AERMEC

air conditioning

Water-cooled heat pump

USER MANUAL

WRL

EN

AERMEC

COMPANY QUALITY SYSTEM

ICIM

ISO 9001:2000 - Cert. n° 0128/5

CISQ IQNet

AERMEC S.P.A.

CE

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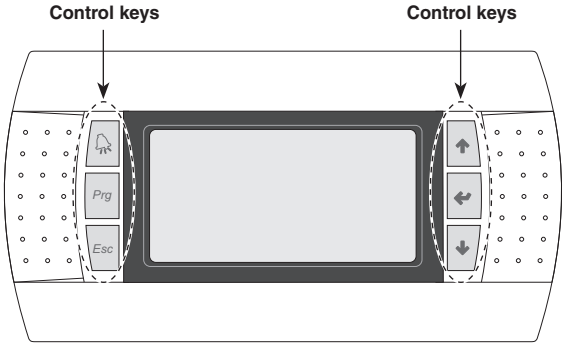
User interface (PGD1)

The WRL unit control panel allows quick setting of the machine functioning parameters and their display. All default settings and any modifications are memorised in the board. With the installation of the PGD1 remote panel, it is possible to repeat all functions and settings available on the machine from a distance. After a power cut, the unit can re-start automatically keeping the original settings.

The user interface is represented by a graphical display with six keys for navigation. The displays are organised via a menu hierarchy, which can be activated by pressing the navigation keys. The display default of these menus is represented by the main menu. Navigation through the various parameters takes place using the arrow keys positioned on the right of the panel. These keys are also used to modify the parameters selected.

• INTERFACE CONTROL KEYS:



Key	Function
	ALARMS key Displays the list of alarms and the alarms log (Red LED on = alarm active)
Prg	**MENU ACTIVATION key** • Pressing this key activates navigation among the menus; (Orange LED on = winter mode active)
Esc	**MENU EXIT key** • Pressing this key leads to the display of the previous window;
	NAVIGATION key (+) • Pressing this key during navigation through the menus/parameters, allows to pass to the next menu/parameter; • Pressing this key during parameter modification, increases the value of the parameter modified;
	NAVIGATION key (enter) • Pressing this key during navigation through the menus, allows to enter the selected menu; • Pressing this key during navigation through the parameters, allows to select the parameter displayed and enter the modification mode; • Pressing this key during parameter modification, confirms the modification to the value of the parameter selected;
	NAVIGATION key (-) • Pressing this key during navigation through the menus/parameters, allows to pass to the previous menu/parameter; • Pressing this key during parameter modification, decreases the value of the parameter modified;

Main display

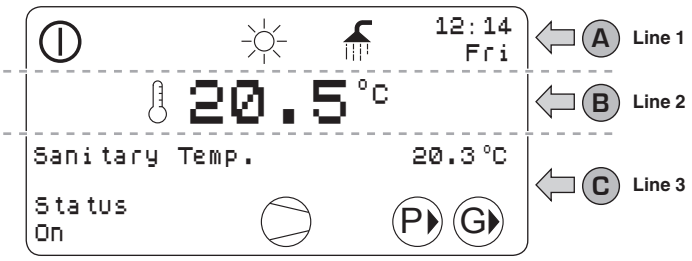
During normal functioning of the unit, the PGD1 panel display shows the standard window. This window contains the information on the system status and this information will allow the user to have a clear indication regarding functioning of the WRL unit as well as supply any error and/or malfunctioning messages.

The information displayed via the main window is divided into three distinct parts:
- Upper part of the display (Line 1);
- Central part of the display (Line 2);
- Lower part of the display (Line 3);

Different information can be displayed in each of these parts, on the basis of the functioning mode, the current state of the unit,the user settings etc.

To have a clear interpretation of the icons present in the main window, refer to the table at the side.

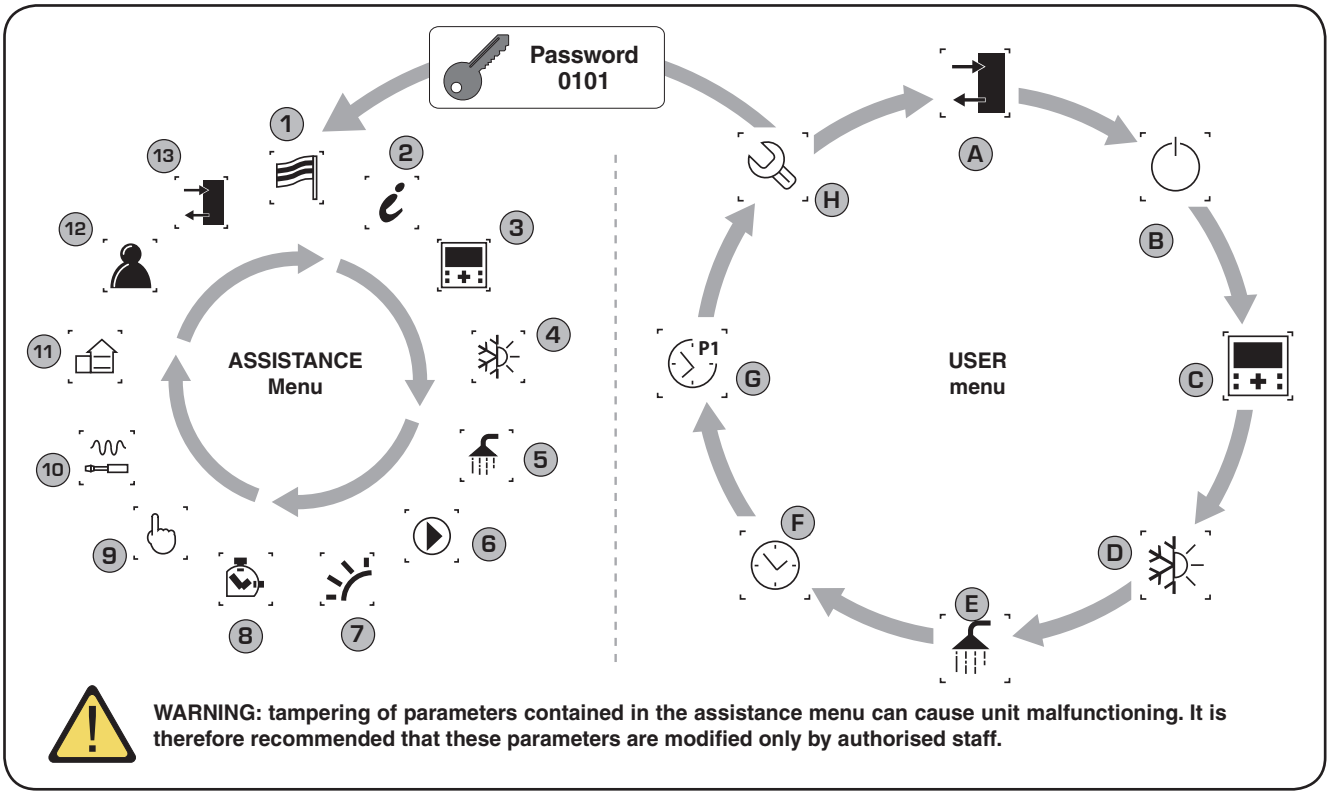
• MAIN WINDOW DISPLAY:



Line	Icons	Meaning
A		Indicates that the entire system (chiller, radiant panels, fan coils, solar kit, DHW) is enabled to function (ON state)
		Indicates that the system is set to function in heating mode
		Indicates that the system is set to function in cooling mode
		Indicates that the system envisions management of the DHW
	12:14 Fri	The time and day are displayed in the right part of the line
B		Indicates the return temperature from the system
C	DHW T.	If DHW management is enabled, the temperature detected inside the DHW storage tank is displayed.
	Status:	The state of the system is indicated in the left part of the line. This state can be: • ON = system active and functioning; • OFF = system off; • Alarm Off = a serious alarm is present that stops the system; • Super. Off = system supervision has prevented unit start-up; • Time period Off = the time periods set envision the system Off; • DigIN Off = The digital input (ID8) is closed, putting the system in OFF; • Protect = switch-off due to anti-freeze safety activation; • CH = cold water production; • Only HP = hot water; • DHW = domestic hot water production; • CH + DHC =domestic hot water + cold water production
		Indicates that the integration system (resistance or boiler) is active. If the integrative systems start-up simultaneously with any Solar collectors, only the icon relative to the latter will be displayed.
		Indicates that one or more Solar collectors are installed and active
		Indicates switch-on of the compressor/s Indicates the switch-on of the compressor/s (if there are several compressors active, more icons will be displayed).
	S	Indicates that the DHW circuit pump is active.
	S	Indicates the activation of the 3-way diverter valve in the systems with production of DHW, which envision it
	P	Indicates that the system circuit pump is active. If it flashes it means that the pump functions but the compressor has not yet started (normal working condition phase).
	G	Indicates that the geothermic/non-returnable water circuit is active. If it flashes it means that the pump functions but the compressor has not yet started (normal working condition phase).
	FC	Indicates that the freecooling accessory is active
		Indicates that the unit is operating in economy mode
		Indicates that you implement a preventive action
		Indicates that the unit is turned off by time slot

Menu structure and navigation

• STRUCTURE OF THE MENUS:



WARNING: tampering of parameters contained in the assistance menu can cause unit malfunctioning. It is therefore recommended that these parameters are modified only by authorised staff.

Index	Icon	Menu	Menu function
1		Language	Selecting the user interface language
2		Info	Information regarding the software
3		Areas	Areas assistance parameters
4		Chiller	Assistance parameters for the chiller
5		Domestic hot water	Assistance parameters for the DHW
6		Pumps	Assistance parameters for pumps
7		Solar	Assistance parameters for solar integration
8		Timer	Devices working hours timer
9		Manual	Manual controls forcing
10		Accessories	Enabling of accessories modules
11		PLANT CONF.	Definition of system features
12		Various	Setting assistance parameters
13		In/Out	Input and output states

The menu display is organised via the rotation of the icons that represent the same. Once the desired icon has been selected, enter the selected menu, thus allowing the display or modification of the parameters that make it up. The procedure for navigation of the menus or the modification of the parameters is explained in detail in the "Use operational procedures", to which reference can be made for further information.

Index	Icon	Menu	Menu function
A		Inputs outputs	Contains the information (temperature, pressure, etc.) of the system components
B		ON/OFF	Switches the unit on and off and sets its functioning mode (summer/winter)
C		Areas	Areas work set and time periods management (via STA/STH accessories)
D		Chiller	Management of the chiller parameters, standard/energy saving work set-point
E		Domestic hot water	DHW management parameters(set-point, consent, temperature, time periods, etc.)
F		Clock	Manages all parameters linked to the system time (hour, date, etc.)
G		Time periods	Manages programming of the programs to be actuated during the time periods
H		After-sales assistance	Protects the after-sales assistance menu with password request

Use operational procedures

To manage or modify the WRL unit operational parameters, the control board interface on the machine must be used. The fundamental operations that the user must be able to perform for correct use of the unit are:

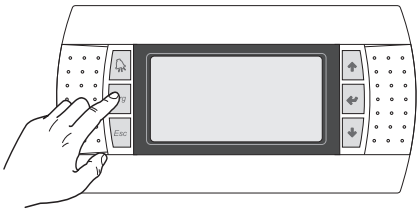
(1) To pass from one menu to another;

(2) To select and modify a parameter;
the parameters that can be modified by the set are identified in this manual by the ( ) icon;

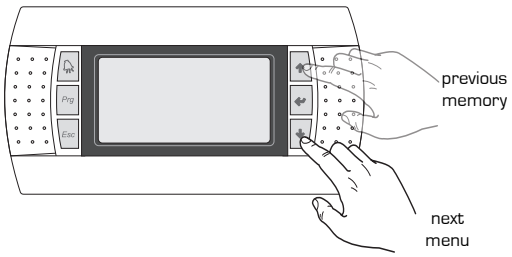
1

To pass from one menu to another

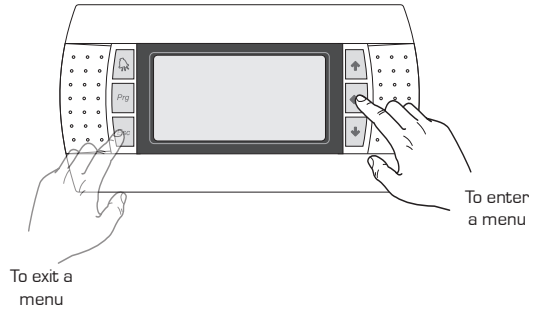
(a) In order to scroll the various menus (the order with which the menus are displayed is represented in the previous page) it is first necessary to enter the menu selection mode, pressing the [Prg] key;



(b) Once the menu selection mode has been entered, these can be scrolled using the arrow keys: the [↑] key to pass to the previous menu and the [↓] key to pass to the next menu;



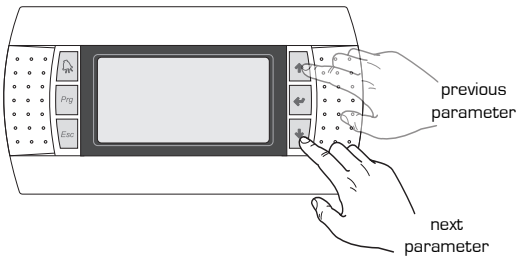
(c) When the desired menu is displayed, press the [↵] key to enter the menu. To exit the menu and go back to menu selection mode, press the [Esc] key;



2

To select and modify a parameter

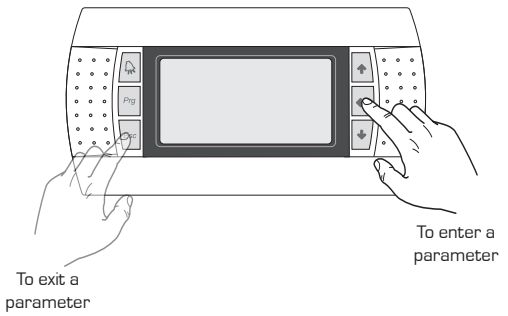
(a) Once the selected menu has been entered (following the procedure 1) it is possible to scroll the windows that make it up, using the arrow keys, using the [↑] key to pass to the previous parameter and the[↓] key to pass to the next parameter;



(c) When the desired parameter is displayed, press the [↵] key to enter the parameter. To exit the parameter and go back to parameters selection mode, press the [Esc] key;

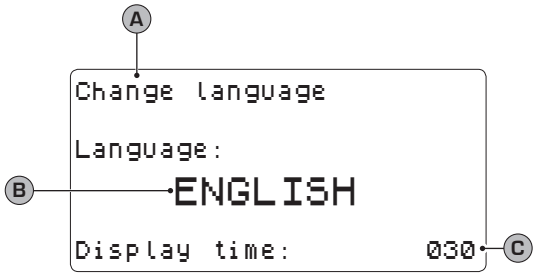
ATTENTION:
Once a parameter has been selected, press the [↵] key to automatically enter the modification mode of that parameter. From this mode it is possible to set the desired values for the parameters, following the procedure below:
(1) by pressing the [↵] key, a flashing cursor will appear near to the first field that can be modified of the parameter (if fields that can be modified do not appear, no cursor will appear);
(2) by pressing the [↑] key or the [↓]key the value in the field will be increased or decreased;
(3) by pressing the [↵] key, the modifications to the field value will be confirmed, saving in the memory;

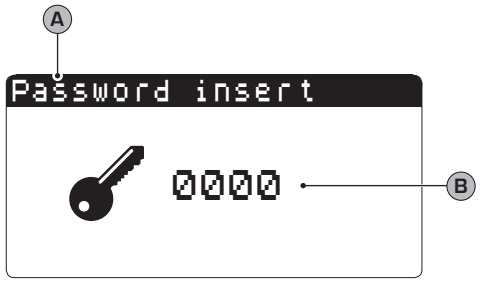
On the basis of the type of parameter selected, the number of fields that can be modified could vary;



WIZARD guided procedure (Password 0303)

On commissioning, the unit will request a series of basic information from the user, for a first setting of the operational parameters necessary for the correct functioning of the unit. This procedure must be carried out by the installer or a person with knowledge of the technical features of the unit and the system in which it is inserted. WARNING: until the guided procedure has bee completed, the unit will signal an alarm (code AL102); this alarm will disappear once the guided procedure has been completed correctly.

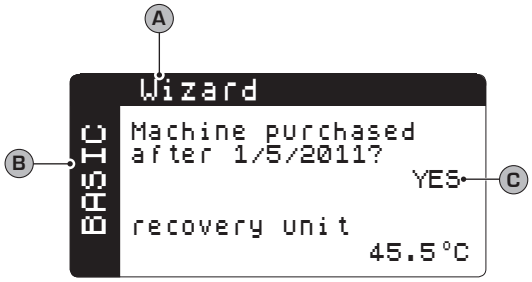
COMMISSIONING - Selection of system language		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	A	**Change language:** this window is the first to be displayed once the unit is powered. It can be used to select the language with which the software strings will be displayed.
	B	**Language:** indicates the language to be set in the unit.
	D	**Time for the choice of language:** Indicates the time available to the installer to select the default language, Once this time has expired, the language selected will be used as the system language (it will however be possible to change it via the relative menu, as indicated in the relative chapter).

COMMISSIONING - Selecting the WIZARD guided procedure		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	A	**Enter password:** this parameter allows to insert a specific password for access to an assistance menu.
	B	**Password:** this icon sets the password for entry to the WIZARD. **WARNING:** **• At the end of the guided procedure, the wizard password can be customised by the installer, who will keep the new password for future interventions;** **• The user is not enabled to modify and/or manage the parameters contained in the wizard, as these parameters could cause damage to the unit if set incoherently with the features of the unit;** **• The default password to allow the installer to access the menu WIZARD 0303 is in the case after having finished the wizard, you wanted to run it again, the installer must enter the password 0303 on the first screen menu HELP (Enter password protected menu)**

WIZARD Procedure - Setting the DHW circuit

Visualisation on unit display	Index	Display/Parameter
	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Basic:** this icon indicates that the parameter set in this window is relative to unit basic settings.
	C	**Type of DHW:** indicates the type of DHW control connected to the unit installed; this setting could be: • NOT PRESENT (means that the unit does not envision the production of DHW); • TOTAL RECOVERY UNIT (Means that the unit produces DHW using a total recovery unit mounted on the unit); • PRIORITY + VALVE (means that the DHW production takes place by piloting the request via the management of one 3-way diverter valve. In this case, the DHW production has priority with respect to system request); • PRIORITY + PUMP (means that the DHW production takes place by piloting the request via the management of two hydraulic pumps. In this case, the DHW production has priority with respect to system request).
Parameters that can be modified by the user		

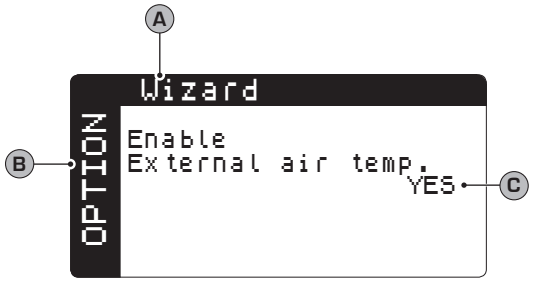
Procedure WIZARD - Set the type of total recovery

Visualisation on unit display	Index	Display/Parameter
	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Basic:** questa icona indica che il parametro impostato in questa finestra, è relativo alle impostazioni base dell'unità.
	C	**Date of Purchase Unit:** This parameter indicates whether the unit was purchased after 1/5/2011, as the total recovery units purchased after this date have a probe mounted in the heat exchanger.
Parameters that can be modified by the user		

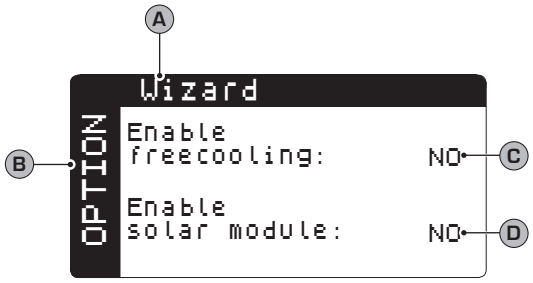
WIZARD procedure - To set the position of the system pump for hydraulic parallel

Visualisation on unit display	Index	Display/Parameter
	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Basic:** this icon indicates that the parameter set in this window is relative to unit basic settings.
	C	**System pump in winter side:** this parameter indicates the position of the system pump with respect to the valves for the hydraulic parallel (necessary only in models without cycle reverse on the cooling side); as its position imposes a particular logic for managing this pump. This position can be, with respect to the valves for hydraulic inversion: • DOWNSTREAM; • UPSTREAM.
Parameters that can be modified by the user		

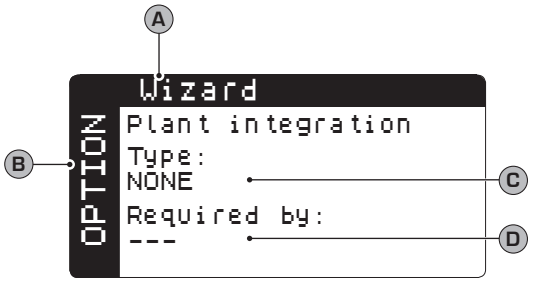
WIZARD procedure - Set the presence of the external air probe

Visualisation on unit display	Index	Display/Parameter
	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Option:** this icon indicates that the parameter set in this window is relative to the settings linked to the accessories relative to the unit installed.
	C	**External air temperature presence:** this parameter indicates whether the external air probe accessory has been installed (KSAE accessory). This setting can be: • YES (accessory installed); • NO (accessory not installed);
Parameters that can be modified by the user		

WIZARD procedure- To set the presence of the freecooling kit and solar kit

Visualisation on unit display	Index	Display/Parameter
	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Option:** this icon indicates that the parameter set in this window is relative to the settings linked to the accessories relative to the unit installed.
	C	**Freecooling kit presence:** this parameter indicates whether the freecooling kit accessory has been installed. This setting can be: • YES (accessory installed); • NO (accessory not installed);
	D	**Solar kit presence:** this parameter indicates whether the solar kit accessory has been installed. This setting can be: • YES (accessory installed); • NO (accessory not installed);
Parameters that can be modified by the user		

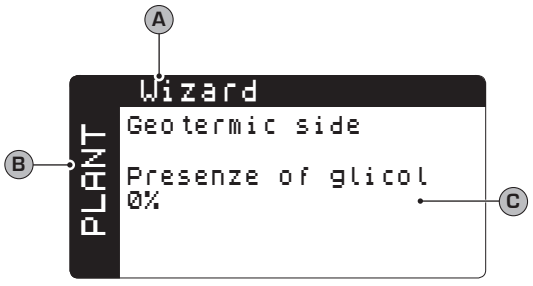
WIZARD Procedure - Set the system integration

Visualisation on unit display	Index	Display/Parameter
	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Option:** this icon indicates that the parameter set in this window is relative to the settings linked to the accessories relative to the unit installed.
	C	**Type of integration:** this parameter indicates the type (if present) of integration given to the DHW production for the system. This type of integration can be: • NONE (system integration not present); • BOILER (integration from boiler); • ELECTRIC RESISTANCE (integration from electric resistance).
	D	**Requested as:** this parameter indicates the type of management regarding the source of integration. This type of management can be: • INTEGRATION to HP (the integration logic is signalled, i.e. management which, in specific cases, envisions the combined use of heat pumps and source of integration); • REPLACEMENT at HP (the replacement logic is selected, i.e. management which, in specific cases, envisions thus use of just one source of integration in replacement of the heat pump).
Parameters that can be modified by the user		

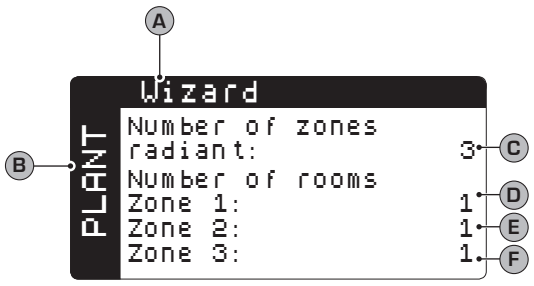
WIZARD Procedure - Set the DHW integration		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Option:** this icon indicates that the parameter set in this window is relative to the settings linked to the accessories relative to the unit installed.
	C	**Type of integration:** this parameter indicates the type (if present) of integration given to the DHW production. This type of integration can be: • NONE (system integration not present); • BOILER (integration from boiler); • ELECTRIC RESISTANCE (integration from electric resistance).
	D	**Requested as:** this parameter indicates the type of management regarding the source of integration. This type of management can be: • INTEGRATION to HP (the integration logic is signalled, i.e. management which, in specific cases, envisions the combined use of heat pumps and source of integration); • REPLACEMENT at HP (the replacement logic is selected, i.e. management which, in specific cases, envisions thus use of just one source of integration in replacement of the heat pump).
Parameters that can be modified by the user		

WIZARD Procedure- To set the type of terminals in heating mode		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Plant:** this icon indicates that the parameter set in this window is relative to the settings linked to the system.
	C	**Heating with:** this parameter indicates the type of terminals used for heating, indicating the device installed, the heating work set-point is set automatically: • RADIANT (i.e. the presence of radiant panels is specified for heating, set at 35°C); • FANCOILS (i.e. the presence of fancoils is specified for heating, set at 45°C); • RADIATORS (i.e. the presence of radiators is specified for heating, set at 55°C); • MIXED (i.e. the utility presence whose work set-point in heating mode is compatible with 45°C is specified); In the event of mixed system (for examples fancoils plus radiant panels), the device that requests water at a higher temperature must be indicated. Moreover, it is necessary to remember that the fancoil terminals and the radiators cannot be managed via the STA and STH accessories but must be managed by dedicated thermostats, which are not supplied.
Parameters that can be modified by the user		

WIZARD Procedure - To set the type of terminals in cooling mode		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	**A**	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Plant:** this icon indicates that the parameter set in this window is relative to the settings linked to the system.
	C	**Cooling with:** this parameter indicates the type of terminals used for cooling, indicating the device installed, the cooling work set-point is set automatically: • RADIANT (i.e. the presence of radiant panels is specified for cooling, set at 17°C, evaporator anti-freeze set 4°C); • FANCOILS (i.e. the presence of fan coils is specified for cooling, set at 12°C, evaporator anti-freeze set 4°C); • RADIATORS (i.e. the presence of radiators is specified for cooling, set at 12°C, evaporator anti-freeze set 4°C); • 0% GLYCOL WATER (i.e. the presence of cooling devices is specified for cooling, suitable to function with set-point set at 7°C, evaporator anti-freeze set 4°C); • 10% GLYCOL WATER (i.e. the presence of cooling devices is specified for cooling, suitable to function with 10% glycoled water, set-point set at 7°C, evaporator anti-freeze set -10°C); • 20% GLYCOL WATER (i.e. the presence of cooling devices is specified for cooling, suitable to function with 20% glycoled water, set-point set at 7°C, evaporator anti-freeze set -10°C); • GLYCOL WATER >20% (i.e. the presence of cooling devices is specified for cooling, suitable to function at > 20% glycoled water, set-point set at 7°C, evaporator anti-freeze set -10°C).

