

Libretto istruzioni



IE

**Instructions and
recommendations**

Installer

User

Maintenance technician

System Manager Kit

Electronic control



Dear Customer,

*We wish to complement you for having chosen a top-quality **Immergas** product, that can assure you long-term well-being and safety.*

*As an **Immergas customer** you can also count on Qualified Post-Sales Service, prepared and updated to guarantee constant efficiency of your "System Manager Kit".*

*We would like to provide you with some important indications, your observance of which will ensure your satisfaction with the **Immergas** product:*

- Read the following pages carefully: you will find useful suggestions regarding the correct use of the device.
- For assistance and scheduled maintenance, contact "**Immergas Authorised After-Sales centres**": they have original spare parts and are specifically trained.

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FOREWORD

The programmable “Immergas” “System Manager Kit” was designed to guarantee ideal temperature conditions at any time of day and night, for every single day of the week, using the most economically advantageous source of energy based on the characteristics of the installed components and environmental conditions.

The main control possibilities are:

1. Direct system without mixed valves and without dehumidifiers with integration either through resistances or boilers, and management of the solar system with a layer.
2. System for up to 3 zones, with 3-point mixer, and management of a high temperature zone with boiler integration.
3. System with 2 mixed zones with 3-point mixer including the aforementioned characteristics and 1 fixed.
4. As in the aforementioned cases but with the possibility of managing the solar part on two layers and a high temperature zone.
5. As in the aforementioned cases but with the possibility of managing a puffer for the solar integration of CH.

The customer can change the basic program according to their requirements.

Programming the “System Manager Kit” is extremely easy and a wide display screen allows you to constantly control all set values.

GENERAL RECOMMENDATIONS

- Carefully read the warnings contained in this document as they are required to indicate how to use the “System Manager Kit” envisioned by the design, technical features, programming, adjustment and use.
- The system must be compliant with applicable IEC Standards.
- The instruction manual must be considered a part of the “System Manager Kit” and must be “**kept for future reference**”.
- The “System Manager Kit” is intended only for the use for which it has been expressly designed. Any other use must be considered improper and therefore dangerous.
- Our products are produced in compliance with the Safety Standards in force, it is therefore recommended to use all devices or attentions in such a way that injury/damage is not caused to persons or objects.
- Do not remove parts of the “System Manager Kit” when it is operating.

- Do not use the “System Manager Kit” exposed to sources of heat or under the scorching sun.
- In case the manager is switched-off, it is necessary to also switch-off all devices connected to it (e.g. Heat pump, expansions etc.)
- The manufacturer will not be held responsible in the following cases:
 - a) Incorrect installation.
 - b) Malfunctions of the equipment to which the “System manager kit” is applied.
 - c) Unauthorised changes or tampering.
 - d) Total or partial failure to comply with instructions.
 - e) Exceptional events etc.

CASE CLEANING

To clean the case of “System Manager Kit” use damp cloths. Never use abrasive or powder detergents.

WARNING

Immergas reserves the right to make improvements and changes to details and accessories, excepting the essential features of the model described and illustrated herein.

