AERMEC
air conditioning

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REGLAGE ELECTRONIQUE • ELEKTRISCHE REGELVORRICHTUNG

MANUALE USO • USAGE MANUAL
MANUEL D'UTILISATION • BEDIENUNGSANLEITUNG

VMF-E5

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

CE

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Index

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VMF-E5 panel

SERIAL NUMBER	

CE DECLARATION OF CONFORMITY

We, the undersigned, hereby declare under our own responsibility that the assembly in question, defined as follows:

NAME E5

TYPE Remote panel

To which this declaration refers, complies with the following harmonised standards:

IEC EN 60730-1 Safety standard

IEC EN 61000-6-1
IEC EN 61000-6-3 Immunity and electromagnetic emissions for residential environments

Thereby, compliant with the essential requirements of the following directives:

- LVD Directive: 2006/95/CE
- Electromagnetic Compatibility Directive 2004/108/CE

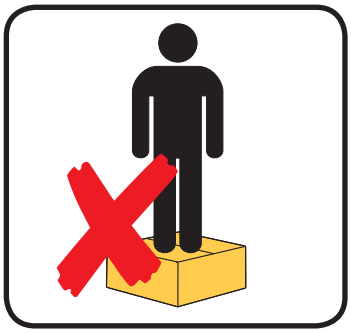
Bevilacqua 15/01/2008

Marketing Manager
Signature

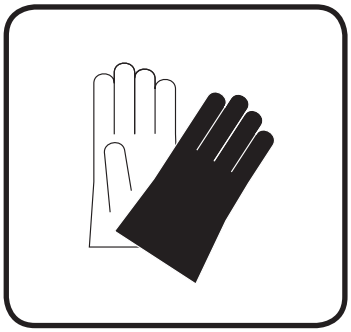
Precautions and Safety Standards

DO NOT wet the packaging

DO NOT walk on the packaging



Handle with care



Indications regarding waste disposal

Attention: this product contains electric and electronic appliances that cannot be disposed of through normal municipal collection channels. There are special collection centres for these products.

The electric and electronic appliances must be treated separately and in compliance with the laws in force in the country of use.
Batteries and accumulators present in the appliances must be disposed of separately according to the provisions of the municipality of use.

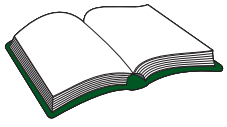
Safety symbols

Voltage hazard

Attention

Moving parts hazard

Notes concerning manuals



Keep the manuals in a dry place, in order to prevent deterioration, for at least 10 years for any further reference.

Read all of the information contained in this manual carefully and completely. Pay particular attention to the user regulations accompanied by "DANGER" or "ATTENTION" in so much as, if not complied with, the machine or objects may be damaged and/or persons injured. For the anomalies not contemplates by this manual, contact the area After-sales Service as soon as possible.
The apparatus must be installed in such a way that maintenance and/or repair operations are possible.

The appliance warranty does not cover the costs for ladders, scaffolding, or other elevation systems that may become necessary for carrying out servicing under warranty. AERMEC S.p.A. declines all responsibility for any damage due to improper use of the machine, partial or hasty reading of the information contained in this manual.

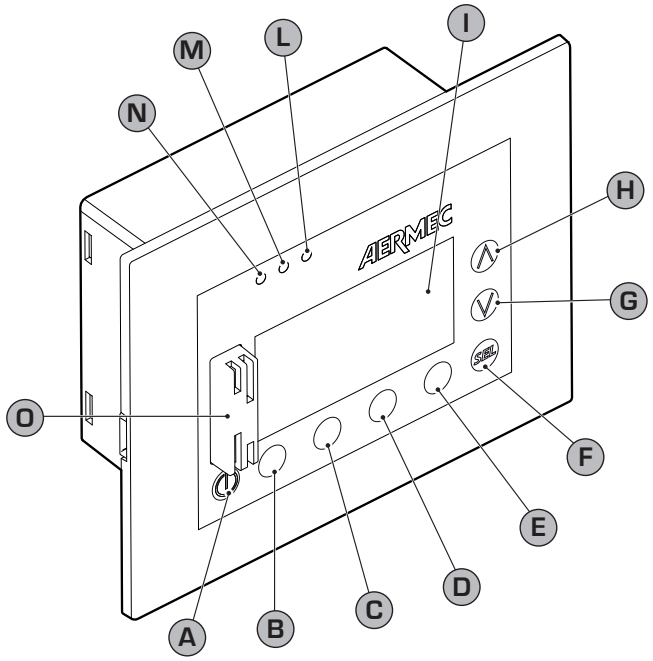
VMF SYSTEM GLOSSARY

Term	Meaning
VMF	IT IS an abbreviation which stands for Variable Multi Flow, and indicates air conditioning systems based on a chiller to which several fan coils are connected, supplied by a variable water flow whose value depends on the actual power demand by the system.
SLAVE	Inside of a VMF system, fan coils not supplied with controls are defined as SLAVE; therefore SLAVE fan coils must be connected to other units (called MASTER) which can control the fan coils via a serial connection.
MASTER	Inside of a VMF system, fan coils supplied with controls are defined as MASTER (on board the machine or on a wall panel); these units can control up to 5 SLAVE units,via a serial connection, which will automatically reproduce all the settings which the user sets for the MASTER units.
VMF - E0	Simplified thermostat accessory; this device makes it possible to use a fan coil unit VMF system as a SLAVE unit.
VMF-E1	Thermostat accessory; this device makes it possible to use a fan coil unit VMF system as a MASTER/SLAVE unit.
VMF-E18	Thermostat accessory; this device makes it possible to use a fan coil unit VMF system as a MASTER/SLAVE unit, for units with inverter motors.
VMF-E2	Control interface to be coupled to a thermostat accessory to be mounted on a fan coil; this accessory has been designed to be mounted on MASTER units (for combination with various fan coil models, refer to the documentation of the accessory).
VMF-E2H	
VMF - E4	Control interface to be coupled to a thermostat accessory to be mounted on the wall; this accessory has been designed for connection to MASTER units.
VMF-E5	Advanced panel for centralised management of an entire VMF system.
VMF-DHW	Electrical control board accessory required for management of components used in the system for production of domestic hot water (temperature probes to be inserted in a DHW storage tank, three-way diverter valves, pumps etc.).
VMF-VOC	Accessory probe for detection of air quality.
VMF-CRP	Accessory to manage a boiler, recovery units or pumps.
VMF - SIT3	Interface cards that allow to connect several fan coils in a network controlled by a unique centralised control panel (switch or thermostat).
VMF-SW	Water probe to be used in replacement of the one supplied as per standard with VMF-E0/E1/E18 thermostats to control the maximum cold range.
VMF-SW1	Extra water probe to be used for 4-pipe systems with VMF-E1/E18 thermostats to control the maximum cold range.
ZONE bus	The ZONE bus represents connections to be implemented between the various SLAVE fan coils and relative MASTER fan coil (each zone can contain 6 fan coils at most, of which 5 SLAVE and one MASTER).
SYSTEM bus	The SYSTEM bus represents the connections to be implemented between MASTER units and the rest of the system.

VMF-E5 panel user interface

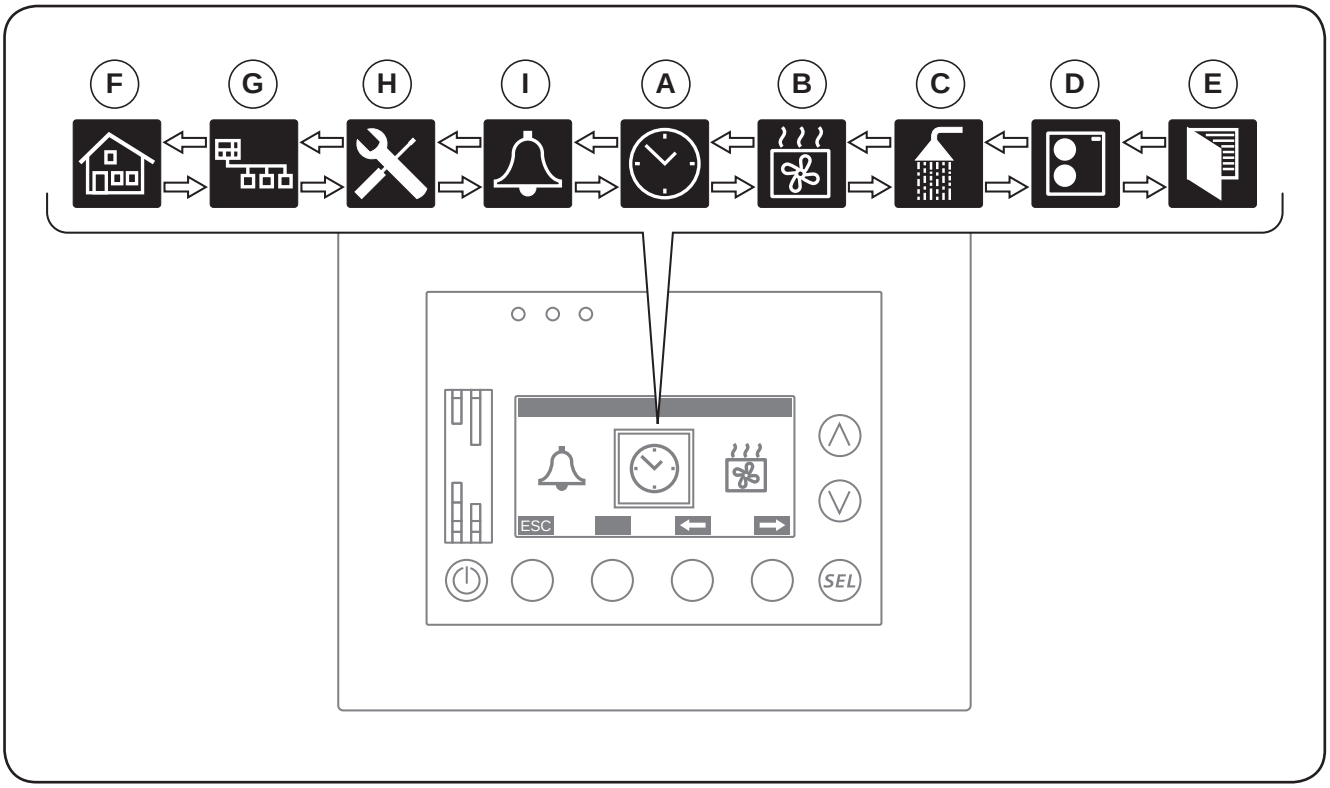
The E5 remote panel has been designed to manage a chiller and a network of fan coils in a simple way, optimising air conditioning and heating performance thus guaranteeing comfort and energy saving. This accessory makes it possible to create a hydronic VMF (Variable Multi Flow) system, in alternative to direct expansion multi-split systems. In VMF systems, the cooling capacity is modulated by varying the operating settings of the chiller compared to the actual thermal load required by the system; the E5 panel is available in 2 colours: white or black.