WIZARD Procedure - Setting the anti-freeze set on the geothermic side		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	**A**	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Plant:** this icon indicates that the parameter set in this window is relative to the settings linked to the system.
	C	**Glycol percentage:** this parameter indicates the percentage of glycol used in the water in the geothermic circuit. By setting this percentage the anti-freeze threshold is set automatically on the geothermic side, suitable: • 0% (No glycol is inserted in the circuit geothermic; 4°C geothermic anti-freeze set); • 10% (Mixture with glycol at 10% in the circuit geothermic; -1°C geothermic anti-freeze set); • 20% (Mixture with glycol at 20% in the circuit geothermic; -10°C geothermic anti-freeze set);

WIZARD Procedure - To set the number of areas and rooms

Visualisation on unit display	Index	Display/Parameter
	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Plant:** this icon indicates that the parameter set in this window is relative to the settings linked to the system.
	C	**Number of areas:** this parameter indicates the number of areas managed by the unit electronics. Remember that the standard unit can manage just one area (also remember that area 1 can have just one room) and if 2 or 3 areas are to be managed the VMFCRP accessory must be purchased and assembled. On the basis of the value specified in this parameter, some following windows may not be displayed.
	D	**Number of Area 1 rooms:** this parameter indicates the number of rooms that make up area 1. This area is managed by the standard unit without necessity of the additional module (VMFCRP accessory). The feature of this area is that of not being able to envision more rooms, but can be managed with the use of a STA or STH accessory thermostat, or without. To select the type of installation envisioned, the value of the parameter must be set as: • 0 (area without room thermostat); • 1 (area with STA or STH thermostat).
	E	**Number of Area 2 rooms:** this parameter indicates the number of rooms that make up area 2 (in this case, the unit cannot manage al loads involved, and it is necessary to envision a VMFCRP accessory, as well as a STA or STH for every room supplied with radiant panels); this value can be: • 0 (the area is served by different terminals to the radiant panels, therefore this area does not envision the STA/H accessories); • 1 (the area is served by a radiant panel and is formed by just one room); • 2 (the area is served by radiant panels and is formed by two rooms);
	F	**Area 3:** this parameter indicates the number of rooms that make up area 3 (in this case, the unit cannot manage all loads involved, and it is necessary to envision a VMFCRP accessory, as well as a STA or STH for every room supplied with radiant panels); this value can be: • 0 (the area is served by different terminals to the radiant panels, therefore this area does not envision the STA/H accessories); • 1 (the area is served by a radiant panel and is formed by just one room); • 2 (the area is served by radiant panels and is formed by two rooms);

Parameters that can be modified by the user

WIZARD procedure - To set area 1 thermostat (if present)

Visualisation on unit display	Index	Display/Parameter
	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Plant:** this icon indicates that the parameter set in this window is relative to the settings linked to the system.
	C	**Type of device:** this parameter indicates that the room displayed is supplied with a STA or STH accessory room thermostat.
	D	**Room probe:** this parameter indicates the type of room thermostat used. The values that can be set are: • TEMPERATURE ONLY (indicates that the accessory thermostat used for the room displayed is a STA); • TEMPERATURE/HUMIDITY (indicates that the accessory thermostat for the room displayed is a STH);

Parameters that can be modified by the user

WIZARD procedure - To set area 2 thermostat (if present)		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	**A**	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Plant:** this icon indicates that the parameter set in this window is relative to the settings linked to the system.
	C	**Type of device:** this parameter indicates that the room displayed is supplied with a STA or STH accessory room thermostat.
	D	**Room probe:** this parameter indicates the type of room thermostat used. The values that can be set are: • TEMPERATURE ONLY (indicates that the accessory thermostat used for the room displayed is a STA); • TEMPERATURE/HUMIDITY (indicates that the accessory thermostat for the room displayed is a STH);

WIZARD procedure - To set area 3 thermostat (if present)		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	**A**	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Plant:** this icon indicates that the parameter set in this window is relative to the settings linked to the system.
	C	**Type of device:** this parameter indicates that the room displayed is supplied with a STA or STH accessory room thermostat.
	D	**Room probe:** this parameter indicates the type of room thermostat used. The values that can be set are: • TEMPERATURE ONLY (indicates that the accessory thermostat used for the room displayed is a STA); • TEMPERATURE/HUMIDITY (indicates that the accessory thermostat for the room displayed is a STH);

WIZARD procedure - To set the label for room 1 (if present)		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	**A**	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Plant:** this icon indicates that the parameter set in this window is relative to the settings linked to the system.
	C	**Room name:** this parameter allows to change the name associated to room 1 of area 1;

WIZARD procedure - To set the label for room 2 (if present)

Visualisation on unit display	Index	Display/Parameter
	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Plant:** this icon indicates that the parameter set in this window is relative to the settings linked to the system.
	C	**Room name:** this parameter allows to change the name associated to room 1 of area 2;
Parameters that can be modified by the user		

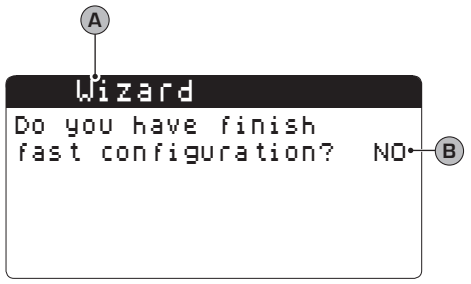
WIZARD procedure - To set the label for room 3 (if present)

Visualisation on unit display	Index	Display/Parameter
	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Plant:** this icon indicates that the parameter set in this window is relative to the settings linked to the system.
	C	**Room name:** this parameter allows to change the name associated to room 1 of area 3;
Parameters that can be modified by the user		

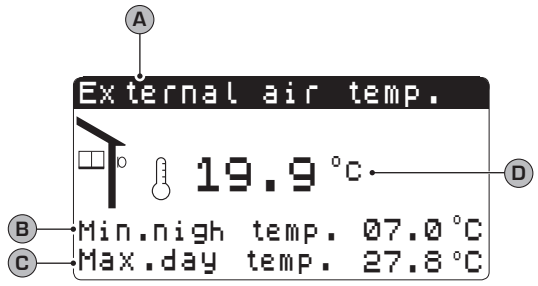
WIZARD Procedure - Setting protocol for BMS

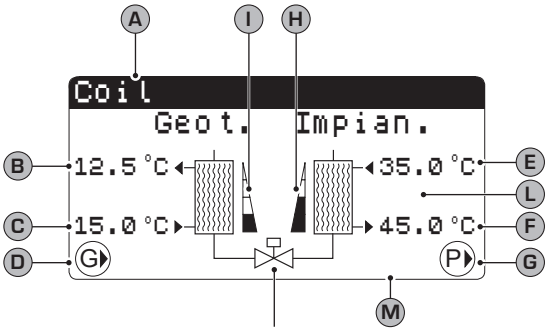
Visualisation on unit display	Index	Display/Parameter
	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Options:** this icon indicates that the parameter set in this window is relative to the optional settings.
	C	**Type of communication protocol:** this parameter indicates the type of protocol for the communication with BMS system, this protocol can be: • — (no protocol); • Carel 485; • ModBus RS485; • VMF.
	D	**Speed:** this parameter sets the communication speed with the BMS system.
Parameters that can be modified by the user	E	**Address:** this parameter sets the address with which the unit is identified regarding the BMS supervision system. **If the chiller is inserted on a VMF system, the address to assign is: 200**

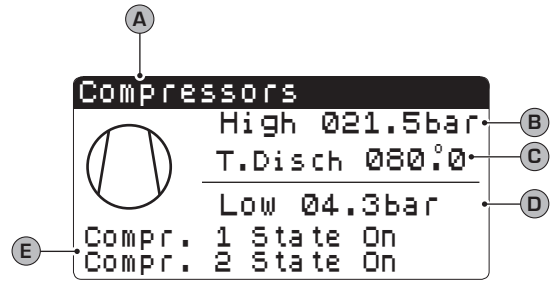
WIZARD Procedure - Customisation of the password for assistance menu		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Options:** this icon indicates that the parameter set in this window is relative to the optional settings.
	C	**Change assistance password:** this parameter offers the possibility to change the password to the assistance menu, offering the installer a way of protecting the sensitive parameters from any unallowed access.
	D	**Enter old password:** if the previous parameter is set with "YES", this parameter must be set with the current password value (this control ensures that the setting of the new password is made by authorised staff). Once entered correctly, the new password can be inserted.

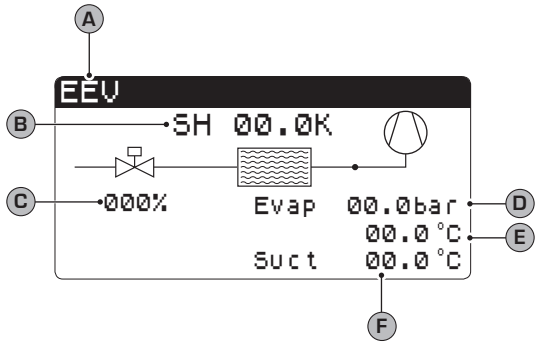
WIZARD Procedure - Confirms conclusion of the guided procedure		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	A	**Wizard:** the parameters involved in the guided procedure are set in this window.
	B	**Fast configuration ended:** this parameter allows to save the settings selected during the guided procedure. Once this parameter is set with "YES", the unit will enter its normal work phase, working according to the settings specified. **If the guided procedure is to be repeated, select the ASSISTANCE MENU again and enter password 0303.** **WARNING: THE OPERATIONS LINKED TO THE GUIDED PROCEDURE AND ALL PARAMETERS PROTECTED BY PASSWORD MUST BE CARRIED OUT BY AUTHORISED STAFF.**

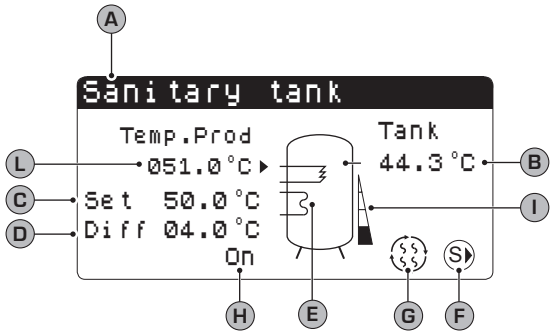
INPUTS/OUTPUTS parameters

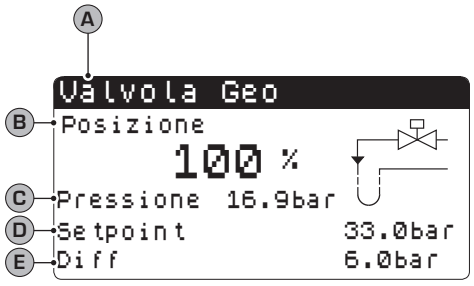
INPUTS/OUTPUTS menu - Information regarding external temperature		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**External air temperature:** the data relative to the external temperature detected via the KSAE external air probe accessory are displayed in this window. If this accessory is not present, the window will not be displayed.
	B	**Minimum night:** indicates the minimum value detected by the external air probe during the night (available if the KSAE accessory is present).
	C	**Maximum day:** indicates the maximum value detected by the external air probe during the day (available if the KSAE accessory is present).
	D	**External temperature:** Indicates the external temperature currently detected by the external air probe (available if the KSAE accessory is present).

INPUTS/OUTPUTS menu - Heat exchangers input/output temperature		
Visualisation on unit display	**Index**	**Display/Parameter**
 Nel caso la valvola sia in tensione, la testa della stessa diventa nera (nel funzionamento a freddo tale valvola NON è in tensione, mentre lo è nel funzionamento a caldo)	**A**	**Heat exchanger:** this window displays the data relative to the input and output temperature of the system and geothermic side plate heat exchangers.
	B	**Geothermic side heat exchanger output temperature:** indicates the temperature value read in output at the heat exchanger.
	C	**Geothermic side heat exchanger input temperature:** indicates the temperature value read in entry to the heat exchanger.
	D	**Geothermic side pump:** if the icon is displayed, it indicates that the geothermic side pump is operating.
	E	**System side heat exchanger input temperature:** indicates the temperature value read in entry to the heat exchanger.
	F	**Output side heat exchanger input temperature:** indicates the temperature value read at outlet of the heat exchanger. If the system detects the opening of the flow switch, the icon will be displayed.
	G	**System side pump:** if the icon Ⓕ is displayed, it indicates that the system side pump is operating.
	H-I	**Heat exchanger requested power:** indicates graphically the power level requested to the heat exchanger and condenser.
	L	**Prevention:** Prevention indicates the states of being: • = preventing low temperature output system; • = preventing high temperature in plant output.
	M	**Frost Resistance:** indicates that the antifreeze is active for low temperature.

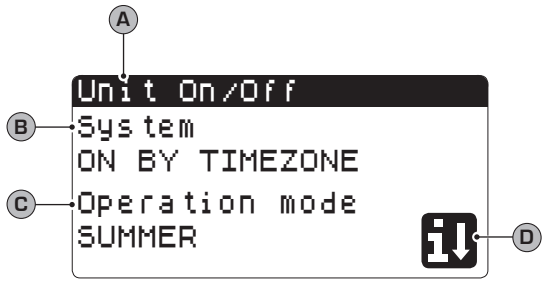
INPUTS/OUTPUTS menu - Compressors work pressure and temperature		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Compressors:** this window displays the data relative to the compressor state.
	B	**High pressure:** indicates the pressure value read in flow to the compressor.
	C	**Flow temperature:** indicates the temperature value read in flow to the compressor.
	D	**Low pressure:** indicates the pressure value read in intake at the compressor.
	G	**Compressor status:** indicates the state of the compressor: • On, • Off, • Min.On (on for minimum functioning time), • Min.Off (off for minimum switch-off time), • Manual. (forced switch-on) • Alarm

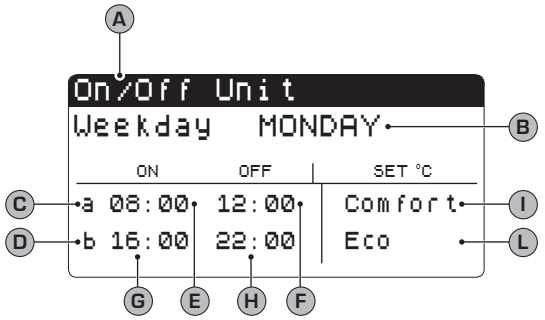
INPUTS/OUTPUTS menu - State of the expansion valve (EEV)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**EEV:** this window displays the data relative to the system electronic expansion valve.
	B	**Overheating temperature:** indicates the current overheating temperature.
	C	**Percentage opening of the electric valve:** indicates the percentage opening value of the electronic valve:
	D	**Intake pressure at the electronic valve:** indicates the pressure value read at the input to the electronic valve.
	E	**Intake temperature at the electronic valve:** indicates the temperature value at the input to the electronic valve.
	F	**Output temperature from the electronic valve:** indicates the temperature value at the output to the electronic valve.

INPUTS/OUTPUTS menu - State of the DHW storage tank		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**DHW storage tank:** this window displays the data relative to the DHW storage tank.
	B	**DHW storage tank temperature:** indicates the current temperature detected inside the storage tank.
	C	**Set-point for the production of DHW:** indicates the value set by the user for the production of DHW.
	D	**Domestic hot water production differential:** indicates the value set by the user for the differential on the set-point for the production of DHW.
	E	**DHW storage tank electric resistance:** indicates that the electric resistance in the DHW storage tank is active.
	F	**DHW pump:** If the icon indicates the health of the pump: • (S) = DHW pump activated; • = units of time slot; • = the pump is forced to make up for low pressure.
	G	**Antilegionella:** if the icon is displayed, it indicates that the antilegionella cycle is in progress.
	H	**DHW status:** indicates some particular states relative to the DHW production: • On/Alarm (entire system on/system in alarm) • Off comp. / Off Unit (compressor in off/Unit off) • Off Board/Off Keyb (unit of from time period/unit off from keyboard)
	I	**Power required by the health care:** this shows the percentage (0% - 100%) power required by the health sector.
	L	**Produced water temperature:** indicate the temperature of the water produced by the unit for domestic hot water circuit.

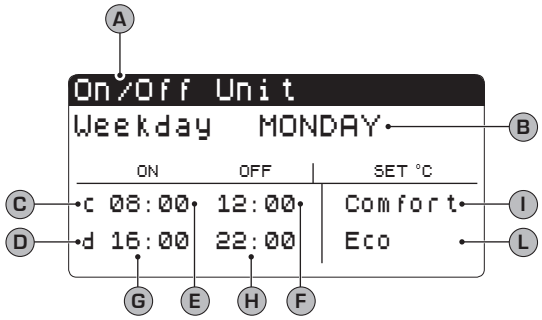
INPUTS/OUTPUTS menu - State of the valve on the geothermic side		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Geothermic valve** this window displays data relative to the status of the 2-way valve, placed on the geothermic side.
	B	**Position:** indicates the percentage opening value of the valve:
	C	**Pressure:** indicates the current pressure value detected by the high pressure transducer.
	D	**Set-point:** indicates the work set point for the geothermic side; this value is normally expressed in pressure; although this screen can indicate temperature values if the geothermic management logic provides it.
	E	**Geothermic differential:** indicates the value set as differential on the geothermic set-point.

ON/OFF parameters

ON/OFF menu - Unit switch-on/off and settings on the functioning mode		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Unit On/Off:** the data relative to the state of the unit and its functioning mode are set in this window.
	B	**System:** this parameter sets the state of the unit, The user can select one of the following states: • OFF = (unit off); • ON (unit on); • ECONOMY (unit on, but selection of the work set-points reduced due to energy saving mode); • ON BY TIMEZOME (functioning in agreement with the time periods set; this setting enables the display of the icon (D) and the relative masks for setting the time periods.
	C	**Functioning:** This parameter sets the functioning mode with which the unit is made to work; these modes can be: • Summer (production of refrigerated water) • Winter (production of hot water); • DHW only (this mode envisions that the unit works only for the production of DHW). • Auto with external temperature (if the external air probe accessory is present).
	D	**Time periods active:** Indicates that the unit will function in agreement with the time periods set in the successive masks of this menu. If the parameter (B) of this window is set differently to AUTO, this icon will not be displayed and the time periods will be disabled.
Parameters that can be modified by the user		

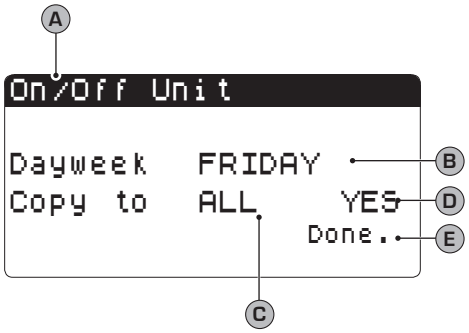
ON/OFF menu - Setting time periods (a) and (b)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Unit On/Off:** the data relative to time periods (a) and (b) are set in this window.
	B	**Day:** this parameter indicates the day of the week to which the programming of time periods (a) and (b) refer. The time periods setting is memorised for every day of the week, therefore selecting one day will set the hours of the time periods (a) and (b) ONLY for the day selected. The remaining days must be selected and the data entered for each one. Moreover, it is possible to set the time periods (a) and (b) for the HOLIDAY action (for further information on the action concept, refer to the calendar function).
	C	**Time period (a):** This line contains the data relative to the 1st time period.
	D	**Time period (b):** This line contains the data relative to the 2nd time period.
	E	**period ON (a):** used to set the period switch-on time (a).
	F	**period OFF (a):** used to set the period switch-off time (a).
	G	**period ON (b):** used to set the period switch-on time (b).
	H	**period OFF (b):** used to set the period switch-off time (b).
	I	**Time period work set (a):** used to set the type of set-point for the unit during execution of the time period (a): • Comfort (NORMAL set-point); • Eco (ENERGY SAVE mode set-point);
	L	**Time period work set (b):** used to set the type of set-point for the unit during execution of the time period (b): • Comfort (NORMAL set-point); • Eco (ENERGY SAVE mode set-point);
Parameters that can be modified by the user		

ON/OFF menu - Setting time periods (c) and (d)

Visualisation on unit display	Index	Display/Parameter
	A	**Unit On/Off:** the data relative to time periods (c) and (d) are set in this window.
	B	**Day:** this parameter indicates the day of the week to which the programming of time periods (c) and (d) refer. The time periods setting is memorised for every day of the week, therefore selecting one day will set the hours of the time periods (c) and (d) ONLY for the day selected. The remaining days must be selected and the data entered for each one. Moreover, it is possible to set the time periods (c) and (d) for the HOLIDAY action (for further information on the action concept, refer to the calendar function).
	C	**Time period (c):** This line contains the data relative to the 1st time period.
	D	**Time period (d):** This line contains the data relative to the 2nd time period.
	E	**period ON (c):** used to set the period switch-on time (a).
	F	**period OFF (c):** used to set the period switch-off time (a).
	G	**period ON (d):** used to set the period switch-on time (b).
	H	**period OFF (d):** used to set the period switch-off time (b).
	I	**Time period work set (c):** used to set the type of set-point for the unit during execution of the time period (c): • Comfort (NORMAL set-point); • Eco (ENERGY SAVE mode set-point);
	L	**Time period work set (d):** used to set the type of set-point for the unit during execution of the time period (d): • Comfort (NORMAL set-point); • Eco (ENERGY SAVE mode set-point);

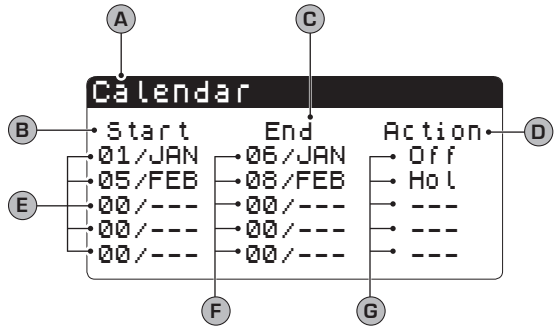
Parameters that can be modified by the user

ON/OFF menu- Copy time period data function

Visualisation on unit display	Index	Display/Parameter
	A	**Unit On/Off:** in this window it is possible to select the settings on the time periods set for a particular day of the week and copy them into one or more days of the week.
	B	**Day:** this parameter indicates from which day of the week the four time periods are to be copied.
	C	**Copy in:** used to specify in which day the settings selected in the parameter (B) are to be copied. The settings that can be supplied for this parameter are: • An individual day of the week (Monday, Tuesday, etc.); • ALL (the setting will be copied onto all days of the week and onto the HOLIDAY action); • HOLIDAY (the settings selected will be copied only onto the HOLIDAY action); If the setting is to be copied onto to two days, for example, the copy procedure must be performed individually on both.
	D	**Confirm:** this parameter (whose default is the "NO" string) starts the copy procedure as soon as the value is changed with the "YES" string.
	D	**Confirmation message:** once the settings have been copied, the "Done" confirmation string will appear and then disappear after a few seconds.

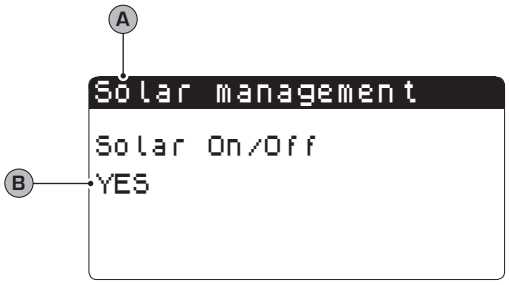
Parameters that can be modified by the user

ON/OFF menu - Setting the calendar function

Visualisation on unit display	Index	Display/Parameter
	A	**Calendar:** the actions to perform in the calendar function are set in this window. This function allows to set 5 periods specifying the duration in days and connecting a specific action to perform to each of these.
	B	**Start:** Indicates the start date for the 5 periods that can be set.
	C	**End:** Indicates the end date for the 5 periods that can be set.
	D	**Action:** indicates which actions to perform for one of 5 periods that can be set in the calendar.
	E	**Time periods start date:** these parameters specify the start date (day/month) for every period. If 00/00 is set as start and end date, this period results disabled.
	F	**Time periods end date:** these parameters specify the end date (day/month) for every period. If 00/00 is set as start and end date, this period results disabled.
	G	**Actions set for the time periods:** these parameters specify the action to perform in correspondence with the periods set. The actions can be: • Off (unit switch-off during the period selected); • Hol (the settings relative to the time periods specified for the "HOLIDAY" day will be performed for every day of the period selected); • — (no action).

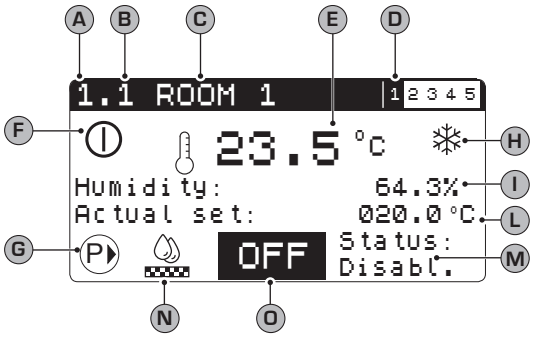
Parameters that can be modified by the user

ON/OFF menu- Settings for solar kit management

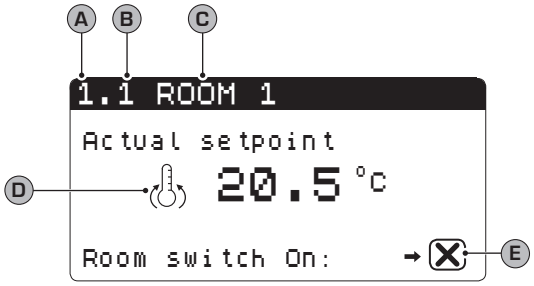
Visualisation on unit display	Index	Display/Parameter
	A	**Solar management:** solar kit management is enabled in this window.
	B	**Solar enabling:** this parameter enables the management of the solar kit. To enable this accessory, it is necessary to set this parameter with the "YES" string.

Parameters that can be modified by the user

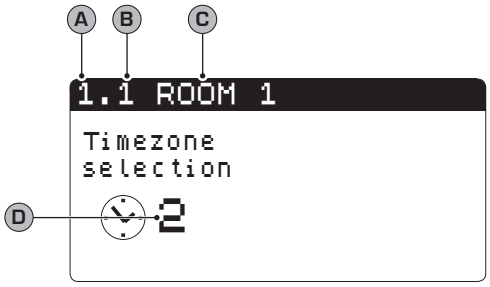
ZONE parameters

ZONE menu - Display of AREAS parameters		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Areas index:** this parameter indicates to which area the current data displayed refer.
	B	**Room index:** this parameter indicates to which room (within the area specified) the current data displayed refers.
	C	**Room label:** this parameter indicates the name with which the room to which the data displayed refers.
	D	**Hourly program active for the room:** this parameter indicates which hourly program has been selected for the room displayed. The hourly programs set a set-point on the basis of the internal clock and on the basis of the parameters relative to that program (remember that the time periods have PRIORITY with respect to hourly programs, therefore if the unit is in OFF from time period, it cannot be switched on also if the hourly program should request).
	E	**Room air temperature:** this parameter indicates the temperature of the air detected in the room currently displayed.
	F	**Functioning state:** this symbol indicates that the room is enabled for functioning (ON state).
	G	**Heating capacity request state:** this symbol indicates that the area is requesting heating capacity to the unit (HEATING or COOLING on the basis of functioning settings).
	H	**Season:** indicates which season is active for the room currently displayed.
	I	**Humidity detected:** if the STH accessory is installed in the room displayed (area panel with humidity sensor), the humidity value detected in the room is displayed.
	L	**Room set-point:** this parameter indicates the set-point activated for the room displayed.
	M	**State of the room:** indicates the state in which the room is found. This state can be: • On = (room active and functioning); • Alarm Off (room off due to an alarm relative to the room itself); • Unit. Off (the system unit sets the areas in OFF); • Disabl. (the room is not configured); • Off Board (room off from hourly programming); • Off key (room switched off by user).
	N	**Humidity of the room:** indicates that dehumidification is in progress in the room currently displayed.
	O	**Room state icon:** this icon indicates the current state of the room. These states can be: • Room disabled, indicated by the symbol ([OFF]); • Room OFF hourly programming , indicated by the symbol ([ ]); • Room ON, indicated by the symbol ([ ]).

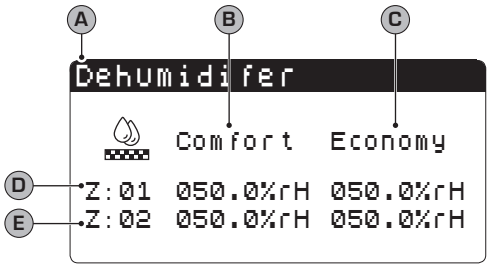
ZONE menu - Setting AREA set-point

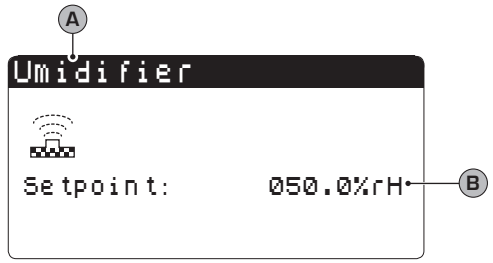
Visualisation on unit display	Index	Display/Parameter
	A	**Areas index:** this parameter indicates to which area the current data displayed refer.
	B	**Room index:** this parameter indicates to which room (within the area specified) the data displayed refers.
	C	**Room label:** this parameter indicates the name with which the room to which the data currently displayed refers.
	D	**Room set-point:** this parameter indicates the work set-point for the room displayed. Any manual modification of the set-point will be zeroed at program change.
	E	**Enabling the room:** this flag enables or disables the room not instantly switching the room on but making the same active according to the settings of the hourly program linked to the same.
Parameters that can be modified by the user		

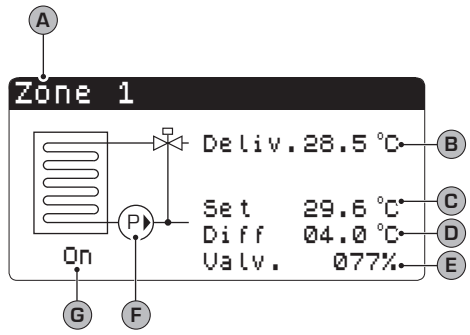
ZONE menu - Setting the program time linked to the area

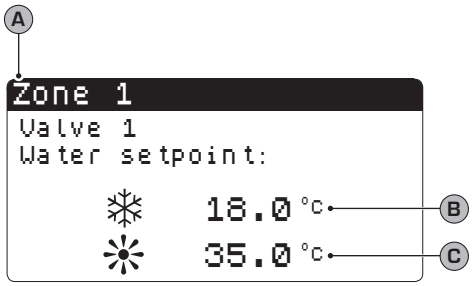
Visualisation on unit display	Index	Display/Parameter
	A	**Areas index:** this parameter indicates to which area the current data displayed refer.
	B	**Room index:** this parameter indicates to which room (within the area specified) the current data displayed refers.
	C	**Room label:** this parameter indicates the name with which the room to which the data currently displayed refers.
	D	**Area time program:** this parameter indicates which hourly program to associate to the room currently selected. Up to five hourly programs are available (can be set in the clock menu) each of which can be selected and associated to a room.
Parameters that can be modified by the user		

ZONE menu - Setting the area dehumidification set-points

Visualisation on unit display	Index	Display/Parameter
	A	**Dehumidifier:** this parameter indicates the dehumidification values to be adopted in the various modes.
	B	**Comfort:** this column states the dehumidification set (expressed as a relative humidity percentage) to use if active in the comfort mode area.
	C	**Economy:** this column states the dehumidification set (expressed as a relative humidity percentage) to use if active in the economy mode area.
	D - E	**Zones:** every line represents the dehumidification sets in the various modes, the area are distinguished by the code = Z:area number for every area active in the system.
Parameters that can be modified by the user		

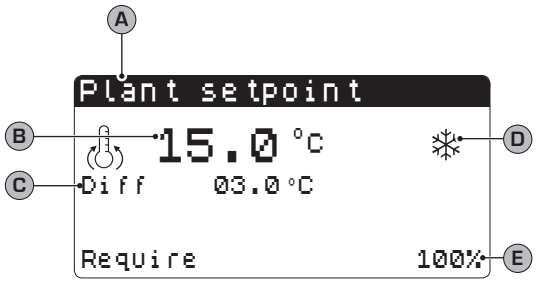
ZONE menu - Setting the area dehumidification set-points		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Humidifier:** this parameter indicates what is the humidity value to reach.
	B	**Set-point:** this parameter indicates what is the humidity value to reach in the areas where humidity control is active.
Parameters that can be modified by the use		

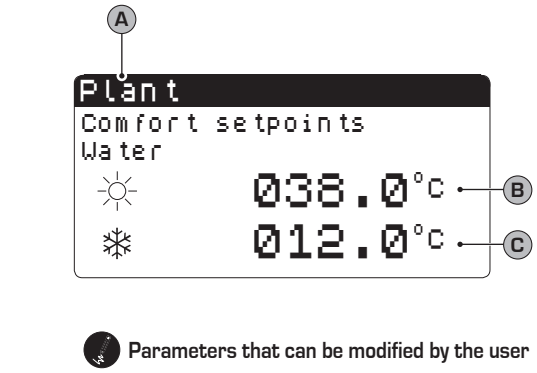
ZONE menu - Information regarding the state of the areas		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Area 1:** this parameter indicates to which area the data displayed refer. If several areas are present, this window will be repeated for all areas installed.
	B	**Deliv.:** this parameter indicates the temperature of the area inlet water (measured after the mixing valve).
	C	**Set:** this parameter indicates the set-point active for the area displayed. If the climatic curve function has been activated (function that can be activated in the AREAS (assistance) menu), this set may not maintain a fixed value, but continue to vary (on the basis of that calculated by the regulation).
	D	**Diff:** this parameter indicates the differential applied to the area set-point.
	E	**Valv.:** this parameter indicates the opening percentage of the mixing valve on the circuit displayed.
	F	**Pump:** if this icon is displayed, it indicates that the pump of the area indicated is active.
	G	**State:** this parameter indicates what is the status of the area displayed; this status can be: • On (area active); • Alarm (alarm active on the area); • Disabl. (area disabled); • Rooms Off (area not active); • Off Rem (unit off from remote control); • Unit Off.

