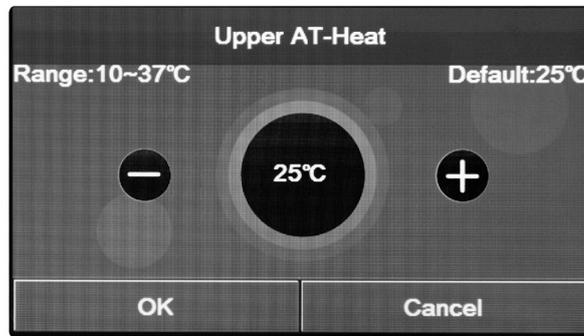
To set the values for each parameter, click the label of the chosen parameter, and set the required value using the "+" or "- " keys, entering a value within the permitted range. Once the value has been set, press the "OK" key to confirm it and return to the upper level.

Notes:

- After activating the "Weather depend" mode, it is not possible to deactivate it with the On/Off controls but it is necessary to manually set "Weather depend: Off";
- The climatic curve set-point value can be displayed in the "View" menu;
- The climatic curve can be applied either to the flow temperature (water control) or to the room air (only if the specific air probe is installed). However, it is recommended to use the flow temperature control;
- The climate curves can only be applied to heating and cooling, not to domestic hot water production (Hot water);
- The function can be set even if the unit is OFF; however, it will only take effect if the unit is switched on;
- The setting will be saved in the event of a power failure;
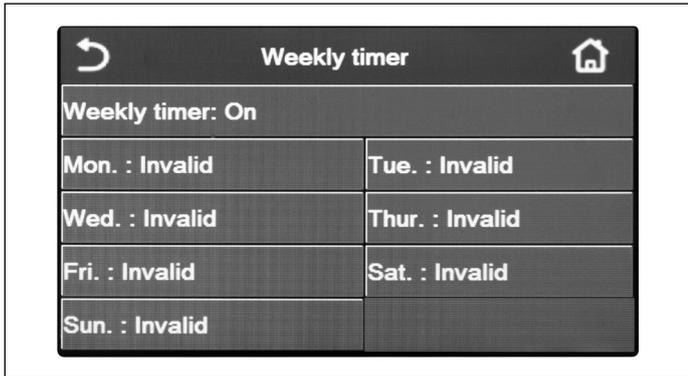- The default value for this function is "Off".

4.8 Weekly timer

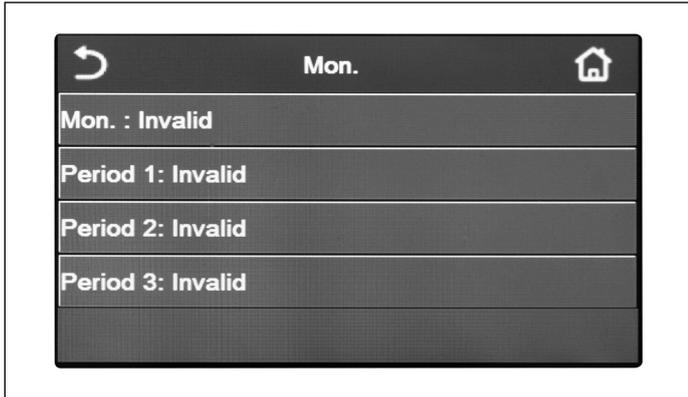

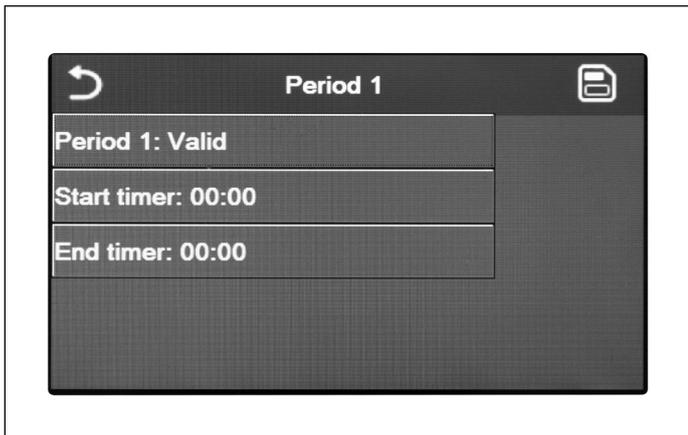Fig. 12 Screen page 1 "Weekly timer"

After opening the "Weekly timer" function, user can set up to three time bands for each day of the week during which the unit will operate, using the current mode and set; or it will be possible to assign the "Holiday" value to one or more days, which (if the specific "Holiday release" function is enabled) will automatically set a working set of 30 °C if flow water control is used, or 10 °C if room air control is used (with the specific air probe accessory).

Fig. 13 Screen page 2 "Weekly timer"

Clicking the label for one of the days of the week takes you to the page for that day (Fig. 13 Screen page 2 "Weekly timer"), where it will be possible to assign a value to that day, including:

- **"Valid"**: if the Weekly Timer is active, the system will perform the scheduled start-up as specified in the data for periods 1, 2 and 3;
- **"Invalid"**: even if the weekly timer is active, this day will not be considered;
- **"Holiday"**: if the "Holiday release" is active, during this day the set will be maintained at 30 °C (for water control) or 10 °C (for air control).

Fig. 14 Screen page 3 "Weekly timer"

Clicking the label for one of the periods of the selected day takes you to the period settings page (Fig. 14 Screen page 3 "Weekly timer"); the period settings can be:

- **"Valid"**: the period describes a time slot in which you wish the unit to be used; in this case, the labels for the start and end times of the period itself will also be displayed (they are set by first clicking the time label you wish to set, then by sliding your finger across the time values until selecting the required ones; at the end, press the button in the top right-hand corner to save the data entered);
- **"Invalid"**: the period will not be used.

Notes:

- Each press on the label will cause the value to change; however, once the desired value has been selected, the setting must be saved by pressing the icon in the top right-hand corner to make it effective;
- To make the specified time settings effective for the various days of the week, the Weekly Timer must be set to "On" (by clicking the Weekly Timer label);
- Setting "Valid" for one or more days of the week only makes the specified time settings effective if the Weekly Timer is "On";

- Each day allows the setting of up to three time slots (periods) whose start and end times must be consistent with each other (the start of a period must be after the end of the previous period);
- If one or more days have been set as "Holiday", the "Holiday release" function must be activated (see paragraph *Holiday release (for Weekly timer)* on page *14*);
- The setting will be saved in the event of a power failure;
- The default value for this function is "Off".
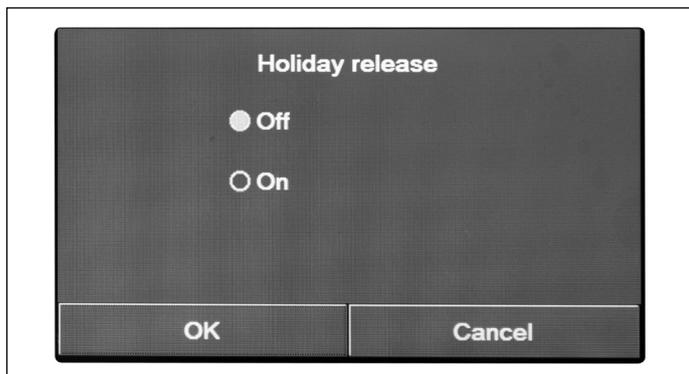
4.9 Holiday release (for Weekly timer)

After opening the "Holiday release" function, user can activate or deactivate this schedule if applied as a daily setting on one or more days in the Weekly Timer; once the setting has been selected, press "OK" to confirm.

Fig. 15 "Holiday release" screen page

Notes:

- If one or more days in the Weekly Timer are set to "Holiday", this function must be set to "On" if the schedule specified in the timer is to be adhered to;
- The setting will be saved in the event of a power failure;
- The default value for this function is "Off".

4.10 Disinfection
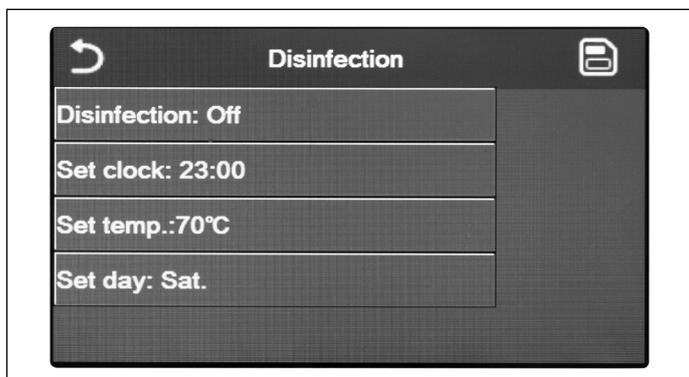
After opening the "Disinfection" function, user can activate or deactivate this function, choose the time and day on which to execute it and the temperature to be used.

⚠ **WARNING**

If the unit is used for domestic hot water production, Disinfection MUST be provided.