• Interface control keys:



Key	Function
A	ON/OFF key
B	Multi-functional keys; the functionality associated to each one changes according to the page viewed on the display
C	
D	
E	
F	Confirmation key (Enter)
G	Key for decreasing the value (-)
H	Key for increasing the value (+)
I	Backlit white LCD display 128 x 64 pixel
L	LED not used
M	LED not used
N	Red LED for signalling alarm in progress
O	Probe for reading room temperature

Structure of VMF-E5 panel menus



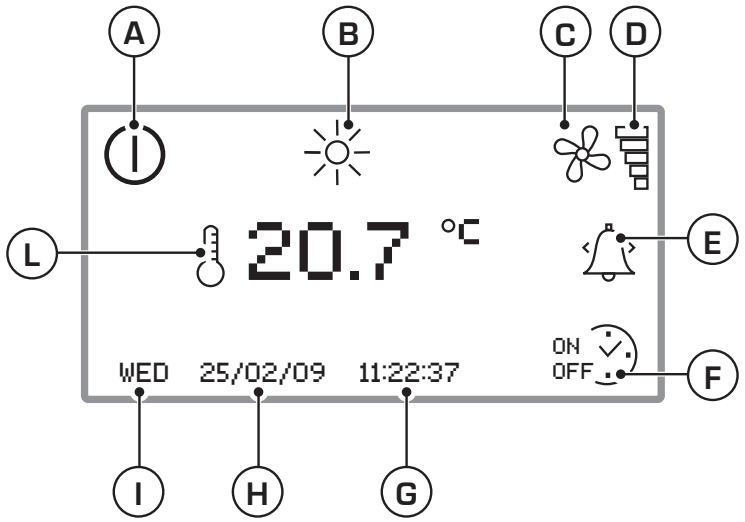
Key	Menu	Description of menu:	Functions of menu:
A	DATE/TIME	Allows setting date and time of VMF system.	• Sets time of system; • Sets date of system;
B	FAN COIL	Contains all the information concerning the status of the fan coils connected to the VMF system.	- Display of status of each MASTER; - Setting of operational parameters of each fan coil; - Selection of hourly programs for each fan coil;
C	DOMESTIC HOT WATER	Contains all the information and settings concerning the status of domestic hot water production managed by the VMF system.	- Display of the status of the domestic hot water side. - Setting of operational parameters for domestic hot water. - Selection of hourly programs for DHW. - Anti-Legionella management.
D	CHILLER	Contains all the information and settings concerning the functioning status of the chiller connected to the VMF system.	- Display of the status of the chiller. - Setting of operational parameters of chiller. - Selection of hourly programs for chiller.
E	USER	Allows carrying out settings for management of the VMF system.	- Setting up functioning mode (Summer/Winter). - Setting of regulation logic (Comfort/Economy). - Setting of VMF-E5 panel interface (language, LCD contrast).
F	TIME PERIODS	Allows setting the hourly programs to be associated to the various elements of the system.	- Setting hourly programs (up to 5) to be associated to parts of the system (fan coil, chiller, recovery units). - Setting hourly program for domestic hot water production.
G	FAN COIL SETTING	Allows to set all fan coils simultaneously with the same settings.	- Setting of operational parameters of all fan coil. - Selection of hourly programs for all fan coils.
H	ASSISTANCE	Allows setting all parameters at installer level.	**The functions contained in this menu are not available for the user but are reserved to qualified installation and maintenance personnel of the VMF systems; for further information, refer to documentation for wiring and setting software of the system.**
I	ALARMS LOG	Allows viewing the last 10 alarms triggered by the VMF system.	- Alarms log display. - Alarms log cancellation.

VMF-E5 panel main display

During normal functioning of the system, the VMF-E5 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.

Should the user enter any menu and not press any key for a time longer than that set in the screen saver function, the system will automatically return to the main screen.

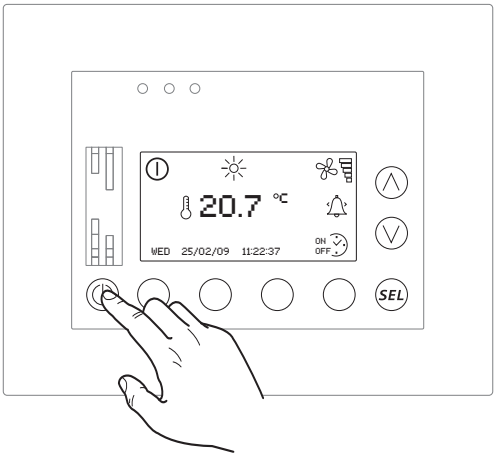
• VMF-E5 panel main screen:



Key	Function
A	Indicates the status of the system: - if the (⏻) icon is present then the VMF system is active; - if no icon is present then the VMF system is off.
B	Indicates the season selected for the VMF system: - the (❄) icon indicates that the system is working in summer mode; - the (☼) icon indicates that the system is working in winter mode.
C	Indicates the functioning status of the fan coils: - if the (✿) icon is present then at least one fan coil of the VMF system is active; - if no icon is present, then all the fan coils of the VMF system are inactive.
D	Indicates the percentage of power demanded by the fan coils of the VMF system. Each bar displayed represents 20% of the total installed power (by total power we mean the sum of the power outputs of all the fan coils making up the VMF system). It can therefore be between 0% (no fan coil demands power) and 100% (all the fan coils are active) with intervals of 20%.
E	Indicates an alarm status; the signal may represent different situations which can be recognised by the type of icon displayed: - No icon means that no alarms are currently active; - (🔔) an alarm is in progress which is not yet displayed in the alarm log; - (🔔) an alarm is in progress which is already displayed in the alarm log; Should an alarm be triggered, these icons will continue to be displayed until the cause of the alarm is resolved.
F	Indicates whether a time period has been set in the system (for least one fan coil or for production of domestic hot water).
G	Indicates the time of the system (hours/minutes/seconds).
H	Indicates the date of the system (day/month/year).
I	Indicates the day of the week.
L	Indicates the room temperature read by the probe on the VMF-E5 panel.

BASIC use procedures

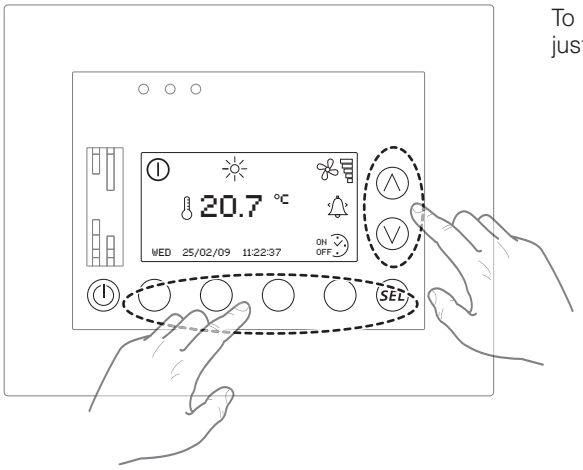
• VMF systems ON/OFF:



In order to switch the entire system on or off, from the Main screen you must press the indicated key for at least 5 seconds.

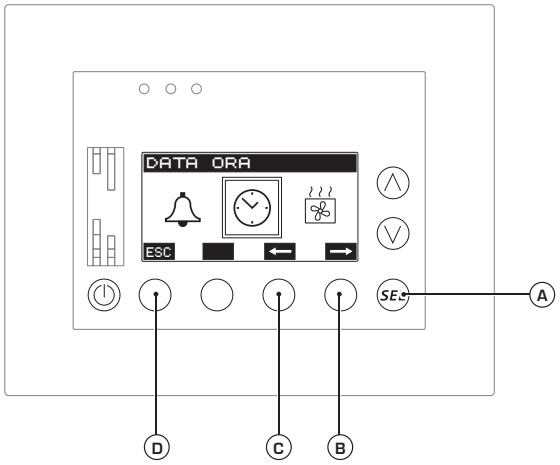
Attention: the indicated key is active ONLY while the main screen is viewed.

• Enter the menu selection mode:



To pass from the main screen to the selection of the menus, just press one of the keys indicated in the figure.

• Navigation and choice of a menu:



Once you have entered the menu selection mode, an icon inside a frame will appear in the centre of the display. This icon represents the menu which can be currently selected (the label of the menu is also viewed at the top of the display); at this moment the possible operations are:

- Enter the selected menu (by pressing the Ⓐ key);

- Select the subsequent menu (by pressing the Ⓑ key);

- Select the previous menu (by pressing the Ⓒ key);

- Exit the menu selection mode, returning to the main screen (by pressing the Ⓓ key);

WARNING: The succession of the menus is indicated in full in the chapter “structure of the menus of the VMF-E5 panel”.

ADVANCED use procedures

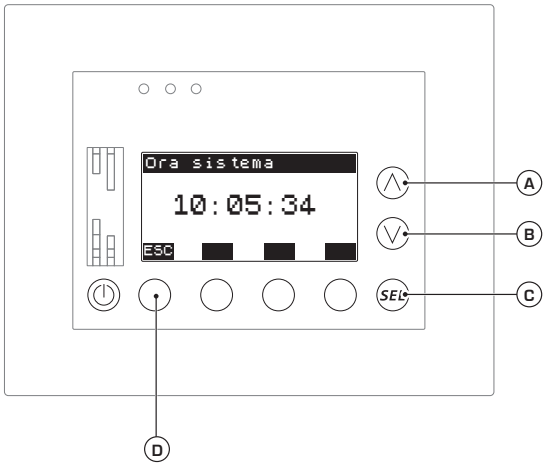
By advanced use procedures we mean all those operations and settings available for each menu of the advanced VMF-E5 panel.