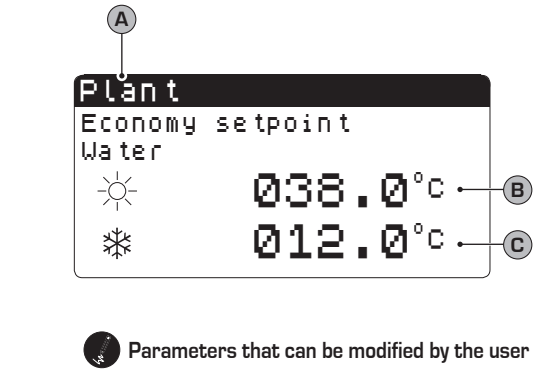
ZONE menu - Setting cooling AREA set-point		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the use	**A**	**Areas index:** this parameter indicates to which area the data currently displayed refers. If several areas are set, several masks will be displayed successively, each of which will have a number that indicates to which area reference is being made.
	B	**Water set-point valve:** this value represents the cooling work set-point for the area to which reference is made; ATTENTION: if the cooling climatic curve function is active (can be activated from AREA parameters (installer)), this window will not be displayed as the work set will be calculated automatically and not set by the user.
	C	**Water set-point valve:** this value represents the heating work set-point for the area to which reference is made; ATTENTION: if the heating climatic curve function is active (can be activated from AREA parameters (installer)), this window will not be displayed as the work set will be calculated automatically and not set by the user.

WARNING: the number of windows present in this menu depends on the number of areas (and rooms) set in the installer system. If several areas are present (or an individual area with several rooms),the windows shown for the areas menu, will be shown again for every room, obviously updating their indexes and the labels permanently in a way to allow the user to identify them easily.

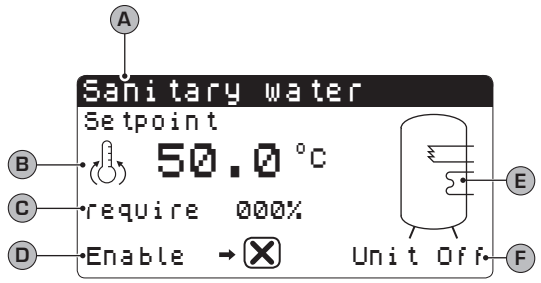
CHILLER parameters

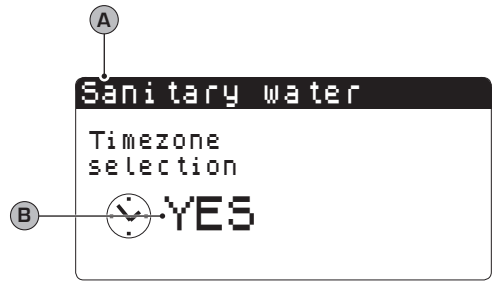
CHILLER menu- System set-point display		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**System set point:** this window displays the main information regarding the current chiller settings.
	B	**Active set-point:** this parameter indicates the set value with which the unit is working.
	C	**Differential:** this parameter indicates the differential value applied to the regulation of the work set point.
	D	**Season:** this parameter indicates in which functioning mode the unit is set.
	E	**Request:** Indicates that the distance of the system temperature, with respect to the work set-point; plus the value of this value approaches 100%. The further away from the set work set (therefore in the event of a unit with just one compressor, when this percentage reaches 100% the compressor will activate).

CHILLER menu- Setting system NOMINAL set-point		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Plant:** the work nominal set-point values are displayed in this window.
	B	**Water set-point in heating mode:** this parameter indicates the set value with which the unit will work when heating.
	C	**Water set-point in cooling mode:** this parameter indicates the set value with which the unit will work when cooling.
Parameters that can be modified by the user		

CHILLER menu- Setting system ECONOMY set-point display		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Plant:** the work economy set-point values are displayed in this window.
	B	**Water set-point in heating mode:** this parameter indicates the set value with which the unit will work when heating, when the energy saving mode is active.
	C	**Water set-point in cooling mode:** this parameter indicates the set value with which the unit will work when cooling, when the energy saving mode is active. Functioning in Economy mode can be activated from the ON/OFF mask and time period.
Parameters that can be modified by the user		

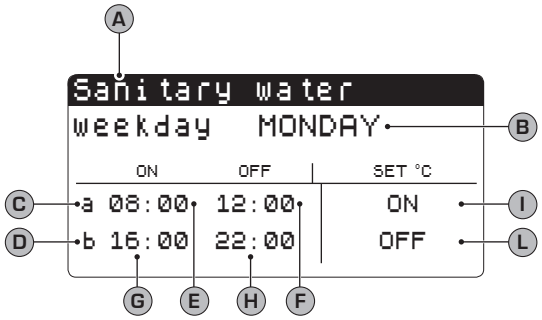
DOMESTIC HOT WATER parameters

DOMESTIC HOT WATER menu - Main settings for DHW production		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Domestic hot water:** this window displays the main settings for the production of DHW.
	B	**Set-point:** this parameter indicates the temperature value with which the DHW will be produced.
	C	**Request:** Indicates that the distance of the temperature inside the DHW storage tank, with respect to the work set-point; plus the value of this value approaches 100%. The further away from the set work set (therefore in the event of a unit with just one compressor, when this percentage reaches 100% the compressor will activate).
	D	**Enable:** this flag sets the activation of the production of DHW.
	E	**DHW electric resistance:** if this icon flashes, it means that the integrative electric resistance is functioning inside the DHW storage tank. This resistance could have been activated manually or started-up as integration to the unit or for anti-legionella cycle.
	F	**DHW status:** Indicates the state of the production of DHW; this state can be: • On (DHW function active and ready for use); • Alarm (an alarm relative to DHW is present); • Off Comp. (DHW production blocked due to compressor switch-off); • Off unit. (DHW production switched-off from the system); • Fasce Off (DHW production off from time period); • Off key (DHW production switched off by user). • Manual (DHW production requested by digital input).
Parameters that can be modified by the user		

DOMESTIC HOT WATER menu - Enabling time periods for DHW production		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Domestic hot water:** the time periods for the production of DHW are enabled in this window.
	B	**Time periods:** this parameter indicates whether to enable the time periods or not for the production of DHW. If they have been enabled, the successive windows will take the settings for the weekly time periods similarly to those relative to functioning of the unit specified in the ON/OFF menu.
Parameters that can be modified by the user		

DHW menu - Setting time periods (a) and (b)

Visualisation on unit display

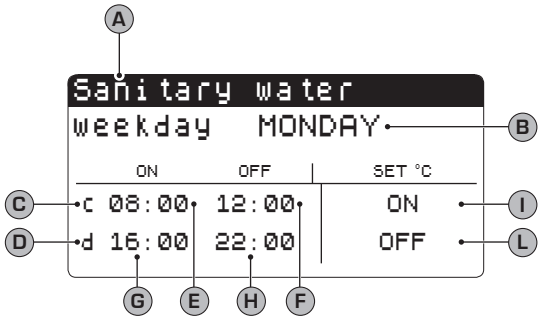


Parameters that can be modified by the user

Index	Display/Parameter
A	**Domestic hot water:** the data relative to time periods (a) and (b) are set in this window.
B	**Day:** this parameter indicates the day of the week to which the programming of time periods (a) and (b) refer. The time periods setting is memorised for every day of the week, therefore selecting one day will set the hours of the time periods (a) and (b) ONLY for the day selected. The remaining days must be selected and the data entered for each one. Moreover, it is possible to set the time periods (a) and (b)for the HOLIDAY action (for further information on the action concept, refer to the calendar function).
C	**Time period (a):** This line contains the data relative to the 1st time period.
D	**Time period (b):** This line contains the data relative to the 2nd time period.
E	**period ON (a):** used to set the period switch-on time (a).
F	**period OFF (a):** used to set the period switch-off time (a).
G	**period ON (b):** used to set the period switch-on time (b).
H	**period OFF (b):** used to set the period switch-off time (b).
I	**Time period work set (a):** used to set the control to perform during the time period (a): • On (DHW production enabled); • OFF (DHW production disabled);
L	**Time period work set (b):** used to set the control to perform during the time period (b): • On (DHW production enabled); • OFF (DHW production disabled);

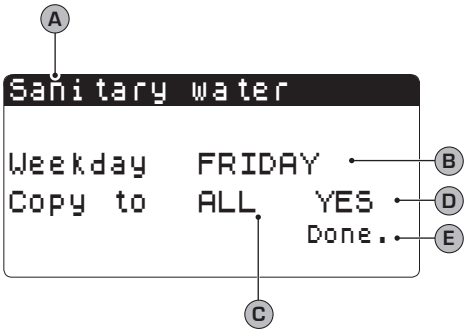
DHW menu - Setting time periods (c) and (d)

Visualisation on unit display

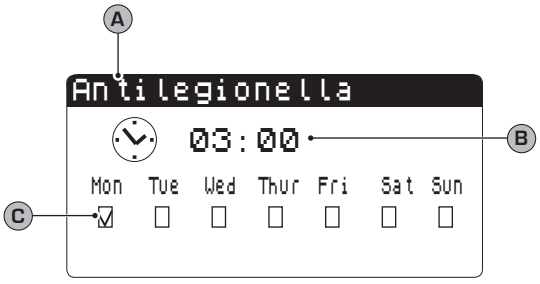


Parameters that can be modified by the user

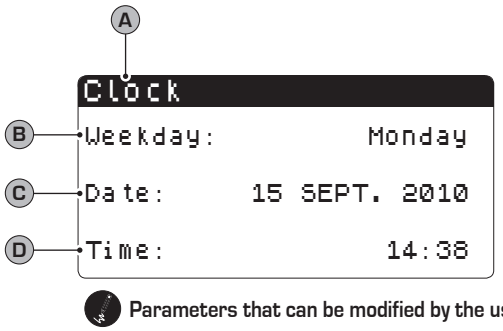
Index	Display/Parameter
A	**Domestic hot water:** the data relative to time periods (a) and (b) are set in this window.
B	**Day:** this parameter indicates the day of the week to which the programming of time periods (a) and (b) refer. The time periods setting is memorised for every day of the week, therefore selecting one day will set the hours of the time periods (a) and (b) ONLfor the day selected. The remaining days must be selected and the data entered for each one. Moreover, it is possible to set the time periods (a) and (b)for the HOLIDAY action (for further information on the action concept, refer to the calendar function).
C	**Time period (c):** This line contains the data relative to the 1st time period.
D	**Time period (d):** This line contains the data relative to the 2nd time period.
E	**period ON (c):** used to set the period switch-on time (a).
F	**period OFF (d):** used to set the period switch-off time (a).
G	**period ON (c):** used to set the period switch-on time (b).
H	**period OFF (d):** used to set the period switch-off time (b).
I	**Time period work set (c):** used to set the control to perform during the time period (c): • On (DHW production enabled); • OFF (DHW production disabled);
L	**Time period work set (d):** used to set the control to perform during the time period (d): • On (DHW production enabled); • OFF (DHW production disabled);

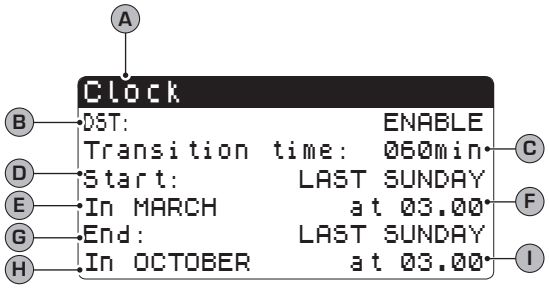
DOMESTIC HOT WATER menu- Copy time period data function.		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Domestic hot water:** in this window it is possible to select the settings on the time periods set for a particular day of the week and copy them into one or more days of the week.
	B	**Day:** this parameter indicates from which day of the week the four time periods are to be copied.
	C	**Copy in:** used to specify in which day the settings selected in the parameter (B) are to be copied. The settings that can be supplied for this parameter are: • An individual day of the week (Monday, Tuesday, etc.); • ALL (the setting will be copied onto all days of the week and onto the HOLIDAY action); • HOLIDAY (the settings selected will be copied only onto the HOLIDAY action); If the setting is to be copied onto to two days, for example, the copy procedure must be performed individually on both.
	D	**Confirm:** this parameter (whose default is the "NO" string) starts the copy procedure as soon as the value is changed with the "YES" string.
	D	**Confirmation message:** once the settings have been copied, the "Done" confirmation string will appear and then disappear after a few seconds.

Parameters that can be modified by the user

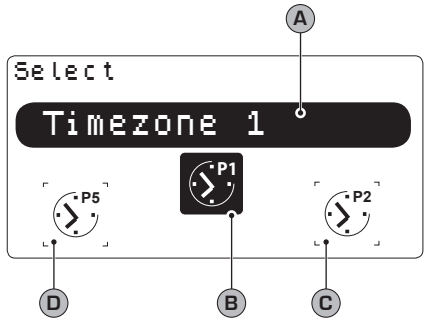
DOMESTIC HOT WATER menu- Copy time period data function.		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Anti-legionella:** in this window it is possible to set the execution of the anti-legionella cycle (whenever necessary).
	B	**Execution time:** this parameter indicates at what time the anti-legionella cycle will be performed:
	C	**Execution day:** these flags represent the day/days in which the anti-legionella cycle is to be performed. These flags can have two states: • selected (☑); • not selected (☐); Naturally the anti-legionella cycle will only be performed in the selected days.

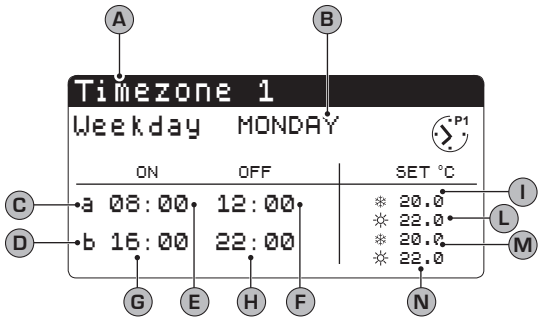
CLOCK parameters

CLOCK menu - Setting system clock		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	A	**Clock:** the system clock settings are displayed in this window.
	B	**Day:** this parameter indicates the day of the week displayed automatically on the basis of the calendar settings.
	C	**Date:** this parameter indicates the system date set by the user.
	D	**Hour:** this parameter indicates the system time set by the user.

CLOCK menu - Setting day-light saving time		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	A	**Clock:** the day-light saving time settings are displayed in this window.
	B	**Day-light saving time:** this parameter indicates whether to enable the adjustment of the system clock on the basis of the date, according to successive settings.
	C	**Transition time:** this parameter indicates how much to increase or decrease (basically it is the start or end of the day-light saving period) the system time on the basis of the time change.
	D	**Start of use of day-light saving time:** this parameter indicates on which day of the month to start to use day-light saving time. To specify it, two parts of the same parameter must be set. The first indicates the week (first, second, third or last), the second indicates the day of the week.
	E	**Start month:** this parameter indicates the month when the day-light saving time settings must be used
	F	**Start hour:** this parameter indicates the hour when the day-light saving time settings must be used
	G	**End of use of day-light saving time:** this parameter indicates on which day of the month to stop using day-light saving time. To specify it, two parts of the same parameter must be set. The first indicates the week (first, second, third or last), the second indicates the day of the week.
	H	**End month:** this parameter indicates the month when the day-light saving time settings must no longer be used
	I	**End hour:** this parameter indicates the hour when the day-light saving time settings must no longer be used

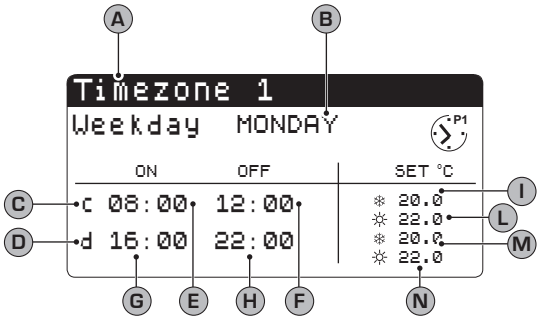
TIMEZONE parameters

TIMEZONE parameters - Selecting the hourly programming to set		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Selected program:** this parameter indicates which hourly programming has been selected for the setting.
	B	**Hourly programming icon:** this icon graphically represents the current hourly program selected. The navigation of the 5 programs available is similar to the type of user menu, therefore can be managed via a graphical menu where the icons rotate on the basis of the arrow keys pressed.
	C	**Next icon:** this icon represents the program after that selected.
	D	**Previous icon:** this icon represents the program previous to that selected.

TIMEZONE menu - Setting the time periods (a) and (b) for the selected hourly programming		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Hourly programming:** the data relative to time periods (a) and (b) for the selected hourly programming are set in this window.
	B	**Day:** this parameter indicates the day of the week to which the programming of time periods (a) and (b) refer. The time periods setting is memorised for every day of the week, therefore selecting one day will set the hours of the time periods (a) and (b) ONLY for the day selected. The remaining days must be selected and the data entered for each one. Moreover, it is possible to set the time periods (a) and (b)for the HOLIDAY action (for further information on the action concept, refer to the calendar function).
	C	**Time period (a):** This line contains the data relative to the 1st time period.
	D	**Time period (b):** This line contains the data relative to the 2nd time period.
	E	**period ON (a):** used to set the period switch-on time (a).
	F	**period OFF (a):** used to set the period switch-off time (a).
	G	**period ON (b):** used to set the period switch-on time (b).
	H	**period OFF (b):** used to set the period switch-off time (b).
	I	**COOLING time period work set (a):** used to set the work set-point (in cooling mode)during the time period (a).
	L	**HEATING time period work set (a):** used to set the work set-point (in heating mode)during the time period (a).
	M	**HEATING time period work set (b):** used to set the work set-point (in cooling mode)during the time period (b).
	N	**HEATING time period work set (b):** used to set the work set-point (in heating mode)during the time period (b).

Parameters that can be modified by the user

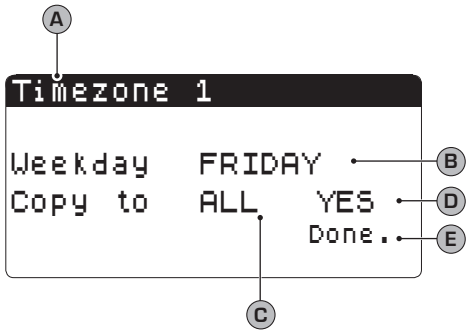
TIMEZONE menu - Setting the time periods (c) and (d) for the selected hourly programming



Parameters that can be modified by the user

Index	Display/Parameter
A	**Hourly programming:** the data relative to time periods (c) and (d) for the selected hourly programming are set in this window.
B	**Day:** this parameter indicates the day of the week to which the programming of time periods (c) and (d) refer. The time periods setting is memorised for every day of the week, therefore selecting one day will set the hours of the time periods (c) and (d) ONLY they must be selected and the data entered for each one. Moreover, it is possible to set the time periods (c) and (d)for the HOLIDAY action (for further information on the action concept, refer to the calendar function).
C	**Time period (c):** This line contains the data relative to the 1st time period.
D	**Time period (d):** This line contains the data relative to the 2nd time period.
E	**period ON (c):** used to set the period switch-on time (c).
F	**period OFF (c):** used to set the period switch-off time (c).
G	**period ON (d):** used to set the period switch-on time (d).
H	**period OFF (d):** used to set the period switch-off time (d).
I	**COOLING time period work set (c):** used to set the work set-point (in cooling mode)during the time period (c).
L	**HEATING time period work set (c):** used to set the work set-point (in heating mode)during the time period (c).
M	**COOLING time period work set (d):** used to set the work set-point (in cooling mode)during the time period (d).
N	**HEATING time period work set (d):** used to set the work set-point (in heating mode)during the time period (d).

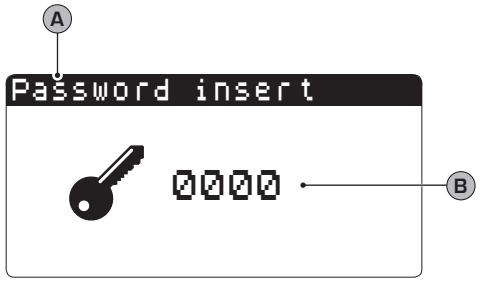
TIMEZONE menu- Copy time period data function



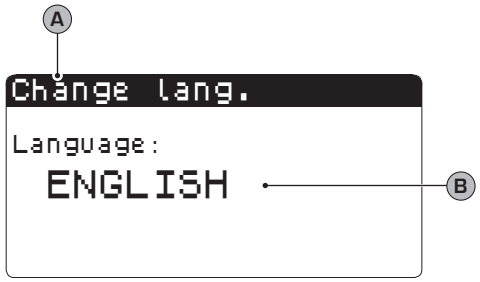
Parameters that can be modified by the user

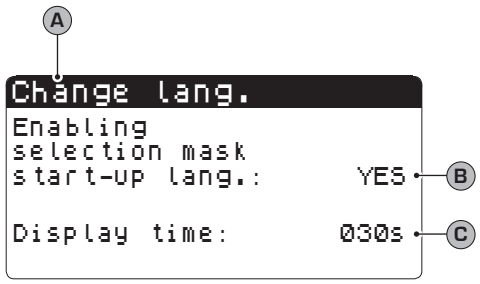
Index	Display/Parameter
A	**Hourly programming:** in this window it is possible to select the settings on the time periods set for a particular day of the week and copy them into one or more days of the week.
B	**Day:** this parameter indicates from which day of the week the four time periods are to be copied.
C	**Copy in:** used to specify in which day the settings selected in the parameter (B) are to be copied. The settings that can be supplied for this parameter are: • An individual day of the week (Monday, Tuesday, etc.); • ALL (the setting will be copied onto all days of the week and onto the HOLIDAY action); • HOLIDAY (the settings selected will be copied only onto the HOLIDAY action); If the setting is to be copied onto to two days, for example, the copy procedure must be performed individually on both.
D	**Confirm:** this parameter (whose default is the "NO" string) starts the copy procedure as soon as the value is changed with the "YES" string.
D	**Confirmation message:** once the settings have been copied, the "Done" confirmation string will appear and then disappear after a few seconds.

ASSISTANCE Parameters *(Password 0101)*

ASSISTANCE menu - Introduction of the password for protected menus		
Visualisation on unit display	**Index**	**Display/Parameter**
 Parameters that can be modified by the user	**A**	**Enter password:** this parameter allows to insert a specific password for access to an assistance menu.
	B	**Password:** this icon sets the password for entry to the assistance menu. **WARNING:** **• At the end of the guided procedure, the assistance menu password can be customised by the installer, who will keep the new password for future interventions;** **• The user is not enabled to modify and/or manage the parameters contained in the assistance menu, as these parameters could cause damage to the unit if set incoherently with the features of the unit;** **• The standard password that allows the installer to access the assistance menu is 0101.**

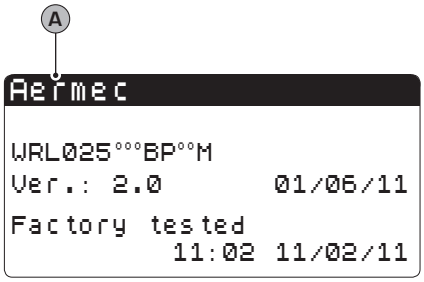
LANGUAGE parameters

LANGUAGE menu - Setting the system language		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Change language:** this menu allows to set the parameters linked to the system language.
	B	**Language:** this icon sets the system language; it is possible to select from: • ITALIAN; • ENGLISH; • FRENCH; • GERMAN.

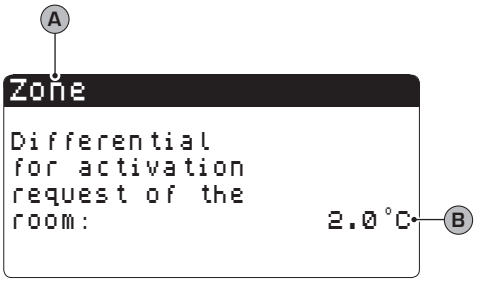
LANGUAGE menu - Setting language requested on voltage re-application		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Change language:** this menu allows to set the parameters linked to the system language.
	B	**Enabling language select on start-up:** this parameter allows to enable or disable the language selection window every time voltage is re-applied. The setting can be: • YES (disables language select on start-up); • NO (maintains the choice of language at every voltage start-up).
	C	**Display time:** this parameter allows to set the time available to the user to select the system language.

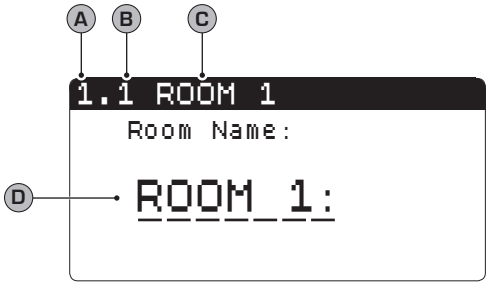
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

INFO parameters

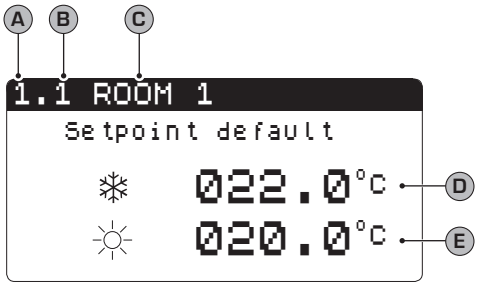
INFO menu - Display of information regarding unit		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Information:** this screen displays some construction information regarding the unit such as: • Machine model; • Inspection date; • Software version.

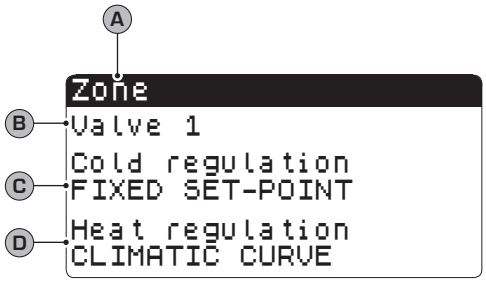
ZONE parameters (assistance)

ZONE menu (assistance) - Setting differential for rooms activation request		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Zones:** this menu allows to set the parameters linked to the management of the areas or their setting at after-sales service level.
	B	**Areas request activation differential:** this parameter specifies the differential (with respect to the air temperature detected in the room by the sensor on the STA/STH accessory) with which it is established whether the room requires heating capacity or not.