Fig. 16 "Disinfection" screen page 1

Clicking the label relating to the set-point value for the Disinfection cycle, a numerical keypad will be displayed on the right-hand side which allows the set-point to be varied, within the permitted range. Remember that for the cycle to be effective it will be maintained for a certain time, which will increase as the set-point value decreases.

Each press on the label will cause the value to change; however, once the desired value has been selected, the setting must be saved by pressing the icon in the top right-hand corner to make it effective (Fig. 16 "Disinfection" screen page 1).

Fig. 17 "Disinfection" screen page 2

Notes:

- This function can only be activated if a storage tank is present. If there is no storage tank, this function will not be available;
- This function can be set even if the unit is Off;
- This function cannot be activated at the same time as the functions: "Emergency mode", "Holiday mode", "Floor debug", "Manual defrost", "Refri. recovery";
- If Disinfection is not completed, the unit will output a message on screen indicating the fault, this message can be reset by pressing "OK";
- During Disinfection, any communication error or error concerning the storage tank accessory will automatically interrupt the cycle;
- The setting will be saved in the event of a power failure;
- The default value for this function is "Off".

4.11 Clock timer
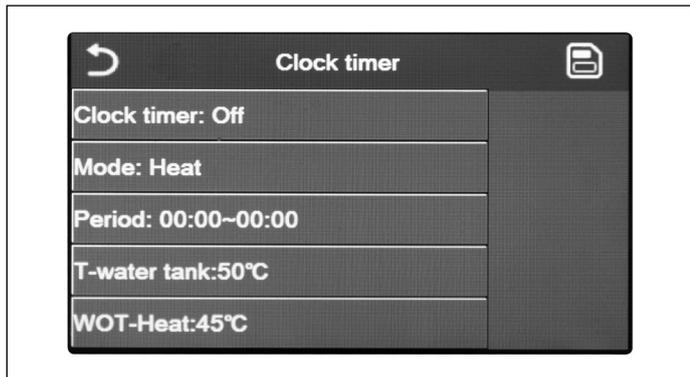
*Fig. 18 "Clock timer" screen page*

On function selection screen page, select "Clock timer" to open the corresponding options:

- **"Clock timer"**: turn timer on or off;
- **"Mode"**: allows programming the required mode;
- **"Period"**: allows timing settings;
- **"T-Water tank"**: (if mode allows) sets hot water storage tank set-point;
- **"WOT-Heat"**: (if provided) sets water production set-point on the terminal side of the system.
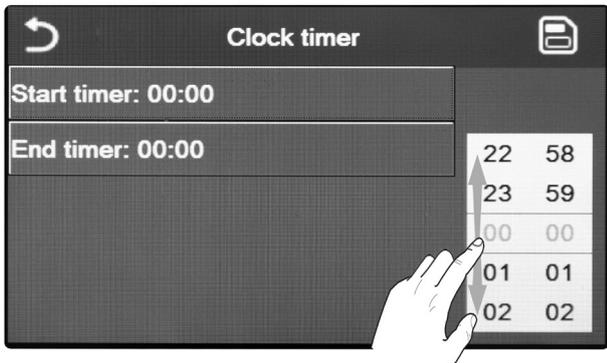
Click "Period" label to open the page containing the labels for the start and end times of the Timer. They are set by first clicking the time label you wish to set, then by sliding your finger across the time values until selecting the required ones; at the end, press the button in the top right-hand corner to save the data entered.
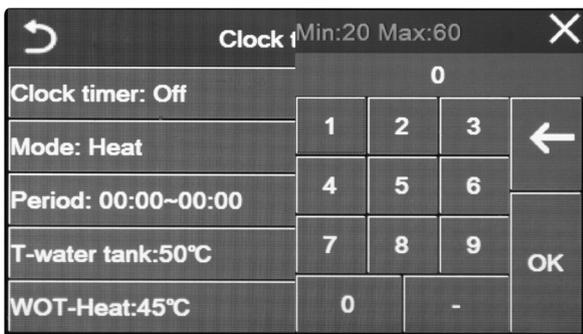
Click the labels concerning the parameters with numerical values and a numerical keypad will be displayed on the right-hand side (together with the permitted range of values), which allows user to enter the required values.

When done, click on "Save" icon at the top right-hand corner to save all settings.

Notes:

- If the required mode is "Hot water", the "WOT-Cool" or "WOT-Heat" parameter will not be displayed;
- If "Weekly timer" and "Clock Timer" are activated at the same time, Weekly timer will have priority over the other function;
- If there is no storage tank, hot water production references will not be available;
- Timer start time must always be lower than timer end time, or period will not be validly set;
- Storage tank temperature can only be set if hot water mode has been activated;
- The Timer function will work only once. If you wish to use it again, you must set it again;
- Timer will be disabled in case of unit manual switch-on;
- This function will be saved in the event of a power failure;
- The default value for this function is "Off".

4.12 Temp. timer

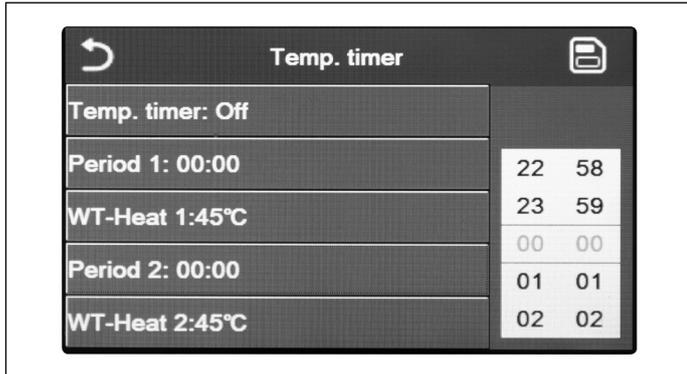*Fig. 19 "Temp. timer" screen page*

Select "Temp. Timer" function to set programmed variations of water flow set-point (this set-point depends on current operating mode). The function can be enabled or disabled by clicking "Temp. Timer" label. Click "Period 1" to specify the time when water flow must be changed, according to the value specified in "WT-Heat 1" (clicking this label will show a numerical keypad that allows changing the set value). In a similar way, user can set "Period 2" and the corresponding "WT-Heat 2".

Click the labels concerning the parameters of flow temperature and a numerical keypad will be displayed on the right-hand side (together with the permitted range Flow temperature), which allows user to enter the required values.

You must save setting to make it effective, so press the icon on the right-hand side as indicated in Fig. 19 "Temp. timer" screen page.

Notes:

- If the functions "Weekly timer", "Preset mode", "Clock Timer" and "Temp. Timer" have been activated simultaneously, the last one set will have top priority;
- This function is not available if Hot water mode has been set;
- Unit must be activated in order to be able to activate the function;
- The bands only apply to current day;
- Settings are valid only if the unit is "On";
- Depending on the set operating mode (heat or cool), system will use the corresponding specified set-points;
- If start time for "Period 2" corresponds to start time for "Period 1", the first one will be executed;
- Values for "Temp. timer" are based on unit internal timer;
- If temperature is set manually after activating this function, manually set temperature will take priority;

- This function will not be available in hot water mode;
- This function will be saved in the event of a power failure;
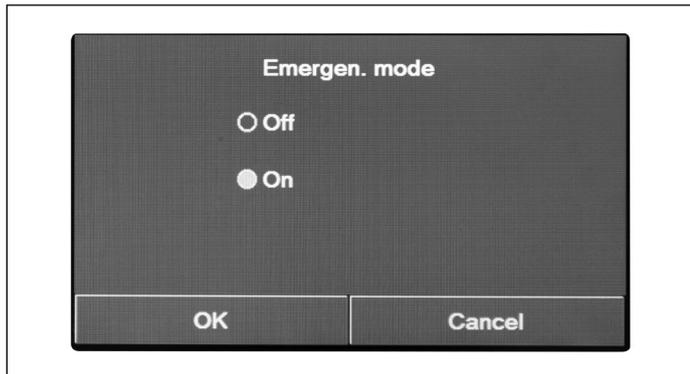- The default value for this function is "Off".

4.13 Emergen. mode

Fig. 20 "Emergen. mode" screen page

In the event that system includes storage tank and/or an additional heat source (and they are properly set) (see paragraph *Setting an additional heat source (Other thermal)* on page *28*) or a heating element (see paragraph *Optional E-Heater* on page *29*), it will be possible to activate the "Emergen. mode" function. Once activated, it will disable the heat pump for producing hot water (domestic or system), using only the resistor of the storage tank and/or the additional heat source (or resistor) to meet requests. After opening the "Emergen. mode" function, user can activate or deactivate this programme; then press "Ok" to confirm.