The following chapters contain detailed information concerning each function available in these menus.

For each function, the procedure for accessing the relevant menu will not be repeated; this procedure is explained in the previous chapter.

DATE TIME menu procedures

• Set the time of the system:



The first window of the DATE TIME menu allows the user to set the time of the system; to perform this setting it is necessary to:

(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the numbers which represent the HOURS will begin to flash;

(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(3) Press the Ⓒ key to confirm the entered value and to pass on to the next number;

(4) Repeat points (2) and (3) both for the minutes and for the seconds;

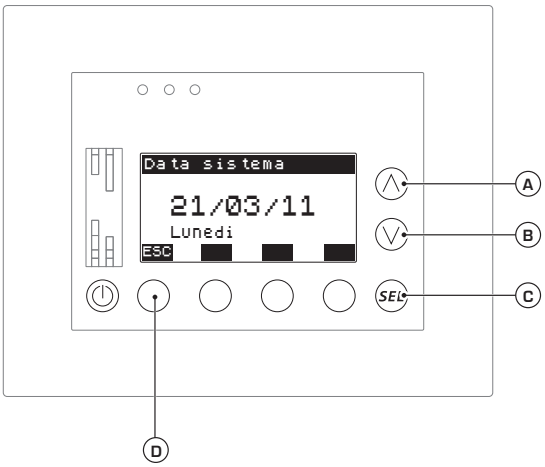
(5) When the seconds have been entered and the value as been confirmed by pressing the Ⓒ key, the numbers making up the time will have stopped flashing, thus indicating that the modification procedure has been concluded.

After the system time has been entered, it will be possible to:

- Pass on to the next window by pressing the Ⓐ key or the Ⓑ key;

- Press the Ⓓ key to return to the selection of the menus.

• Set the date of the system:



The second window of the DATE TIME menu allows the user to set the date of the system; to perform this setting it is necessary to:

(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the numbers which represent the DAY will begin to flash;

(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(3) Press the Ⓒ key to confirm the entered value and to pass on to the next number;

(4) Repeat points (2) and (3) both for the month and for the year;

(5) When the year has been entered and the value as been confirmed by pressing the Ⓒ key, the numbers making up the date will have stopped flashing, thus indicating that the modification procedure has been concluded.

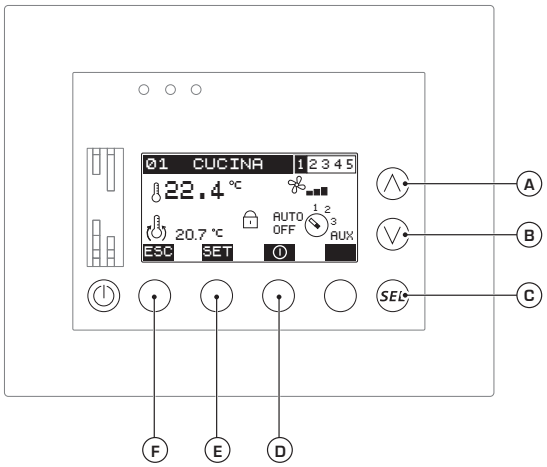
After the system time has been entered, it will be possible to:

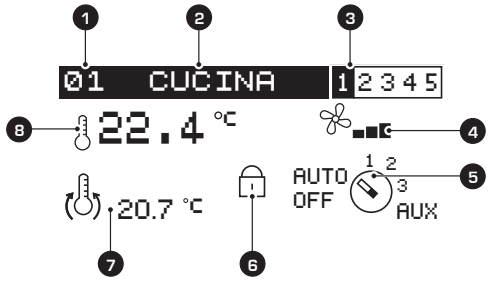
- Go back to the previous window by pressing the Ⓐ key or the Ⓑ key;

- Press the Ⓓ key to return to the selection of the menus.

FAN COIL menu procedures

• Checking fan coil status:





The first window of the FAN COIL menu allows the user to monitor the status and settings of each MASTER fan coil of the system (we remind you that if from 1 to 5 SLAVE fan coils are connected to a MASTER fan coil, they will have the same settings as the MASTER unit to which they are connected); the information displayed in this window is the following:

- **Fan coil index** 1: this is a sequential value which identifies a fan coil;

- **Name of fan coil** 2: each fan coil can be identified in the network of a VMF system by means of its index. To view this window more clearly, the user may associate a string to each fan coil;

- **Hourly program** 3: Indicates whether for the fan coil currently displayed, one of the 5 hourly programs available in the system has been associated;

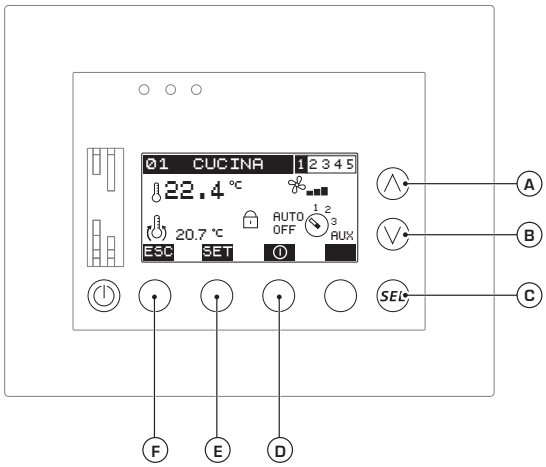
- **Fan speed** 4: Indicates the instant ventilation speed of the fan coil. For INVERTER fan coils, each step represents 30% of the ventilation power;

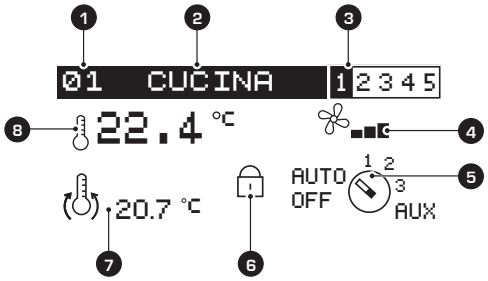
- **Fan speed selection** 5: Indicates the position of the selector for setting the ventilation speed of the fan coil currently viewed; the states displayed on this icon can be:
- OFF (the unit has been switched off manually from the control panel of the fan coil; remember that the VMF-E5 panel cannot modify settings given manually to the controls of the MASTER units);
- AUTO (the unit will run in automatic mode, based on the set temperature and on the room temperature detected);
- 1, 2 or 3 (indicates the speed set manually on the controls of the MASTER fan coil);
- AUX (indicates that the accessories connected to the fan coil have been activated; for further information on the accessories available for each fan coil, refer to documentation of the unit);
- OFF (this symbol indicates that the unit is off because the hourly program associated to the displayed fan coil foresees this);
- (this symbol indicates that the displayed fan coil is not able to communicate correctly with the VMF-E5 panel);

- **Fan coil setting block** 6: indicates that the forcing function has been activated in the FAN COIL SETTING menu for all fan coils of the setting and of the hourly program.
Should this icon be present, the SET key (E) will be disabled;

- **Set temperature** 7: Indicates the work temperature of the selected MASTER fan coil; this value represents the temperature you desire for the room where the selected fan coil is installed;

- **Room temperature detected by the probe on the selected fan coil** 8: indicates the actual room temperature detected by the probe mounted on the selected fan coil.





From the FAN COIL menu it is possible to:

(1) Select any MASTER fan coil of the system:
default is represented by the MASTER fan coil with serial address 01 (the index is displayed in point ❶), but the user may view the situation of any other MASTER fan coil by simply pressing the Ⓐ or Ⓑ keys; the first one will allow you to view the MASTER fan coil with the subsequent serial address, while the second that with the previous serial address;

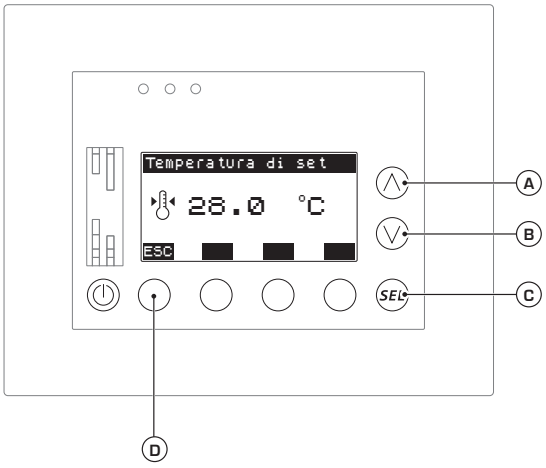
(2) Enable or disable the selected MASTER fan coil:
By pressing the Ⓓ key, each MASTER fan coil can be enabled or disabled; the icons above the Ⓓ key which represent these two states are:
- ⏻ (represents the ENABLED status);
- ○ (represents the DISABLED status);

If the fan coil is ENABLED, it will be managed based on the settings supplied by its work set point and by the eventual hourly program associated; if on the other hand this fan coil is DISABLED, it will be forced to remain in the OFF status until it is enabled once again;

(3) Set the selected MASTER fan coil set point:
If the fan coils have not all been forced to operate with the same settings (if this function is active the ❻ icon is displayed), then by pressing the Ⓔ key, one accesses the page for setting the selected fan coil; these settings (work setting, hourly program and fan coil name) are described in the following pages;

(4) Exit this window:
Press the Ⓕ key to return to the selection of the menus.

• Setting work set point of selected fan coil:



The set temperature represents the room temperature which the fan coils reach in a specific zone; this value is linked to the season parameter setting present in the USER menu; in order to set this value you must:

(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the numbers which represent the set temperature will begin to flash;

(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(3) Press the Ⓒ key to confirm the value entered; once this key has been pressed, the set numbers will have quit flashing, thus indicating that the modification procedure has concluded;

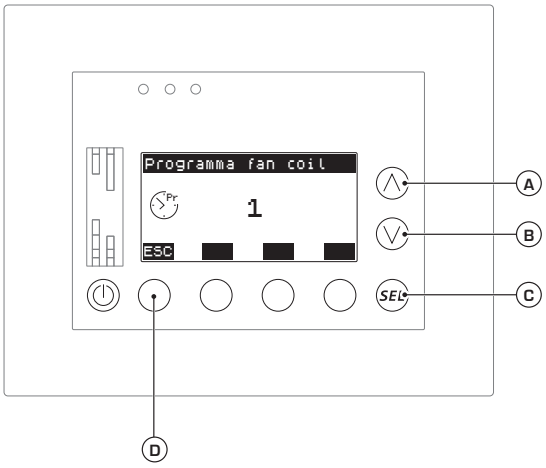
After the work setting has been entered it will be possible to:

- Pass on to the following window by pressing the Ⓐ key;

- Go back to the previous window by pressing the Ⓑ key;

- Press the Ⓓ key to return to the selection of the menus.