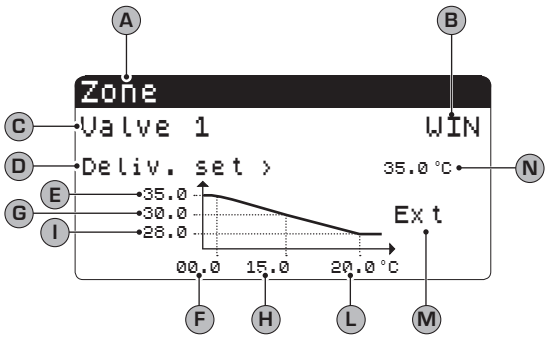
ZONE menu (assistance) - To set the label for room 1 (if present)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Areas index:** this parameter indicates to which area the current data displayed refer.
	B	**Room index:** this parameter indicates to which room (within the area specified) the current data displayed refers.
	C	**Room label:** this parameter indicates the name with which the room to which the data currently displayed refers.
	D	**Room name: with** this parameter it is possible to set the name associated to room 1 of area 1;

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

ZONE menu (assistance) - To set the work set for room 1 (if present)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Areas index:** this parameter indicates to which area the current data displayed refer.
	B	**Room index:** this parameter indicates to which room (within the area specified) the current data displayed refers.
	C	**Room label:** this parameter indicates the name with which the room to which the data currently displayed refers.
	D	**Winter set-point:** this parameter sets the temperature that is to be reached in the room (air temperature) during winter functioning mode.
	E	**Summer set-point:** this parameter sets the temperature that is to be reached in the room (air temperature) during summer functioning mode.

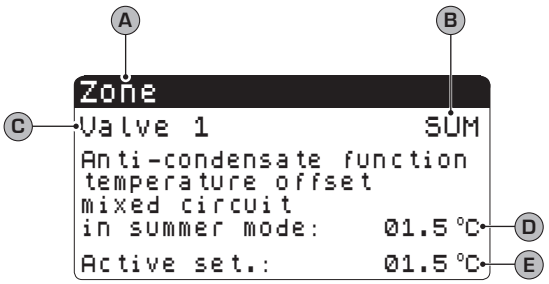
ZONE menu (assistance) - To set cooling and heating regulations for room 1 (if present)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Areas:** this menu allows to set the parameters linked to the management of the areas or their setting at after-sales service level.
	B	**Valve:** this parameter indicates to which mixing valve reference is being made: • Valve 1 (Area 1); • Valve 2 (Area 2); • Valve 3 (Area 3).
	C	**Cooling regulation:** this parameter sets the thermostating logic applied to the mixing valve displayed, this logic can be: • FIXED SET-POINT this logic tends to take the flow temperature directly to the value expressed with the work set-point. Naturally this implies that the area mixer valve remains open until the STA/STH accessory thermostat signals that the set-point has been reached); • DEW POINT (this logic automatically calculates the work set-point and uses a safety threshold set by the installer, to prevent the safety panels cooling the floor over the dew point, thus preventing the formation of water on the floor); • CLIMATIC CURVE (this logic automatically calculates the work set-point using the climatic curve set in the next windows).
	D	**Heating regulation:** this parameter sets the thermostating logic applied to the mixing valve displayed, this logic can be: • FIXED SET-POINT this logic tends to take the flow temperature directly to the value expressed with the work set-point. Naturally this implies that the area mixer valve remains open until the STA/STH accessory thermostat signals that the set-point has been reached); • CLIMATIC CURVE (this logic automatically calculates the work set-point using the climatic curve set in the next windows).

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

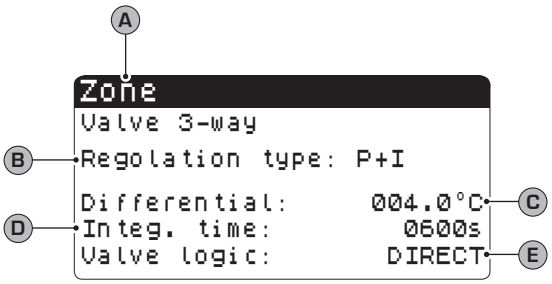
ZONE menu (assistance) - To set the heating climatic curve for area 1 mixing valve (if present)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Areas:** this menu allows to set the parameters linked to the management of the areas or their setting at after-sales service level.
	B	**Season:** indicates the season to which the climatic curve displayed refers. This parameter can be: • WIN (winter season, therefore climatic curve referring to heating function); • SUM (summer season, therefore climatic curve referring to cooling function);
	C	**Valve:** indicates the area to which reference is made.
	D	**Flow set:** this parameter indicates the temperatures of the flow water referring to the external temperatures indicated. These correspondences between flow water temperature and external air temperature form the climatic curve. This climatic curve allows a dynamic adjustment of the area flow water set (area flow water set means the temperature yielded by the mixer valve of this area) on the basis of the external air temperature. **WARNING: the minimum and maximum flow set limits will represent the minimum and maximum temperature limits reachable in the specified area.**
	E	**Flow temperature (1):** this parameter indicates the maximum flow temperature limit for area 1. This flow temperature will be set as effective set for the mix valve, if the external temperature is less than or the same as that specified in the parameter (F).
	F	**External air temperature (1):** this parameter indicates the external temperature up to using the work set specified in the parameter (E).
	G	**Flow temperature (2):** this parameter indicates the intermediate flow temperature value for area 1. This flow temperature will be set as effective set for the mix valve, if the external temperature between that specified in parameter (F) and in parameter (H).
	H	**External air temperature (2):** this parameter indicates the external temperature up to using the work set specified in the parameter (G).
	I	**Flow temperature (3):** this parameter indicates the minimum flow temperature limit for area 1. This flow temperature will be set as effective set for the mix valve, if the external temperature is greater than or the same as that specified in the parameter (L).
	L	**External air temperature (3):** this parameter indicates the external temperature up to using the work set specified in the parameter (I).
	M	**Ext:** label that indicates external air.
	N	**Instant flow temperature:** this value indicates the flow temperature currently used as set-point (this value is dynamic and varies according to the climatic curve).

WARNING: the window relative to the cooling climatic curve is not given as it only appears if it has been set (to set cooling and heating regulations for room 1). If the cooling climatic curve has been set, another window will be displayed similar to that given above, but the parameter (B) will indicate the "SUM" season label, to indicate that the curve represents summer functioning. Moreover, note that the trend of the graphics will be specular to that proposed for the heating curve even if the logic with which the cooling curve must be filled in will be exactly the same used in the heating curve.

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

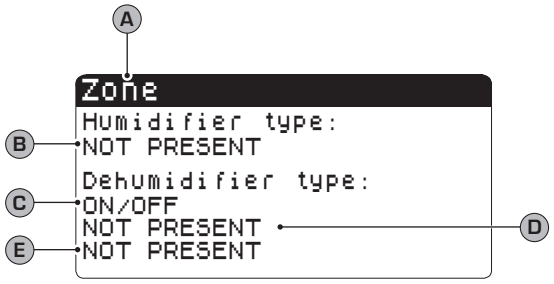
ZONE menu (assistance) - To set the cooling dew point for area 1 mixing valve (if present)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Areas:** this menu allows to set the parameters linked to the management of the areas or their setting at after-sales service level.
	B	**Season:** indicates the season to which the dew point function refers for functioning in cooling mode. Naturally, this function is only available in cooling mode.
	C	**Valve:** indicates the area to which reference is made.
	D	**Anti-condensate function:** this parameter indicates the safety threshold to add to the dew temperature calculated automatically by the unit. This value ensures that the temperature of the floor is high enough to prevent the formation of water on the floor surface.
	E	**Active set-point:** this value indicates the current work set for the "dew point" mode.

WARNING: the number of windows present in this menu depends on the number of areas set in the installer system. If several areas are present (therefore more mixer valves), the windows shown up to now for the AREAS menu (assistance), will be shown again for every room, obviously updating their indexes and the labels permanently in a way to allow the user to identify them easily.

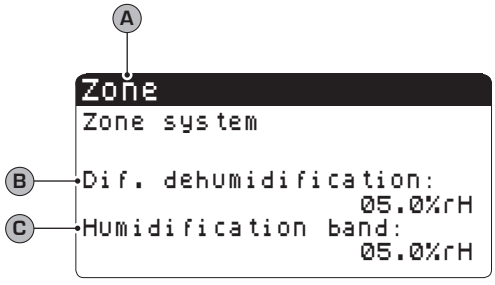
ZONE menu (assistance) - To set the 3-way valve management logic.		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Areas:** this menu allows to set the parameters linked to the management of the areas or their setting at after-sales service level.
	B	**Regolation type:** this parameter sets the type of logic to use to manage the area valves; the possible controls are: • P (PROPORTIONAL control; this logic is based on the addition of a differential on the mixing set-point, increasing or decreasing the temperature threshold with which unit power will be requested; • P+I (PROPORTIONAL+INTEGRAL control; this logic joins the proportional control to the integral control. The integral control is based on the insertion of an integral time after which the machine will have supplied the power requested by the system. Therefore, the integral time becomes the time in which the power request is to be satisfied. **ATTENTION: the setting of these parameters is particularly delicate as incorrect values can cause functioning anomalies. The modifications must only be made by skilled staff.**
	C	**Differential:** this parameter indicates the value to be used as proportional band. This band will be applied at the mixing set-point and allows to increase or decrease the sensitivity with which the unit will intervene to maintain the work set.
	D	**Integral time:** this parameter indicates the duration of the integral time, i.e. of the time in which the unit must satisfy the power request by the system. If this time is set at 0, the function will be disabled.
	E	**Valve logic:** this value indicates the type of logic with which to display the power request by the area. The logic can be: • DIRECT (the request is displayed, in the windows that envision it, with increasing values where the 100% request corresponds to the effective start-up of the unit); • REVERSE (the request is displayed, in the windows that envision it, with decreasing values where the 0% request corresponds to the effective start-up of the unit);

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

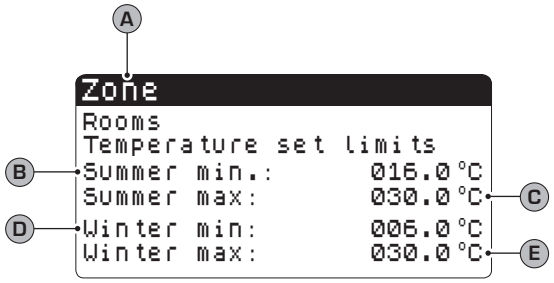
ZONE menu (assistance) - To set dehumidifier management

Visualisation on unit display	Index	Display/Parameter
	A	**Areas:** this menu allows to set the parameters linked to the management of the areas or their setting at after-sales service level.
	B	**Type of humidifier:** (this function is not available at the moment).
	C	**Area 1 type of dehumidifier:** this parameter indicates whether a dehumidifier is present in area 1.
	D	**Area 2 type of dehumidifier:** this parameter indicates whether a dehumidifier is present in area 2.
	E	**Area 3 type of dehumidifier:** this parameter indicates whether a dehumidifier is present in area 3.

ZONE menu (assistance) - To set the differential for dehumidifier

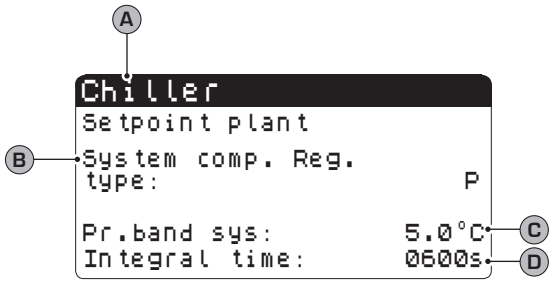
Visualisation on unit display	Index	Display/Parameter
	A	**Areas:** this menu allows to set the parameters linked to the management of the areas or their setting at after-sales service level.
	B	**Dehumidification differential:** this parameter sets the differential to apply to the rate of humidity set.
	C	**Humidification band:** (this function is not available at the moment).

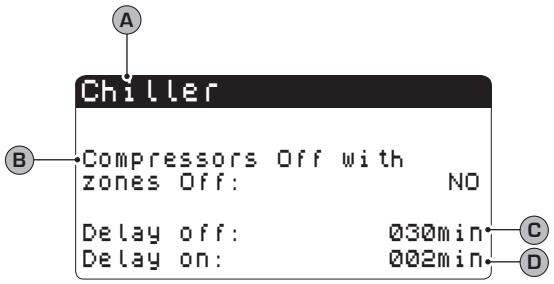
ZONE menu (assistance) - Management for value range for the work set-point

Visualisation on unit display	Index	Display/Parameter
	A	**Areas:** this menu allows to set the parameters linked to the management of the areas or their setting at after-sales service level.
	B	**Minimum summer:** this parameter sets the minimum value that can be set for the work set-point during cooling mode.
	C	**Maximum summer:** this parameter sets the maximum value that can be set for the work set-point during cooling mode.
	D	**Minimum winter:** this parameter sets the minimum value that can be set for the work set-point during heating mode.
	E	**Maximum winter:** this parameter sets the maximum value that can be set for the work set-point during heating mode.

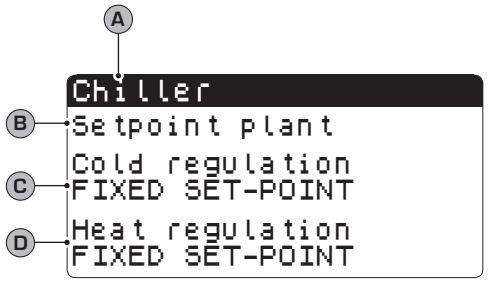
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

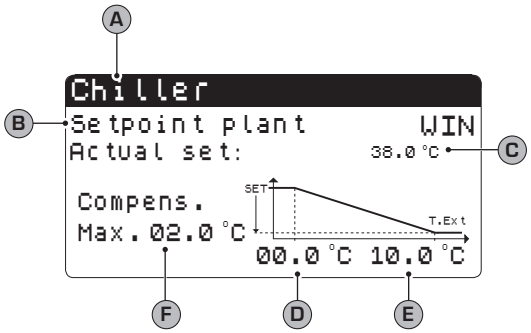
CHILLER parameters (assistance)

CHILLER menu (assistance) - To set compressors management logic.		
Visualisation on unit display	**Index**	**Display/Parameter**
	A	**Chiller:** this menu allows to set the parameters linked to the management of the compressor at after-sales service level.
	B	**System comp. Reg. type:** this parameter sets the type of logic to use to manage the compressor for the system request; the possible controls are: • P (PROPORTIONAL control; this logic is based on the addition of a differential on the system set-point, increasing or decreasing the temperature threshold with which unit power will be requested; • P+I (PROPORTIONAL+INTEGRAL control; this logic joins the proportional control to the integral control. The integral control is based on the insertion of an integral time after which the machine will have supplied the power requested by the system. Therefore, the integral time becomes the time in which the power request is to be satisfied. **ATTENTION: the setting of these parameters is particularly delicate as incorrect values can cause functioning anomalies. The modifications must only be made by skilled staff.**
	C	**Proportional band:** this parameter indicates the value to be used as proportional band. This band will be applied at the system set-point and allows to increase or decrease the sensitivity with which the unit will intervene to maintain the work set.
	D	**Integral time:** this parameter indicates the duration of the integral time, i.e. of the time in which the unit must satisfy the power request by the system. If this time is set at 0, the function will be disabled.

CHILLER menu (assistance) - Set delays on switch-on and switch-off of the compressor		
Visualisation on unit display	**Index**	**Display/Parameter**
	A	**Chiller:** this menu allows to set the parameters linked to the management of the compressor at after-sales service level.
	B	**Compressors Off with areas Off:** this parameter sets whether to activate the compressor when an area does not request power.
	C	**Switch-off delay:** this parameter indicates the time limit for which the compressor can function after the areas have concluded their power request.
	D	**Switch-on delay:** this parameter indicates the delay time with which the compressor is activated after an area has requested power.

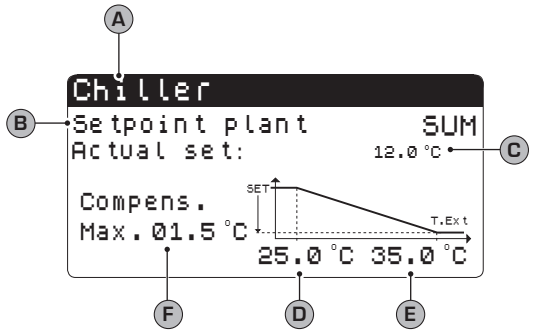
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

CHILLER menu (assistance) - To set cooling and heating regulations for system water		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Chiller:** this menu allows to set the parameters linked to the management of the compressor at after-sales service level.
	B	**Main flow:** this parameter sets the type of logic to use to manage the compressor for the system request.
	C	**Cooling regulation:** this parameter sets the thermostating logic applied to the compressor, this logic can be: • FIXED SET-POINT (this logic tends to take the flow temperature directly to the value expressed with the work set-point); • CLIMATIC CURVE (this logic automatically calculates the work set-point using the climatic curve set in the next windows).
	D	**Heating regulation:** this parameter sets the thermostating logic applied to the compressor, this logic can be: • FIXED SET-POINT (this logic tends to take the flow temperature directly to the value expressed with the work set-point); • CLIMATIC CURVE (this logic automatically calculates the work set-point using the climatic curve set in the next windows).

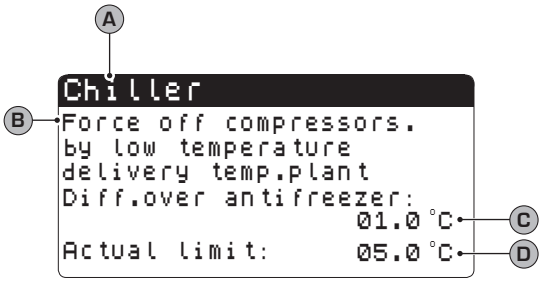
CHILLER menu (assistance) - To set climatic curve with system hot (if KSAE accessory present)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Chiller:** this menu allows to set the parameters linked to the management of the compressor at after-sales service level.
	B	**Setpoint plant:** indicates the season to which the climatic curve displayed refers. This parameter can be: • WIN (climatic curve referring to heating function); • SUM (climatic curve referring to cooling function).
	C	**Actual set:** this parameter indicates the current temperature of the flow water. **ATTENTION: the minimum and maximum flow set limits will represent the minimum and maximum temperature limits reachable in the water production.**
	D	**Minimum external air temperature:** this parameter indicates the temperature of the external air to which the nominal work set-point corresponds, i.e. if the external temperature drops below the value set in this parameter. the unit will produce water at the temperature indicated in the nominal set-point, set by the user.
	E	**Maximum external air temperature:** this parameter indicates the temperature of the external air to which a work set-point corresponding to the nominal set-point must correspond plus the maximum offset envisioned (this value is specified in the parameter (F)). This means if the external temperature rises above the value set in this parameter, the unit will produce water at a temperature equal to the sum of the nominal set-point plus the maximum offset temperature.
	F	**Compens. Max.:** this parameter sets the maximum offset with respect to the nominal set-point envisioned during the compensation in heating mode.

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

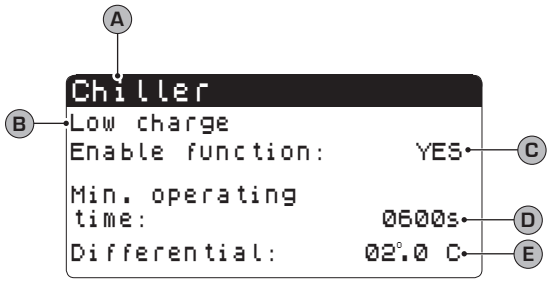
CHILLER menu (assistance) - To set climatic curve with system cold (if KSAE accessory present)

Visualisation on unit display	Index	Display/Parameter
	A	**Chiller:** this menu allows to set the parameters linked to the management of the compressor at after-sales service level.
	B	**Setpoint plant:** indicates the season to which the climatic curve displayed refers. This parameter can be: • WIN (climatic curve referring to heating function); • SUM (climatic curve referring to cooling function).
	C	**Actual set:** this parameter indicates the current temperature of the flow water. **ATTENTION: the minimum and maximum flow set limits will represent the minimum and maximum temperature limits reachable in the water production.**
	D	**Minimum external air temperature:** this parameter indicates the temperature of the external air to which a work set-point corresponding to the nominal set-point must correspond plus the maximum offset envisioned (this value is specified in the parameter (F) **and must be inserted as a negative value**). This means if the external temperature drops below the value set in this parameter, the unit will produce water at a temperature equal to the sum of the nominal set-point plus the maximum offset temperature.
	E	**Maximum external air temperature:** this parameter indicates the temperature of the external air to which the nominal work set-point corresponds, i.e. if the external temperature rises above the value set in this parameter. the unit will produce water at the temperature indicated in the nominal set-point, set by the user.
	F	**Compens. Max.:** this parameter sets the maximum offset with respect to the nominal set-point envisioned during the compensation in cooling mode.

CHILLER menu (service) - Set forced OFF to frost

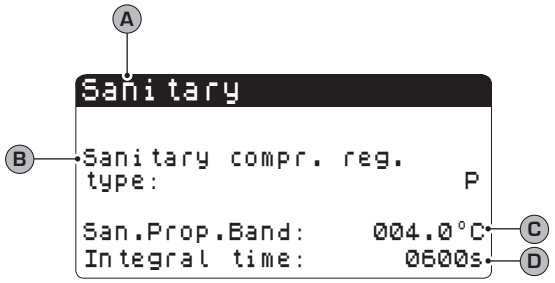
Visualisation on unit display	Index	Display/Parameter
	A	**Chiller:** this menu allows to set the parameters linked to the management of the compressor at after-sales service level.
	B	**Forced Off:** This function turns off the compressor while ignoring all the normal minimum timing, when the flow temperature falls below the value specified in the parameter (D) (current limit).
	C	**Differential of Frost:** This parameter indicates the temperature limit to be added to antifreeze to calculate the current limit (parameter D).
	D	**Current limit:** this parameter for the water outlet temperature, below which the unit is turned off by frost, the value of this parameter is calculated by adding the set to the value of the parameter Angel (C).

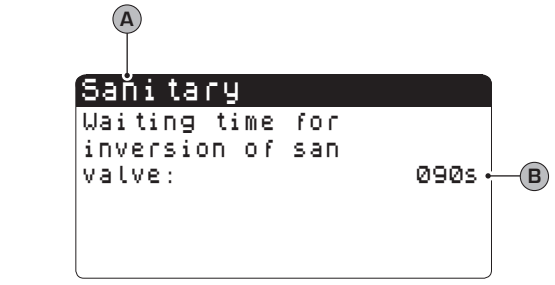
CHILLER menu (assistance) - To set functioning with low system load

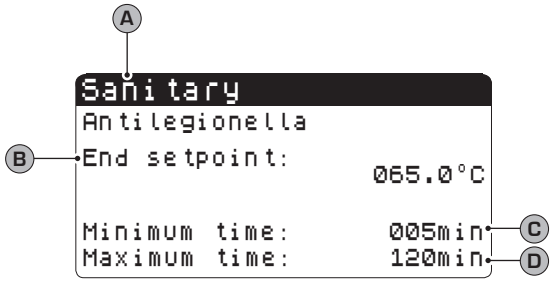
Visualisation on unit display	Index	Display/Parameter
	A	**Chiller:** this menu allows to set the parameters linked to the management of the compressor at after-sales service level.
	B	**Low load:** if the system activates the unit to satisfy a low load request, the compressor could be stressed by close switch-ons and switch-offs. This function increases or decreases (on the basis of the season) the work set temporarily, increasing the normal differential of the nominal set and assuring less stressful functioning for the compressor.
	C	**Enable function:** this parameter indicates whether the low load function is active or not.
	D	**Minimum functioning time:** this parameter indicates the number of seconds for which the low load function will be activated, i.e. from switch-on of the compressor for how long the differential envisioned in the parameter will be applied (E).
	E	**Differential:** this parameter sets the maximum offset with respect to the nominal set-point envisioned during low load functioning. Naturally, this differential will be applied positively or negatively to the set on the basis of the functioning mode set in the system.

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

SANITARY parameters (assistance)

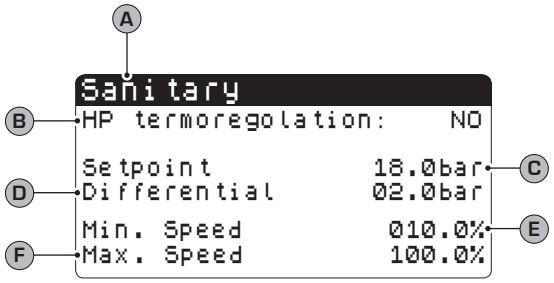
SANITARY menu (assistance) - To set DHW management logic		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Domestic hot water:** this menu allows to set the parameters linked to the management of the DHW production at after-sales service level.
	B	**Type of system compressor regulation:** this parameter sets the type of logic to use to manage the compressor for the DHW request; the possible controls are: • P (PROPORTIONAL control; this logic is based on the addition of a differential on the DHW set-point, increasing or decreasing the temperature threshold with which unit power will be requested; • P+I (PROPORTIONAL+INTEGRAL control; this logic joins the proportional control to the integral control. The integral control is based on the insertion of an integral time after which the machine will have supplied the power requested by the DHW. Therefore, the integral time becomes the time in which the power request is to be satisfied. **ATTENTION: the setting of these parameters is particularly delicate as incorrect values can cause functioning anomalies. The modifications must only be made by skilled staff.**
	C	**Proportional band:** this parameter indicates the value to be used as proportional band. This band will be applied at the DHW set-point and allows to increase or decrease the sensitivity with which the unit will intervene to maintain the work set.
	D	**Integral time:** this parameter indicates the duration of the integral time, i.e. of the time in which the unit must satisfy the power request by the DHW. If this time is set at 0, the function will be disabled.

SANITARY menu (assistance) - To set diverter valve reverse time (if envisioned)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Domestic hot water:** this menu allows to set the parameters linked to the management of the DHW production at after-sales service level.
	B	**Stand-by time for valve inversion on DHW:** this parameter indicates the duration of the time for reverse of the 3-way diverter valve, from the system to the production of DHW. Obviously, this parameter is envisioned only if the system envisions a 3-way valve for switching the DHW production for the system or production of DHW.

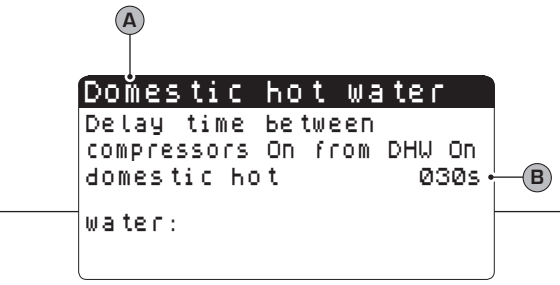
SANITARY menu (assistance) - To set anti-legionella cycle		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Domestic hot water:** this menu allows to set the parameters linked to the management of the DHW production at after-sales service level.
	B	**End set-point:** this parameter indicates the temperature to use to carry out the anti-legionella cycle. Remember that this temperature will be maintained for a minimum time, set in the next parameter.
	C	**Minimum time:** this parameter indicates the minimum time for which the DHW temperature must exceed the end set-point in order to consider the anti-legionella cycle concluded.
	D	**Maximum time:** this parameter indicates the maximum duration time for the anti-legionella cycle, exceeding which the "anti-legionella cycle not concluded" alarm is generated (alarm code AL45).

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

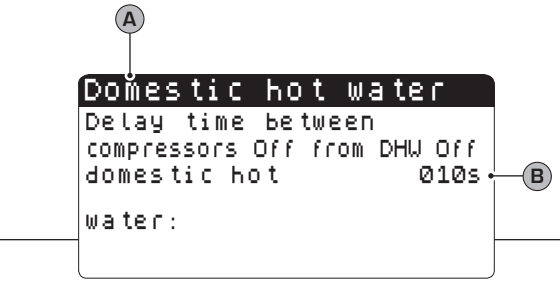
SANITARY menu (assistance) - Set control based on condensation pressure

Visualisation on unit display	Index	Display/Parameter
	A	**Domestic hot water:** this menu allows to set the parameters linked to the management of the DHW production at after-sales service level.
	B	**Reg. with cond. press.:** this parameter allows to enable the pump on the DHW on the basis of the condensation pressure value established below.
	C	**Set-point:** this parameter indicates the condensation pressure value over which the DHW pump activates.
	D	**Differential:** this parameter indicates the differential to apply to the condensation pressure for the activation of the DHW pump.
	E	**Min. Speed:** this parameter indicates the minimum speed with which to manage the inverter pump or the minimum opening of the modulating 2-way valve.
	F	**Max Speed:** this parameter indicates the maximum speed with which to manage the inverter pump or the maximum opening of the modulating 2-way valve.

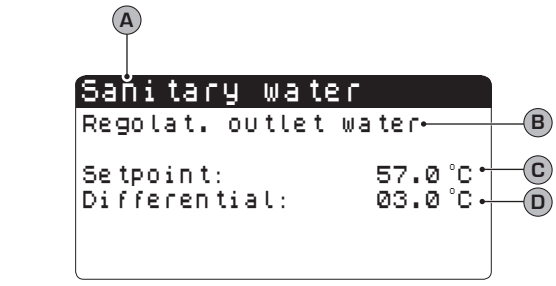
DOMESTIC HOT WATER Menu (assistance) - Set delay time ON between compressors and DHW

Visualisation on unit display	Index	Display/Parameter
	A	**Domestic hot water:** this menu allows the parameters linked to DHW production management to be set at after-sales service level.
	B	**Delay time between compressors On and DHW On:** This parameter indicates the delay time when compressors are switched on, once DHW production mode is activated.