Notes:

- Emergency mode is permitted provided there is an error or a protection device has tripped and the compressor has stopped for at least three minutes. If the error or protection device have not been reset, it is possible to open emergency mode only by means of the wired control (unit off);
- Emergency mode can only be activated from Hot water or Heat mode (but not if these modes are activated simultaneously);
- Emergency mode can not be activated unless the storage tank electric heater and/or additional heat source or electric heater are present (and activated);
- During emergency mode (in Heat), any errors such as: "HP-Water Switch", "Auxi. heater 1", "Auxi. heater 2", "Temp-AHLW" will block the emergency mode;
- During emergency mode (in Hot water), any "Auxi.-WTH" error will block the emergency mode;
- All timer-related functions will not be available during emergency mode;
- During emergency mode, it will not be possible to use the thermostat;
- After a power failure, the emergency mode function reverts to the Off status;
- Some functions will not be available during emergency mode, and attempting to activate them will cause the system to issue a warning because emergency mode shall be interrupted;
- The default value for this function is "Off".

4.14 Holiday mode
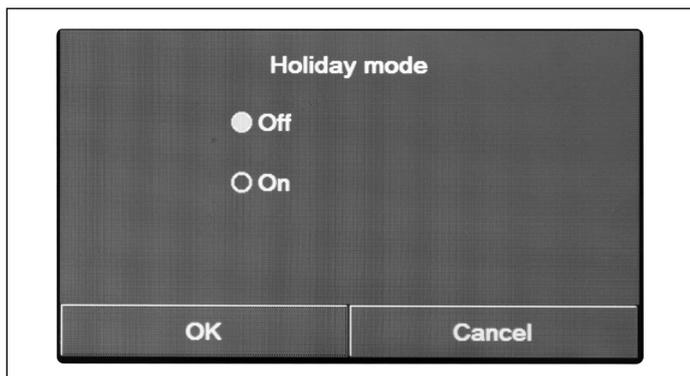
Fig. 21 "Holiday mode" screen page

From the Weekly timer, it is possible to assign the "Holiday" programme to one or several days of the week (on that day the unit will have hot operation, keeping a flow water set-point of 30 °C, or 10 °C if control is air-based). To activate the "Holiday release" that may be set within "Weekly timer", it is necessary to activate this function.

After opening the "Holiday mode" function, user can choose one of the available modes by directly clicking the text identifying it and then pressing "OK".

Notes:

- This function can only be activated with unit OFF. If that is not so, a message will warn user to switch unit off before changing the operating mode;
- When Holiday mode option is active, the operating mode will be automatically set to "Heat" and it will not be possible to set the mode and use On/Off commands on the control unit;
- When "Holiday mode" function is active, the control unit automatically disables the options "Weekly timer", "Preset mode", "Clock Timer" and "Temp. timer";
- If this function is active, it is not possible to simultaneously also activate "Floor debug", "Emergen. mode", "Disinfection", "Manual defrost", "Preset mode", "Weekly timer", "Clock Timer" and "Temp. Timer" functions. If user tries to activate them, system will issue a warning because emergency mode shall be interrupted;
- This function will be saved in the event of a power failure;
- The default value for this function is "Off".
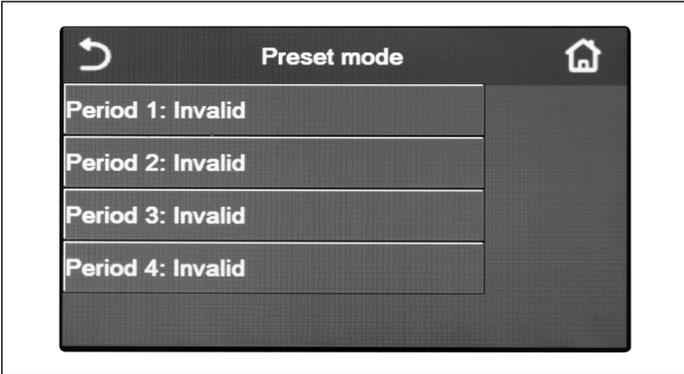
4.15 Preset mode

Fig. 22 "Preset mode" screen page 1

This function allows setting one to four daily periods, whose commands will be executed every day. After opening the "Preset mode" function, user can press the key corresponding to each period in order to activate or deactivate that period, select the operating mode to be used, the temperature set-point for produced water and start and end times of that period.
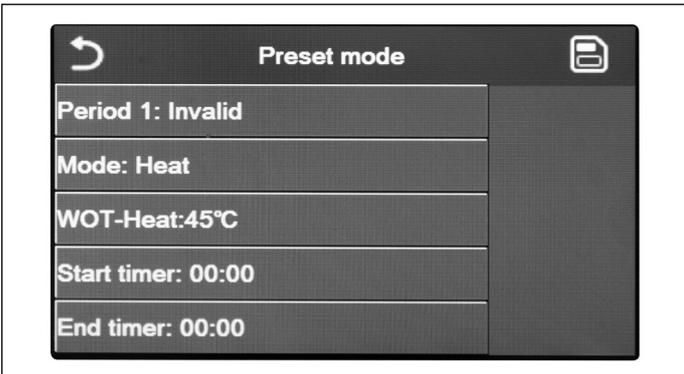
Fig. 23 "Preset mode" screen page 2

Click "Period" label to open the page (Fig. 23 "Preset mode" screen page 2) containing the labels concerning period activation, operating mode to be used for that period, water flow temperature, start time and end time. Click any label to set its required value (any type of data will possibly trigger additional pop-up windows for the selection or entry of required values). When settings are completed, press the key on top right-hand corner to save entered data.

Notes:

- If storage tank is not provided, "Hot water" mode will not be available;
- If hourly schedules have been entered through the Weekly timer and simultaneously other hourly settings have been made via the Preset mode, the last one will have a higher priority;
- Each day allows the setting of up to four periods whose start and end times must be consistent with each other (the start of a period must be after the end of the previous period);
- Preset mode remains valid only for the preset day;
- This function will be saved in the event of a power failure;
- The default value for this function is "Off".

4.16 Error Reset

Fig. 24 "Error Reset" screen page

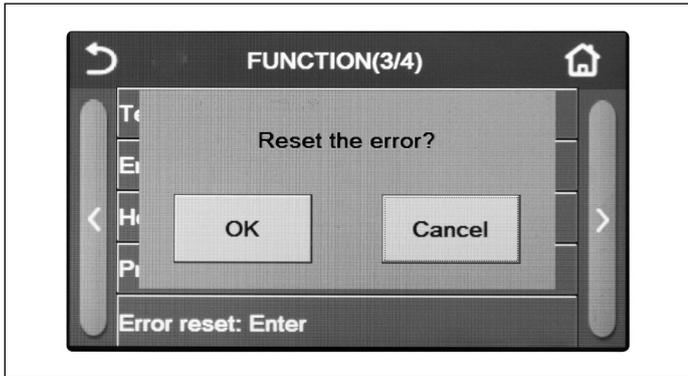This function allows the errors currently active on the system to be reset. This operation must only be performed after the reported alarm condition has been resolved. To reset the alarms, it will be necessary to press on the function label, and then confirm the operation by pressing the "OK" button in the dialogue box.

Notes:

- This operation can be performed only if the unit is off;
- This function is valid for "Temp. timer", "Clock timer", "Preset mode", "Weekly timer" and "Weather depend" options.

4.17 Reset WiFi

This function allows the user to reset the WiFi connection, thereby rectifying any conflicts.

4.18 Loading default settings (Reset)

From the function selection screen page, click "Reset" and a selection box is displayed. Select "OK" to restore all parameter settings, or "Cancel" to go back to function selection screen page.

Notes:

- This function can be executed only if the unit is off;
- This functions affects the following functions: "Temp. timer", "Timer", "Preset mode", "Weekly timer" and "Weather depend".

5. PARAMETER MENU

5.1 Navigating the menu
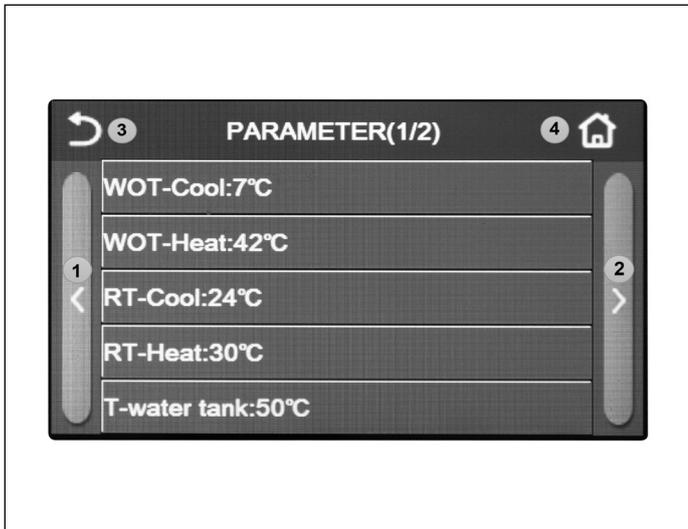
Fig. 25 Parameter setting screen page

On menu screen page, click "Parameter" to open the page for setting the parameters, as shown in Fig. 25 Parameter setting screen page.

This menu allows user to set the values for machine set-up.

To navigate this menu, the system provides the following keys:

1. Go to previous page;
2. Go to the following page;
3. Go back to higher level menu;
4. Back to menu screen page (Home page)

To open a function, click on the corresponding text.