• Setting hourly program of fan coil selected:



In this window is it is possible to view or modify the hourly program associated to the selected fan coil (for further details, refer to the TIME PERIOD menu); in order to set an hourly program you must:

(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the number which represents the hourly program currently selected will begin to flash;

(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(3) Press the Ⓒ key to confirm the value entered; once this key has been pressed, the number of the hourly program will have quit flashing, thus indicating that the modification procedure has concluded;

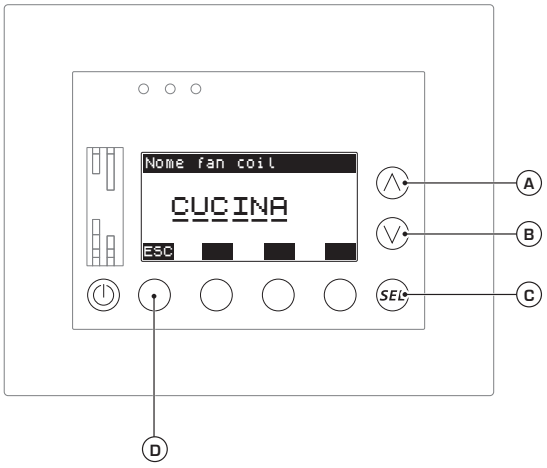
After the work setting has been entered it will be possible to:

- Pass on to the following window by pressing the Ⓐ key;

- Go back to the previous window by pressing the Ⓑ key;

- Press the Ⓓ key to return to the selection of the menus.

• Setting name for fan coil selected:



Each MASTER fan coil can have a string with a maximum of 8 characters associated to it; in order to set the desired string you must:

(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the first letter of the string will begin to flash;

(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(3) Press the Ⓒ key to confirm the entered value and to pass on to the next character;

(4) Repeat points (2) and (3) for all the characters;

(5) When the 8th character has been entered and the value as been confirmed by pressing the Ⓒ key, the string will have stopped flashing, thus indicating that the modification procedure has been concluded;

After the work setting has been entered it will be possible to:

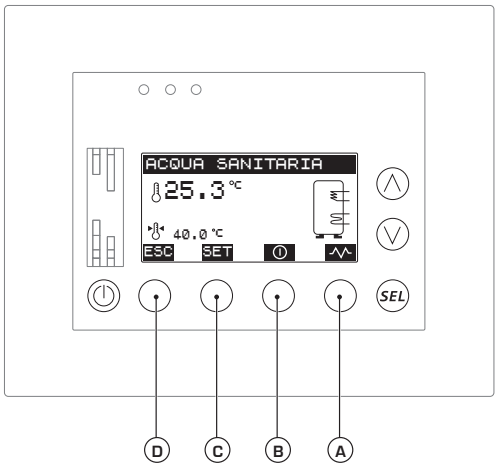
- Pass on to the following window by pressing the Ⓐ key;

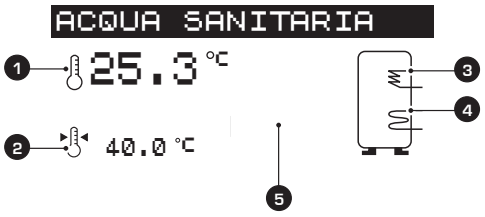
- Go back to the previous window by pressing the Ⓑ key;

- Press the Ⓓ key to return to the selection of the menus.

DOMESTIC WATER menu procedures

• Checking domestic water status:





WARNING: In order to manage the production of domestic hot water, the VMF-DHW accessory must be added to the system.

The first window of the DOMESTIC WATER menu allows the user to monitor the status and settings for production of domestic hot water in the VMF system; the information displayed in this window is:

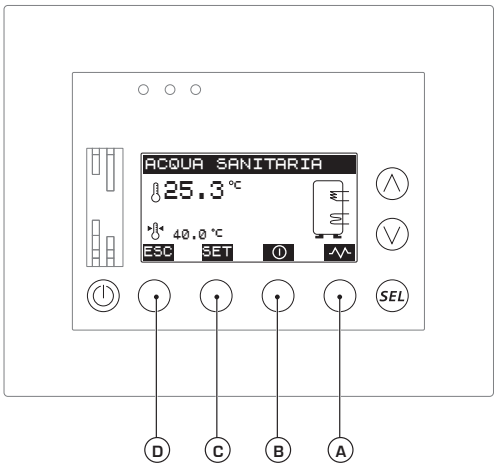
- **DHW storage temperature** (1): indicates the current temperature detected inside the DHW storage tank;

- **Set temperature for DHW** (2): Indicates the temperature the system must bring the water inside the DHW storage tank to;

- **Status of water production from heat pump**(3): Indicates the status of the heat pump (specific status for "domestic hot water production" mode); this status can be:
- Fixed image ( ) (this means that the heat pump is not active and therefore there is no domestic hot water production demand);
- Flashing image ( ) (this means that the heat pump is active producing water at a specific work setting for domestic water; this can be set by the installer);

- **Status of integration for domestic hot water**(4): Indicates the status of any integrations to domestic hot water production; the integration can be performed by means of an electrical resistance or a boiler (both require special settings by the installer); the integrative sources are represented in the system by the same symbol, which can be:
- NOT DISPLAYED (this means that no integrative source for the production of domestic hot water has been installed);
- Fixed image ( ) (this means that the integrative source is not active);
- Flashing image ( ) (this means that the integrative source is active);

- **Communication alarm signal** (5): Indicates that there is no communication between the VMF-DHW accessory and the advanced VMF-E5 panel; this error is highlighted by the appearance of the symbol ( ).



From the DOMESTIC WATER menu, it is possible to:

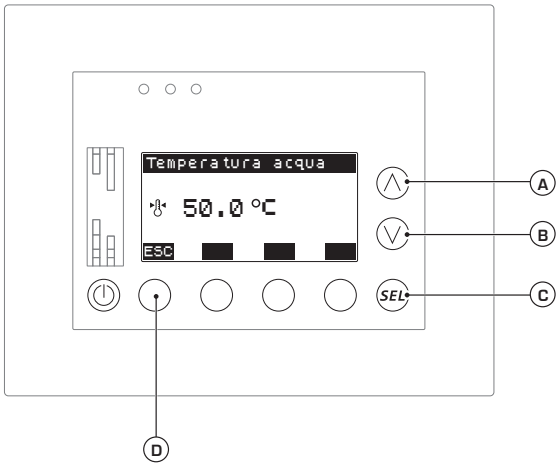
(1) Enable or disable the production of domestic hot water in the system:
by pressing the (B) key, the production of domestic hot water can be enabled or disabled; the icons above the (D) key which represent these two states are:
- ⏻ (represents the ENABLED status);
- ○ (represents the DISABLED status);
If the function is ENABLED, it will be managed based on the settings supplied by its work set point and by the eventual hourly program associated; if on the other hand this function is DISABLED, it will be forced to remain in the OFF status until it is enabled once again;

(2) Select the window for setting the temperature for the domestic hot water storage:
In order to provide the production of domestic hot water in the system, use a storage tank supplied with an exchange coil (the dimensioning of the storage tank, coil, heat pump and any integrative sources is the responsibility of the designer); the system will demand the production of domestic hot water if the temperature inside the domestic storage tank drops below a certain value; this value will be set in the window viewed by pressing the (C) key;

(3) Manually activate or deactivate the integrative source installed in the system;
by pressing the (B) key, the integrative heat source can be enabled or disabled manually; the icons above the (B) key which represent these two states are:
- ▣ (activates AUTOMATIC mode);
- ▢ (activates MANUAL mode);
Should the function be managed in AUTOMATIC mode, the system will switch the integrative heat source on and off; if MANUAL mode is selected, the integrative heat source will be activated by pressing the (B) key;
WARNING: If you wish to activate the integrative heat source manually, it is not sufficient to press the (B) key; activation of the integration is also linked to:
• Presence of an hourly program for domestic water;
• Temperature inside domestic storage tank;
• Enabling on VMF-DHW control board for use of resistance/ boiler;
• System On/Off;

(4) Exit this window:
Press the (D) key to return to the selection of the menus.

• Setting the temperature for domestic hot water storage tank:



In order to provide the production of domestic hot water in the system, use a storage tank supplied with an exchange coil (the dimensioning of the storage tank, coil, heat pump and any integrative sources is the responsibility of the designer); the system will demand the production of domestic hot water if the temperature inside the domestic storage tank drops below a certain value; to set this temperature value is necessary to:

(1) Enter modification mode by pressing the (C) key; after this key has been pressed, the numbers which represent the set temperature will begin to flash;

(2) Press the (A) key to increase the selected value or else press the (B) key to decrease it;

(3) Press the (C) key to confirm the value entered; once this key has been pressed, the set numbers will have quit flashing, thus indicating that the modification procedure has concluded.

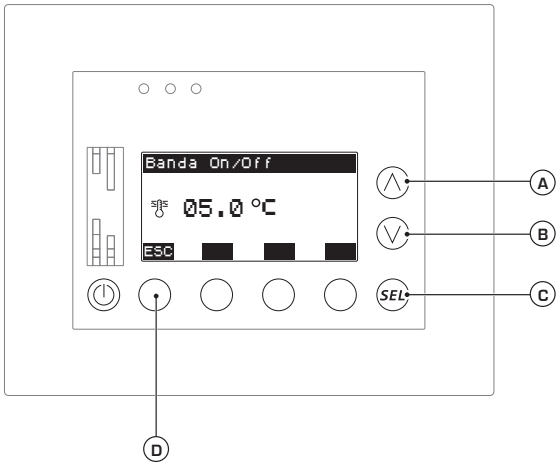
After the work setting has been entered it will be possible to:

- Pass on to the following window by pressing the (A) key;

- Go back to the previous window by pressing the (B) key;

- Press the (D) key to return to the selection of the menus.