1 DESCRIPTIONS CONTROL PANEL

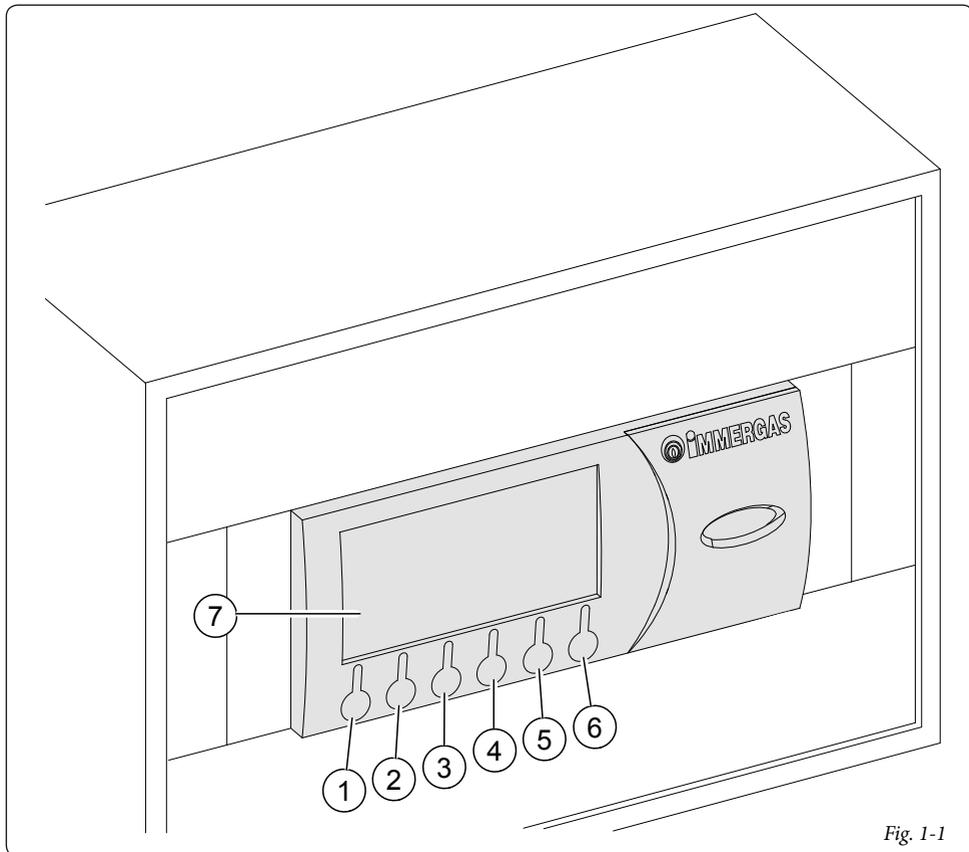


Fig. 1-1

Key:

1. Button to change the operating mode summer/winter/stand-by (**MODE**).
2. Access button to submenus (**PRE**).
3. Button to move from a menu to the previous one (**EST**).
4. Downwards menu/values scroll button, decreasing parameters button (**↓**).
5. Upwards menu/values scroll button, increasing parameters (**↑**).
6. Button of confirmation for parameter variation (**←**).
7. Viewing display.

N.B.: Some buttons can have different meanings and functions depending on the displayed context.

1.1 BUTTONS DESCRIPTION

The button (1 Fig. 1-1) allows you to change the operating mode of the system, specifically:

- Summer (only DHW management).
- Summer with cooling (summer air conditioning).
- Winter (winter air conditioning).
- Stand-by (no request satisfied with the exception of the environmental antifreeze protection and system deaeration).

The button (Ref. 2 Fig. 1-1) allows you to access the submenus:

- Selection menu for room comfort and reduced Set Point;
- Programming menu for clock and time periods (4 daily on-off time periods for the comfort temperature);
- "Info" menu, to view the "System Manager Kit" input data (ex. external temperature, flow temperature, set flow temperature, DHW temperature, solar storage tank probe temperature);
- Alarms records;
- Assistance menu.

The button (Ref. 3 Fig. 1-1) allows you to move back from a current menu to the previous one.

The buttons (Ref. 4 and 5 Fig. 1-1) are used to cyclically scroll through the menus on the display. On the main screen they allow you to view:

- "Set DHW";
- "Set room and flow zone 1";
- "Set room and flow zone 2";
- "Set room and flow zone 3";
- "Set room and flow zone AT";

While the "DHW Set", "Room Set", "Flow Set" are displayed, press the button (Ref. 6 Fig. 1-1) to access and edit the displayed data; when the "Room Set" is changed the device will switch to manual operation until the controlled status change of the first time range in the "automatic" condition. When a variation is made to "Set DHW" or "Set flow" only the relative values will be changed; a variation made to "Set flow", if an external probe is being used, will be read by the supervisor as an offset compared to the value determined by the set curve. The set flow being sent to the heat pump and/or integration boiler will have a value of the maximum set value of $\pm 15^{\circ}\text{C}$.

If anomalies arise, from the heat pump, the current anomaly will appear on the screen and the possibility of verifying it in the alarms records menu. Within this menu it is possible to reset the alarms records or send the reset command to the machine (see paragraph 4.2), it is possible to send a maximum of 3 consecutive restore commands; at the end of the three tries a new restore request will be provided after one hour.

1.2 DESCRIPTION OF THE DISPLAY SCREEN

	winter - DHW heating and room central heating functions are enabled;
	summer - only the DHW heating function is enabled;
	comfort temperature is active;
	operating with energy savings programme (reduced);
	operating with automatic program;
	operating with manual program;
	operating with holiday timer program;
	symbol indicating anomaly;
	request for central heating in room in progress;
	request for DHW in progress;
	summer with cooling - DHW heating and room cooling functions are enabled;
	operating in "Party" mode;
	request to heat or cool room;
	solar panel operation in progress;
	System in stand-by;
	request for cooling in room in progress;
	Dehumidifier with neutral air;
	Dehumidifier with cooled air;
	Post-circulation in progress;

N.B.: some icons can assume different meanings according to the context, see the following paragraphs to identify the functions activated by the presence of several icons at the same time.

2 “SYSTEM MANAGER KIT” USER SETTINGS

It is possible to set / modify the following parameters:

- DHW temperature setting;
- comfort and low temperature levels;
- daily / weekly hourly program; operating / holiday timer program;
- assistance menu.

2.1 START-UP

2.1.1 Main page

The main page shows the status of the main area. In particular, the following are visible:

- name of the area;
- room temperature;
- room humidity.

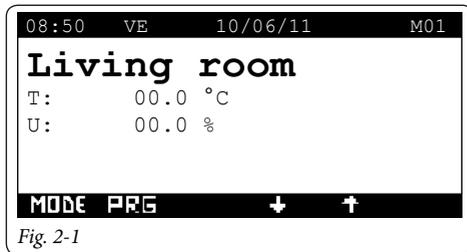


Fig. 2-1

2.1.2 Programming current time and day

Press the **PRG** button to enter the navigation menu.