DOMESTIC HOT WATER Menu (assistance) - Set delay time ON between compressors and DHW

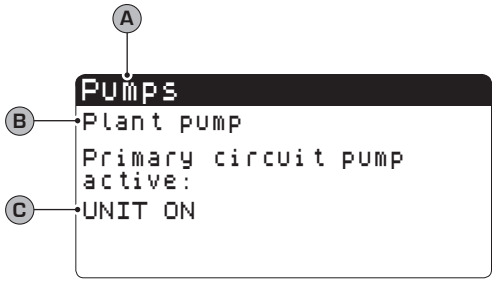
Visualisation on unit display	Index	Display/Parameter
	A	**Domestic hot water:** this menu allows the parameters linked to DHW production management to be set at after-sales service level.
	B	**Delay time between compressors OFF and DHW OFF:** This parameter indicates the delay time when the pump on the DHW is switched off, once compressors are deactivated for reaching the domestic hot water set.

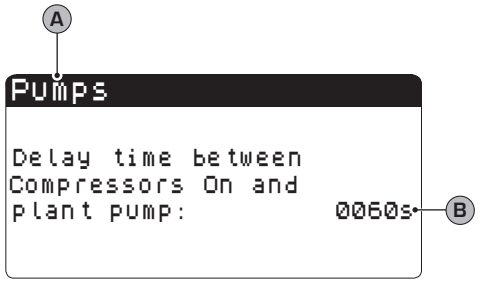
DOMESTIC HOT WATER Menu (assistance) - Set DHW setpoint and differential

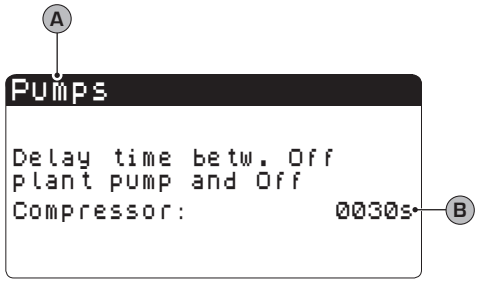
Visualisation on unit display	Index	Display/Parameter
	A	**Domestic hot water:** this menu allows the parameters linked to DHW production management to be set at after-sales service level.
	B	**Type of control:** this parameter indicates which sensor is based domestic hot water production: • Adjustable tank sensor; • Adjust water output; • Adjust water inlet; • Adjustable output recovery.
	C	**Set point:** This parameter indicates the temperature at which hot water is produced.
	D	**Differential:** This parameter indicates the differential setpoint applied to the domestic hot water production.

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

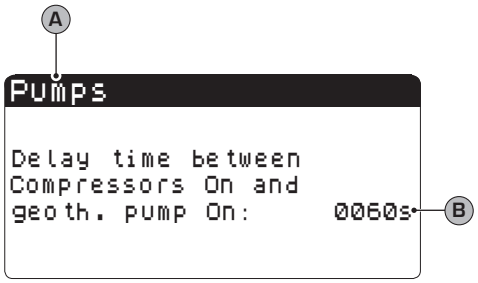
PUMPS parameters (assistance)

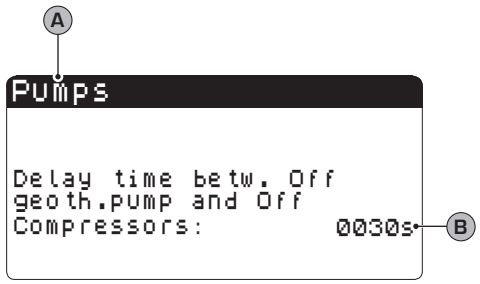
PUMPS menu (after-sales assistance) - Set the pump management logic on the primary circuit		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Plant pump:** this parameter sets the type of logic with which to activate the pump installed on the primary.
	C	**Primary circuit pump active:** this parameter indicates the mode with which to activate the hydraulic pump installed on the primary circuit. This mode can be: • UNIT ON (the pump on the primary is on when the unit is in the ON state); • ON REQUEST (the pump on the primary is switched-on when the unit is working in order to satisfy a system request);

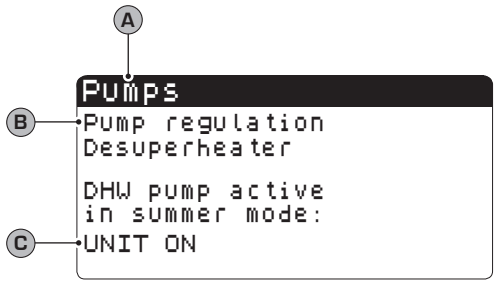
PUMPS menu (assistance) - To set primary pump switch-on delay		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Delay time between compressors ON from system pump ON:** this parameter indicates the time in seconds that must pass between switch-on of the compressor (to satisfy a system request) and switch-on of the hydraulic plant pump. This function allows to give a correct temperature value at the system return water and to check the correct functioning of the flow meter.

PUMPS menu (assistance) - To set primary pump switch-off delay		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Delay time between system pump Off from compressor Off:** this parameter indicates the time in seconds to pass between switch-off of the compressor and switch-off of the system hydraulic pump. This function allows to prevent the evaporator freezing.

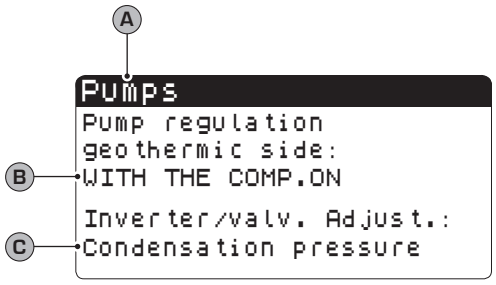
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

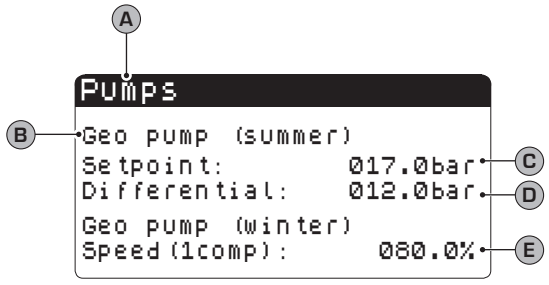
PUMPS menu (assistance) - To set geothermic pump switch-on delay		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Delay time between compressors ON from geothermic pump ON:** this parameter indicates the time in seconds that must pass between switch-on of the compressor (to satisfy a system request) and switch-on of the geothermic pump.

PUMPS menu (assistance) - To set geothermic pump switch-off delay		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Delay time between system pump Off from compressor Off:** this parameter indicates the time in seconds to pass between switch-off of the compressor and switch-off of the geothermic pump.

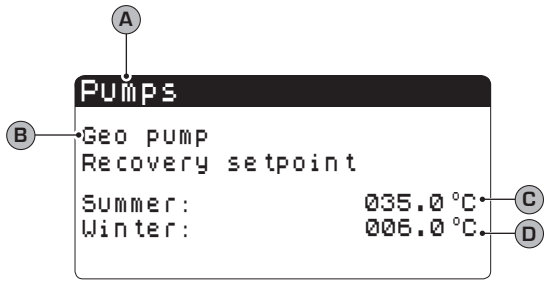
PUMPS menu (after-sales assistance) - To set the pump management logic on the DHW		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**DHW desuperheater:** this parameter sets the type of logic with which to activate the pump installed on the DHW.
	C	**DHW pump active in summer mode:** this parameter indicates the mode with which to activate the hydraulic pump installed on the primary circuit. This mode can be: • COMPRESSORS ON (the pump on the DHW is on when the compressors are in the ON state); • ON REQUEST (the pump on the DHW is switched-on when the unit is working in order to satisfy a DHW circuit request);

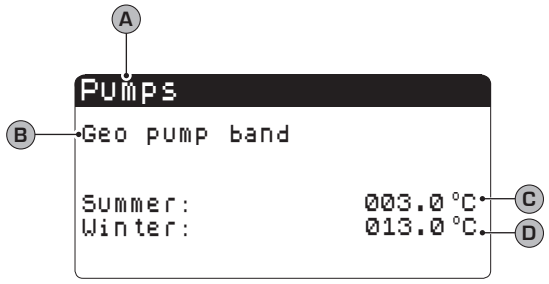
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

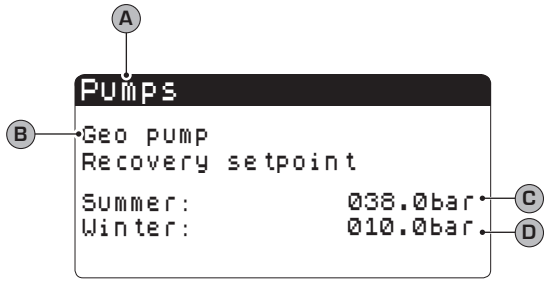
PUMPS menu (assistance) - To select the geothermic pump management logic		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Geothermic side pump adjustment:** this parameter sets the type of logic with which the pump installed on the geothermic side must be activated, in case an ON/OFF pump is installed, the logic may be: • WITH THE COMP. ON (The pump is active at the same time of the compressor); • UNIT ON (the pump is active when the unit is ON);
ATTENTION: The size associated to the condensation may be pressure or temperature, depending on the selected management logic (moreover this selection can enable some subsequent windows): **• ON COMP. REQUEST (control in pressure);** **• CONDENSATION PRESSURE (control in pressure);** **• TEMP. GEOTHERM. RETURN (control in temperature);**	**C**	**Inverter/valv. adjustment:** this parameter sets the type of logic with which an inverter or a modulating 2-way valve can be managed or activated; such logic can be: • Geo. Flow Temp. (this logic modulates the flow to the geothermal, depending on its flow temperature); • Geo. Return Temp. (this logic modulates the flow to the geothermal, depending on its flow temperature); • CONDENSATION PRESSURE ((this logic modulates the flow to the geothermal, depending on the condensation pressure);

PUMPS menu (assistance) - Setting “CONDENSAT. PRESSURE” logic in the geo pump management		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Geo pump (summer):** these parameters specify the set-point and the differential necessary for the activation of the geothermic pump if the "CONDENSAT. PRESSURE" geothermic pump management logic is selected.
	C	**Setpoint:** this parameter indicates the pressure value in flow mode to the compressor, over which the inverter pump or the modulating 2-way valve are activated.
	D	**Differential:** this parameter indicates the pressure difference to apply to the parameter (C) for the activation of the inverter pump or the modulating 2-way valve.
	E	**Geo pump (winter) Speed (1 comp.):** this parameter indicates the speed (or opening of the modulating 2-way valve) to use during winter functioning (therefore in heating mode).This speed will be fixed while the geothermic pump switch-on logic will be the same as that relative to the "COMP: ON REQUEST" logic.

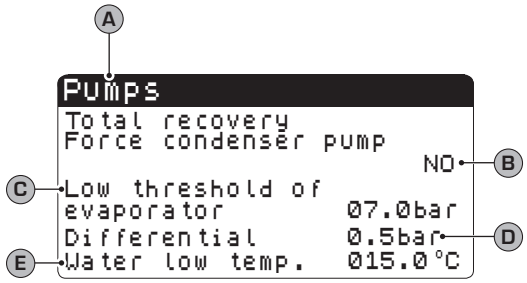
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

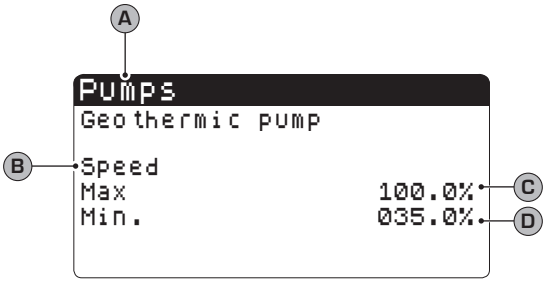
PUMPS menu (assistance) - Geothermic pump set-point settings		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Geo pump recovery setpoint:** this parameter specifies the temperature value to be reached at inlet to the exchanger on the geothermic, in order to stop this pump.
	C	**Summer:** this parameter indicates the temperature value at inlet to the exchanger on the geothermic to be reached in order to stop this pump, during summer functioning mode.
	D	**Winter:** this parameter indicates the temperature value at inlet to the exchanger on the geothermic to be reached in order to stop this pump, during winter functioning mode.

PUMPS menu (assistance) - Band settings on the geothermic pump set-point settings		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Geo pump band system control:** this parameter specifies the value of the band to apply to the pump set point on the geothermic.
	C	**Summer:** this parameter indicates the band value to apply to the set point of the geothermic pump during summer functioning mode.
	D	**Winter:** this parameter indicates the band value to apply to the set point of the geothermic pump during winter functioning mode.

PUMPS menu (assistance) - Setting of the high pressure limit during use of the total recovery device		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Geo pump set-point in recovery mode:** during the use of the total recovery device, this parameter specifies the maximum high pressure value, over which the relative alarm intervenes.
	C	**Summer:** this parameter indicates the high pressure limit value, using total recovery during functioning in cooling mode.
	D	**Winter:** this parameter indicates the high pressure limit value, using total recovery during functioning in heating mode.

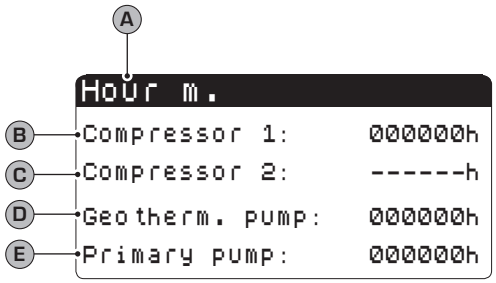
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

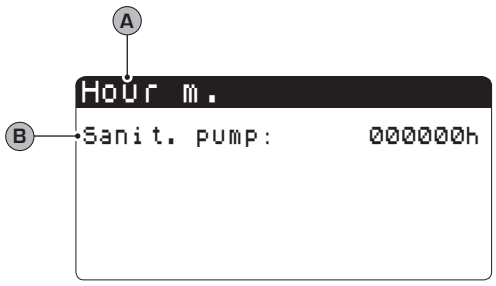
PUMPS menu (assistance) - Settings for pump forcing on the second condenser		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Condens. pump forc.:** this parameter specifies when to use forcing on the geothermic pump. To be activated, this function must satisfy the evaporation minimum pressure threshold (parameter C) and the minimum temperature detected at inlet at the 2nd condenser (parameter E); the settings can be: • NO (the forcing function is not active); • WINTER ONLY (the forcing function is only activated during the heating mode, therefore when the 2nd condenser is the exchanger on the system side); • ALWAYS (the forcing function is always active, operating on the exchanger side system or hat on the geothermic side, on the basis of the functioning mode).
	C	**Minimum evaporation threshold:** this parameter indicates the minimum value for the evaporation pressure, below which to activate the forcing of the pump (if the temperature of the water at inlet at the 2nd condenser is also coherent).
	D	**Differential:** this parameter indicates the differential to apply to the anti-freeze set.
	D	**Min. water temp.:** this parameter indicates the minimum value for the temperature of the inlet water at the 2nd condenser, below which to activate the forcing of the pump (if the evaporation pressure is also coherent).

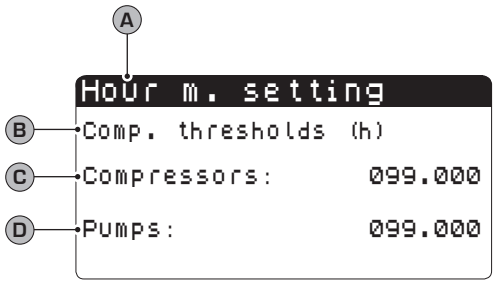
PUMPS menu (assistance) - Settings of the inverter pump speed range or modulating 2-way valve opening		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Pumps:** this menu allows to set the parameters linked to the management of the pumps at after-sales service level.
	B	**Geothermic pump:** this parameter indicates the speed range with which to manage the inverter pump or the range within which to manage the opening of the modulating 2-way valve.
	C	**Maximum speed:** this parameter indicates the maximum speed with which to manage the inverter pump or the maximum opening of the modulating 2-way valve.
	D	**Minimum speed:** this parameter indicates the minimum speed with which to manage the inverter pump or the minimum opening of the modulating 2-way valve.

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

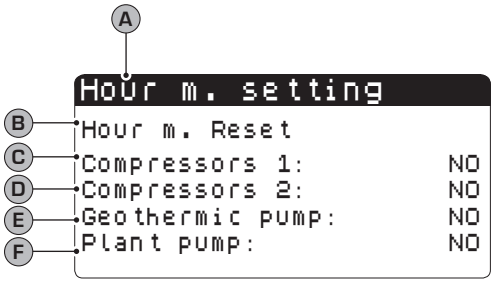
HOURCOUNTER parameters (assistance)

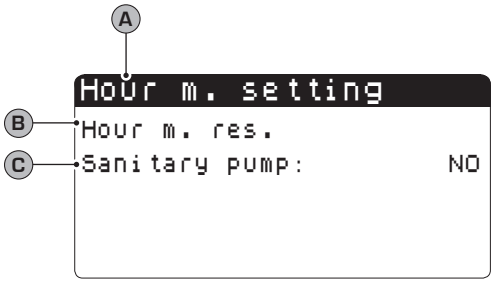
TIMER menu (assistance) - Displays working hours for the compressors, geothermic pump and system pump		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Timer:** this menu allow to display the data relative to the number of functioning hours of the system components.
	B	**Compressor 1:** this parameter indicates the number of hours worked by compressor 1.
	C	**Compressor 2:** this parameter indicates the number of hours worked by compressor 2 (if present).
	D	**Geothermic pump:** this parameter indicates the number of hours worked by the geothermic pump.
	E	**Primary pump:** this parameter indicates the number of hours worked by the pump on the system primary.

TIMER menu (assistance)- Displays DHW pump work hours (if present)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Timer:** this menu allows to display the data relative to the number of functioning hours of the system components.
	B	**DHW pump:** this parameter indicates the number of hours worked by the pump on the DHW.

TIMER menu (assistance) - To set thresholds for compressors and pumps timer		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Timer Setting:** this parameter allows to set the maximum thresholds for the working hours of the various components, over which an alarm is generated.
	B	**Compressor:** this parameter allows to set the maximum thresholds for the compressor working hours.
	C	**Pumps:** this parameter allows to set the maximum thresholds for the pump working hours.

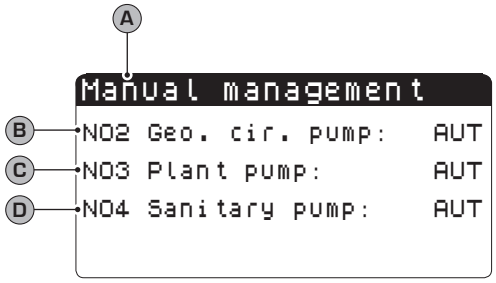
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

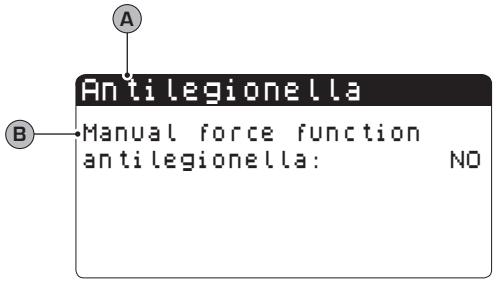
TIMER menu (assistance) - To set reset hours for the compressors,geothermic pump and system pump		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Timer Setting:** this parameter allows to set the maximum thresholds for the working hours of the various components.
	B	**Reset:** this parameter allows to zero the various timers linked to the system components.
	C	**Compressor 1:** this parameter allows to zero the compressor 1 timer.
	D	**Compressor 2:** this parameter allows to zero the compressor 2 timer (if present).
	E	**Geothermic pump:** this parameter allows to zero the geothermic pump timer.
	C	**System pump:** this parameter allows to zero the system pump timer.

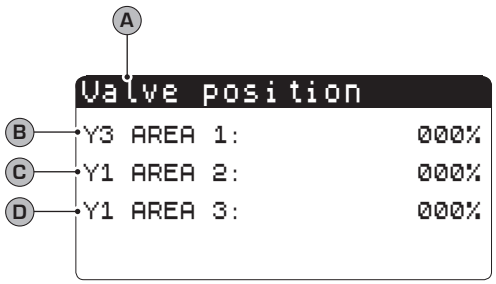
TIMER menu (assistance) - To set reset hours for the DHW pump,		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Timer Setting:** this parameter allows to set the maximum thresholds for the working hours of the various components.
	B	**Reset:** this parameter allows to zero the various timers linked to the system components.
	C	**DHW pump:** this parameter allows to zero the DHW pump timer.

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

MANUAL parameters (assistance)

MANUAL menu (assistance) - To set manual mode for the system pumps		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Manual management:** this menu allows to activate some system components manually to control the correct functioning.
	B	**NO2 Geotherm. pump:** this parameter allows to activate the geothermic pump manually. The values for this parameter could be: • AUT (standard functioning according to the logic inside the unit); • MAN (manually forced functioning; naturally, once the component control has ended by manual forcing, to make the managing logic go back to the standard, the AUT mode must be reset).
	C	**NO3 System pump:** this parameter allows to activate the geothermic pump manually. The values for this parameter could be: • AUT (standard functioning according to the logic inside the unit); • MAN (manually forced functioning; naturally, once the component control has ended by manual forcing, to make the managing logic go back to the standard, the AUT mode must be reset).
	D	**NO4 DHW pump:** this parameter allows to activate the geothermic pump manually. The values for this parameter could be: • AUT (standard functioning according to the logic inside the unit); • MAN (manually forced functioning; naturally, once the component control has ended by manual forcing, to make the managing logic go back to the standard the AUT mode must be reset).

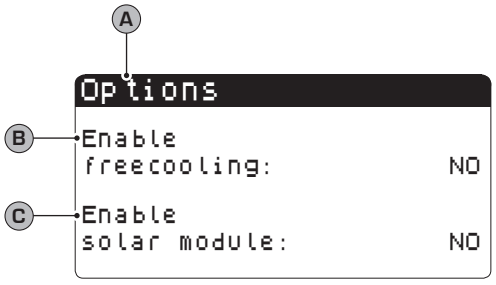
MANUAL menu (assistance) - To set manual mode for anti-legionella cycle		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Antilegionella:** this menu allows to activate the anti-legionella cycle manually to control the correct functioning.
	B	**To force the anti-legionella function:** this menu allows to activate the anti-legionella cycle manually to control the correct functioning.

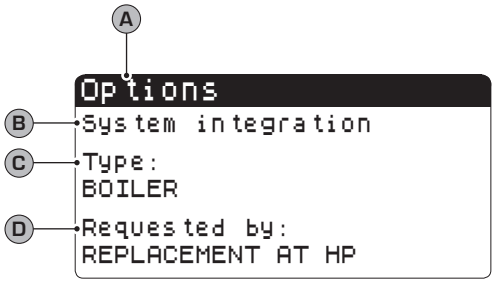
MANUAL menu (assistance) - Manually set the position of the area mixing valves		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Valve Position:** This menu allows to manually activate some components of the system, to control the correct operation.
	B	**Y3 AREA 1:** This parameter allows to manually set the position (opening %) of the mixing three-way valve, assembled on area 1; (micropc Y3 outlet)
	C	**Y1 AREA 1:** This parameter allows to manually set the position (opening %) of the mixing three-way valve, assembled on area 2; (micropc Y1 VMF-CRP(1))
	D	**Y1 AREA 1:** This parameter allows to manually set the position (opening %) of the mixing three-way valve, assembled on area 3; (micropc Y1 VMF-CRP(2))

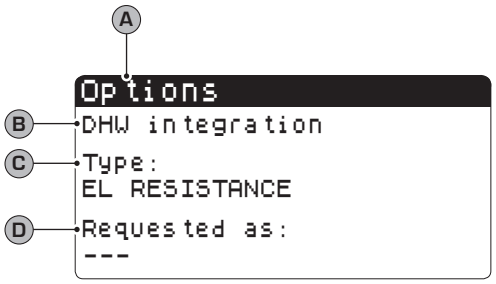
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

OPTIONAL parameters (assistance)

WARNING: the windows on the integration to the system and the DHW can vary in content on the basis of the type of integration selected (boiler or electric resistance).

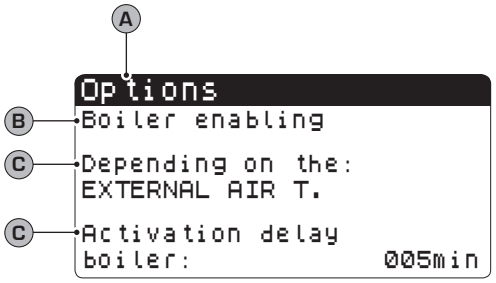
ACCESSORIES menu (assistance) - To set the presence of the freecooling and solar accessory		
Visualisation on unit display	**Index**	**Display/Parameter**
	A	**Accessories:** this menu allows to set the parameters linked to the system accessories.
	B	**Enable freecooling:** this parameter allows to enable the freecooling accessory.
	C	**Enable solar module:** this parameter allows to enable the solar module accessory.

ACCESSORIES menu (assistance) - To set the system integration		
Visualisation on unit display	**Index**	**Display/Parameter**
	A	**Accessories:** this menu allows to set the parameters linked to the system accessories.
	B	**System integration:** these parameters allows to manage the presence and managing logic of any integrative heat sources for the system.
	C	**Type:** this parameter specifies the type of integrative heat source for the system; this source can be: • NONE; • ELECTRIC RESISTANCES; • BOILER.
	D	**Requested as:** if there is a boiler as integrative heat source this parameter allows to select two different management logic: • INTEGRATION to HP (the boiler will be used in integration to the heat pump according to the temperature threshold is set in the following windows); • REPLACEMENT at HP (the boiler will be used as a replacement to the heat pump according to the temperature threshold is set in the following windows);

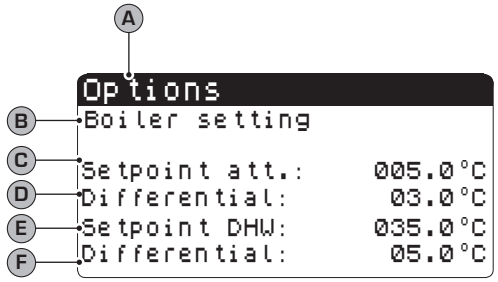
ACCESSORIES menu (assistance) - To set the DHW integration (if present)		
Visualisation on unit display	**Index**	**Display/Parameter**
	A	**Accessories:** this menu allows to set the parameters linked to the system accessories.
	B	**System integration:** these parameters allows to manage the presence and managing logic of any integrative heat sources for the system.
	C	**Type:** this parameter specifies the type of integrative heat source for the system; this source can be: • NONE; • ELECTRIC RESISTANCES; • BOILER.
	D	**Requested as:** if there is a boiler as integrative heat source this parameter allows to select two different management logic: • INTEGRATION to HP (the boiler will be used in integration to the heat pump according to the temperature threshold is set in the following windows); • REPLACEMENT at HP (the boiler will be used as a replacement to the heat pump according to the temperature threshold is set in the following windows);

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

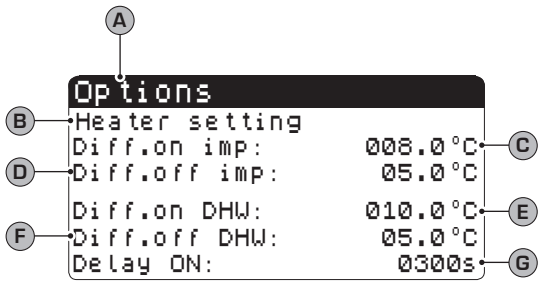
ACCESSORIES menu (assistance) - To set the boiler activation logic (if set as integrative source)

Visualisation on unit display	Index	Display/Parameter
	A	**Accessories:** this menu allows to set the parameters linked to the system accessories.
	B	**Boiler enabling:** these parameters manage the activation of the boiler used as integrative heat source.
	C	**Depending on the:** this parameter allows to establish to which element to link boiler ignition as integrative source. This element can be: • EXTERNAL AIR T. (if the external temperature drops below the value set as activation set (next window), the boiler is activated according to the envisioned mode (integration or replacement)); • GEOTHERMIC RETURN T. (if the geothermic return temperature drops below the value set as activation set (next window), the boiler is activated according to the envisioned mode (integration or replacement));
	D	**Activation delay:** this parameter indicates the delay time with which the boiler is ignited if the intervention is requested.