• Setting domestic hot water temperature ON/OFF band:



A storage tank is used to produce domestic hot water. Bit by bit as the water stored is used up, the internal temperature drops until the point where the system requires the intervention of the heat pump to raise the temperature. This point is called the "ON temperature". When the heat pump has started to heat the water, the temperature inside the storage tank raises until it reaches the "OFF temperature", thus switching the heat pump off. The ON and OFF values are calculated automatically by the system by subtracting and adding the values set in this screen to the domestic water work setting in the previous screen. To set the ON/OFF band is necessary to:

(1) Enter modification mode by pressing the (C) key; after this key has been pressed, the numbers which represent the set temperature will begin to flash;

(2) Press the (A) key to increase the selected value or else press the (B) key to decrease it;

(3) Press the (C) key to confirm the value entered; once this key has been pressed, the set numbers will have quit flashing, thus indicating that the modification procedure has concluded;

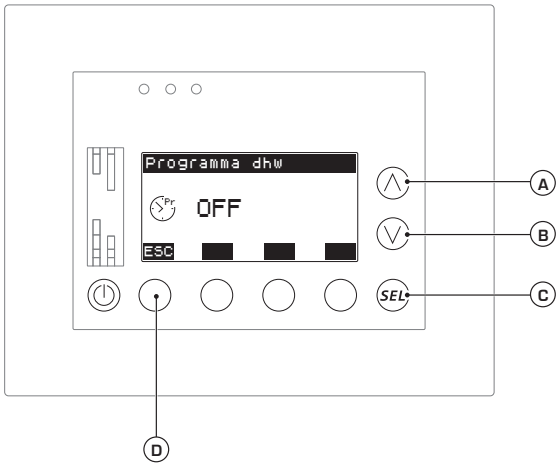
After the work setting has been entered it will be possible to:

- Pass on to the following window by pressing the (A) key;

- Go back to the previous window by pressing the (B) key;

- Press the (D) key to return to the selection of the menus.

• Activate or deactivate the hourly program for production of domestic hot water:



A specific hourly program (set in the TIME PERIOD menu) can be associated to the production of domestic hot water. It will manage the production of domestic hot water according to the hourly settings it contains. To activate or deactivate the hourly program it is necessary to:

(1) Enter modification mode by pressing the (C) key; after this key has been pressed, the setting currently in use will be highlighted;

(2) Press the (A) or (B) key to modify the setting;

(3) Press the (C) key to confirm the selection;

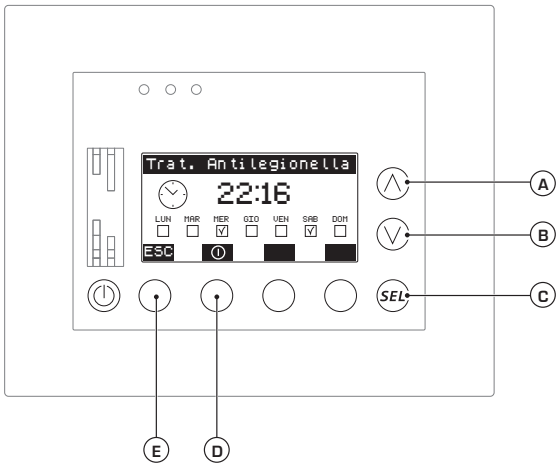
After the work setting has been entered it will be possible to:

- Pass on to the following window by pressing the (A) key;

- Go back to the previous window by pressing the (B) key;

- Press the (D) key to return to the selection of the menus.

• Set anti-Legionella cycle:



WARNING: In systems which use a storage tank for the production of domestic hot water, the anti-Legionella cycle must be ACTIVE.

The anti-Legionella cycle heats the water stored in the tank at a certain temperature for the time required to annihilate any Legionella bacteria; to set this function is necessary to:

(1) Enter modification mode by pressing the (C) key; after this key has been pressed, the hour currently set to start the cycle will be highlighted;

(2) Press the (A) key to increase the selected value or else press the (B) key to decrease it;

(3) Press the (C) key to confirm the selection and pass on to set the minutes;

(4) Press the (A) key to increase the selected value or else press the (B) key to decrease it;

(5) Press the (C) key to confirm the selection and to pass on to set the days in which the cycle will be performed; the first day of the week will be highlighted;

(6) Press the (A) or (B) key to select (☑) or clear (☐) the day highlighted;

(7) Press the (C) key to confirm the selection and pass on to set the next day;

(8) Repeat points (6) and (7) for all the days of the week; after having confirmed the selection or clearing of Friday, the setting of the anti-Legionella cycle will be concluded.

After having completed the setting of the anti-Legionella cycle, it will be possible to:

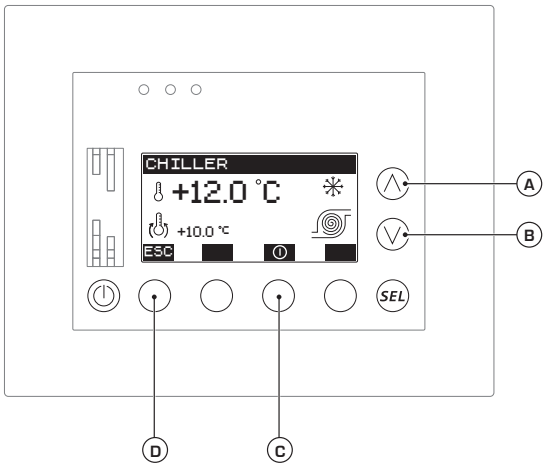
- Enable or disable this function by pressing the (D) key
① (represents the ENABLED status);
○ (represents the DISABLED status);

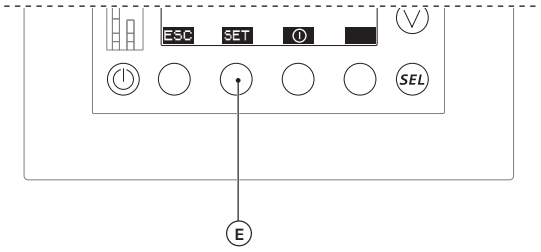
- Go back to the previous window by pressing the (B) key;

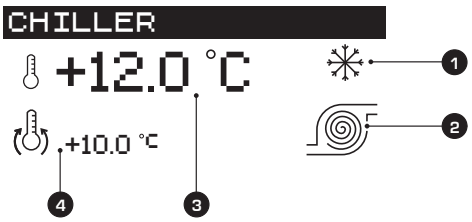
- Press the (E) key to return to the selection of the menus.

CHILLER menu procedures

• Checking chiller/heat pump status:







The first window of the CHILLER menu allows the user to monitor the status and settings of the chiller or heat pump unit installed in the system; the information displayed in this window is:

- **Functioning mode** (1): Indicates which functioning mode is currently set on the chiller/heat pump; the symbols which may be viewed:
- ☼ (chiller mode = WINTER);
- ❄ (chiller mode = SUMMER);

- **Chiller/heat pump status** (2): Indicates the current situation of the chiller/heat pump; the symbols which may be viewed:
- with fixed spiral (it means that the compressor of the unit is stopped);
- with moving spiral (it means that the compressor of the unit is active);
- (this means that the unit is in the defrosting phase);
- (this means that the unit is broken or it is not connected to the VMF system);

- **Water outlet temperature** (3): indicates the temperature of the water currently produced by the chiller/heat pump;

- **Current work setting** (4): indicates the work setting currently used by the chiller/heat pump;

From the CHILLER menu it is possible to:

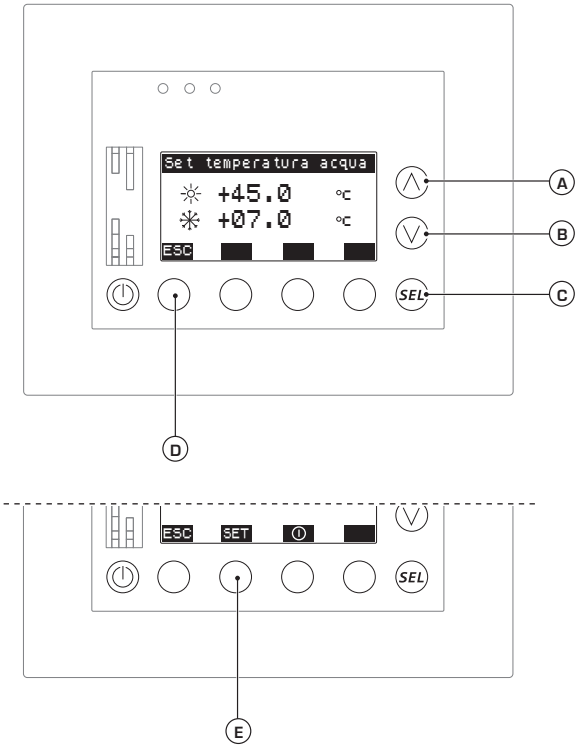
(1) Enable or disable the chiller/heat pump:
by pressing the (C) key, the chiller/heat pump can be enabled or disabled; the icons above the (C) key which represent these two states are:
- ⏻ (represents the ENABLED status);
- ○ (represents the DISABLED status);
If the unit is ENABLED, it will be managed based on the settings supplied by its work set point and by the eventual hourly program associated; if on the other hand this unit is DISABLED, it will be forced to remain in the OFF status until it is enabled once again;

(2) Pass on to the next window:
To pass on to the next window of the chiller menu, press the (A) or (B) key;

(3) Exit this window:
Press the (D) key to return to the selection of the menus;

(4) Enter the chronothermostat submenu:
If the system does not have fan coils or other types of terminals (radiating floors, radiators, etc.) it is possible to activate the chronothermostat function. This function can be set by means of the relative menu, which is accessed by pressing the (E) key; if the system is provided with fan coils, this key cannot be used.