Press buttons **↓** **↑** until selecting menu “02. TIME SLOTS.

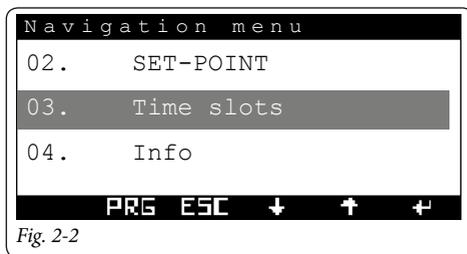


Fig. 2-2

Press button **←** to enter current “Time and Day” mode.

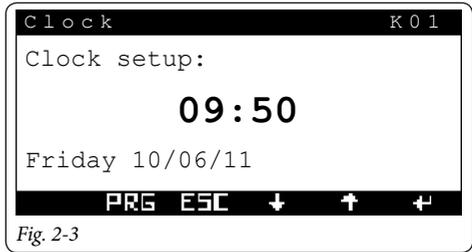


Fig. 2-3

Press the **←** button again to make the value indicating the hours to flash.

Set as desired by pressing arrows **↓** **↑**. At the end, press button **←** to confirm and for the minute figure to start blinking.

Proceed in the same way adjusting the minutes, day of the week, day, month and year.

At the end press button **ESC** twice to go back to the main screen.

2.2 SELECTION OF OPERATING MODE

The “System Manager Kit” according to the functioning mode selected, the CAR V2 remote control performs the requests of the user, displaying the results on the display. By pressing the **MODE** button, in sequence you pass the system operating modes:

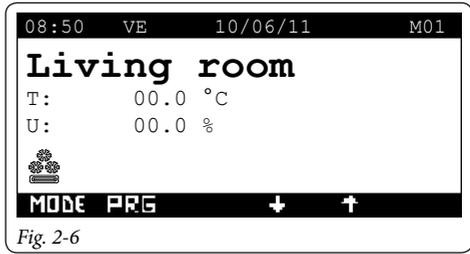
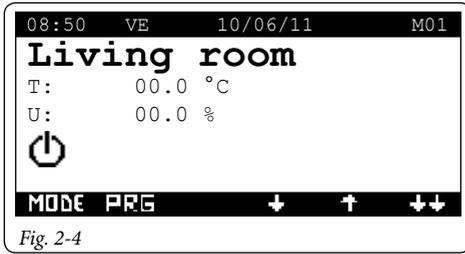
- stand by;
- summer;
- summer with cooling;
- winter.

The antifreeze function is also present in the following modes: stand-by, summer and winter.

2.2.1 Functioning in STAND-BY mode

With the “System Manager Kit” in stand-by mode, the symbol **⏻** is displayed (see Fig. 1-5). The system can only work in case of room antifreeze request. In this status the current day and time are still displayed, along with any operating faults, present humidity percentage and ambient temperature in the main area.

Note: press arrows **↓** **↑** to view the same parameters for any other stored areas.



2.2.2 Operation in SUMMER mode

Pressing button **MODE** switches to summer operation (☀️) the “System Manager Kit” enables the system to domestic hot water production only, disabling room central heating (see Fig. 1-6). The display shows current day and time, any operating faults, ambient temperature and humidity percentage in the main area.

N.B.: press arrows **⬇️⬆️** to view the same parameters for any other stored areas.



2.2.3 Operation in SUMMER MODE WITH COOLING

Pressing button **MODE** switches to summer operation with cooling: the “System Manager Kit” enables both domestic hot water production and room cooling (see Fig. 1-7). The display shows current day and time, any operating faults, ambient temperature and humidity percentage in the main area.

N.B.: press arrows **⬇️⬆️** to view the same parameters for any other stored areas.

The “System Manager Kit” allows automatic functioning in cooling mode, in which a time program manages the room temperature during the hours of the day.

The desired room temperature can be adjusted onto two independent levels: comfort (☀️) and reduced (☾). The distribution of these levels throughout the day or week is controlled by the hourly programming (see Paragraph 2.3).

The “System Manager Kit” is factory set as shown in the table below. If this should not satisfy requirements, it is possible to modify it as described in the following chapters.

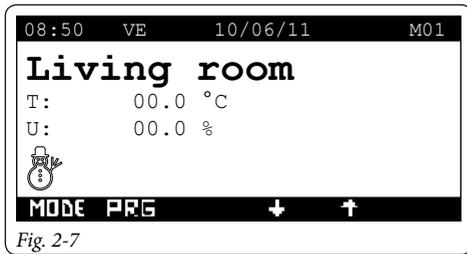
Days	☾ 28°C	☀️ 25°C
Mon-Fri	-	0 ÷ 24
Sat-Sun	-	0 ÷ 24

N.B.: the system is designed to function on comfort and reduced temperature levels depending on the hour program set. Therefore also during functioning in reduced room temperature conditions, if the temperature measured is above that set, the system can switch-on.