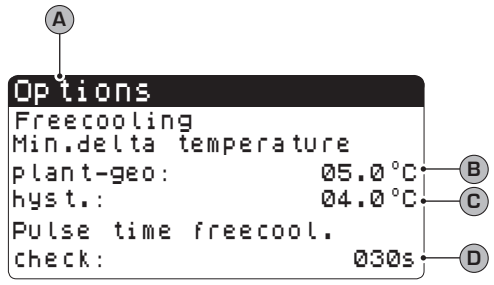
ACCESSORIES menu (assistance) - To set the boiler activation threshold (if set as integrative source)

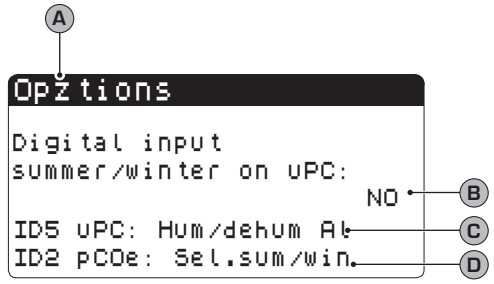
Visualisation on unit display	Index	Display/Parameter
	A	**Accessories:** this menu allows to set the parameters linked to the system accessories.
	B	**Boiler setting:** these parameters manage the activation temperature of the boiler used as integrative heat source.
	C	**Active set-point:** this parameter indicates the temperature (external air or geothermic return) below which the boiler intervention request is activated, according to the mode envisioned (integration or replacement).
	D	**Differential:** this parameter indicates the differential to apply to the boiler activation temperatures.
	E	**DHW setpoint:** This parameter indicates the temperature (inside the accumulation sanitary) under which the request is active intervention boiler, in the manner expected (integration or replacement).
	F	**Differential:** This parameter specifies the differential activation temperatures to be applied to the boiler for the health.

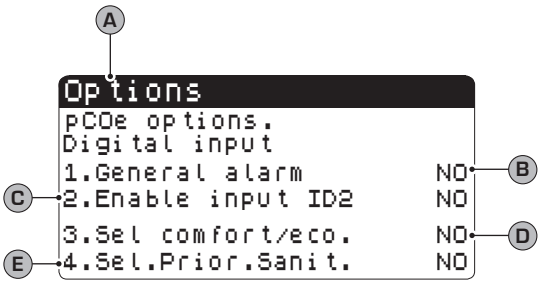
ACCESSORIES menu (assistance) - To set resistance ON/OFF (if set as integrative source for DHW)

Visualisation on unit display	Index	Display/Parameter
	A	**Accessories:** this menu allows to set the parameters linked to the system accessories.
	B	**Resistances setting:** these parameters manage the activation temperature of the resistance used as integrative heat source for the production of DHW.
	C	**Diff.on DHW:** this parameter indicates the difference between temperature inside the DHW storage tank and temperature of water produced (during the DHW request), over which the intervention of the integrative resistance is requested.
	D	**Diff.off DHW:** this parameter indicates the difference between temperature inside the DHW storage tank and temperature of water produced (during the DHW request), below which the intervention of the integrative resistance is interrupted.
	E	**Diff.on ACS:** This parameter indicates the difference between temperature and water temperature inside the accumulation ACS produced (at the request saniataria hot water), above which requires the intervention of the supplementary heater.
	F	**Diff.off ACS:** This parameter indicates the difference between temperature and water temperature inside the accumulation ACS produced (at the request saniataria hot water), under which the intervention interrupts the supplementary heater.
	G	**ON Delay:** This parameter indicates the delay time applied nell'accensione of additional resistance.

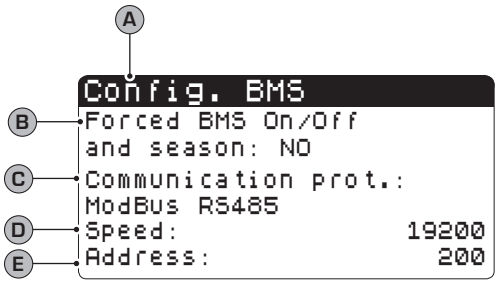
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

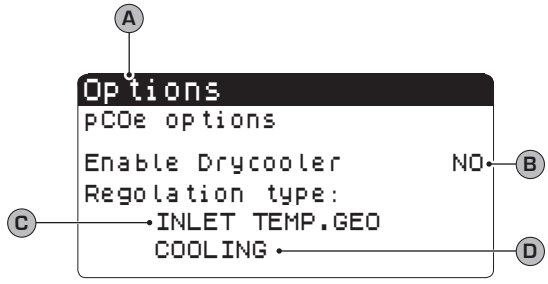
ACCESSORIES menu (assistance) - Set freecooling functioning logic		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Accessories:** this menu allows to set the parameters linked to the system accessories.
	B	**Min. probe-system temperature diff.:** this parameter indicates the temperature value with which to compare the temperature difference between the system return and the geothermic flow. If this temperature difference is greater that the value of this parameter plus the next (parameter C), the freecooling remains active (while there is request from the system).
	C	**Hysteresis:** this parameter indicates the value to sum to the previous parameter in order to establish the activation threshold of the freecooling accessory.
	D	**Freecooling control start time:** this parameter indicates after how long (from the system request) to control the system temperature and consequently to evaluate whether excellent conditions exist for use of freecooling.

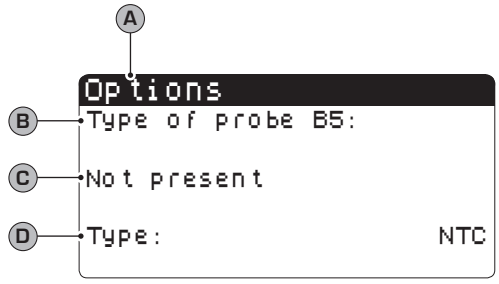
ACCESSORIES menu (assistance) - Set Function of digital input ID5		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Accessories:** This menu allows you to set the parameters related to system accessories.
	B	**Function command summer / winter on ID5:** This parameter specifies whether to enable the command via a digital input ID5 season; if you use the input ID5 as season change (CLOSED = SUMMER, WINTER OPEN =), the alarm function humidifier / dehumidifier will be managed via the digital input ID2 pCOe expansion card (optional)
	C	**Function associated with the input ID5 on board:** this parameter indicates the function currently assigned to a digital ID5.
	D	**Function associated with the input ID2 on pCOe:** This parameter indicates the function currently assigned to a digital ID2 on the optional expansion card pCOe.

ACCESSORIES menu (assistance) - Set freecooling functioning logic		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Accessories:** this menu allows to set the parameters linked to the system accessories.
	B	**General alarm** on the optional pCOe expansion board, this parameter enables or disables the digital input for signalling an alarm on the unit.
	C	**Sel.sum / winter:** This parameter enables or disables, pCOe optional expansion card, the digital input ID2 option card; **WARNING: This input can have the function of "selection summer winter" or use "alarm humidifier dehumidifier" based on the parameter of the previous page**
	D	**Comfort/econ. sel.:** on the optional pCOe expansion board, this parameter enables or disables the digital input for selection of the comfort or economic work set from remote control.
	E	**Sel. DHW Prior.:** on the optional pCOe expansion board, this parameter enables or disables the digital input for selection of the priority between DHW and system from remote control.

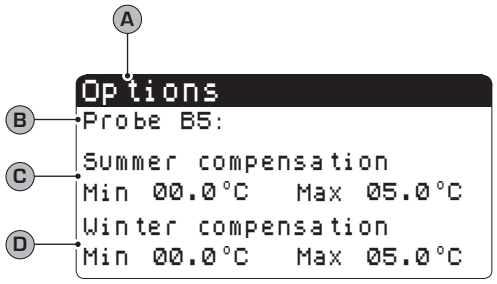
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

ACCESSORIES menu (assistance) - To set the BMS configuration		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Config. BMS:** this menu allows to set the parameters linked to the presence of BMS supervision systems.
	B	**For. from BMS for On/Off and season change:** this parameter specifies whether to make it possible to pilot the on/off and the season change of the unit via BMS supervision.
	C	**Communication prot.:** this parameter indicates which type of protocol to use in the communication with the BMS system. These protocols can be: • – (no protocol. no BMS); • pCO load local (protocol for internal use only); • ModBus RS485 (protocol on standard ModBus); • CAREL RS485 (protocol for internal use only);
	D	**Speed:** this parameter indicates the communication speed with the BMS supervision system.
	E	**Address:** this parameter indicates the address to assign to the unit with the BMS supervision system.

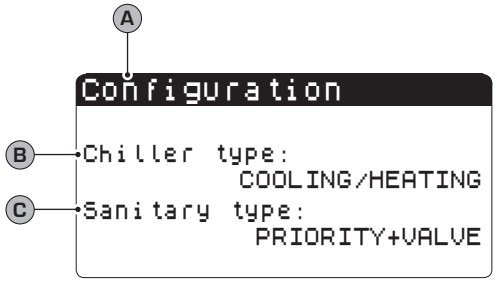
Accessories menu (servicing) - Configurazione accessorio Drycooler		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Accessories:** this menu allows to set the parameters linked to the system accessories
	B	**Abilita Drycooler:** This parameter enables or disables the use of the accessory dry coolers;
	C	**Tipo regolazione:** This parameter specifies on which to base the operation of the sensor dry coolers: • TEMP. GEO INPUT (input probe geothermal); • TEMP. OUTPUT GEO (Geothermal probe output); • TEMP. Dry cooler (B1 probe card expansion pCOe); • TEMP. IMP INPUT (input probe implantation);
	D	**Tipo regolazione:** This parameter specifies the type of logic that will handle the dry cooler accessory: • COOLING (accessory used to cool the water system, (dry cooler)); • HEATING (accessory used to heat the water system, (dryheater)); • GEO CONTROL (accessory used to support geothermal);

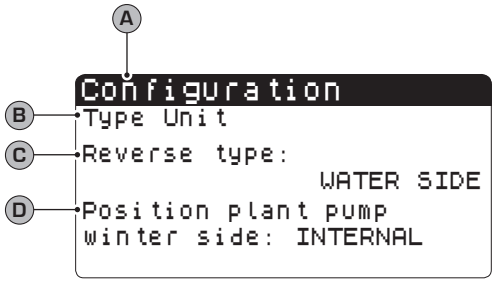
Accessories menu (service) - B5 Analog input configuration		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Accessories:** this menu allows to set the parameters linked to the system accessories.
	B	**Type of probe B5:** This parameter specifies whether the unit has a temperature sensor auxiliary B5.
	C	**Using probe:** this parameter indicates the use of auxiliary probe: • Do not present (no sensor installed B5, units manufactured before 5/1/2011); • outlet temperature recovery (mounted at the exit of the total recovery in the units that provide); • Temp common system (this option can be used in systems that provide a storage facility); • Setpoint compensation (4-20mA) (B5 configure the analog input to a rebate on the working setpoint).
	D	**Type:** This parameter specifies the type of probe used: • NTC (passive detector NTC standard); • 0 .. 1 V (active probe 0-1V); • 4 .. 20mA (active probe 4-20mA); • NTC 0 .. 150 ° C (passive detector NTC from 0 to 150 ° C);

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

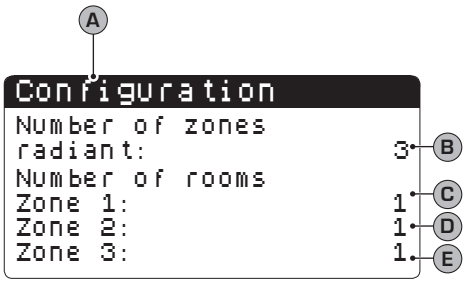
Accessories menu (servicing) - Configuring setpoint by analogue input B5 compensation		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Accessories:** this menu allows to set the parameters linked to the system accessories.
	B	**Probe B5:** These parameters specify how to change the setpoint system according to an external input (analogue input B5, 4-20mA).
	C	**Summer Compensation:** These parameters specify how to change the setpoint plant during summer operation, based at B5; to make the correction on the setpoint must be set: • Low = the value with which to fix the temperature set point, if B5 is applied at the minimum signal; • Max = the value with which to fix the temperature set point, if B5 is applied at the maximum signal;
	D	**Winter Compensation:** These parameters specify how to change the setpoint plant during winter operation, based at B5; to make the correction on the setpoint must be set: • Low = the value with which to fix the temperature set point, if B5 is applied at the minimum signal; • Max = the value with which to fix the temperature set point, if B5 is applied at the maximum signal;

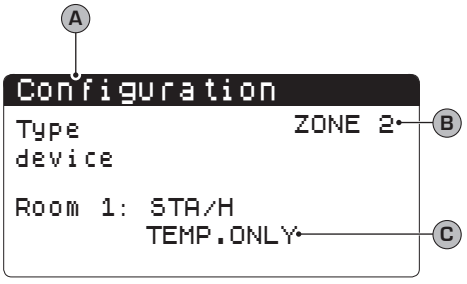
PLANT CONF. parameters (assistance)

PLANT CONF. menu (assistance) - To set the type of chiller and DHW circuit		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Type of chiller:** this parameter allows to set the type of unit installed. The types of chiller that ca be installed are: • COOLING ONLY (chiller not reversible); • COOLING/HEATING (reversible heat pump); • HEATING ONLY (non-reversible heat pump);
	C	**DHW type:** this parameter allows to set the type of DHW production. The following types of DHW production can be set: • NOT PRESENT (no DHW circuit); • DESUPERHEATER (DHW production via desuperheater); • TOTAL RECOVERY (DHW production via total recovery); • PRIORITY+VALVE (DHW production using a 3-way diverter valve and DHW production priority logic); • PRIORITY+PUMP (DHW production using a dedicated pump and priority DHW production);

PLANT CONF. menu (assistance) - To set the type of cycle reverse and primary pump position		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Unit model:** this parameter indicates the type of machine installed.
	C	**Reverse type:** this parameter allows to set the type of cycle reverse in the unit installed. The types of chiller that can be installed are: • GAS SIDE (unit supplied with cycle reverse valve); • WATER SIDE (unit not supplied with cycle reverse valve).
	D	**System pump in winter side:** if the inversion is on the water, this parameter allows to set the correct management logic of the pump on the primary, if a cycle reverse valve is envisioned on the gas side and if it is necessary to realise a hydraulic parallel for use of the heat pump; the settings are: • UPSTREAM (the pump on the primary is installed upstream from the 4-way valve for water side reverse); • DOWNSTREAM (the pump on the primary is installed downstream from the 4-way valve for water side reverse).

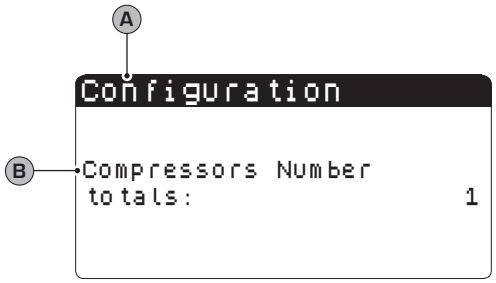
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

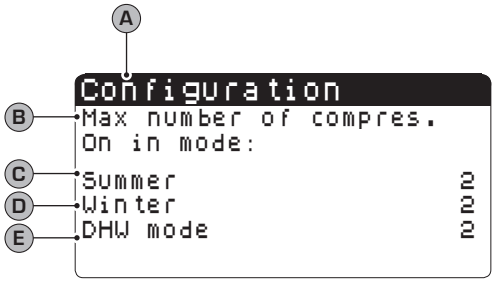
PLANT CONF. menu (assistance) - To set the number of areas and rooms		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Number of areas:** this parameter indicates the number of areas managed by the unit electronics. Remember that the standard unit can manage just one area (also remember that area 1 can have just one room) and if 2 or 3 areas are to be managed the VMFCRP accessory must be purchased and assembled. On the basis of the value specified in this parameter, some following windows may not be displayed.
	C	**Number of Area 1 rooms:** this parameter indicates the number of rooms that make up area 1. This area is managed by the standard unit without necessity of the additional module (VMFCRP accessory). The feature of this area is that of not being able to envision more rooms, but can be managed with the use of a STA or STH accessory thermostat, or without. To select the type of installation envisioned, the value of the parameter must be set as: • 0 (area without room thermostat); • 1 (area with STA or STH thermostat).
	D	**Number of Area 2 rooms:** this parameter indicates the number of rooms that make up area 2 (in this case, the unit cannot manage al loads involved, and it is necessary to envision a VMFCRP+SSM accessory, as well as a STA or STH for every room supplied with radiant panels); this value can be: • 0 (the area is served by different terminals to the radiant panels, therefore this area does not envision the STA/H accessories); • 1 (the area is served by a radiant panel and is formed by just one room); • 2 (the area is served by radiant panels and is formed by two rooms);
	E	**Area 3:** this parameter indicates the number of rooms that make up area 3 (in this case, the unit cannot manage al loads involved, and it is necessary to envision a VMFCRP+SSM accessory, as well as a STA or STH for every room supplied with radiant panels); this value can be: • 0 (the area is served by different terminals to the radiant panels, therefore this area does not envision the STA/H accessories); • 1 (the area is served by a radiant panel and is formed by just one room); • 2 (the area is served by radiant panels and is formed by two rooms);

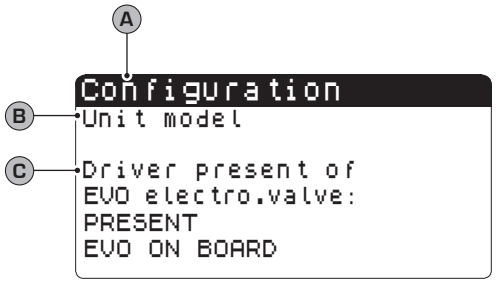
PLANT CONF. menu (assistance) - Set the type of thermostat accessory for the areas		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**ZONA:** questo indice permette di capire ai terminali di che zona stiamo impostando.
	D	**Room:** This parameter allows you to set the type of accessory mounted thermostat in each room, the options are: • STA / H temperature only; • STA / humidity temperature H

WARNING: the number of windows present in this menu depends on the number of areas (and rooms) set in the system by the installer. If several areas are present (or an individual area with several rooms), the windows shown for the menu, will be re-proposed for every room, obviously updating the indexes and the labels in a way to allow the user to identify them easily.

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

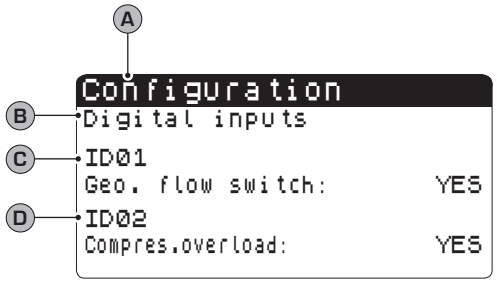
PLANT CONF. menu (assistance) - To set the number of unit compressors		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Total Number of Compressors:** this parameter allows to set the number of compressors present on the unit installed.

PLANT CONF. menu (assistance) - Set the electronic valve driver EVO		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Maximum number of active compressors:** These parameters indicate how many compressors to turn up in any other way.
	C	**Summer:** This parameter indicates the maximum number of compressors used when running in cold weather.
	D	**Winter:** This parameter indicates the maximum number of compressors used hot during operation.
	E	**DHW mode:** This parameter indicates the maximum number of compressors used in the production of hot water.

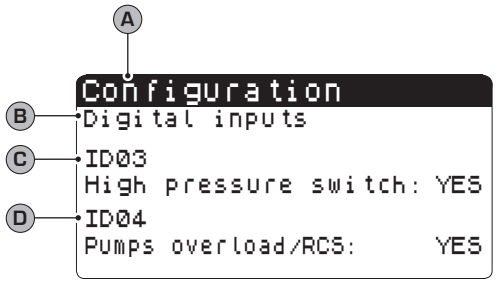
PLANT CONF. menu (assistance) - To set EVO electronic valve driver		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Unit model:** this parameter indicates the type of machine installed.
	C	**Presence of the electronic valve drivers. EVO:** This parameter allows you to manage or not the driver to drive the electronic valve EVO by the unit, the possible configurations are: • DO NOT PRESENT (units with valve maeccanica); • THIS BOARD EVO (electronics unit manages the driver to drive the electronic valve EVO); • THIS EVO in Plan (Electronics runs an external driver, this option is only available for drives larger than the model WRL160);

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

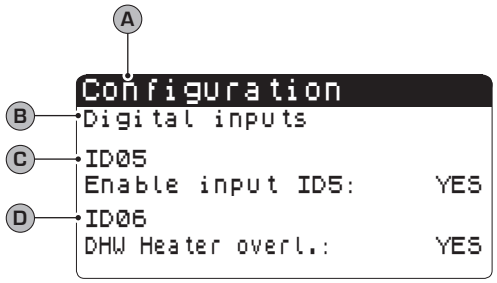
PLANT CONF. menu (assistance) - To set digital inputs ID01 and ID02

Visualisation on unit display	Index	Display/Parameter
	A	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Digital inputs:** these parameters allow to enable or disable the interested digital inputs; this function allows to disable the alarms connected to the same digital inputs. **WARNING: the setting of these parameters is particularly delicate as incorrect values can cause functioning anomalies. The modifications must only be made by skilled staff.**
	C	**ID01:** this parameter allows to enable or disable the water flow safety device present on the geothermic side, The possible states can be: • YES (digital input ENABLED); • NO (digital input DISABLED);
	D	**ID02:** this parameter allows to enable or disable the magnet circuit breaker of compressor 1. The states can be: • YES (digital input ENABLED); • NO (digital input DISABLED);

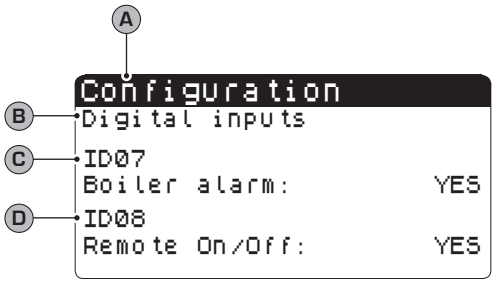
PLANT CONF. menu (assistance) - To set digital inputs ID03 and ID04

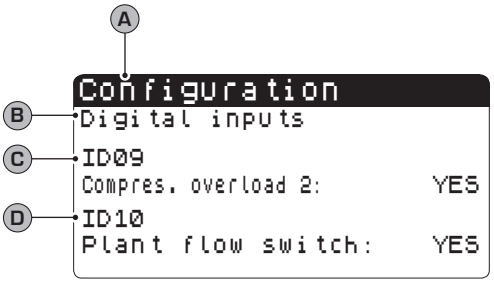
Visualisation on unit display	Index	Display/Parameter
	A	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Digital inputs:** these parameters allow to enable or disable the interested digital inputs; this function allows to disable the alarms connected to the same digital inputs. **WARNING: the setting of these parameters is particularly delicate as incorrect values can cause functioning anomalies. The modifications must only be made by skilled staff.**
	C	**ID03:** this parameter allows to enable or disable the high pressure switch. The possible states can be: • YES (digital input ENABLED); • NO (digital input DISABLED);
	D	**ID04:** this parameter allows to enable or disable the magnet circuit breaker of pumps. The states can be: • YES (digital input ENABLED); • NO (digital input DISABLED);

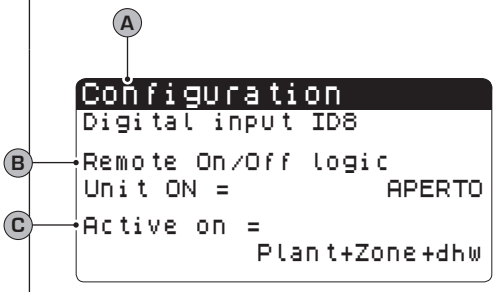
PLANT CONF. menu (assistance) - To set digital inputs ID05 and ID06

Visualisation on unit display	Index	Display/Parameter
	A	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Digital inputs:** these parameters allow to enable or disable the interested digital inputs; this function allows to disable the alarms connected to the same digital inputs. **WARNING: the setting of these parameters is particularly delicate as incorrect values can cause functioning anomalies. The modifications must only be made by skilled staff.**
	C	**ID03:** This parameter allows you to enable or disable the digital input ID5; states can be: • YES (ENABLE digital input); • NO (digital input DISABLE); **WARNING: This input can have the function of "selection summer winter" or use "alarm humidifier dehumidifier" according to the menu settings accessories**
	D	**ID04:** this parameter allows to enable or disable the resistance magnet circuit breaker for DHW. The states can be: • YES (digital input ENABLED); • NO (digital input DISABLED);

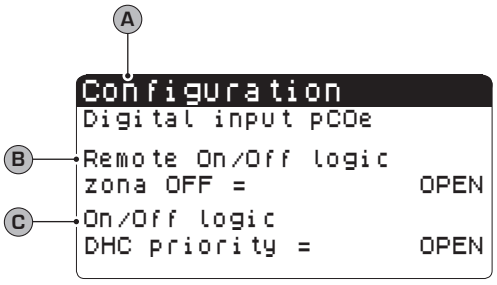
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

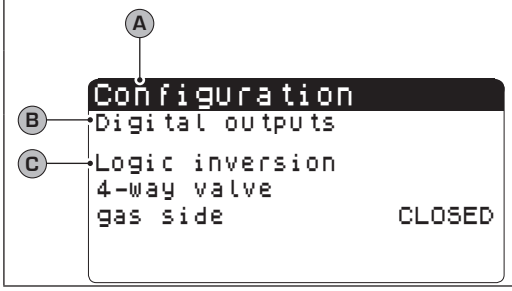
PLANT CONF. menu (assistance) - To set digital inputs ID07 and ID08		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Digital inputs:** these parameters allow to enable or disable the interested digital inputs; this function allows to disable the alarms connected to the same digital inputs. **WARNING: the setting of these parameters is particularly delicate as incorrect values can cause functioning anomalies. The modifications must only be made by skilled staff.**
	C	**ID07:** this parameter allows to enable or disable the boiler alarm. The possible states can be: • YES (digital input ENABLED); • NO (digital input DISABLED);
	D	**ID08:** this parameter allows to enable or disable the On/Off remote. The possible states can be: • YES (digital input ENABLED); • NO (digital input DISABLED); Caution: contact open = machine ON.

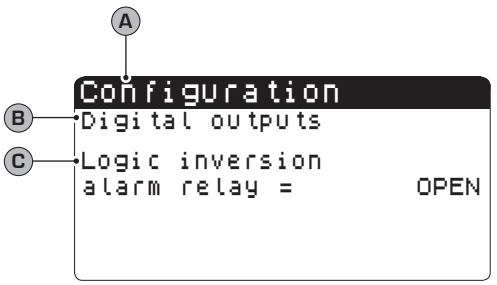
PLANT CONF. menu (assistance) - To set digital inputs ID09 and ID010		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Digital inputs:** these parameters allow to enable or disable the interested digital inputs; this function allows to disable the alarms connected to the same digital inputs. **WARNING: the setting of these parameters is particularly delicate as incorrect values can cause functioning anomalies. The modifications must only be made by skilled staff.**
	C	**ID09:** this parameter allows to enable or disable the magnet circuit breaker of compressor 2. The states can be: • YES (digital input ENABLED); • NO (digital input DISABLED);
	D	**ID10:** this parameter allows to enable or disable the water flow safety device present on the system side, The possible states can be: • YES (digital input ENABLED); • NO (digital input DISABLED);

PLANT CONF. menu (assistance) - Set logic remote ON / OFF from digital contact ID08		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Logic On / Off Remote Unit ON:** This parameter indicates the status of digital input ID08 unit to bind to NB: • OPEN (ID08 indicates that if the input is OPEN, the unit is ON); • CLOSED (ID08 indicates that if the input is OFF, the unit is ON);
	C	**Attivo su:** This parameter allows you to set the items of plant on which the ON / OFF remote digital input ID08 can work: • PLANT+ZONE+DHW. (ON / OFF control of remote active system, zones and health); • PLANT+ZONE (ON / OFF control of remote assets and system areas); • ONLY PLANT (ON / OFF control of remote active system);

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

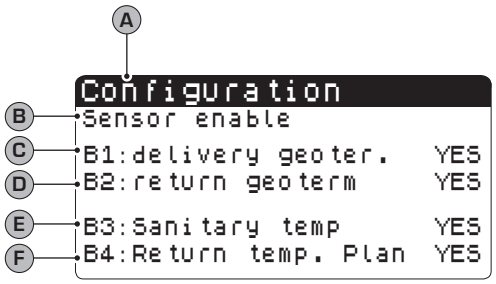
PLANT CONF. menu (assistance) - Set digital inputs ID03 and ID04 of ancillary pCOe		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Remote On/Off logic zona OFF:** This parameter indicates the status of digital input ID03 to bind to ON areas: • OPEN (ID03 indicates that if the input is OPEN, the zone is ON); • CLOSED (ID03 indicates that if the input is OFF, the zone is ON);
	C	**On/Off logic DHC priority:** This parameter indicates the status of digital input ID03 forced to associate with the production of sanitary hot water: • OPEN (ID03 indicates that if the input is OPEN, the unit will be forced to produce domestic hot water); • OPEN (ID03 indicates that if the input is OFF, the unit will be forced to produce domestic hot water);

PLANT CONF. menu (assistance) - To set gas side reverse valve management logic		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Digital outputs:** these parameters allow to set the logic of the components managed via digital outputs.
	C	**Gas side 4-way valve logic inversion:** this parameter allows to set the logic with which to manage the 4-way valve for reverse on gas side in summer mode. The states can be: • OPEN (the relay open state will indicate summer functioning); • CLOSED (the relay closed state will indicate summer functioning); Note: the relay is always open if the unit is off.