• Viewing seasonal temperature settings of chiller/heat pump:



On this window it is possible to view the work settings, both for summer mode (✳) and for winter mode (☼), set on the chiller/heat pump, though they cannot be modified from this window;

The operations that can be performed from this window are:

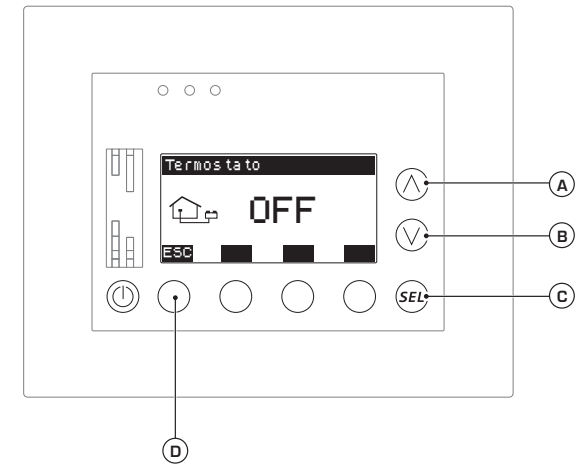
- Pass on to the following window by pressing the (A) key;

- Go back to the previous window by pressing the (B) key;

- Press the (D) key to return to the selection of the menus;

- Activate the chronothermostat function; this function can be set by means of the relative menu, which is accessed by pressing the (E) key; if the system is provided with fan coils, this key cannot be used.

• Enabling of chronothermostat function for chiller/heat pump:



On this window it is possible to activate the chronothermostat function (per systems provided with it); this function utilises the temperature probe of the VMF-E5 panel to read room temperature, and based on this to establish whether to activate the chiller/heat pump or not; to activate or deactivate this function it is necessary to:

(1) Enter modification mode by pressing the (C) key; after this key has been pressed, the setting currently in use will be highlighted;

(2) Press the (A) or (B) key to modify the setting;

(3) Press the (C) key to confirm the selection;

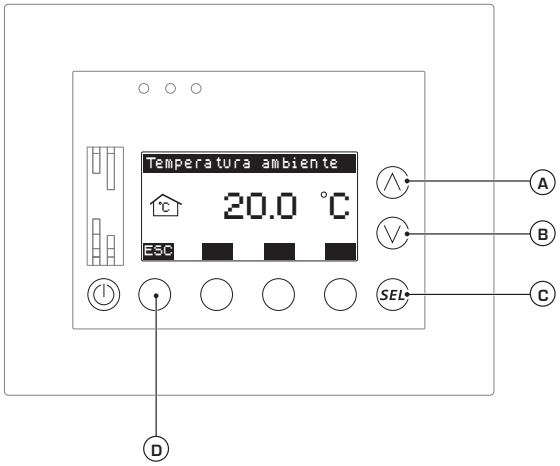
After having completed the setting of this function, it will be possible to:

- Pass on to the following window by pressing the (A) key;

- Go back to the previous window by pressing the (B) key;

- Press the (D) key to return to the selection of the menus.

• Set the room setting for the chronothermostat function:



On this window it is possible to set the room air setting used during the chronothermostat function; depending on the season activated on the chiller, the unit will be activated if the air temperature is:
- Above the setting in this parameter (if the SUMMER mode is active on the chiller);
- Below the setting in this parameter (if the WINTER mode is active on the chiller);
To activate the chiller demand it is also necessary that the hourly program selected for the chiller gives its consent for activation; in order to set this value is necessary to:

(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the numbers which represent the set temperature will begin to flash;

(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(3) Press the Ⓒ key to confirm the value entered; once this key has been pressed, the set numbers will have quit flashing, thus indicating that the modification procedure has concluded.

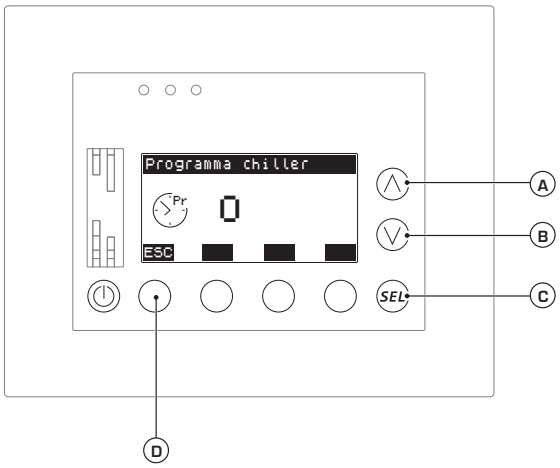
After having completed the setting of this function, it will be possible to:

- Pass on to the following window by pressing the Ⓐ key;

- Go back to the previous window by pressing the Ⓑ key;

- Press the Ⓓ key to return to the selection of the menus.

• Set the room setting for the chronothermostat function:



On this window it is possible to select one of the 5 hourly programs available in the system. If you do not wish to use any hourly program, just set it at zero; in order to select an hourly program it is necessary to:

(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the numbers which represent the hourly program will begin to flash;

(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(3) Press the Ⓒ key to confirm the value entered; once this key has been pressed, the numbers of the hourly program will have quit flashing, thus indicating that the modification procedure has concluded.

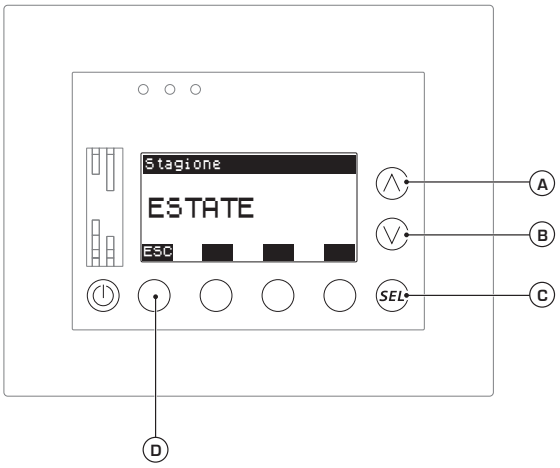
After having completed the setting of this function, it will be possible to:

- Go back to the previous window by pressing the Ⓑ key;

- Press the Ⓓ key to return to the selection of the menus.

USER menu procedures

• Set the season for the system:



On this window it is possible to set the season to be activated on the system; the possible settings are:
- SUMMER (the system will activate the air-conditioning setting);
- WINTER (the system will activate the heating setting);
In order to set this value it is necessary to:

(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the season currently selected will begin to flash;

(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

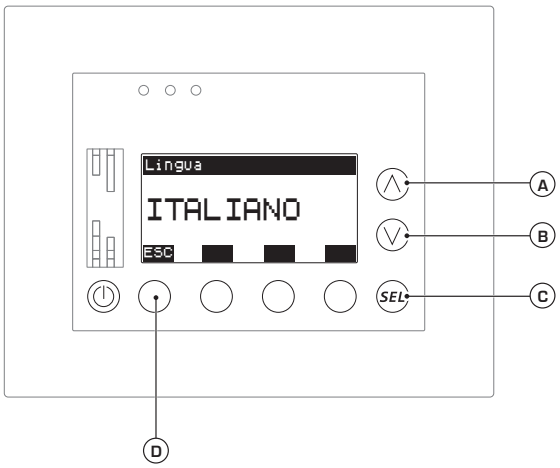
(3) Press the Ⓒ key to confirm the value entered; once this key has been pressed, the season will have quit flashing, thus indicating that the modification procedure has concluded;

After having completed the setting of this function, it will be possible to:

- Pass on to the following window by pressing the Ⓐ key;

- Press the Ⓓ key to return to the selection of the menus.

• Set the language for the VMF-E5 panel interface:



On this window it is possible to set the language to be used for system interface; the language is available are:
- ITALIAN;
- ENGLISH;
- FRENCH;
-GERMAN.
In order to set the system language, it is necessary to:

(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the language label will begin to flash;

(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(3) Press the Ⓒ key to confirm the value entered; once this key has been pressed, the language label will have quit flashing, thus indicating that the modification procedure has concluded;

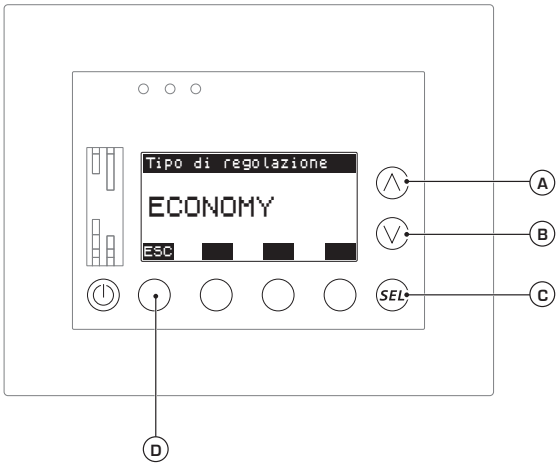
After having completed the setting of this function, it will be possible to:

- Pass on to the following window by pressing the Ⓐ key;

- Go back to the previous window by pressing the Ⓑ key;

- Press the Ⓓ key to return to the selection of the menus.

• Set the functioning mode (ECONOMY/COMFORT) for the system:



On this window it is possible to set the functioning mode to be activated on the system; the possible settings are:
- ECONOMY (the system activates an algorithm through which the work setting of the chiller/heat pump varies dynamically based on the real demand of the fan coils);
- COMFORT (the system will keep the work setting of the chiller/heat pump steady as long as a fan coil demand is active);
In order to set this value it is necessary to:

(1) Enter modification mode by pressing the (C) key; after this key has been pressed, the mode currently selected will begin to flash;

(2) Press the (A) key to increase the selected value or else press the (B) key to decrease it;

(3) Press the (C) key to confirm the value entered; once this key has been pressed, the mode will have quit flashing, thus indicating that the modification procedure has concluded.

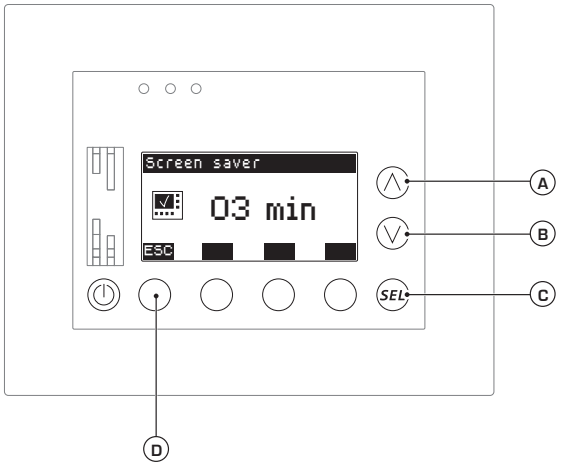
After having completed the setting of this function, it will be possible to:

- Pass on to the following window by pressing the (A) key;

- Go back to the previous window by pressing the (B) key;

- Press the (D) key to return to the selection of the menus.