Once setting is completed, click "OK" to save the set values and the unit will start operating accordingly. Set-up can be cancelled by clicking "Cancel".

Note: while browsing through menu pages, the header (i.e. the top and darker area) will indicate the current page of the selected menu.

5.2 Set temperature set-points to be used by the unit in the various modes

Fig. 26 "WOT-Cool" screen page

Through the windows of this menu, it will be possible to set the values to be used as working set-points for the various modes. The way you can edit and save the values is always the same: click the label of the chosen parameter, and set the required value using the "+" or "-" keys, entering 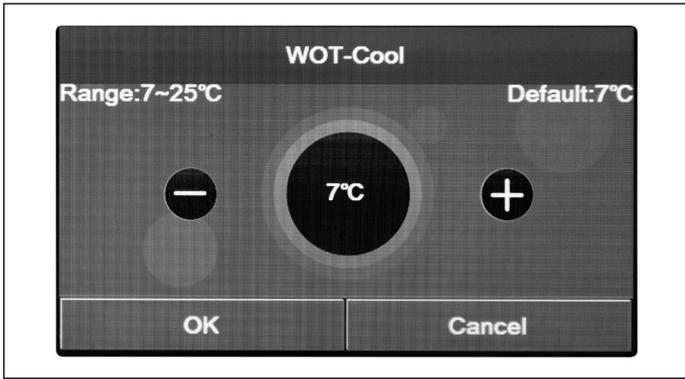a value within the permitted range. Once the value has been set, press the "OK" key to confirm it and return to the upper level.

Notes:

- The windows display the possible range for the selected parameter at the top left-hand corner, while the right-hand side shows the value entered during the last change;
- All parameters will be saved in the event of a power failure.

Below is a table summarising all available parameters, with functions and operating ranges:

Displayed name	Meaning	Range
WOT-Cool	Indicates the working set for cooling mode (used in flow water based control)	7 - 25 °C
WOT-Heat	Indicates the working set for heating mode (used in flow water based control)	20 - 60 °C
RT-Cool	Indicates the working set for cooling mode (used in ambient air based control)	18 - 30 °C
RT-Heat	Indicates the working set for heating mode (used in ambient air based control)	18 - 30 °C
T-Water tank	Indicates the working set for domestic hot water production (only available if the storage tank accessory is provided and set)	40 - 80 °C
ΔT-Room temp.	Indicates ΔT value to be applied to the set-point in case of ambient air based control	1 - 5 °C
ΔT-Cool	Indicates ΔT value to be applied to the cooling set-point in case of flow water based control	2 - 10 °C
ΔT-Heat	Indicates ΔT value to be applied to the heating set-point in case of flow water based control	2 - 10 °C
ΔT-Hot water	Indicates ΔT value to be applied to domestic hot water production (only available if the storage tank accessory is provided and set	1 - 8 °C

6. VIEW MENU

6.1 Navigating the menu
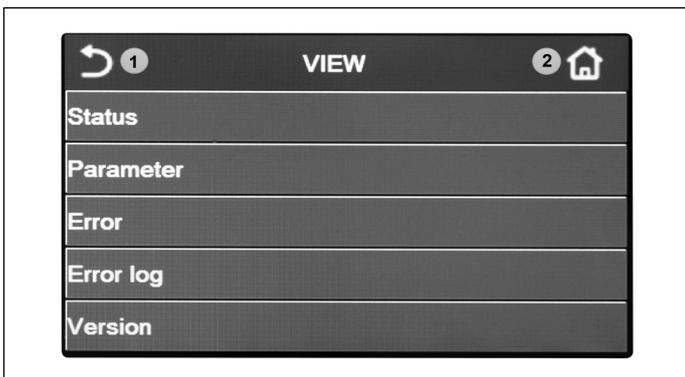

Fig. 27 "View" screen page

This menu allows viewing several details concerning machine operation. Each label includes several details that allow the user to check unit status and any live errors or faults. To navigate this menu, the system provides the following keys:

1. Go back to higher level menu;
2. Go back to menu screen page

To open a function, click on the corresponding text.

6.2 Viewing the status of unit components (Status)

This page shows the status of the various system components. After opening the"Status" function, user can browse the available pages using the keys on the right and left side of the window. The table below lists the available details and possible statuses.

Note: all information under this menu is in read-only mode.

Displayed name	Meaning	Status
Compressor	Indicates the current status of compressor	On
Fan	Indicates the current status of fan	Off
Unit status	Indicates unit status	Cool/Heat/Hot water/ Off
HP-Pump	Indicates the current status of fan	On/Off
Tank heater	Status of the heating element inside the water tank	On/Off
3-way valve 1	Not used	--
3-way valve 2	Indicates the status of the 3-way valve installed in the system	On/Off
Crankc.heater	Indicates the status of compressor housing heater	On/Off
HP-heater 1	Indicates the status (for stage 2) of any optional heating element installed	On/Off
HP-heater 2	Indicates the status (for stage 2) of any optional heating element installed	On/Off
Chassis heater	Indicates the status of antifreeze resistor on unit base	On/Off
Plate heater	Indicates the status of antifreeze resistor on unit plate exchanger	On/Off
Defrost	Indicates the current status of defrost cycle	On/Off
Oil return	Indicates the current status of cycle on oil return	On/Off
Thermostat	Indicates current thermostat settings	Off/Cool/Heat
Other thermal	Indicates the status of the additional heat source	On/Off
2-way valve	Indicates the status of the 2-way valve installed in the system	On/Off
HP-Antifree	Indicates the status of antifreeze protection	On/Off
Gate-Ctrl.	Indicates the status of Gate-Ctrl.	Card in/Card out
4-way valve	Indicates the status of the 4-way valve of the unit	On/Off
Disinfection	Indicates the current status of Disinfection	Off/In progress/Done/ Error
Flow switch	Indicates the current status of unit flow switch	On/Off

6.3   Viewing the status of unit parameters (Parameter)

These pages will show current values for the unit operating parameters. After opening the "Parameter" function, user can browse the available pages using the keys on the right and left side of the window. The table below lists the available details.

Note: all information under this menu is in read-only mode.

Displayed name	Meaning
T-Outdoor	Indicates the outside air temperature detected by the unit
T-Suction	Indicates the temperature at compressor inlet
T-Discharge	Indicates flow water temperature of the compressor
T-Defrost	Indicates the temperature referred to defrost cycle
T-Water in PE	Indicates the water temperature at plate exchanger inlet
T-Water out PE	Indicates the water temperature at plate exchanger outlet
T-Optional water sen	Indicates the water temperature at optional resistor outlet
DHW-T	Indicates storage tank temperature
T-Economizer in	Indicates the temperature at economizer inlet
T-Economizer out	Indicates the temperature at economizer outlet
T-Floor Debug	Indicates the temperature set for floor debug
Debug time	Indicates the time set for floor debug
T-Gas pipe	Indicates the temperature detected on the gas side of cooling circuit
T-Liquid pipe	Indicates the temperature detected on the liquid side of cooling circuit
T-Weather depend	Indicates the current set temperature, calculated through Weather depend
T-remote room	Indicates the ambient temperature read by the probe
Dis. pressure	Indicates compressor flow pressure

6.4   Viewing the errors (Error)

These pages show the current errors and live alarms for the unit. After opening the "Error" function, user can browse the available pages using the keys on the right and left side of the window.

Notes:

• The control panel can display any operation errors;
• Any screen page can show a maximum of 5 errors. To view the others, press the scroll keys.

Error list

Full name	Displayed name	Code
Defrosting temperature sensor fault	Defrost sensor	d6
Discharge temperature sensor fault	Discharge sensor	F7
Suction temperature sensor fault	Suction sensor	F5
Economizer inlet temperature sensor	Econ. in sens.	F2
Economizer outlet temperature sensor	Econ. out sens.	F6

Full name	Displayed name	Code
Fan error	Outdoor fan	EF
High pressure protection	High pressure	E1
Low pressure protection	Low pressure	E3
High discharge temperature protection	Hi-discharge	E4
Capacity DIP switch fault	Capacity DIP	c5
Communication error between external and internal main boards	ODU-IDU Com.	E6
Communication error between external main board and drive board	Drive-main com.	P6
Communication error between display and internal main board	IDU Com.	E6
High pressure sensor fault	HI-pre. sens.	Fc
Fault of water storage temperature sensor for plate heat exchanger of heat pump	Temp-HELW	F9
Fault of water storage temperature sensor for auxiliary electric heater of heat pump	Temp-AHLW	dH
Fault of water inlet temperature sensor on plate heat exchanger of heat pump	Temp-HEEW	No error code but warning within error viewing screen pages.
Storage tank temperature sensor fault	HI-pre. sens.	FE
Remote ambient temperature sensor fault	T-Remote Air	F3
Protection for heat pump flow switch	HP-Water Switch	Ec
Welding protection for auxiliary electric heater 1 of heat pump	Auxi. heater 1	EH
Welding protection for auxiliary electric heater 2 of heat pump	Auxi. heater 2	EH
Welding protection for storage tank electric heater	Auxi. -WTH	EH
Undervoltage or power failure of DC bus	DC under-vol.	PL
Overvoltage of DC bus	DC over-vol.	PH
AC current protection (input side)	AC curr. pro.	PA
Faulty IPM	IPM defective	H5
Faulty PFC	PFC defective	Hc
Starting error	Start failure	Lc
Phase loss	Phase loss	Ld
Communication error with driver board	Driver Com.	P6