2.2.4 Operation in WINTER mode

Pressing button **MODE** switches to winter operation: the “System Manager Kit” enables both domestic hot water production and room central heating (see Fig. 1-8). The display shows current day and time, any operating faults, ambient temperature and humidity percentage in the main area.

N.B.: press arrows **⬇️⬆️** to view the same parameters for any other stored areas.



The “System Manager Kit” allows automatic functioning in central heating mode, in which a time program manages the room temperature during the hours of the day. The desired room temperature can be adjusted onto two independent levels: comfort (☀️) and reduced (☾). The distribution of these levels throughout the day or week is controlled by the hourly programming (see Paragraph 2.3).

The “System Manager Kit” is factory set as shown in the table below. If this should not satisfy requirements, it is possible to modify it as described in the following chapters.

Days	☾ 16°C	☀️ 20°C
Mon-Fri	-	0 ÷ 24
Sat-Sun	-	0 ÷ 24

N.B.: the system is designed to function on comfort and reduced temperature levels depending on the hour program set. Therefore also during functioning in reduced temperature conditions, if the room temperature measured is below that set, the system can switch-on.

2.2.5 Room antifreeze function

Note: this function is only active in the winter, stand-by and summer mode.

The antifreeze function has maximum priority with respect to other settings. When ambient temperature drops below 5°C a central heating request at minimum setting is made. This situation remains active until there is a variation in room temperature of 1°C equal to 6°C measured in the area where the temperature below 5 °C is detected.

2.3 DOMESTIC HOT WATER TEMPERATURE SETTING

There are two modes for managing domestic hot water:

- set DHW fixed;
- set DHW automatic.

In the first case it is sufficient to set a SET MANUAL to have a DHW setpoint that remains unchanged over time. If wanting to set two different setpoints, for example a daily one and a night one, it is necessary to enable time slots and set two different setpoints:

- set COMFORT;
- set ECO.

From the main screen, press arrows   until the DHW set is displayed (Fig. 2-1 and 2-2).

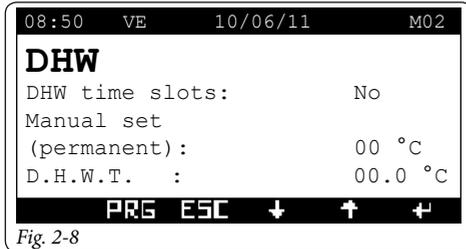


Fig. 2-8

Press the  button again to make the first reading (DHW time slots) blink.

Set as desired by pressing arrows  . At the end, press button  to confirm and for the next value (Manual Set) to start blinking. Proceed in the same way to set the next figures.

After setting the last figure, when button is pressed  the cursor no longer blinks and it is possible to change screens with buttons  .

At the end press button **ESC** twice to go back to the main screen.

- **Set manual:** it lets you set the DHW set-point valid until the next time range change;
- **Water T.:** it displays in real time the domestic hot water temperature;
- **DHW time slots:** enables only the Manual Set to be configured. If “Yes”, Set Comfort and Set Eco can also be configured.

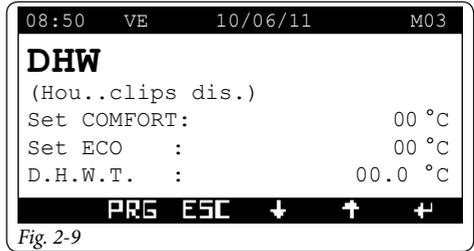


Fig. 2-9

Press the  button again to make the first reading (Set Comfort) blink.

Set as desired by pressing arrows  . At the end, press button  to confirm and for the next figure (Set ECO) to start blinking. Proceed in the same way to set the next figures.

After setting the last figure, when button is pressed  the cursor no longer blinks and it is possible to change screens with buttons  .

At the end press button **ESC** twice to go back to the main screen.

- **Set COMFORT:** it lets you set the DHW set-point in the COMFORT time range (refer to settings of DHW time slots);
- **Set ECO:** it lets you set the DHW set-point in the ECO time range (refer to settings of DHW time slots);
- **Water T.:** it displays in real time the domestic hot water temperature.

2.4 DOMESTIC HOT WATER TEMPERATURE SETTING ON BOILER SIDE

If the system allows it (independent DHW circuit and boiler present), it is possible to set a specific boiler set-point, which is responsible for heating a portion or the entire boiler at a specific temperature; this temperature is different from those set in the previous pages.

From the main screen, press arrows until the boiler side domestic hot water temperature figure is displayed (Fig. 2-3).



Fig. 2-10

Press the button again to make the first reading (boiler side water T.) blink.

Set as desired by pressing arrows . At the end, press button to confirm and for the next figure (Set boiler) to start blinking.

After setting the last figure, when button is pressed the cursor no longer blinks and it is possible to change screens with buttons .

At the end press button **ESC** twice to go back to the main screen.

2.5 SETTING COMFORT AND REDUCED ROOM TEMPERATURE

It is possible to set two different room temperature levels;

- setpoint COMFORT;

- setpoint ECO.