• Set the screen saver:



On this window it is possible to set the time you remain on any page (other than the home page) after which, if no key has been pressed, the system will return automatically to the main window. Should you wish to disable this function you must set this value at 0; in this case the icon displayed will pass from ( ) to ( ); in order to set this time it is necessary to:

(1) Enter modification mode by pressing the (C) key; after this key has been pressed, the numbers which represent the screen saver activation will begin to flash;

(2) Press the (A) key to increase the selected value or else press the (B) key to decrease it;

(3) Press the (C) key to confirm the value entered; once this key has been pressed, the numbers of the time will have quit flashing, thus indicating that the modification procedure has concluded.

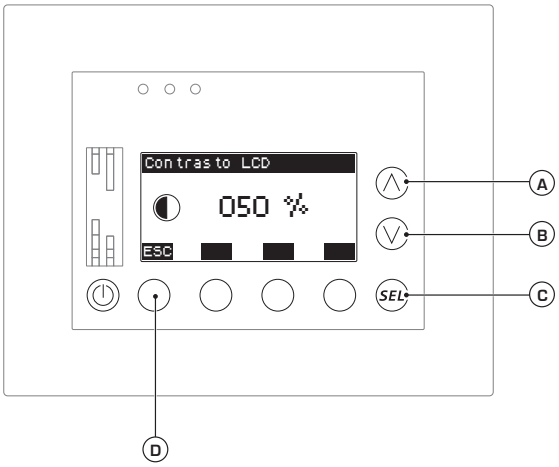
After having completed the setting of this function, it will be possible to:

- Pass on to the following window by pressing the (A) key;

- Go back to the previous window by pressing the (B) key;

- Press the (D) key to return to the selection of the menus.

• Set the contrast for the VMF-E5 panel display:



On this window it is possible to set the contrast (expressed in percentage) with which the information on the VMF-E5 panel display is viewed; in order to set contrast it is necessary to:

(1) Enter modification mode by pressing the (C) key; after this key has been pressed, the numbers which represent the current value will begin to flash;

(2) Press the (A) key to increase the selected value or else press the (B) key to decrease it;

(3) Press the (C) key to confirm the value entered; once this key has been pressed, the numbers of the value will have quit flashing, thus indicating that the modification procedure has concluded;

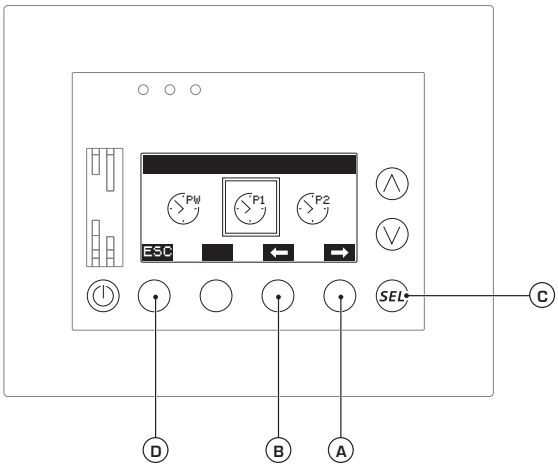
After having completed the setting of this function, it will be possible to:

- Go back to the previous window by pressing the (B) key;

- Press the (D) key to return to the selection of the menus.

TIME PERIODS menu procedures

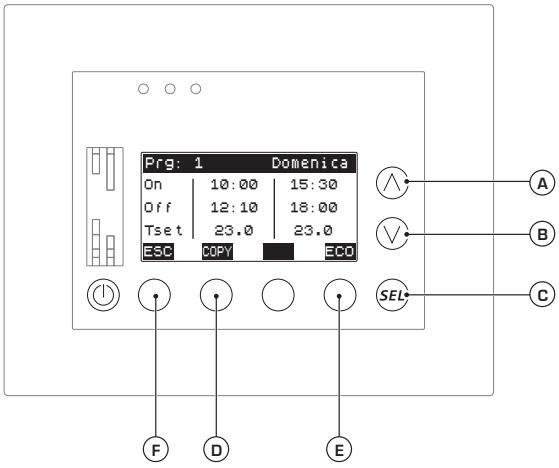
• Select an hourly program to be set:

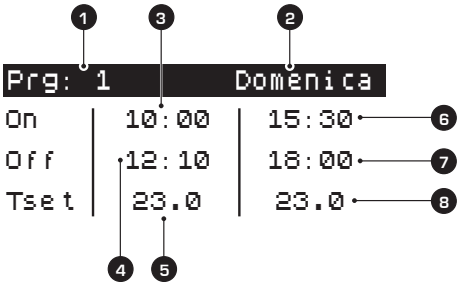


An hourly program can be associated to the components of the VMF systems (fan coils, chillers, domestic water, recovery units). Each hourly program consists in two daily time periods (each hourly program manages 7 distinct days and therefore a total of 14 different time periods can be set weekly) in which it will be possible to decide the work setting. The system is capable of managing 6 different hourly programs (P1, P2, P3, P4 for the system and PW for domestic hot water production).

The program currently selected is always viewed at the centre of the display (inside the selection box). In order to pass to the previous or subsequent program, it is necessary to press the (A) key or the (B) key; once the desired hourly program has been selected, by pressing the (C) you may enter the mode for setting the selected program. Press the (D) key to exit and return to the selection of the menus;

• Set an hourly program:





WARNING: The setting of the time periods must have coherent data; the logic to be respected can be summarised with the following relation:

❸ < ❹ < ❻ < ❼

If this relation is not respected, when all the data has been entered a "DATA ERROR" message will appear on the display.

If you would like to delete one or more time periods, it is necessary to set the beginning and end of that time period with 00:00.

Once an hourly program has been selected, the user may modify the elements of each hourly program board; each board represents a day of the week and contains the following settings:

- Program number (❶): indicates the number of the program currently selected; this number will go from 1 to 4 when it deals with hourly programs that can be associated to the system (fan coils, chiller or recovery units) or else PW (if it deals with hourly programs dedicated to the production of domestic hot water);

- Day of the week (❷): Indicates which day of the week is associated to the board currently displayed (each hourly program foresees the setting of a board for each day of the week);

- First time period ON (❸): indicates the time at which the first time period must start;

- First time period OFF (❹): indicates the time at which the first time period must end;

- First time period work setting (❺): indicates the work setting, for the element associated to this hourly program it is active during the first time period.

- Second time period ON (❻): indicates the time at which the second time period must start;

- Second time period OFF (❼): indicates the time at which the second time period must end;

- Second time period work setting (❽): indicates the work setting, for the element associated to this hourly program it is active during the second time period.

From the HOURLY PROGRAM menu it is possible to:

(1) Scroll to the subsequent or previous board inside same hourly program: to switch to viewing the subsequent board or the previous one you must press the Ⓐ or Ⓑ keys; this operation does not modify the values of the time periods;

(2) Set the data of a board: in order to set this data it is necessary to:

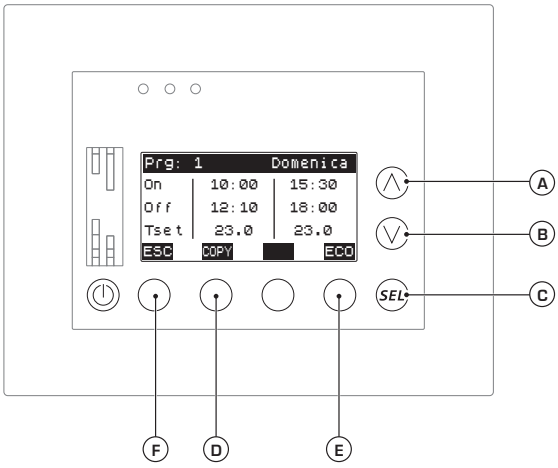
(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the starting time for period 1 will begin to flash;

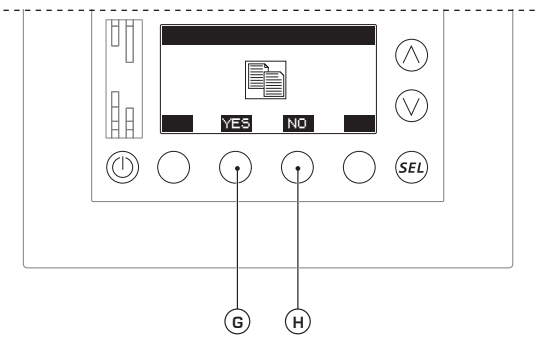
(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

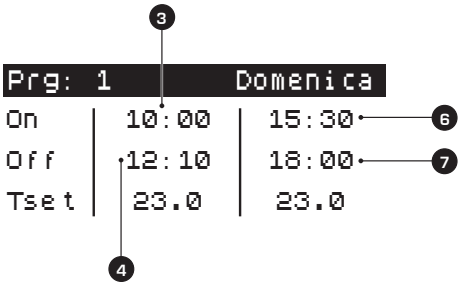
(3) Press the Ⓒ key to confirm the entered value; once this key has been pressed, the minutes will start to flash;

(4) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(5) Press the Ⓒ key to confirm the entered value; once this key has been pressed, you will pass to the time of the end of time period 1.







WARNING: The setting of the time periods must have coherent data; the logic to be respected can be summarised with the following relation:

❸ < ❹ < ❻ < ❼

If this relation is not respected, when all the data has been entered a "DATA ERROR" message will appear on the display.