Full name	Displayed name	Code
Reset of the driver	Driver reset	P0
Compressor overcurrent	Com. over-cur.	P5
Current sensor circuit fault or current sensor fault	Current sen.	Pc
Desynchronisation	Desynchronize	H7
Overtemperature of radiator or IPM or PFC	Overtemp.-mod.	P8
Temperature sensor fault of radiator or IPM or PFC	T-mod. sensor	P7
Fill circuit fault	Charge circuit	Pu
AC input voltage fault	AC voltage	PP
Sensor connection protection (current sensor can not be connected to the U phase or to the corresponding V phase)	Sensor con.	Pd
Communication error between display and outdoor unit	ODU Com.	E6
Refrigerant vapour line temperature sensor fault	Temp RGL	F0
Refrigerant liquid line temperature sensor fault	Temp RLL	F1
Water tank temperature sensor fault (NA for mini-chillers)	Tank sens	FE
4-way valve fault	4-way valve error	U7
Jumper cap fault	Jumper cap error	C5

6.5   Error list

These pages show the recorded errors. After opening the "Error" function, user can browse the available pages using the keys on the right and left side of the window.

Notes:

- The error log can contain up to 20 entries. For each error, the name and date/time are specified.
- When the log exceeds 20 errors, the oldest error is replaced by the most recent one;
- Errors recorded in the "Error view" cannot be deleted.

6.6   Viewing the version (Version)

This page shows the version of the software installed on the unit.

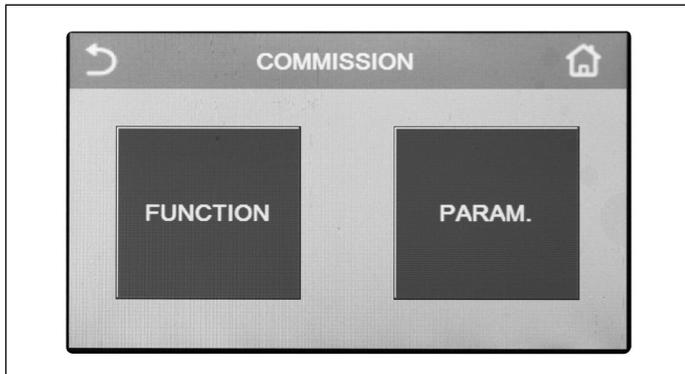## 7.   COMMISSION MENU

7.1   Navigating the menu

Fig. 28 "Commission" screen page

Through this menu it will be possible to set the settings necessary for the correct operation of the unit: the logics, the components installed on the system and the accessories foreseen for each installation will be set through the functions of this menu.

The menu information is divided into two groups:

- **Function**: containing the settings and any functions required to operate the unit;
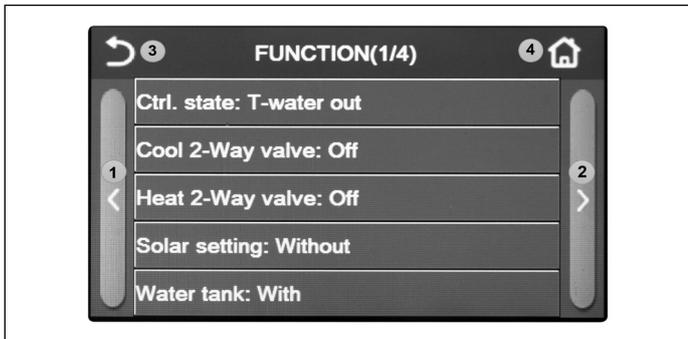- **Parameter**: containing general operating parameters.

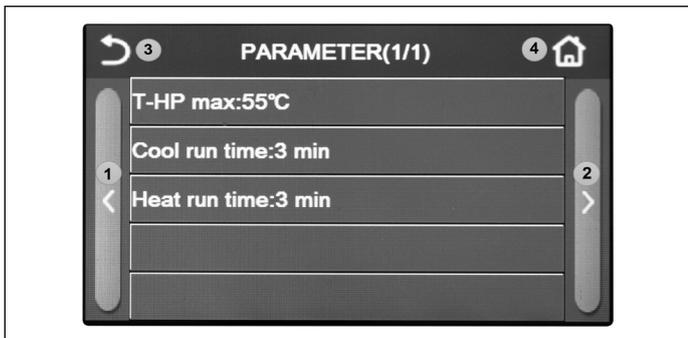Fig. 29 "Function" screen page

To browse the "Function" o "Parameter" sub-menu, the system provides the following keys:
1. Go to previous page;
2. Go to the following page;
3. Go back to higher level menu;
4. Go back to menu screen page.

To open a function, click on the corresponding text.

Fig. 30 "Parameter" screen page

⚠ **WARNING**

The modification and/or setting of functions and these parameters may only be carried out by authorised personnel.

Incorrect settings may cause malfunction or damage to the unit and the system!

Note: in the commissioning parameter setting screen, when the status of a function changes, the system automatically saves the change and the new value will be retained even if the power supply fails.

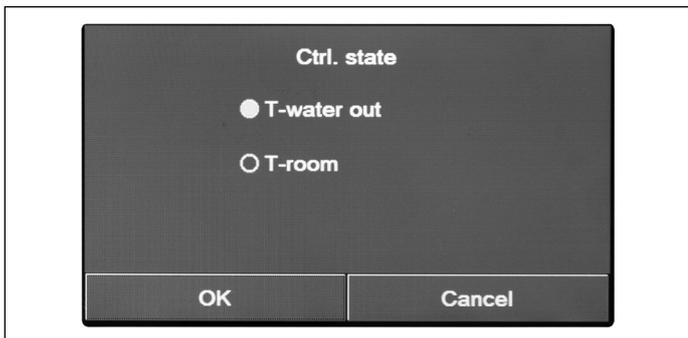## 7.2 Setting the control logic (Ctrl. state)

Fig. 31 "Ctrl. state" screen page

After opening the "Ctrl. State" function, user can choose to set unit control logic based on water temperature, or based on ambient air temperature (if accessory air probe is installed and properly set). Once the required logic has been selected, press "OK" to confirm.

Notes:

• If the ambient air probe accessory is not present (and properly set), the only available choice will be "T-water out";

• This setting will be saved in the event of a power failure.
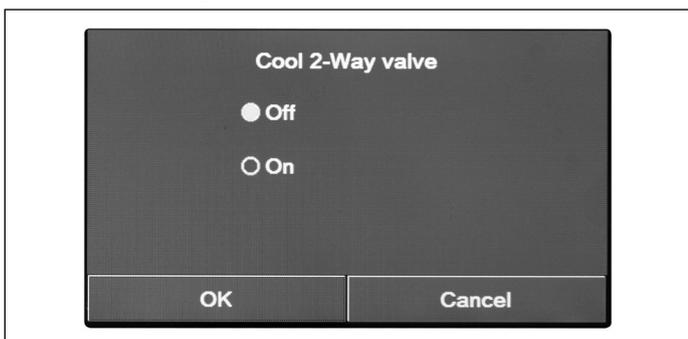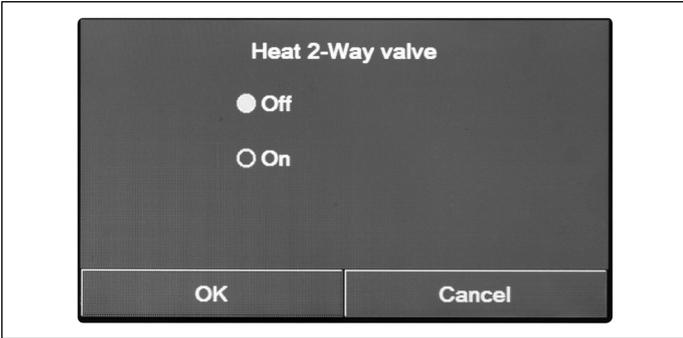
7.3 Cool 2-way valve

Fig. 32 "Cool 2-way valve" screen page

After opening the "Cool 2-way valve" function, user can set the status of the 2-way valve in Cool mode. Once the required logic has been selected, press "OK" to confirm.

Notes:

- Select status "Off" for the valve to be CLOSED in cooling mode. Select status "On" for the valve to be OPEN;
- The setting will be saved in the event of a power failure.

7.4   Heat 2-way valve


Fig. 33 "Heat 2-way valve" screen page

After opening the "Heat 2-way valve" function, user can set the status of the 2-way valve in Heat mode. Once the required logic has been selected, press "OK" to confirm.