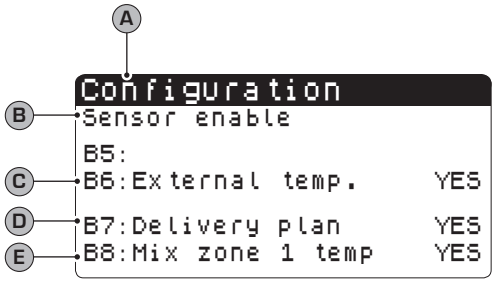
PLANT CONF. menu (assistance) - To set alarm relay management logic		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Digital outputs:** these parameters allow to set the logic of the components managed via digital outputs.
	C	**Relay logic alarm:** this parameter allows to set the logic with which to manage the alarm relay. The states can be: • OPEN (the relay open state will indicate no alarm); • CLOSED (the relay closed state will indicate no alarm); Note: the relay is always open if the unit is off.

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

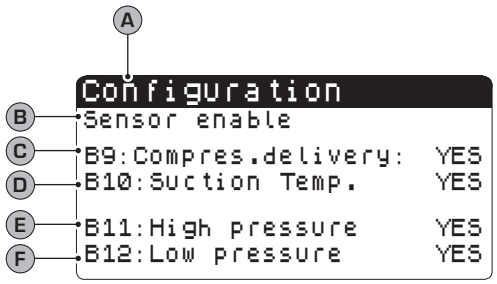
PLANT CONF. menu (assistance) - To set probes enabling (page 1)

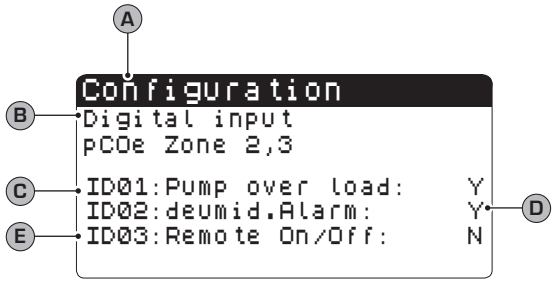
Visualisation on unit display	Index	Display/Parameter
	A	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Probes enabling:** these parameters allow to enable or disable the probes present in the system. **WARNING: the setting of these parameters is particularly delicate as incorrect values can cause functioning anomalies. The modifications must only be made by skilled staff.**
	C	**B1: Geothermic flow:** this parameter allows to enable or disable the flow probe to the geothermic. The possible states can be: • YES (probe ENABLED); • NO (probe DISABLED);
	D	**B2: Geothermic return:** this parameter allows to enable or disable the return probe to the geothermic. The possible states can be: • YES (probe ENABLED); • NO (probe DISABLED);
	E	**B3: Domestic hot water :** this parameter allows to enable or disable the DHW probe to the geothermic. The possible states can be: • YES (probe ENABLED); • NO (probe DISABLED);
	F	**B4: System RETURN:** this parameter allows to enable or disable the return probe to the system. The possible states can be: • YES (probe ENABLED); • NO (probe DISABLED);

PLANT CONF. menu (assistance) - To set probes enabling (page 2)

Visualisation on unit display	Index	Display/Parameter
	A	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Probes enabling:** these parameters allow to enable or disable the probes present in the system. **WARNING: the setting of these parameters is particularly delicate as incorrect values can cause functioning anomalies. The modifications must only be made by skilled staff.**
	C	**B6: Ext. air temp. :** this parameter allows to enable or disable the external air probe to the geothermic. The possible states can be: • YES (probe ENABLED); • NO (probe DISABLED);
	D	**B7: System flow:** this parameter allows to enable or disable the flow probe to the system. The possible states can be: • YES (probe ENABLED); • NO (probe DISABLED);
	E	**B8: C. flow to mix1 :** this parameter allows to enable or disable the mix1 circuit flow probe (area 1). The possible states can be: • YES (probe ENABLED); • NO (probe DISABLED);

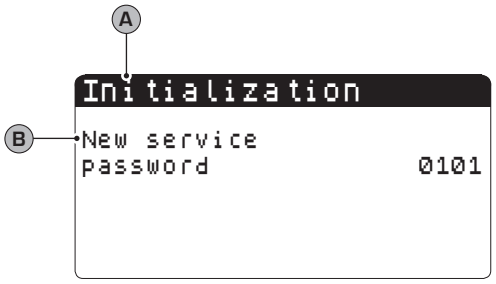
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

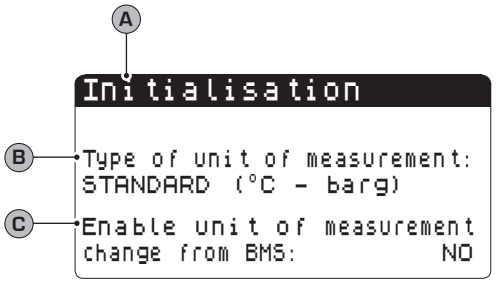
PLANT CONF. menu (assistance) - To set probes enabling (page 3)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Probes enabling:** these parameters allow to enable or disable the probes present in the system. **WARNING: the setting of these parameters is particularly delicate as incorrect values can cause functioning anomalies. The modifications must only be made by skilled staff.**
	C	**B9: Comp. flow :** this parameter allows to enable or disable the flow probe to the compressor. The possible states can be: • YES (probe ENABLED); • NO (probe DISABLED);
	D	**B10: Geothermic return :** this parameter allows to enable or disable the compressor intake temperature probe. The possible states can be: • YES (probe ENABLED) not required if external EVO; • NO (probe DISABLED);
	E	**B11: Condens. Press.:** this parameter allows to enable or disable the condensation pressure probe. The possible states can be: • YES (probe ENABLED); • NO (probe DISABLED);
	F	**B12: Evaporat. Press.:** this parameter allows to enable or disable the evaporation pressure probe. The possible states can be: • YES (probe ENABLED); • NO (probe DISABLED);

PLANT CONF. menu (assistance) - To set areas On/Off from digital input		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Configuration:** this menu allows to set the parameters linked to the type of system in which the unit is inserted.
	B	**Area 2, 3 pCOe digital inputs:** these parameters allow to set the On/Off remote for the areas.
	C	**ID01:** This parameter allows you to set the logic with which to manage the alarm of the pumps ZONE2 and 3 states can be: • YES (Alarm pumps ENABLE); • NO (pump alarm DISABLE);
	D	**ID02:** This parameter allows you to set the logic with which to manage the alarm dehumidifier areas, states can be: • YES (Alarm dehumidifier ENABLE); • NO (Alarm dehumidifier DISABLE);
	E	**ID03:** this parameter allows to set the logic with which to manage areas On/Off remote. The states can be: • YES (areas On/Off from digital input ENABLED); • NO (areas On/Off from digital input DISABLED);

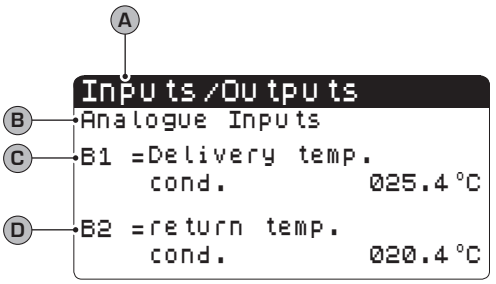
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

VARIOUS parameters (assistance)

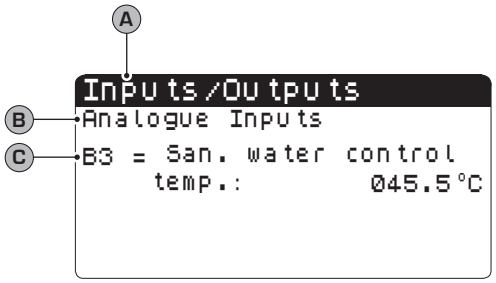
VARIOUS menu (assistance) - To set new assistance password		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**User default:** this menu allows to set the password for the ASSISTANCE menu.
	B	**New assistance password:** this parameter allows to set a new password for the assistance menu. WARNING: IN THE EVENT OF CUSTOMISATION, MAKE NOTE OF THE NEW PASSWORD IN A SAFE PLACE.

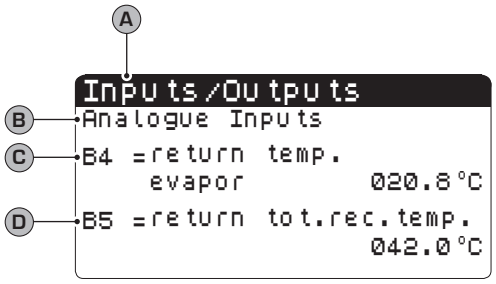
VARIOUS menu (assistance) -To set system unit of measurement		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Initialisation:** this menu allows to set the unit of measurement to use in the system.
	B	**Type of unit of measurement:** this parameter allows to select the unit of measurement to use in the system. This selection can be: • STANDARD (international system: °C - barg); • ANGLO-SAXON (anglo-saxon system: °F - psig).
	C	**Enable unit of measurement change from BMS:** this parameter allows to modify the system unit of measurement via a BMS supervisor control. The states can be: • YES (modification allowed via BMS); • NO (modification not allowed via BMS).

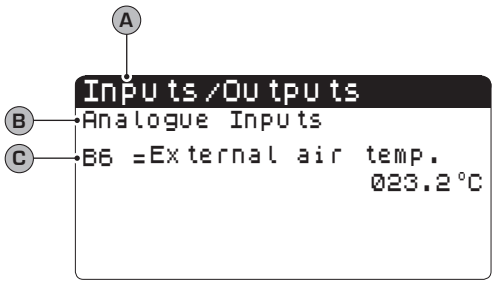
INPUTS/OUTPUTS parameters (assistance)

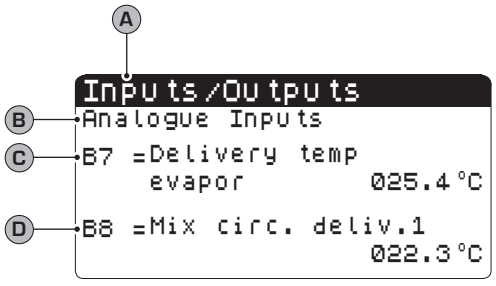
INPUTS/OUTPUTS menu (assistance) - Displays geothermic flow/return .		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**Analogue inputs:** these parameters represent the values read by the probes connected to the analogue inputs.
	C	**B1 = Geot. flow temp.:** this parameter represents the value read by the flow probe at the geothermic.
	D	**B2 = Geot. return temp.:** this parameter represents the value read by the probe on the geothermic return.

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

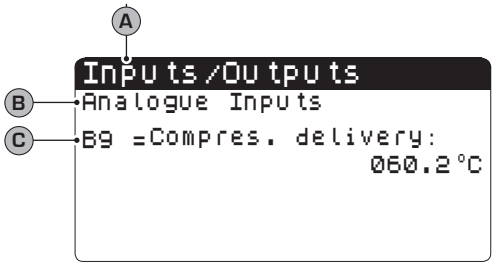
INPUTS/OUTPUTS menu (assistance) - Displays DHW temperature		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**Analogue inputs:** these parameters represent the values read by the probes connected to the analogue inputs.
	C	**B3 = DHW Temp. control:** this parameter represents the value read by the probe in the DHW.

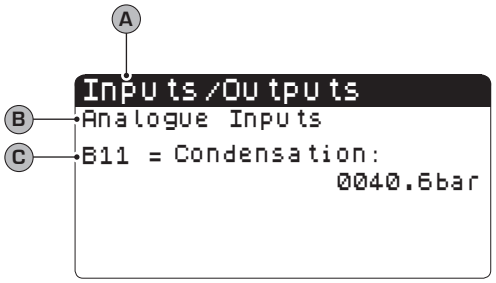
INPUTS/OUTPUTS menu (assistance) - Displays system return temperature		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**Analogue inputs:** these parameters represent the values read by the probes connected to the analogue inputs.
	C	**B4 = System return temp.:** this parameter represents the value read by the probe on the system return.
	D	**B5 = auxiliary probe:** this parameter represents the value read by the auxiliary probe connected to the analog input B5 (B5 Analog input configuration).

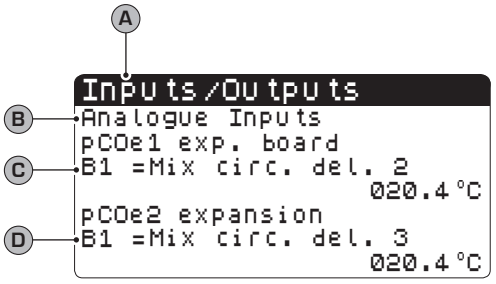
INPUTS/OUTPUTS menu (assistance) - Displays external air temperature.		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**Analogue inputs:** these parameters represent the values read by the probes connected to the analogue inputs.
	C	**B6 = External temp.:** this parameter represents the value read by the external air probe.

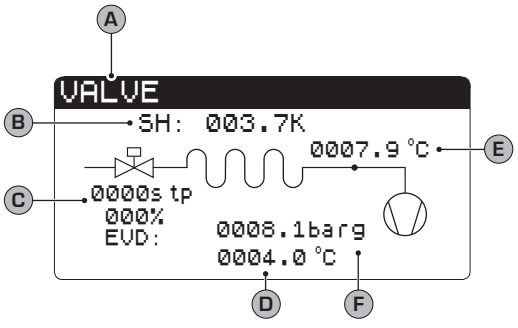
INPUTS/OUTPUTS menu (assistance) - Displays system flow and mixed circuit 1 flow		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**Analogue inputs:** these parameters represent the values read by the probes connected to the analogue inputs.
	C	**B7 = System external temp.:** this parameter represents the value read by the flow probe at the system.
	D	**B8 = Mix 1 circ. flow:** this parameter represents the value read by the probe on the mixed circuit 1 flow.

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

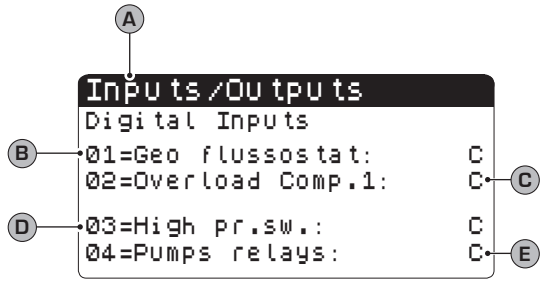
INPUTS/OUTPUTS menu (assistance) - Displays compressor flow temperature		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**Analogue inputs:** these parameters represent the values read by the probes connected to the analogue inputs.
	C	**B9 = External temp.:** this parameter represents the value read by the flow probe at the compressor.

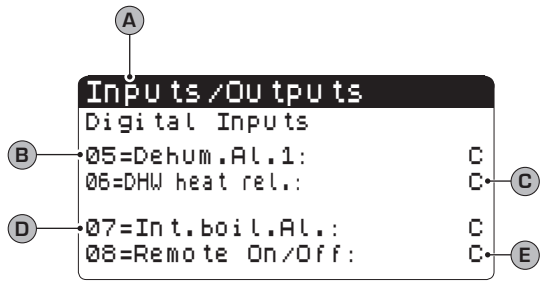
INPUTS/OUTPUTS menu (assistance) - Displays condensation pressure		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**Analogue inputs:** these parameters represent the values read by the probes connected to the analogue inputs.
	C	**B11 = Condensation:** this parameter represents the value read by the flow pressure switch at the compressor.

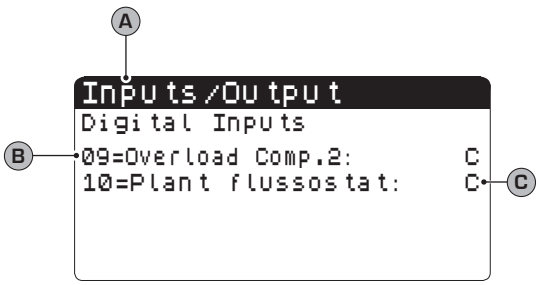
INPUTS/OUTPUTS menu (assistance) - Displays mixed circuit 2 and 3 flow		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**Analogue inputs:** these parameters represent the values read by the probes connected to the analogue inputs.
	C	**B1 = Mix 2 circ. flow:** this parameter represents the value read by the probe on the mixed circuit 2 flow (area 2).
	D	**B1 = Mix 3 circ. flow:** this parameter represents the value read by the probe on the mixed circuit 3 flow (area 3).

INPUTS/OUTPUTS menu (assistance) - Displays the EVO valve state (page 1)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**VALVE:** this window displays the data relative to the system electronic expansion valve.
	B	**Overheating temperature:** indicates the current overheating temperature.
	C	**Percentage opening of the electric valve:** indicates the percentage opening value of the electronic valve:
	D	**Temperature theoretical vacuum:** it represents the direct conversion of suction pressure at a temperature value.
	E	**Evaporation temperature:** Indicates the value read at the compressor inlet temperature.
	F	**Suction pressure:** indicates the temperature of the compressor suction pressure (low pressure).

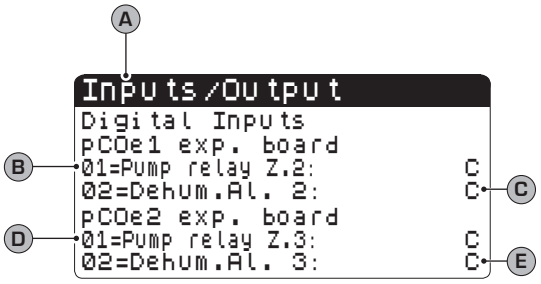
WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

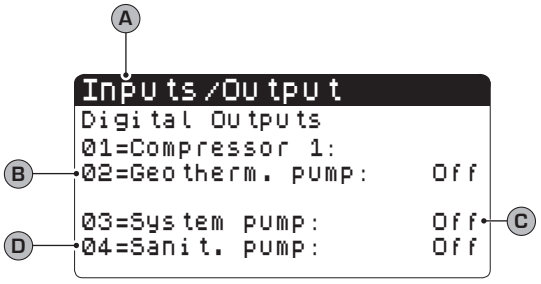
INPUTS/OUTPUT menu (assistance) - Displays the digital input states (page 1)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**01 = Geo. flow meter:** this parameter allows to display the state of the digital input with which to manage the flow meter on the geothermic side. The states can be: • A (OPEN); • C (CLOSED);
	C	**02 = compres. 1 circuit breaker:** this parameter allows to display the state of the digital input with which to manage the magnet circuit breaker on compressor 1. The states can be: • A (OPEN); • C (CLOSED);
	D	**03 = Geo. flow meter:** this parameter allows to display the state of the digital input with which to manage the high pressure switch. The states can be: • A (OPEN); • C (CLOSED);
	E	**04 = Pumps circuit breakers:** this parameter allows to display the state of the digital input with which to manage the pumps magnet circuit breaker switches. The states can be: • A (OPEN); • C (CLOSED);

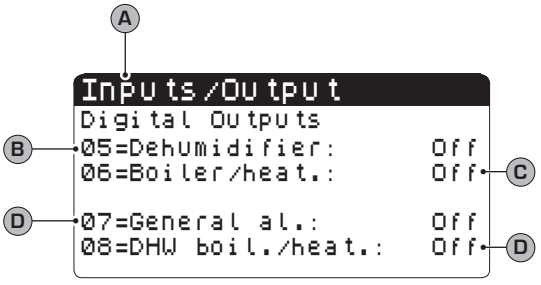
INPUTS/OUTPUT menu (assistance) - Displays the digital input states (page 2)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**05 = Dehumidif. 1 al.:** this parameter allows to display the state of the digital input with which to manage the dehumidifier 1 alarm. The states can be: • A (OPEN); • C (CLOSED);
	C	**02 = DHW res. circuit breaker:** this parameter allows to display the state of the digital input with which to manage the DHW pump magnet circuit breaker switch. The states can be: • A (OPEN); • C (CLOSED);
	D	**03 = Integ boiler alarm:** this parameter allows to display the state of the digital input with which to manage the resistance or boiler magnet circuit breaker. The states can be: • A (OPEN); • C (CLOSED);
	E	**04 = On/Off remote:** this parameter allows to display the state of the digital input with which to manage on/off remote. The states can be: • A (OPEN); • C (CLOSED);

INPUTS/OUTPUTS menu (assistance) - Displays the digital input states (page 3)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**09 = compres. 2 circuit breaker:** this parameter allows to display the state of the digital input with which to manage compressor 2 magnet circuit breaker. The states can be: • A (OPEN); • C (CLOSED);
	C	**04 = Syst. flow meter:** this parameter allows to display the state of the digital input with which to manage the system flow meter. The states can be: • A (OPEN); • C (CLOSED);

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

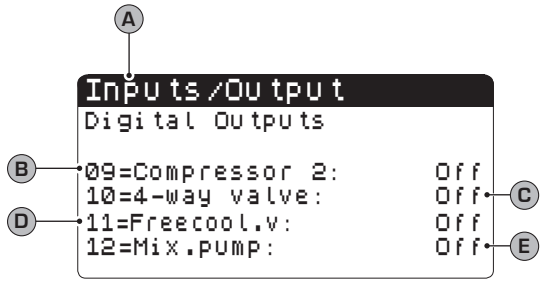
INPUTS/OUTPUTS menu (assistance) - Displays the digital input states (page 4)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**01 = A.2 pump circ. break.:** this parameter allows to display the state of the digital input with which to manage the area 2 pump magnet circuit breaker switch. The states can be: • A (OPEN); • C (CLOSED);
	C	**02 = Dehumidif. 2 al.:** this parameter allows to display the state of the digital input with which to manage the area 2 dehumidifier alarm. The states can be: • A (OPEN); • C (CLOSED);
	D	**01 = A.3 pump circ. break.:** this parameter allows to display the state of the digital input with which to manage the area 3 pump magnet circuit breaker switch. The states can be: • A (OPEN); • C (CLOSED);
	E	**02 = Dehumidif. 3 al.:** this parameter allows to display the state of the digital input with which to manage the area 3 dehumidifier alarm. The states can be: • A (OPEN); • C (CLOSED);

INPUTS/OUTPUTS menu (assistance) - Displays the digital output states (page 1)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**02 = Geotherm. pump:** this parameter allows to display the state of the digital output with which to manage the geothermic pump. The states can be: • ON; • OFF;
	C	**03 = System pump:** this parameter allows to display the state of the digital output with which to manage the system pump. The states can be: • ON; • OFF;
	D	**02 = DHW pump:** this parameter allows to display the state of the digital output with which to manage the DHW pump. The states can be: • ON; • OFF;

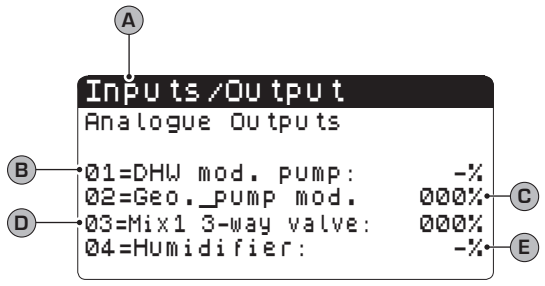
INPUTS/OUTPUT menu (assistance) - Displays the digital output states (page 2)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**05 = Dehumidifier:** this parameter allows to display the state of the digital output with which to manage the dehumidifier. The states can be: • ON; • OFF;
	C	**06 = Boiler/res.:** this parameter allows to display the state of the digital output with which to manage the boiler or resistance. The states can be: • ON; • OFF;
	D	**07 = General al.:** this parameter allows to display the state of the digital output with which to manage the general alarm. The states can be: • ON; • OFF;
	E	**08 = Boiler/DHW Res.:** this parameter allows to display the state of the digital output with which to manage the boiler or the integrative resistance for DHW. The states can be: • ON; • OFF;

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

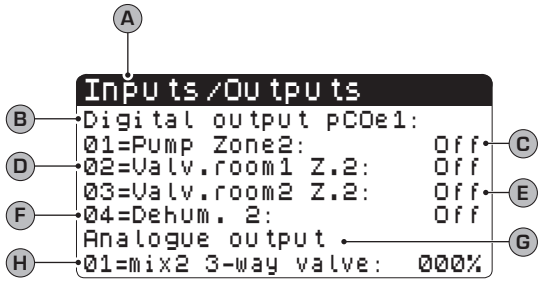
INPUTS/OUTPUT menu (assistance) - Displays the digital output states (page 3)

Visualisation on unit display	Index	Display/Parameter
	A	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**09 = Compressor 2:** this parameter allows to display the state of the digital output with which to manage compressor 2. The states can be: • ON; • OFF;
	C	**10 = 4-way valve:** this parameter allows to display the state of the digital output with which to manage the 4-way valve. The states can be: • ON; • OFF;
	D	**11 = Freecool valve:** this parameter allows to display the state of the digital output with which to manage the freecooling valve. The states can be: • ON; • OFF;
	E	**12 = Mixer pump:** this parameter allows to display the state of the digital output with which to manage the mixing pump. The states can be: • ON; • OFF;

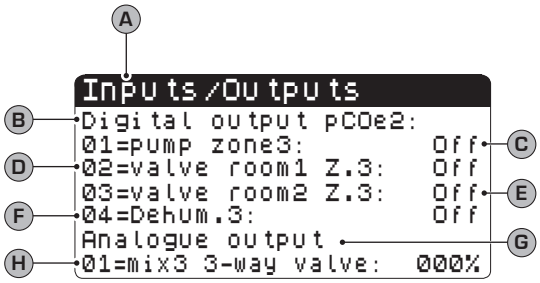
INPUTS/OUTPUT menu (assistance) - Displays state of the analogue outputs

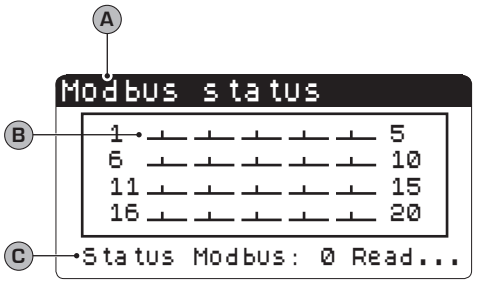
Visualisation on unit display	Index	Display/Parameter
	A	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**01 = Pump mod. DHW:** this parameter allows to display the state of the analogue output for the DHW modulating pump.
	C	**02 = Geo._pump mod.:** this parameter allows to display the state of the analogue output for the geothermic modulating pump.
	D	**03 = Mix1 3-way valve:** this parameter allows to display the state of the analogue output for the mix 3-way valve (area 1).
	E	**04 = Humidifier:** this parameter allows to display the state of the analogue output for the humidifier.

INPUTS/OUTPUTS menu (assistance)- Displays state of the pCOe 1 outputs (if present)

Visualisation on unit display	Index	Display/Parameter
	A	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**pCOe1 digital outputs:** these parameters allow to display the digital outputs values managed by the expansion board for area 2.
	C	**01 = A.2 mix. pump:** this parameter allows to display the state of the digital output with which to manage the mixing pump for area 2. The states can be: • ON; • OFF;
	D	**02 = A.2 room 1 valve:** this parameter allows to display the state of the digital output with which to manage the shut-off solenoid valve for room 1 in area 2. The states can be: • ON; • OFF;
	E	**03 = A.2 room 2 valve:** this parameter allows to display the state of the digital output with which to manage the shut-off solenoid valve for room 2 in area 2. The states can be: • ON; • OFF;
	F	**04 = Dehumidif. 2:** this parameter allows to display the state of the digital input with which to manage the area 2 dehumidifier. The states can be: • ON; • OFF;
	G	**pCOe1 analogue outputs:** this parameter allows to display the analogue output values managed by the expansion board for area 2.
	H	**01 = Mix2 3-way valve:** this parameter allows to display the state of the analogue output for the mix 3-way valve for area 2.

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

INPUTS/OUTPUTS menu (assistance) - Displays state of the pCOe 2 outputs (if present)		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Inputs/Outputs:** this menu allows to display the values read by the system probes.
	B	**pCOe1 digital outputs:** these parameters allow to display the digital outputs values managed by the expansion board for area 3.
	C	**01 = A.3 mix. pump:** this parameter allows to display the state of the digital output with which to manage the mixing pump for area 3. The states can be: • ON; • OFF;
	D	**02 = A.3 room 1 valve:** this parameter allows to display the state of the digital output with which to manage the shut-off solenoid valve for room 1 in area 3. The states can be: • ON; • OFF;
	E	**03 = A.3 room 2 valve:** this parameter allows to display the state of the digital output with which to manage the shut-off solenoid valve for room 2 in area 2. The states can be: • ON; • OFF;
	F	**04 = Dehumidif. 3:** this parameter allows to display the state of the digital input with which to manage the area 3 dehumidifier. The states can be: • ON; • OFF;
	G	**pCOe2 analogue outputs:** this parameter allows to display the analogue output values managed by the expansion board for area 3.
	H	**01 = Mix3 3-way valve:** this parameter allows to display the state of the analogue output for the mix 3-way valve for area 3.

INPUTS/OUTPUTS menu (assistance) - Modbus status		
Visualisation on unit display	**Index**	**Display/Parameter**
	**A**	**Modbus network:** this menu allows you to view the status of components connected via Modbus unit WRL.
	B	**Modbus network components:** the diagram shows the current status of the Modbus network with between WRL and external components, these components may be: • VMFCRP (represented by the symbol 🖳); • STA/STH (represented by the symbol 🖳); • Components in error (represented by the symbol 🖳);
	C	**Modbus Status:** This parameter indicates which address both questioned and as a result (reported in this screen control is repeated continuously, updating in real time the status of connections between units and components external WRL).