If you would like to delete one or more time periods, it is necessary to set the beginning and end of that time period with 00:00

(6) Repeat the steps described from point (2) to point (5). now the start and finishing time will be set, and the set temperature value for the time period 1 will begin to flash;

(7) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(8) Press the Ⓒ key to confirm the entered value; once this key has been pressed, you will pass to the time of the start of time period 2;

(9) Repeat the steps described from point (2) to point (5); now the start and finishing time will be set, and the set temperature value for the time period 2 will begin to flash;

(10) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(11) Press the Ⓒ key to confirm the value entered; once this key has been pressed, the modification of the time periods for the displayed board will be complete. To set another board you must select it and repeat the operations described above (remember that each hourly program is composed of 7 boards);

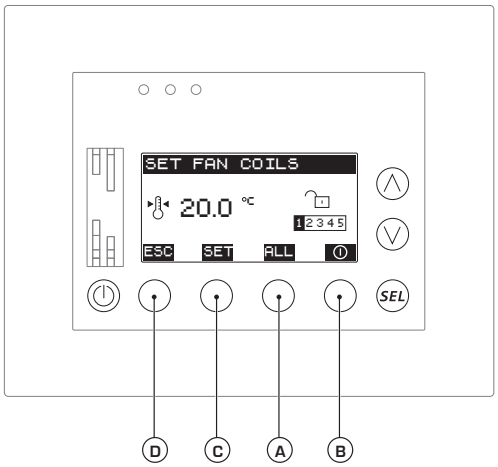
(3) Set the ECONOMY or COMFORT modes: Each board can manage the time periods according to the mode:
- ECONOMY (the fan coil is active ONLY during the time periods and works according to the setting in the time period);
- COMFORT (the fan coil is always active, unless the demand from the room has not been met; during the time periods it works according to the setting whereas outside of these it runs with the setting as set directly on the FAN COIL menu);
to set one mode or the other it is necessary to press the Ⓔ key; , every time it is pressed the label above the key will change, setting the other mode; the labels which identify the set modes are:
- ECO (ECONOMY mode);
- COM (COMFORT mode);

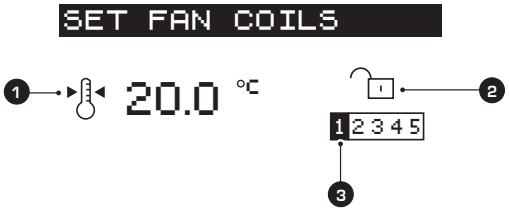
(4) Set all the boards with the COPY function: The system is capable of copying the data of the board currently displayed in all 7 boards of an hourly program. In order to proceed with the automatic copy of the settings, it is necessary to press the Ⓓ key, and after being asked for confirmation, press the Ⓖ key to confirm and to make the copy of the data valid, or else Ⓗ to cancel the operation.

(5) Exit this window:
Press the Ⓕ key to return to the selection of the menus;

FAN COIL SETTING menu procedures

• Set ALL fan coils of the system simultaneously:





On this window it is possible to enable use of the "block settings" function. This function allows you to set all the fan coils simultaneously, replicating the settings of this menu on each one. The function facilitates setting systems with many fan coils, considerably accelerating the operations needed to set each terminal. The information displayed on this page is:

- **Temperature setting for all fan coils** (1): Indicates the temperature setting at which all the fan coils will be forced if the function is activated.

- **Fan coil BLOCK icon** (2): this icon indicates whether the "block settings" function is active in the VMF system; if so, all the fan coils will be managed simultaneously sharing ALL the same settings and hourly program; the status of this icon can be:
- (Indicates that the block is ACTIVE and therefore all the fan coils of the VMF system will be managed as one);
- (indicates that NO block IS ACTIVE and therefore each fan coil will be managed individually);

- **Hourly program selected** (3): this icon indicates the hourly program associated to the fan coils if the "block settings" function is active;

From the FAN COIL SETTING menu it is possible to:

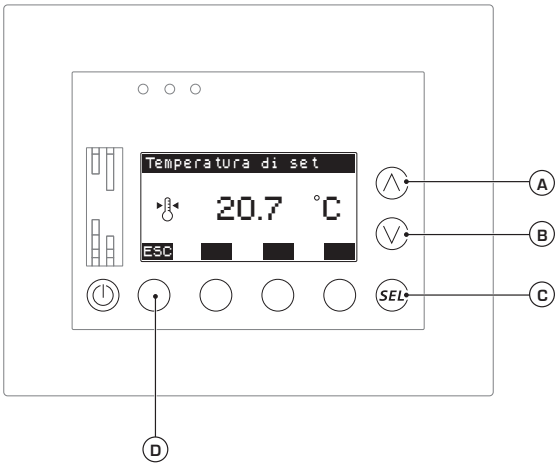
(1) Enable or disable the "block settings" function: by pressing the (A) key function can be enabled or disabled, the current status of the function is represented by the 3 icon ;

(2) Enable or disable the system: if the "block settings" function is active, pressing the (B) key will enable or disable ALL fan coils present in the VMF system; if the block function is not set, the key will have no effect.

(3) Enter the overall setting mode: if the "block settings" function is active, pressing the (C) key will open up the page to set the temperature to be assigned to all fan coils; if the block function is not set, this key will still access the setting modification page.

(4) Exit this window:
Press the (D) key to return to the selection of the menus.

• Configure the settings for ALL the fan coils in the “block settings” function:



On this window it is possible to configure the work settings at which ALL the fan coils can be forced during the “block settings” function; to perform this setting it is necessary to:

(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the numbers which represent the set temperature will begin to flash;

(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(3) Press the Ⓒ key to confirm the value entered; once this key has been pressed, the numbers of the value will have quit flashing, thus indicating that the modification procedure has concluded;

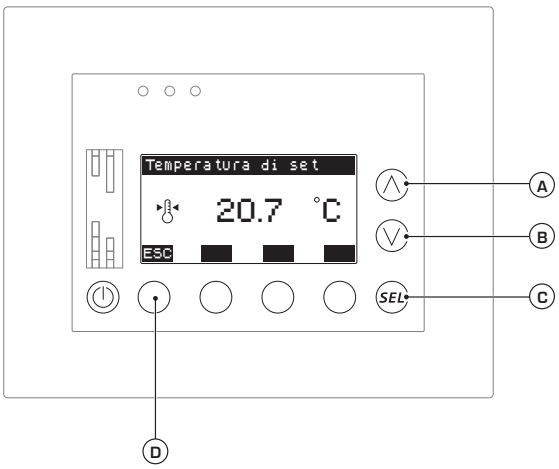
After having completed the setting of this function, it will be possible to:

- Go back to the previous window by pressing the Ⓑ key;

- Pass on to the following window by pressing the Ⓐ key;

- Press the Ⓓ key to return to the selection of the menus.

• Set the hourly program for ALL the fan coils in the “block settings” function:



On this window it is possible to set the hourly program at which ALL the fan coils can be forced during the “block settings” function; to set the hourly program it is necessary to:

(1) Enter modification mode by pressing the Ⓒ key; after this key has been pressed, the numbers which represent the hourly program will begin to flash;

(2) Press the Ⓐ key to increase the selected value or else press the Ⓑ key to decrease it;

(3) Press the Ⓒ key to confirm the value entered; once this key has been pressed, the numbers of the hourly program will have quit flashing, thus indicating that the modification procedure has concluded;

After having completed the setting of this function, it will be possible to:

- Go back to the previous window by pressing the Ⓑ key;

- Press the Ⓓ key to return to the selection of the menus.

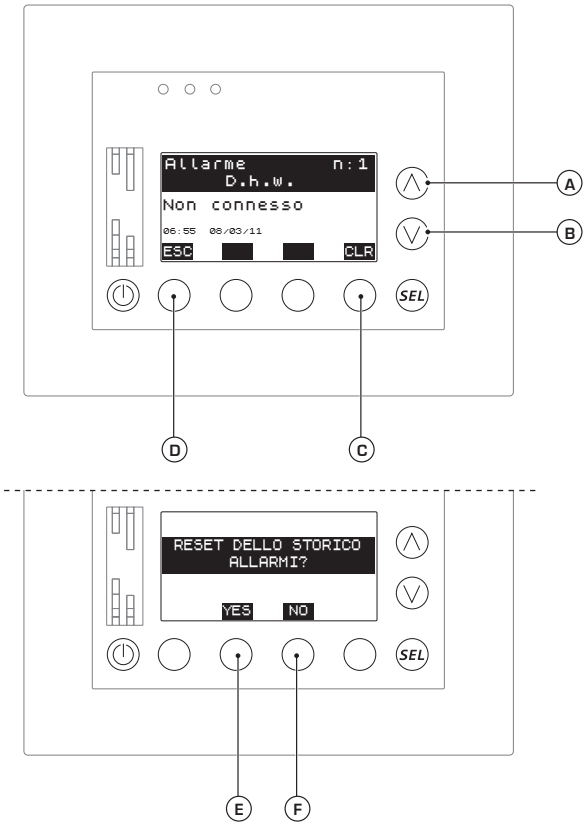
ASSISTANCE menu procedures

WARNING: All the settings contained in the assistance menu are protected by a password. The installer is responsible for all of the functions which may be activated by this menu. One must refer to him for the correct installation of the VMF system.

In order to make installation simpler, A VMF SYSTEM INSTALLATION GUIDE HAS BEEN IMPLEMENTED. This document contains all the information necessary for correct installation of all the components of a VMF system, from the electrical connections to the software settings of the assistance menu.

For further information on the assistance menu, see the specific documentation.

ALARMS LOG



WARNING: Should there be one or more alarm situations in progress in the system, they are signalled both by the flashing of a red LED on the interface of the VMF-E5 panel and by the icon (🔔) on the home page; these signals will disappear once the fault has been resolved.

On this page it is possible to consult the alarm log. The VMF-E5 panel manages a memory which records the alarms (maximum of 10) for which the following information is registered:

- **Alarm index** (❶): This value indicates the position taken up by the alarm in the memory; 10 positions are available with just as many alarms. Once they have all been occupied, the triggering of a new alarm is registered in place of the older one.

- **Alarm origin** (❷): This label indicates from which component of the system (DHW, Chiller, System, VMF-CRP, etc...) the alarm condition derives; the indication allows the assistance service to intervene in a precise manner.

- **Alarm description** (❸): this label indicates the cause of the alarm; this indication allows assistance service to intervene in a precise manner.

- **Time and date of the alarm** (❹): indicates the time and date when the alarm occurred.

The information listed up until here are the parameters that are viewed on the display of the VMF-E5 panel; but while this window is displayed, by using the interface keys, it is possible to:

(1) Cancel all the alarms: By pressing the Ⓒ key the procedure for cancelling all the registered alarms starts. If you wish to cancel all the alarms you must press the Ⓔ key to confirm or Ⓕ to abort.

(2) Scroll the alarms: by pressing the Ⓐ or Ⓑ key you may scroll among the errors registered in the system.

(3) Exit this window:
Press the Ⓓ key to return to the selection of the menus.

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