Notes:

- Select status "Off" for the valve to be CLOSED in heating mode. Select status "On" for the valve to be OPEN;
- The setting will be saved in the event of a power failure.

7.5   Solar setting

Fig. 34 "Solar setting" screen page
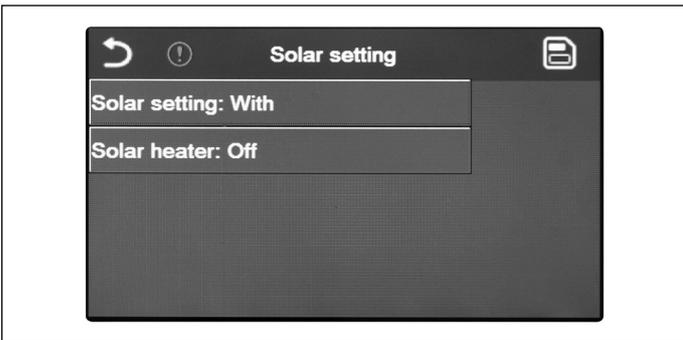
After opening the "Solar setting" function, user can select either "With" or "Without" settings.

After activating the function, user can set "Solar heater" parameter to "On" or "Off".

Notes:

- This setting can be made regardless of the unit being switched on;
- This setting is only allowed if a storage tank is present. If there is no storage tank, the setting will not be available;
- The setting will be saved in the event of a power failure.

7.6   Tank heater

Fig. 35 "Water tank" screen page
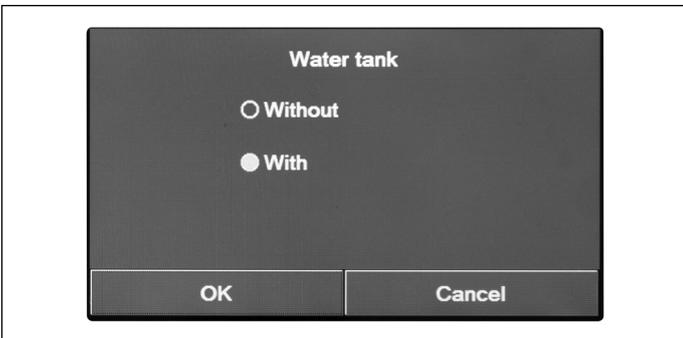
After opening the "Water tank" function, user can specify whether hot water tank accessory is present or not. Once the required item has been selected, press "OK" to confirm.

Notes:

- If there is no storage tank, hot water production modes will NOT be available;
- The unit must be off before user can edit the parameter;
- This setting will be saved in the event of a power failure.

7.7 Thermostat

After opening the "Thermostat" function, user can specify which management type can be applied to any external thermostat. Once the required item has been selected, press "OK" to confirm.

Fig. 36 "Thermostat" screen page

Notes:

- To change thermostat settings the unit must be Off;
- If "Floor debug" or "Emergency mode" functions are active, it will not be possible to use the external thermostat;
- If "Water tank" function is set to "Without", the "Air+Hot water" mode will not be available;
- If the Thermostat function is set to "Air" or "Air+Hot water", the Timer function sill be disabled and the unit will work according to the mode set via the thermostat. Mode setting and ON/OFF operations will not be applicable;
- If function is set to "Air", the unit will work based on thermostat settings;
- If function is set to "Air+Hot water", the unit can still work in "Hot water" mode when thermostat is switched off. In this case, the ON/OFF icon in the home page will not indicate unit operational status. Active parameters can be viewed on parameter display pages;
- If function is set to "Air+Hot water", operation priority can be set through the control panel;
- If this function is activated, it will not be possible to simultaneously activate the "Weekly timer", "Clock timer", "Temp. timer" and "Preset mode" functions.
- Thermostat status can be modified only if the unit is off;
- This function will be saved in the event of a power failure.

7.8 Setting an additional heat source (Other thermal)

Fig. 37 "Other thermal" screen page

After opening the "Other thermal" function, user can activate or deactivate the additional heat source, set an external temperature threshold below which it must be activated instead of the heat pump, as well as the logic applicable for managing the replacement.

Available logics are as follows:

- **Logic 1**: this logic allows enabling operation of the additional heat source to meet the requests of system side only; the 3-way valve will be blocked on this side and any requests from DHW side will be satisfied using the water tank electric heater;

- **Logic 2**: this logic allows enabling operation of the additional heat source to meet the requests of both system side and DHW side; keeping the unit management of the deviating valve active;

- **Logic 3**: this logic disables the heat pump and activates a 230V signal to **"Other thermal"** terminals, which is used to activate the additional heat source. The latter will work as a standalone unit with respect to the unit. When done, save entered data by clicking the key on top right-hand side, as shown in Fig. 37 "Other thermal" screen page.

Notes:

- After activating this function, it will enable start-up of the additional heat source (through a 230V - 50Hz signal to the terminals labelled as "Other thermal") if external temperature drops below the value specified in "T other switch on" parameter, or if the "Emergen. mode" is active;

- When selecting "Logic 1" or "Logic 2", the additional heat source must be set so as to produce hot water with a set-point equal to the one chosen for the heat pump. Moreover, this setting must be executed manually by the user, because the heat pump only provides an enabling signal and there is no chance to edit the hot water set-point for the additional heat source;

- When selecting "Logic 2", system must be designed to supply water at the same temperature both on system terminal side and on domestic hot water side (this means that system side terminals must include suitable mixing valves to ensure proper management of hot water at inlet);

- It is necessary to install the additional water probe downstream of 3-way valve, which is automatically recognised by the unit;

- The maximum value for hot set-point is 60 °C;

- When using this function, it will not be possible to activate any additional electric heaters;

- This setting will be saved in the event of a power failure.
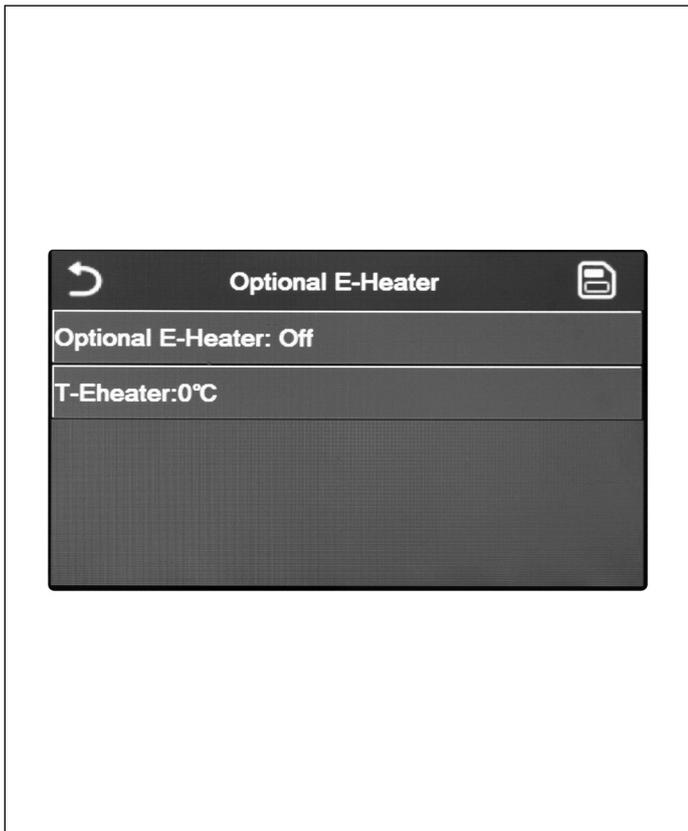
7.9   Optional E-Heater

Fig. 38 "Optional E-Heater" screen page

After opening the "Optional E-Heater" function, user can activate or deactivate any additional electric heater. Said electric heater may have a single or double stage resistor (in case of double-stage resistor user can decide whether to use both stages by specifying the number of resistors in the first parameter). Set an external temperature threshold below which it must be activated instead of the heat pump.

Two control logics are available for "Optional E-Heater" function:

· **Logic 1**: the additional electric heater and the electric heater in the water tank can **NOT** work together;

· **Logic 2**: it is possible to simultaneously start both the heat pump and the optional electric heater after the compressor has been active for four minutes and the value for $T_{Option\ water\ temp.}$ is equal to or lower than that for "WOT-HEAT-At2".

⚠   WARNING

To ensure utmost energy saving, we recommend use of "Logic 1".

When done, save entered data by clicking the key on top right-hand side, as indicated in Fig. 38 "Optional E-Heater" screen page).