Press the **PRG** button to enter the navigation menu.

Press buttons until selecting menu "01. SET-POINT".

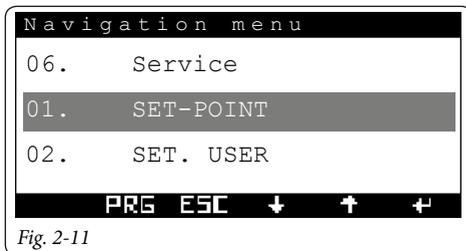


Fig. 2-11

Press button to enter the first room set (Summer).

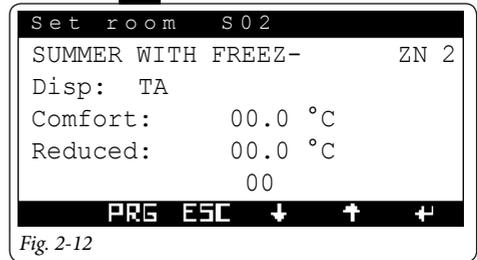


Fig. 2-12

Press the button again to make the first value (Comfort) to flash.

Set as desired by pressing arrows . At the end, press button to confirm and for the next figure (Low) to start blinking. Proceed in the same way for this setting then go to the last setting (Humidity).

When button is pressed the cursor no longer blinks and it is possible to change screen with buttons and set the figures of the next room sets (Summer with cooling, Winter) for each configured area.

Note: the new settings will be used at the next time range variation or temporarily setting the system to stand-by mode.

At the end press button **ESC** twice to go back to the main screen.

2.6 USER SETTINGS

In this menu it is possible to:

- activate PARTY mode;
- set the energy prices in order to calculate the minimum COP;
- permanent or temporary disabling of heat pump operation;
- disabling of the integration generator (boiler or electrical resistance);
- activation of SEPARATE HEATING / COOLING MANAGEMENT;
- activation of the FANCOIL IN WINTER function.

Press the **PRG** button to enter the navigation menu. Press buttons **↓** **↑** until selecting menu "02. SET. USER".

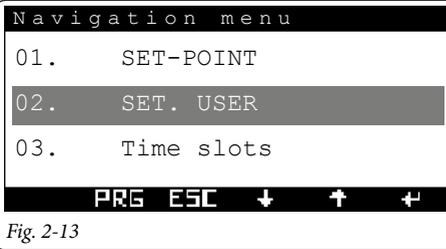


Fig. 2-13

Press the **←** button to enter the menu.

- **Party mode.** Activating the party mode sets all zones in "Comfort" mode until the next programmed status change. The central heating or cooling mode will depend on the system state.

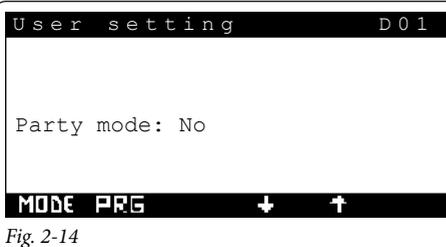


Fig. 2-14

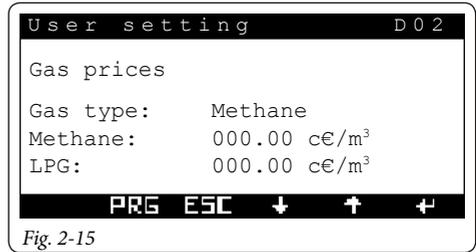


Fig. 2-15

- **Gas prices.** It lets you enter gas prices, also selecting GAS type (methane/LPG). These data allow the system manager to calculate the working point with the maximum efficiency between heat pump operation and GAS boiler.

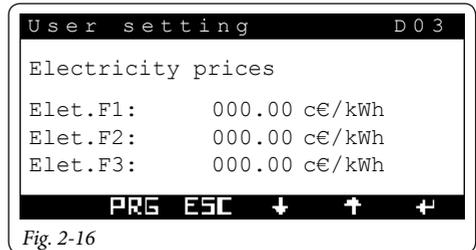


Fig. 2-16

- **Electricity prices.** It lets you enter electricity prices.

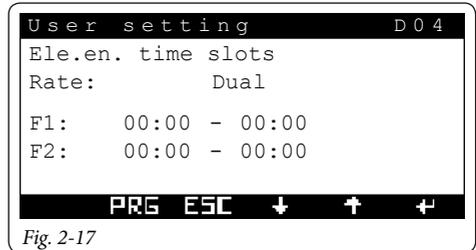


Fig. 2-17

- **Time slots.** Allows selecting between Dual-rate and Multi-rate tariff, enter the time slots related to the electricity prices.
 - **Dual.** You can set the two daily time slots, the F1 and F2 tariffs are valid from Monday to Friday while the F2 tariff is applied to Saturday and Sunday.
 - **Multi-rate.** You can set the three daily time slots, the F1, F2 and F3 tariffs are valid from Monday to Friday while the F2 tariff is applied to Saturday and Sunday.
- **Heat pump manual disabling.** The option lets you permanently disable heat pumps as the main generator.