WARNING: the modification of the parameters identified by this symbol could cause unit malfunctioning; these parameters can only be modified by authorised staff.

Addresses table for supervision systems

Through the accessory units AER485P1 WRL can communicate to a BMS ModBus network. The remote supervisor must have the following configuration:

BMS supervisor features:	
Mode of communication	RTU
Communication speed	19200 Baud
Type of communication	Standard RS485, asynchronous, 1 start bit
Stop bit	2 stop bit
Parity mode	no parity

The application software and WRL 'VMF is compatible with the platform. In particular, can be used as a simple chiller / heat pump terminal-E5-VMF.

WARNING: If the panel is used by VMF-E5, will 'stand-alone management and health of inland areas to the WRL.

ANALOG VARIABLES
R= command Code Modbus =3
R/W = command Code Modbus = 6

Addresses dedicated to the interface with BMS systems (analog variable)					
BMS Address	Description	Udm	Min	Max	Read Write
1	B1 - SUWH - water outlet temperature geothermal	°C	-999.9	999.9	R
2	B2 - SIWH - return water temperature geothermal	°C	-999.9	999.9	R
3	B3 - SSAN - Temperature Hot Water	°C	-999.9	999.9	R
4	B8 - water outlet temperature zone 1	°C	-999.9	999.9	R
5	B4 - SIW - System return temperature	°C	-999.9	999.9	R
6	pCOe 10 - B1 - dry cooler water temperature	°C	-999.9	999.9	R
8	Delta temperature freecooling September	°C	0	99.9	R/W
10	Temperature control system	°C	-999.9	999.9	R
11	superheat EEV	K	-999.9	999.9	R
12	B7 - SUW-temperature water delivery	°C	-99.9	99.9	R
13	Active setpoint health	°C	-99.9	99.9	R
14	Differential Active Health	°C	-99.9	99.9	R
15	Measured temperature from room No. 1	°C	-999.9	999.9	R
16	Set Point plant cold	°C	0	999.9	R/W
17	Set point facility hot	°C	0	999.9	R/W
18	Eco system set point cold	°C	0	999.9	R/W
19	Eco heat set point facility	°C	0	999.9	R/W
20	Current setpoint Chiller	°C	-999.9	999.9	R
21	B11 - Condensing pressure	BAR	-999.9	999.9	R
22	B12 - Pressure Evaporation	BAR	-999.9	999.9	R
23	B4 - system return water temperature	°C	-999.9	999.9	R
24	B9 - gas compressor discharge temperature	°C	-999.0	999.0	R
25	B7 - System water outlet temperature	°C	-999.9	999.9	R
26	B6 - Outside air temperature	°C	-999.9	999.9	R
27	B10 - SAC evaporation temperature	°C	-999.9	999.9	R
29	Setpoint of the valve which regulates geothermal	—	-99.9	99.9	R

30	Minimum setpoint air in winter	°C	-999.9	999.9	R/W
31	Maximum setpoint air in summer	°C	-999.9	999.9	R/W
32	Alarm set point for minimum temperature zones. water	°C	-999.9	999.9	R/W
33	Zones for maximum temperature alarm set point. water	°C	-999.9	999.9	R/W
34	Setpoint temperature hysteresis freecooling	°C	0	9.9	R/W
35	B6 - SAE - outside air temperature	°C	-99.9	99.9	R
36	Maximum setpoint air in winter	°C	-999.9	999.9	R/W
37	Minimum setpoint in summer air	°C	-999.9	999.9	R/W
38	bandwidth of the valve which regulates geothermal	—	-99.9	99.9	R
39	value that adjusts the valve geothermal	—	-999.9	999.9	R
40	Set point health	°C	0	999.9	R/W
41	Active set point room 1	°C	0	999.9	R/W
42	Active set point room 2	°C	0	999.9	R/W
43	Active set point room 3	°C	0	999.9	R/W
44	Active set point room 4	°C	0	999.9	R/W
45	Active set point room 5	°C	0	999.9	R/W
46	Differential on Chiller setpoint	°C	-99.9	99.9	R
47	historic high-pressure	BAR	-999.9	999.9	R
48	Historical input temp. Geo	°C	-999.9	999.9	R
49	Historical time entry system	°C	-999.9	999.9	R
50	Historic low pressure	BAR	-999.9	999.9	R
51	STA - Humidity measured from room No. 1	%rH	0	99.9	R
52	STA-room air temperature No. 2	°C	-999.9	999.9	R
53	STA - Humidity measured from room No. 2	%rH	0	99.9	R
54	STA-room air temperature No. 3	°C	-999.9	999.9	R
55	STA - Humidity measured from room No. 3	%rH	0	99.9	R
56	STA-air temperature room No. 4	°C	-999.9	999.9	R
57	STA - Humidity measured from room No. 4	%rH	0	99.9	R
58	STA-air temperature room No. 5	°C	-999.9	999.9	R
59	STA - Humidity measured from room No. 5	%rH	0	99.9	R
60	Historical output temp. Geo	°C	-999.9	999.9	R
61	Historical temp health	°C	-999.9	999.9	R
62	Historical time out facility	°C	-999.9	999.9	R
81	Outlet water temperature zone 2 (pCOe1)	°C	-999.9	999.9	R
82	Water temperature discharge zone 3 (pCOe2)	°C	-999.9	999.9	R
88	Set point deumidica comfort zone in mode 1	%rH	0	100.0	R
91	Deumidica set point in the economy mode zone 1	%rH	0	100.0	R
92	Set point deumidica comfort zone in mode 2	%rH	0	100.0	R
93	Deumidica set point in Economy mode zone 2	%rH	0	100.0	R
94	Set point deumidica comfort zone in mode 3	%rH	0	100.0	R
95	Set point in Economy mode deumidica Zone 3	%rH	0	100.0	R
96	Humidifier set point	%rH	0	100.0	R
97	B11 - TAP - High pressure transducer	BAR	-99.9	99.9	R
98	B9 - SGP - Temp.uscita compressor	°C	-999.9	999.9	R
99	B12 - TBP - low pressure transducer	BAR	-999.9	999.9	R
111	Setpoint used by the master. sanitary	—	-32768	32767	R/W
112	Differential use by the master. sanitary	—	-99.9	99.9	R/W
113	Setpoint used by the master. plant	°C	-999.9	999.9	R/W
114	Differential use by the master. plant	—	-99.9	99.9	R/W
197	Active differential system	°C	0	99.9	R

INTEGER VARIABLES

Note: addresses and integers' by adding an offset of 207 to be displayed in supervision
R = Modbus Command Code = 3
R / W = Modbus Command code = 6

Addresses dedicated to the interface with BMS systems (integer variable)					
BMS Address	Description	Udm	Min	Max	Read Write
1	Y4 - Analog output humidifier	—	0	9999	R
2	Y3 - Current valve position in zone 1	—	0	9999	R
3	Y1 - Current valve position DHW pump	—	0	9999	R
4	Y2 - Current geothermal pump valve position	—	0	9999	R
5	Number of areas managed by the machine	—	0	3	R/W
6	Number of devices in Zone 1	—	0	1	R/W
7	Pause time waiting for reversing valve health	—	0	999	R
8	Time estimates for low load	—	0	9999	R
9	Current minute	—	0	59	R
10	Current month	—	1	12	R
11	pCOe 11 - Y1 - Analog Zone 2 Valve 3-WAY	—	0	9999	R
12	pCOe 11 - Y1 - Analog Zone 3 Valve 3-WAY	—	0	9999	R
13	State Compr.2 (Off, On, Min.On; Min.Off, Manual, Alarm)	—	-1000	-1000	R
17	Total Number of Compressors	—	1	2	R/W
18	Number of devices in the zone 2	—	0	2	R/W
19	Mode of operation of the machine	—	0	99	R
20	Y1 - Forcing health modulated pump	V	0	1000	R/W
21	Y2 - forcing modulating pump geothermal	V	0	1000	R/W
22	Y3 - forcing modulating valve area 1	V	0	1000	R/W
23	Y4 - forcing modulating output Y4	—	0	1000	R/W
24	software version	—	-32768	32767	R
25	Selection type of geothermal pump adjustment	—	0	3	R/W
26	Day of week calculated from the current date (0 —, 1: Monday, 2: Tuesday, 3: Wednesday, 4: Thursday, 5: Friday, 6: Saturday, 7: Sunday;)	—	1	7	R
27	State compr.1 (Off, On, Min.On; Min.Off, Manual, Alarm)	—	-1000	1000	R
28	EEV than more	—	0	999	R
29	Health operating mode	—	0	9	R
31	Mode of operation from room 2	—	0	9	R
32	Mode of operation from room 1	—	0	9	R
33	Mode of operation from room 3	—	0	9	R
34	Mode of operation from room 4	—	0	9	R
35	Mode of operation from room 5	—	0	9	R
36	request health	%	0	9999	R
37	Select On / Off (OFF, ON, "ECONOMY" AUTO;)	—	0	3	R/W
38	request facility	%	0	999	R
39	Boiler / heating, solar icons	—	0	9	R
40	Compressor icons (1 = 1 active comp, freecoling 2 =, 3 = 2 comp on)	—	0	9	R
41	Select type chiller (only cold, cold / hot, just warm)	—	0	2	R/W
42	Sanitary type (desuperheater, priority, priority valve, double pump)	—	0	4	R/W
43	Select integration with the system (NO; BOILER, HEATING AND.)	—	0	9	R/W
44	Select Integration with ACS (NO; BOILER, HEATING AND.)	—	0	9	R/W
45	historic hours	—	0	99	R

46	historic day	—	0	99	R
47	historical minutes	—	0	99	R
48	History Month	—	0	99	R
49	historical years	—	0	99	R
50	Historical alarm code	—	0	999	R
51	Historical-event number	—	0	999	R
52	New day	—	1	31	R/W
53	new month	—	1	12	R/W
54	New year	—	0	99	R/W
55	New hour	h	0	23	R/W
56	New minute	—	0	59	R/W
57	Select Summer Winter ("ONLY HEALTH", SUMMER, WINTER, By T. External)	—	0	3	R/W
58	Current year	—	0	99	R
59	Number of devices in Zone 3	—	0	2	R/W
71	Current Day	—	1	31	R
81	Current hour	h	0	23	R

DIGITAL VARIABLES
R= Codice comando Modbus =3
R/W = Codice comando Modbus = 6

Addresses dedicated to the interface with BMS systems (digital variable)		
BMS Address	Description	Read Write
1	Economy mode activated	R
2	Clearing alarms from BMS	R/W
3	Enabling the presence BMS	R/W
4	Active system status	R/W
5	Active State Health	R
6	POC - Pump Geothermal	R
7	POE - pump system	R
8	Mode system (chiller-cooling / heat pump-Winter)	R
9	State health Valve	R/W
10	State resistance saniatrio	R
11	NO1 - Force ON compressor 1	R/W
12	NO2 - Come On Pump Geothermal	R/W
13	NO3 - Come On plant pump	R/W
14	No4 - Come On DHW pump	R/W
15	NO5 - Come On dehumidifier zone 1	R/W
16	No6 - On Force resistance system	R/W
17	NO7 - AE - General Alarm	R/W
18	No8 - Come On Resistance health	R/W
19	No9 - Force Compressor 2 ON	R/W
20	No10 - Force ON reversing valve VIC	R/W
21	No11-Force ON freecooling V3V	R/W
22	NO12 - Come On Pump Zone 1	R/W

23	Offline WRL 2 options	R
24	AL029 - DHW Alarm anitgelo	R
25	Antifreeze AL044-air room 5	R
26	AL043 4-Room Air Frost	R
27	AL084 - Alarm zone 2 heat pump	R
28	Force On / Off by BMS	R/W
29	Request from the room 1	R
30	AL085 - Alarm Heat Pump Zone 3	R
31	Selecting off on Room 1	R/W
32	AL021 - Alarm system flow	R
34	Selecting off on Room 2	R/W
35	Antifreeze AL042-air room 3	R
36	Selecting off on Room 3	R/W
37	Antifreeze AL041-air room 2	R
38	Selecting off on Room 4	R/W
39	Selecting off on Room 5	R/W
40	Offline WRL 3 options	R
41	Offline WRL 4 options	R
43	AL014 - High pressure alarm from probe	R
44	AL040-1 Antifreeze room air	R
46	AL015 - Low pressure alarm from probe	R
47	Enable Freecooling geothermal	R/W
48	Enable solar kit	R/W
51	AL096 - Alarm offline EEV driver	R
52	Type system integration (integration at PDC, replacing PdC)	R/W
53	AL099 - Low battery alarm EEV	R
54	AL101 - Alarm offline solar kit	R
57	AL013 - High pressure	R
61	AL016 - Alarm Compressor 1 thermal	R
62	AL017 - Alarm Compressor 2 thermal	R
63	Historical - Next item to view	R/W
64	Type of units selected (0 = ON, 1 = Anglo-Saxon)	R
65	AL033-Offline Terminal 2 bedroom zone 2	R
66	Type of intervention in the healthcare integration (integration at PdC, replacing PdC)	R/W
67	AL019 - Alarm geothermal flow	R
68	AL020 - Alarm heat pumps	R
69	AL022 - Alarm boiler / resistor. plant	R
70	AL023 - Alarm dehumidifier zone 1	R
71	ID1 - FLH - Geothermal flow was	R
72	ID2 - MTCP - state thermal compressor 1	R
73	ID3 - RAP - was high pressure switch	R
74	ID4 - COPD - heat pumps was	R
75	ID5 - ALDE0 - alarm status dehumidifier	R
76	ID6 - ALSAN - thermal resistance was health	R
77	ID7 - ACR-state resistance Alarm system	R
78	ID8 - Digital Input On / Off Remote	R
79	ID9 - MTCPA-state thermal compressor 2	R
80	ID10 - FL - flow system was	R

81	At least one active alarm	R
82	BMS forced summer / winter	R/W
83	AL035-room 3 Offline Terminal	R
84	AL036-terminal probe failed to room 4	R
85	AL037 4-room terminal Offline	R
86	AL038-terminal probe failed to room 5	R
87	AL039-5 bedroom terminal Offline	R
88	AL056 - Hours geothermal pump	R
89	AL057 - Hours system pump	R
90	AL058 - DHW pump hour meter	R
91	AL059 - Hours Pump Zone 1	R
92	AL060 - Hours Pump Zone 2	R
93	AL061 - Hours Pump Zone 3	R
94	AL064 - High water temperature alarm zone 1	R
95	AL065 - Low water temperature alarm zone 3	R
96	AL066 - High water temperature alarm zone 2	R
97	AL067 - Low water temperature alarm zone 2	R
98	AL068 - High water temperature alarm zona3	R
99	AL069 - Low water temperature alarm zone 3	R
100	AL024 - Alarm boiler / heating integr.sanitario	R
101	AL071 Alarm high humidity zone 1	R
102	AL026-severe low-pressure alarm sensor	R
103	AL073 Alarm high humidity zone 2	R
104	AL027 - Alarm anitgelo side geothermal	R
105	AL074 Alarm high humidity zone 3	R
106	AL076 - Alarm zone 2 pCOe Offline	R
107	AL077 - Alarm zone 3 pCOe Offline	R
108	AL078 - Alarm sondaguasta pCOe 1 Zone 2	R
109	AL079 - Alarm 1 sondaguasta pCOe Zone 3	R
110	AL080 - Alarm zone 1 Dehumidifier	R
111	AL081 - Zone 2 Alarm Dehumidifier	R
112	AL081 - Alarm zone 3 Dehumidifier	R
113	AL086 - Alarm temparetura high health	R
114	AL087 - High temperature solar panels	R
115	AL089 - Alarm probes EEV driver	R
116	AL090 - Alarm LowSH (low heat)	R
117	AL091 - Alarm LOP (low evaporation temperature)	R
118	AL092 - Alarm MOP (high evaporation temperature)	R
119	Compressor 1 On	R
120	On compressor 2	R
121	AL095 - Alarm error EEV engine	R
122	AL097 - Alarm Low suction temperature EEV	R
123	On-Off from digital input	R
124	AL028 - Alarm system side anitgelo	R
125	On the primary circuit pump	R
126	ON DHW pump	R
127	AL034-terminal probe failed to room 3	R
128	Request dehumidifier zone 1	R

129	On boiler / heating integ. plant	R
130	General alarm digital output	R
131	Domestic hot water resistance on accumulation	R
132	Digital output 4 way reverse cycle valve	R
133	Pump on zone 1	R
134	On free cooling valve	R
135	Enable electronic valve	R/W
136	The form used is the inner EVO EVD (0) or external (1)	R/W
137	Health care Selection On / Off	R/W
138	AL100 - Alarm system low yield (inverted or probes)	R
139	AL094 - Alarm Eeprom EEV	R
140	Historical - previous item to view	R/W
141	set date time	R/W
142	AL054 - Compressor Threshold counter 1	R
143	AL001 - Alarm faulty probe - geothermal discharge	R
144	AL002 - Alarm faulty probe - Return geothermal	R
145	AL003 - Alarm faulty probe - Temp.Sanitario	R
146	AL004 - Alarm faulty probe - temp. return system	R
147	AL005 - Alarm faulty probe - B5	R
148	AL006 - Alarm faulty probe - inlet air temperature outside	R
149	AL007 - Alarm faulty probe - Temp.Mandata facility	R
150	AL008 - probe failure alarm - zone 1 Temp.mix	R
151	AL009 - Alarm faulty probe - Temp.Gas pressing	R
152	AL010 - Alarm faulty probe - Temp.aspirazione	R
153	AL011 - Alarm faulty probe - Press.mandata	R
154	AL012 - Alarm faulty probe - Press.aspirazione	R
155	AL018 - External Alarm by ingr.digitale	R
156	Al025 - Offline Expansion pCOe SELECTABLE	R
157	AL045 - Alarm anti-Legionella cycle completed	R
158	AL055 - Compressor Threshold counter 2	R
159	AL030-1 probe failed to terminal room	R
160	AL031-1 Offline terminal room zone 1	R
161	AL032-faulty sensor to the terminal room 2	R
207	Cancellation alarm history	R/W

Alarms summary table

The units envision the signalling of the possible unit malfunctions. These signals are indicated by the flashing alarm key (bell) on the left part of the display. If the bell is pressed again it allows to display the alarm in progress. The rearm of these alarms can take place automatically, semi-automatically or manually (on the basis of the type and seriousness of the alarm that has occurred). To reset the alarm message, the bell key must be pressed again (remember that resetting the alarm does not solve the cause that generated it, but just the display is cancelled). The following table lists the possible errors that the unit can generate, and a brief explanation of the possible causes.

Alarms rearm mode:

Manual rearm mode:
The unit is re-started manually, removing and re-applying the voltage.

Automatic rearm mode:
The unit is re-started automatically.

Semi-automatic rearm mode:
The unit is re-started automatically if an alarm is repeated at maximum 3 times consecutively, after which any new alarm blocks the unit and makes manual rearm necessary.

Summary table ALARMS				
Code alarm	**Description**	**Reset**	**Cause**	**Delay**
AL001	Flow temperature sensor B1-side geo broken or disconnected		20s	
AL002	Return temperature sensor B2 geo hand broken or disconnected		20s	
AL003	Temperature probe B3 Accumulation health broken or disconnected		20s	
AL004	B4 probe temperature system return broken or disconnected		20s	
AL005	Auxiliary Temperature Probe B5 broken or disconnected		20s	
AL006	Outdoor Air Temperature Probe B6 broken or disconnected		20s	
AL007	B7 system water flow temperature sensor broken or disconnected		20s	
AL008	B8 probe temperature water delivery zone 1 broken or disconnected		20s	
AL009	Compressor outlet temperature sensor B9 TGP broken or disconnected		20s	
AL010	Intake temperature sensor B10 compress. broken or disconnected		20s	
AL011	Compressor discharge pressure sensor B11 broken or disconnected		20s	
AL012	B12 intake pressure sensor compress. broken or disconnected		20s	
AL013	Location: High pressure ID3		0s	
AL014	Location: B11 High pressure compressor / transducer from the		Imp.	
AL015	Position: B-12 Low-pressure compressor / transducer from the		Imp.	

AL016	Location: ID2 thermal compressor 1		Os	
AL017	Location: ID9 Thermal Compressor 2		Os	
AL018	Position: External Alarm pCOe ID1		Os	
AL019	Location: ID1-side flow geothermal well		Imp.	
AL020	Location: ID4 Heat pumps / RCS		Os	Heat pumps or research phase sequence
AL021	Location: ID10 water flow system side		Imp.	
AL022	Location: ID7 alarm boiler / res. integr. plant		Os	
AL023	Location: ID5 humidity alarm / digital input deumid		Os	alarm Dehumidifier
AL024	Position: Alarm ID6 thermal resistance accumulation ACS ingr. digital		Os	
AL025	Expansion pCOe offline option		Os	pCOe expansion (address 10)
AL026	Position: B-12 Low Pressure serious compressor / transducer from the		Os	exhaust system
AL027	Antifreeze geothermal heat exchanger		Imp.	
AL028	Antifreeze exchanger system		Imp.	
AL029	Frost build-up health		Imp.	
AL040	Room 1 air frost			
AL041	2 bedroom air frost			
AL042	3 bedroom air frost			
AL043	Antifreeze room air 4			
AL044	Antifreeze air room 5			
AL045	Procedure for legionella is not finished			
AL053	High compressor discharge temperature		Imp.	Gas flow temperature (B9)
AL054	Reached the threshold of hours worked incl. 1		Os	
AL055	Reached the threshold of hours worked incl. 2		Os	
AL056	Reached the threshold of hours worked geo pump		Os	
AL057	Reached the threshold of hours worked primary pump		Os	
AL058	Reached the threshold of hours worked DHW pump		Os	
AL059	Reached the threshold of hours worked pump mix zone 1		Os	
AL060	Reached the threshold of hours worked pump mix zone 2		Os	
AL061	Reached the threshold of hours worked pump mix zone 3		Os	
AL064	High water temperature discharge zone 1			
AL065	Low water temperature discharge zone 1			

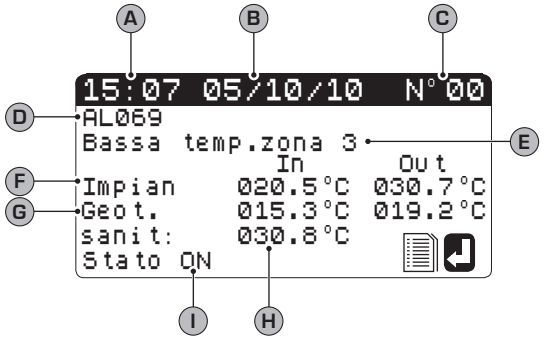
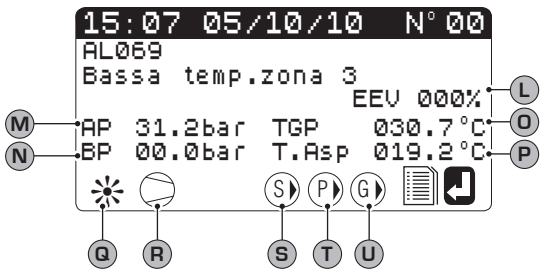
AL066	Alta temperatura acqua mandata zona 2			
AL067	Bassa temperatura acqua mandata zona 2			
AL068	Alta temperatura acqua mandata zona 3			
AL069	Bassa temperatura acqua mandata zona 3			
AL070	Raggiunta soglia limite umidità minima zona 1			
AL071	Raggiunta soglia limite umidità massima zona 1			
AL072	Raggiunta soglia limite umidità minima zona 2			
AL073	Raggiunta soglia limite umidità massima zona 2			
AL074	Raggiunta soglia limite umidità minima zona 3			
AL075	Raggiunta soglia limite umidità massima zona 3			
AL076	Espansione pCOe dedicata alla zona 2 offline			
AL077	Espansione pCOe dedicata alla zona 3 offline			
AL078	Sonda B1 espansione pCOe temp.acqua zona 2 rotta o scollegata			
AL079	Sonda B1 espansione pCOe temp.acqua zona 3 rotta o scollegata			
AL080	Allarme deumidificatore 1		0s	
AL081	Allarme deumidificatore 2		0s	
AL082	Allarme deumidificatore 3		0s	
AL084	Termico pompa zona 2		0s	
AL085	Termico pompa zona 3		0s	
AL086	Raggiunta soglia alta temperatura sanitario			
AL087	Raggiunta soglia massima temperatura sanitario da collettori solari			
AL088	Black out (indica che c'e' stato una mancata tensione)			Alarm only visible in the historic
AL089	Driver EEV Sonda S1: Sonda S2:			EEV electronic valve
AL090	Driver EEV Basso surriscaldamento (LowSH)			EEV electronic valve
AL091	Driver EEV Bassa temperatura di evaporazione (LOP)			EEV electronic valve
AL092	Driver EEV Alta temperatura di evaporazione (MOP)			EEV electronic valve
AL094	Driver EEV Allarme EEPROM			EEV electronic valve
AL095	Driver EEV Errore motore valvola			EEV electronic valve
AL096	Driver EEV Driver offline			EEV electronic valve
AL097	Driver EEV Bassa temperatura di aspirazione			EEV electronic valve
AL098	Driver EEV Batteria scarica			EEV electronic valve

AL099	Lack heat output on the system side (control probes) (check VIC)			off units
AL100	Lack geothermal heat output side (control probes) (check VIC)			
AL101	Offline solar module			
AL102	Rapid configuration unfinished Press PRG to start			
AL103	Alarm exchange pump with manifold			
AL104	Pump alarm exchange with domestic hot water storage			
AL105	Third alarm threshold exceeded safety manifold			
AL106	Broken or disconnected sensor alarm temp.collettore			
AL107	Tank sensor alarm system broken or disconnected			
AL108	Alert healthcare tank sensor broken or disconnected			
AL109	Room nß01 probe / and STA / H broken or disconnected			
AL110	Room Alarm nß01 STA / H unplugged		30s	1 room thermostat disconnected
AL111	Room nß02 probe / and STA / H broken or disconnected			
AL112	Room Alarm nß02 STA / H unplugged		30s	Room thermostat unplugged 2
AL113	Room nß03 probe / and STA / H broken or disconnected			
AL114	Room Alarm nß03 STA / H unplugged		30s	Room thermostat unplugged 3
AL115	Room nß04 probe / and STA / H broken or disconnected			
AL116	Room Alarm nß04 STA / H unplugged		30s	Room thermostat disconnected 4
AL117	Room nß05 probe / and STA / H broken or disconnected			
AL118	Room Alarm nß05 STA / H unplugged		30s	Room thermostat disconnected 5

Alarms log

Every time an alarm is generated, it is saved in an area of memory called “alarms log”. This log contains the last 100 alarms recorded in the unit. For every alarm saved, different information is recorded regarding the unit situation at that time (work temperatures and pressures), so that the technical after-sales staff can have a clear view of the unit when a given alarm occurs.

To access the alarms log:
(a) press the key ( ) and enter the alarms display;
(b) if they are present, scroll all active alarms using the ( ) key and reach the icon that indicates the activation of the alarms log;
(3) press the key ( ) to enter the alarms log;
(4) to exit the alarms log, press ( ) or ( ).

Alarms log		
Visualisation on unit display	**Index**	**Display**
	A	**Time:** this value indicates the time when the alarm occured.
	B	**Date:** this value indicates the date when the alarm occured.
	C	**Alarm number:** this value indicates the progressive number assigned to the alarm; this value goes from 0 (first alarm recorded) to 99 (last alarm recorded).
	D	**Alarm code:** this parameter indicates the alarm code. This code can be found in the previous pages (alarms summary table).
	E	**Alarm description:** this parameter indicates the description of the alarm saved.
	F	**System temperature:** these parameters indicate the system input and output temperatures at the time the alarm was generated.
	G	**Geothermic temperature:** these parameters indicate the input and output temperatures on the geothermic side at the time the alarm was generated.
	H	**DHW temperature:** this parameter indicates the DHW temperature at the time the alarm was generated.
	I	**Unit status:** this parameter indicates the active operation mode at the time the alarm was generated.
	L	**Valve opening EEV:** This parameter indicates the position of the expansion valve at the time the alarm was generated.
	M	**high pressure:** This parameter indicates the delivery pressure of the compressor at the time when the alarm has been generated.
	N	**Low pressure:** this parameter indicates the intake pressure at the time the alarm was generated.
	O	**Discharge gas temperature:** This parameter indicates the temperature of the compressor discharge to the time when the alarm was generated.
	P	**Suction temperature:** This parameter indicates the temperature of the compressor suction at the moment in which it was generated the alarm.
	Q	**Unit status:** this parameter indicates the active operation mode at the time the alarm was generated.
	R	**Compressor status:** This parameter indicates the status of the compressors at the time the alarm was generated.
	S	**Pump Status:** These parameters indicate which pumps were active at the time when the alarm was generated.
	T	
	U	

ATTENTION: Alarm logs are displayed in two windows for each alarm. To surf between the two windows of an alarm, use the ENTER key ( ).
ATTENTION: the alarms log display always starts from the latest alarm generated. To navigate through the alarms saved, use the ( ) and ( ) arrow keys.
THE ALARMS LOG CANNOT BE RESET and as the memory available is suitable to contain 100 alarms, once the index has reached the value of 99, its increase will start from 00 again (over-writing the oldest alarm).

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