Notes:

· After activating this function, it will enable start-up of the additional electric heaters (through a 230V 50Hz signal to the terminals labelled as "KM1" and "KM2"; use only "KM1" terminals when using a single resistor) if external temperature drops below the value specified in **"T-Eheater"** parameter, or if the **"Emergen. mode"** is active;

· The additional water probe must be installed downstream of the electric heater;

· When using this function, it will not be possible to activate any heat sources (Other thermal);

· The electric heater must be installed downstream the 3-way valve (system terminal side);

· The requests of domestic hot water side will be satisfied using the water tank electric heater;

· This setting will be saved in the event of a power failure.
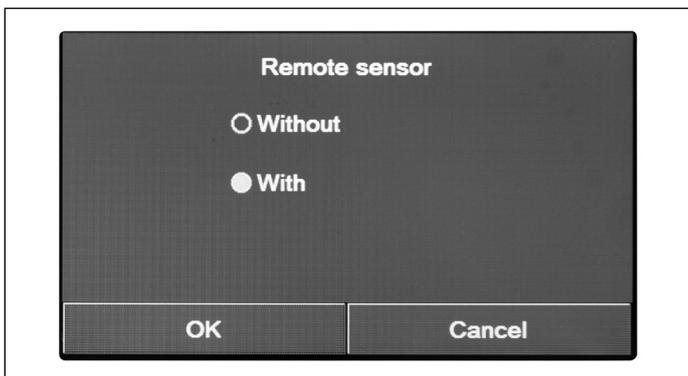
7.10   Remote sensor

Fig. 39 "Remote sensor" screen page

After opening the "Remote sensor" function, user can specify whether to activate the installed remote ambient temperature probe.

Once the required logic has been selected, press "OK" to confirm.

Notes:

- The "T-room" option of "Ctrl. state" function will be only available if the Remote sensor is activated;
- This setting will be saved in the event of a power failure.

7.11 Air removal

After opening the "Air removal" function, user can activate (inside the selected circuit) water circulation to bleed any air in the circuit. Once the required logic has been selected, press "OK" to confirm.

Fig. 40 "Air removal" screen page

Notes:

- This function can be activated only if the unit is Off. If the function is set to "On", the unit can not be turned on;
- This setting will be saved in the event of a power failure.

7.12 Floor debug
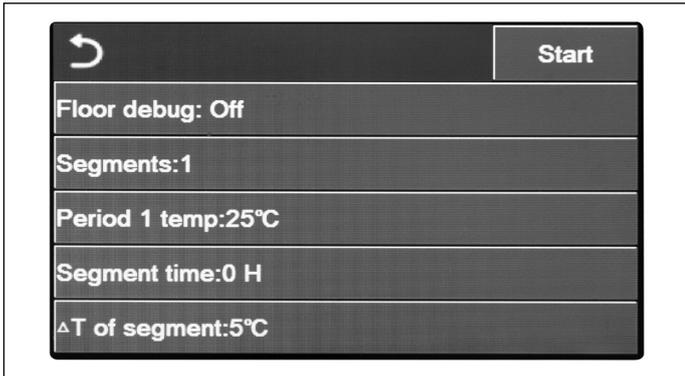
After opening the "Floor debug" function, user can activate or de-activate the possible procedure for preheating the radiant panels. This procedure creates a stabilised heating cycle during which temperature is kept stable for a certain time (period), then temperature will increase by a value equal to the indicated ΔT and kept stable for the following period. This procedure of temperature increase and maintenance will be repeated for the number of specified periods.

When done, click the key on top right-hand corner to start (or interrupt, if applicable) the preheating cycle.

Fig. 41 "Floor debug" screen page

Notes:

- While executing this function, all other functions are disabled;
- It is recommended to use this function to gradually activate heating through radiant panels (procedure required at beginning of season);
- In case of power failure, the "Floor debug" function will go back to "Off" status and operating time will be reset.
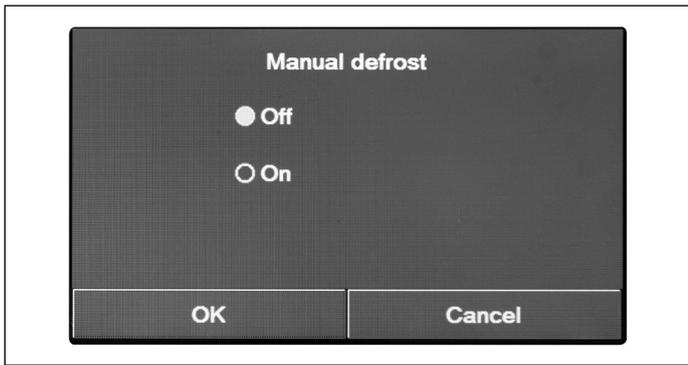
7.13 Manual defrost

Fig. 42 "Manual defrost" screen page

After opening the "Manual defrost" function, user can activate or deactivate the control for forced execution of a defrost cycle.

Once the required item has been selected, press "OK" to confirm.

Notes:

- This function can be activated only if the unit is Off;
- The defrost cycle will automatically stop if defrost temperature exceeds 20 °C or after a maximum time of 10 minutes;
- This setting will not be saved in the event of a power failure.

7.14 Force mode
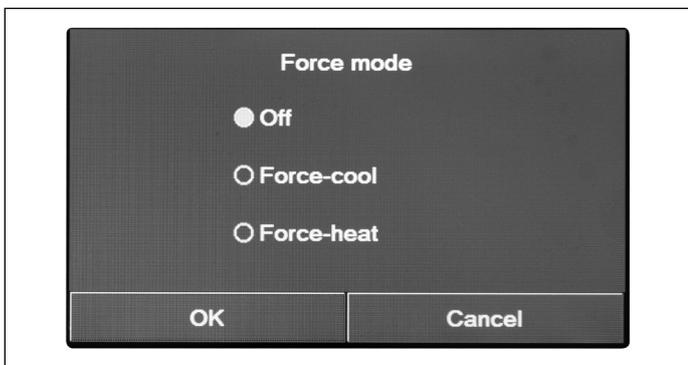
Fig. 43 "Force mode" screen page

After opening the "Force mode" function, user can activate or deactivate the control for executing the specific cooling or heating function.

Once the required item has been selected, press "OK" to confirm.

Notes:

- This function can be activated only if the unit is Off, after restarting;
- The function will not be saved in the event of a power failure.
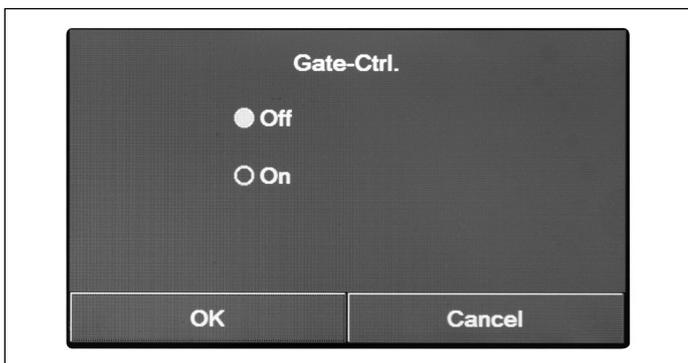
7.15 Gate-Ctrl.

Fig. 44 "Gate-Ctrl." screen page

After opening the "Gate-Ctrl." function, user can activate or deactivate management of switch-on or switch-off control through Gate-Ctrl.

Once the required item has been selected, press "OK" to confirm.

Notes:

- This function can only be activated if an auxiliary device is provided; if that is not so, the unit will be blocked;
- When this function is active, unit operation will be enabled only when the dedicated terminal circuit is CLOSED; the display will show a warning message if user attempts another operation when circuit is OPEN;
- This setting will be saved in the event of a power failure.

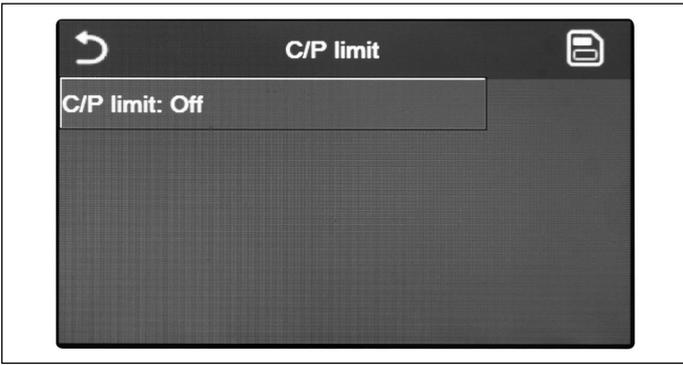## 7.16 Setting limit absorption

Fig. 45 "C/P limit " screen page

After opening the "C/P limit" function, user can select either "On" or "Off" settings.
Select "On" to set the limit value for current.
To save this setting, click "Save" icon on top right-hand corner.

Note: This setting will be saved in the event of a power failure.

7.17 Address

Fig. 46 "Address" screen page

After opening the "Address" function, user can set the address assigned to the unit for any control via Modbus. To set the required value, use "+" or "-" keys and enter a value within the allowed range.
After setting the value, press "OK" to confirm and go back to higher level.

Notes:

• The unit allows creating a BMS (Building Management System) supervision system using the Modbus protocol;
• Address will be "1" upon first start-up;
• The address can be chosen between1~125 or 127~253;
• This setting will be saved in the event of a power failure.