Heat pump temporary enabling. The option lets you enable heat pumps according to the time slots that will be set in the next page.

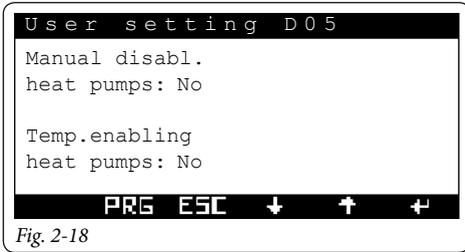


Fig. 2-18

Press button for the option “Disable heat pumps” to start blinking.

Press arrows to confirm (YES) or cancel (NO) any option. Press the button to validate the modification.

At the end press button **ESC** twice to go back to the main screen.

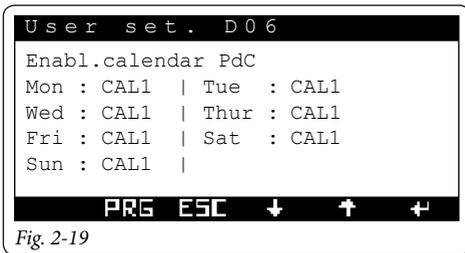


Fig. 2-19

In case of heat pump temporary enable you can set the ignitions calendar.

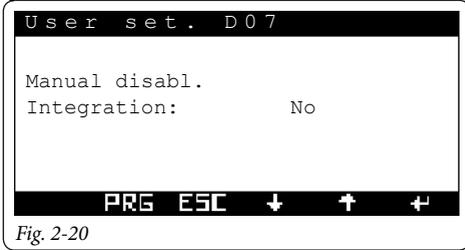


Fig. 2-20

- **Integration manual disabling.** Enables the operation of the secondary generator to be permanently disabled.
- **Separate management of central heating/cooling.** The option enables a diverter valve to be activated for separation of hot/cold circuits. In the event of forced activation of the cooling request, the generator is activated at the set temperature.

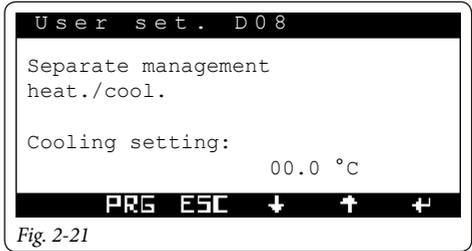


Fig. 2-21

Press button for the option “Separate heat./cool. management” to start blinking.

Set as desired by pressing arrows . Press the button to validate the modification.

At the end press button **ESC** twice to go back to the main screen.

- **“Fancoil” in winter.** The option exclusively allows fan coils to be used in winter operation mode. This option may only be selected if it is provided for in the system definition. Fancoils operate at the temperature set on this page.

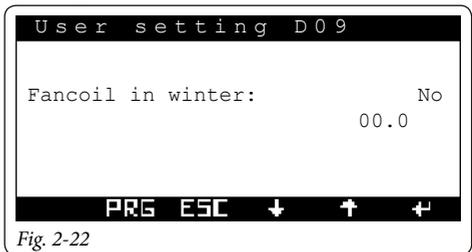


Fig. 2-22

Press button for the option “Fancoil in winter” to start blinking.

Press arrows to confirm (YES) or cancel (NO) any option. Press the button to validate the modification.

At the end press button **ESC** twice to go back to the main screen.

2.7 PROGRAMMING OPERATING TIME IN COMFORT MODE

In this menu it is possible to:

- set 4 calendars for 4 different time slots;
- set a HOLIDAY program.

2.7.1 Daily hourly program

Press the **PRG** button to enter the navigation menu.
Press buttons **↓** **↑** until selecting menu “02. TIME SLOTS”.



Fig. 2-23

- **Time slots.** It is possible to set 4 calendars containing 4 time slots for system operation in comfort mode. During the time outside these 4 time slots, the system will work in economy mode.

After setting these 4 calendars it is possible to associate them to the various days of the week and DHW function according to one's needs.

Press the **←** button to enter the menu.

Press buttons **↓** **↑** to access screen “Comfort T. Ranges”.



Fig. 2-24

Press button **←** for the time of the first of the 4 time ranges to start blinking, with which it is possible to define the system's switch on and off time to maintain Comfort temperature.

Press arrows **↓** **↑** to change the time. Press button **←** to confirm the change and move to the next time range.

Proceed in the same way to set the next time slots.

N.B.: the clips can be changed with a minimum time of 15 minutes.

In the event of not using all 4 time slots, set the unused ones with switch on and off time set to “00:00”.

Proceed in the same way to program all days of the week. In the event programming should be repeated it may be

copied from an already programmed day following the instructions in *Paragraph “2.5.2 Weekly hourly program”*.

2.7.2 Weekly hourly program

Press the **PRG** button to enter the navigation menu.
Press buttons **↓** **↑** until selecting menu “03. TIME SLOTS” (Fig. 2-6).

Press the **←** button to enter the menu.