7.18 Refrigerant recovery (Refri.recovery)

Fig. 47 "Refri.recovery" screen page

After opening the "Refri.recovery" function, user can activate or deactivate any function for recovering and storing the refrigerant that is inside the unit.

Notes:

• This function is allowed only if the unit has just been reconnected to the power supply and is not on. If the unit has already been started, this function is not available and system will output the warning message "Wrong operation!";
• This function must be used only by the technical service. Moreover, we remind you that this function is not saved to the memory.

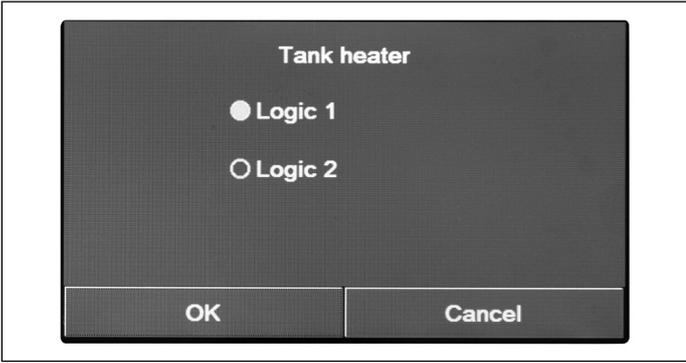## 7.19 Logic for managing water tank electric heater (Tank heater)

Fig. 48 "Tank heater" screen page

After opening the "Tank heater" function, user can select the logic to be used to manage water tank electric heater.

Available logics are as follows:

- **Logic 1**: the unit compressor and water tank electric heater can not work simultaneously;

- **Logic 2**: the unit compressor and water tank electric heater can work simultaneously.

Notes:

- If there is no storage tank, this function will not be available;
- This setting can be made only if the unit is off;
- To ensure utmost energy saving, we recommend use of Logic 1;
- This function can be saved in the event of a power failure;
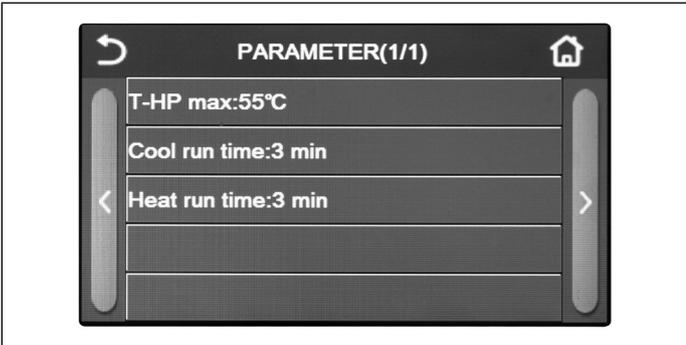- The default value is Tank heater: Logic 1.

7.20 Parameter setting

Fig. 49 "Parameter" screen page

Fig. 50 "T-HP max" Screen page

After opening the "Parameter" sub-menu, user reaches the screen page indicated in Fig. 49 "Parameter" screen page. Within this page, select the required option to open the corresponding page.

Within **"T HP max"** function (Fig. 50 "T-HP max" Screen page) and **"Heat Run Time"**, user can indicate until what temperature the water in the storage tank will be heated only by means of the heat pump. To set the required value, use "+" or "-" keys and enter a value within the allowed range.

The **"Cool Run Time"** function allows stabilising the terminal temperature as soon as the working set-point has been reached. It is recommended to set a higher value in case system terminals have a high thermal inertia, such as in case of a radiating floor.

After setting the value, press "OK" to confirm and unit will start operating according to the selected values.
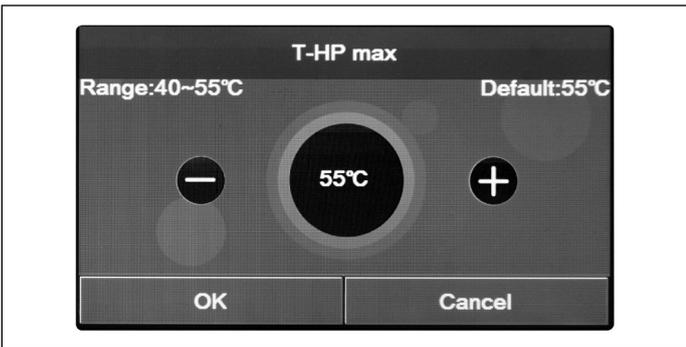
⚠ **WARNING**

These functions must be used only by the technical service and/or the installer.

Below is a table summarising all available parameters, with functions and operating ranges:

Displayed name	Possible values		Preset setting	Note
T-HP max	40 - 55°C	104 - 131°C	50°C/122°C	--

Displayed name	Possible values	Preset setting	Note
Cool Run Time	1 - 10 min	3 min (2-way valve disabled)	If set time for "Cool Run Time" parameter has expired and the temperature difference remains in the standby range, the unit will stop.
		5 min (2-way valve enabled)	
Heat Run Time	1 - 10 min	3 min (2-way valve disabled)	If set time for "Heat Run Time" parameter has expired and the temperature difference remains in the standby range, the unit will stop.
		5 min (2-way valve enabled)	

Notes:

• For parameters that have preset values in other conditions, whenever a condition changes, also the corresponding preset value will change accordingly;

• All parameters of this screen page will be saved in the event of a power failure.

8. GENERAL MENU
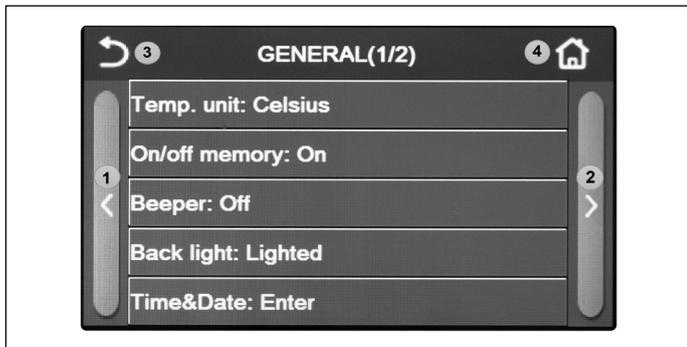
8.1 Navigating the menu

Fig. 51 Screen page 1 "General"

This menu allows user to set the values for machine set-up.
To navigate this menu, the system provides the following keys:
1. Go to previous page;
2. Go to the following page;
3. Go back to higher level menu;
4. Back to menu screen page (Home page).

To open a function, click on the corresponding text.

Note: while browsing through menu pages, the header (i.e. the top and darker area) will indicate the current page of the selected menu.
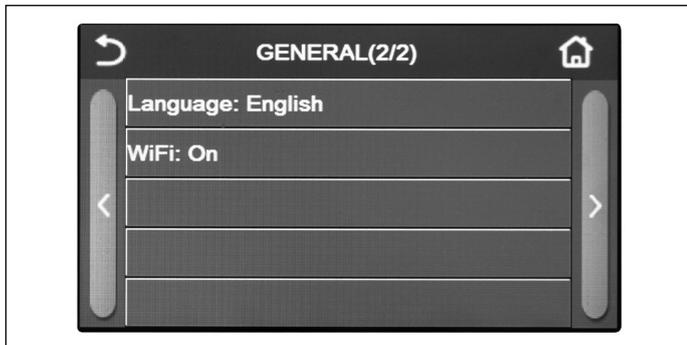

Fig. 52 Screen page 2 "General"

Available functions:

1. **Temp. unit**: it will be possible to change the unit of measurement for temperature (Celsius or Fahrenheit degrees);

2. **On/Off memory**: it will be possible to activate or deactivate the saving of settings concerning parameters and functions. If this option is activated, after a power failure the unit will automatically apply the values that have been set and saved to the memory.

3. **Beeper**: it will be possible to activate or deactivate the beeper identifying any touch on the display;

4. **Back light**: it will be possible to choose whether to use the "Lighted" logic (display always on), or the "Energy save" that will turn display off after 5 minutes of inactivity (press on display to turn it automatically back on).

5. **Time&Date**: It will be possible to set current date and time that system will use. When done, click key on top right-hand side to salve entered data.
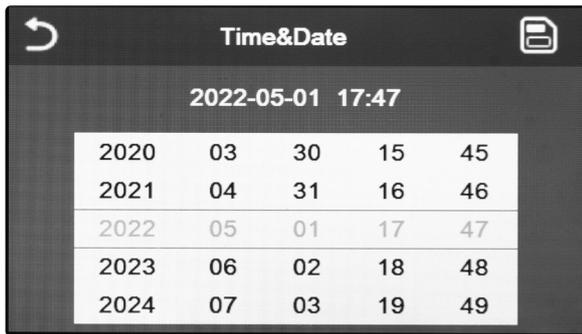
It will be possible to set current date and time that system will use. When done, click key on top right-hand side to salve entered data.

6. **Language**: it will be possible to choose the system language (Italian, English, Spanish, Dutch, French, German, Polish, Turkish, Hungarian, Lithuanian, Croatian, Czech, Finnish, Swedish, Serbian). Once the required item has been selected, press "OK" to confirm;

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