Scroll through screens with buttons **↓** **↑** until accessing the menu “Program for zone 1.” (Fig. 2-18).

Time slots (Calendars from 1 to 4) are assigned to Zones and DHW in these menus.

Therefore each day may be personalised with 4 different operating programs.

For convenient selection, the bottom part displays the graphics of the relevant calendar being selected (Fig. 2-18).

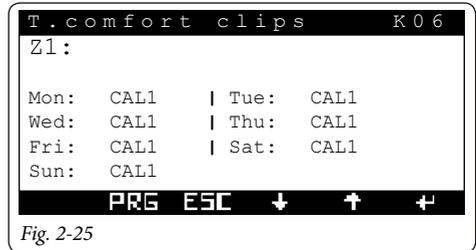


Fig. 2-25

Press button **←** for the calendar to be assigned to Monday to start blinking. Press arrows **↓** **↑** to set the desired calendar for zone 1 on Monday. Press button **←** to confirm and go to the next day.

Proceed in the same way to set calendars of individual days of the week for individual zones and /or DHW.

At the end press button **ESC** twice to go back to the main screen.

2.7.3 Holiday program

With this menu it is possible to temporarily disable system requests with the exception of:

- room antifreeze function;
- managing thermal solar system.

Press the **PRG** button to enter the navigation menu.

Press buttons **↓** **↑** until selecting menu "03. TIME SLOTS" (Fig. 2-16).

Press the **←** button to enter the menu.

Scroll through screens with buttons **↓** **↑** until accessing the menu "Time slots".

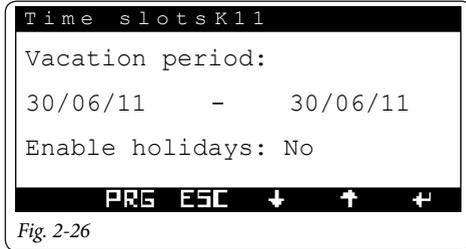


Fig. 2-26

Press button **←** for the figure indicating the start date of the holiday to start blinking.

Press arrows **↓** **↑** to set day/month/year.

Proceed in the same way to set the end date of the holiday. The start and end date (restart will take place on the end date) will disable DHW and central heating/cooling operation; central heating is set at 5°C (all zones) to control ambient antifreeze. All operating modes for controlling the solar heating system will remain active, if activated in the configuration menu.

At the end press button **ESC** twice to go back to the main screen.

Holiday function activation is indicated by the icon  switching on in the main screen (Fig. 2-20).

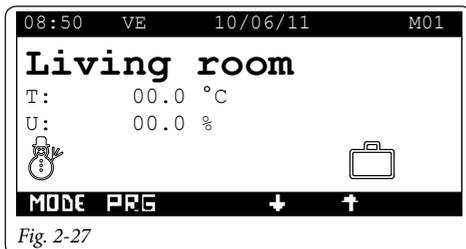


Fig. 2-27

3 INFORMATION

In the following pages it is possible to view the main system information, in particular parameters relating to:

- zone management;
- domestic hot water;
- heat pump management;
- integration generator management;
- other functions.

Press the **PRG** button to access the programming menu.

Press buttons **↓** **↑** until selecting menu "04. INFO" (Fig. 3-1).



Fig. 3-1

Press the **←** button to enter the menu.

Within the menu, using the **↓** **↑** arrows, one can view the data of interest for the user.

3.1 ZONES MENU

- Heat pump probes temperature

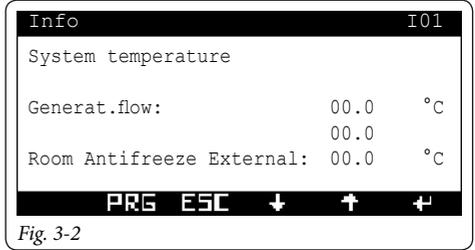


Fig. 3-2

- Temperature required for area systems.

The presence of a request from a zone is highlighted with an asterisk.

The request for dehumidification of neutral air is highlighted with a D.

The request for dehumidification of cooled air is highlighted with an A.

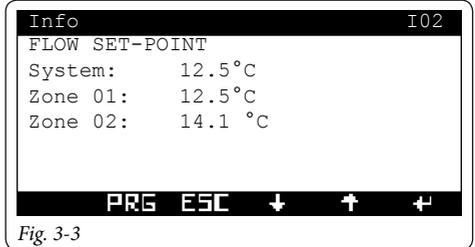


Fig. 3-3

- Dew point

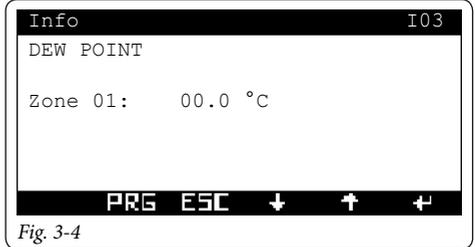


Fig. 3-4

3.2 DOMESTIC HOT WATER MENU

- DHW temperature

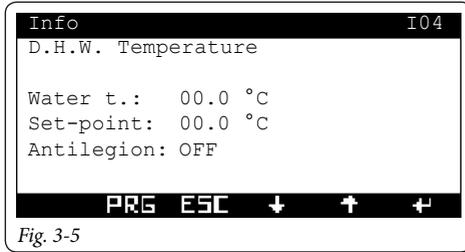


Fig. 3-5

- Area probes temperature (I05 ÷ I08)

In the event of active requests for dehumidification with neutral air or dehumidification with cooled air the relative icons will be displayed.

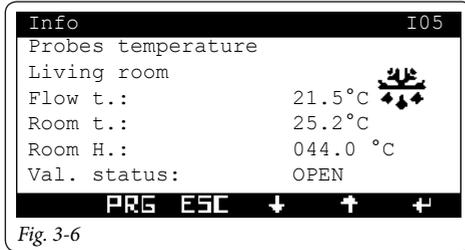


Fig. 3-6

- Solar probes temperature

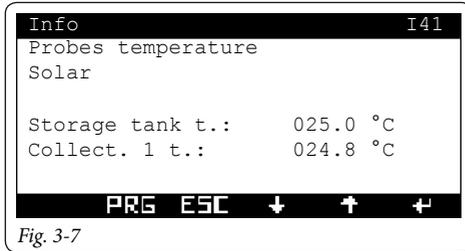


Fig. 3-7

- Puffer temperature

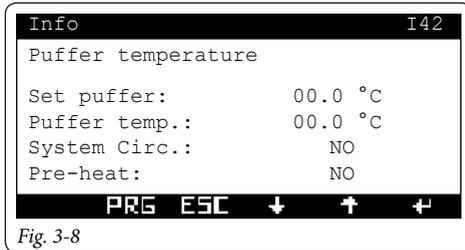


Fig. 3-8

- Additional functions probes temperature

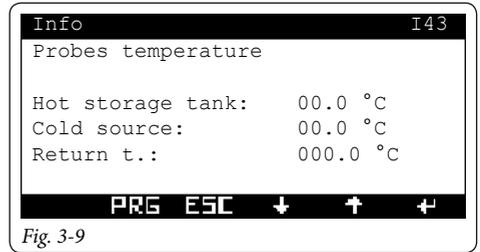


Fig. 3-9

- Audax data 1 ÷ 4

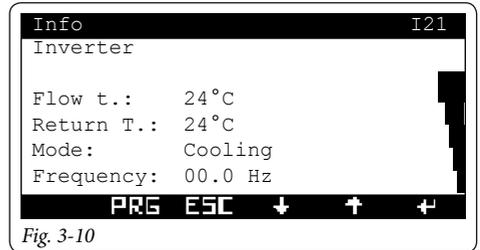


Fig. 3-10

- Machine efficiency

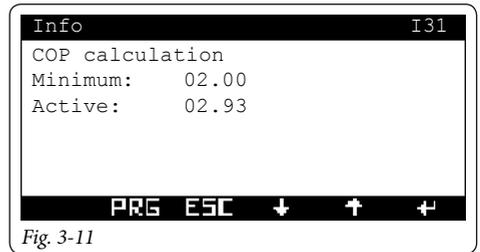


Fig. 3-11

- Machine efficiency

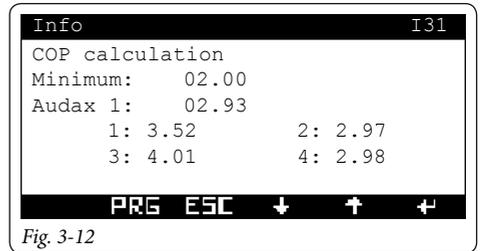


Fig. 3-12

- Tonnes of CO₂ saved by using the heat pump

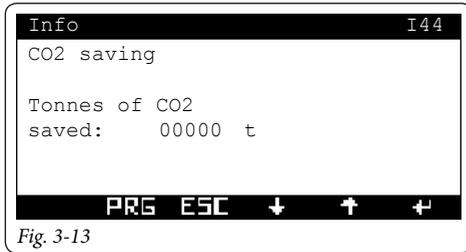


Fig. 3-13

- Integration data

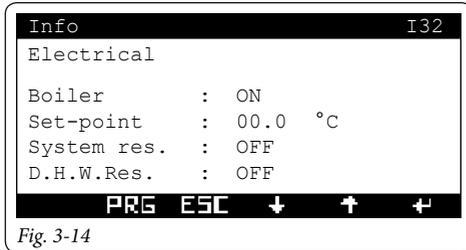


Fig. 3-14

- Sundry inputs

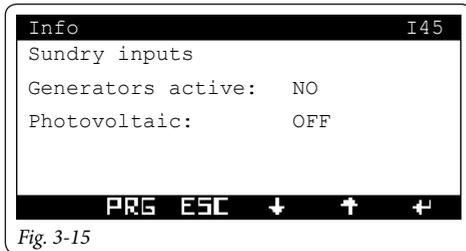


Fig. 3-15

4 DIAGNOSTICS AND ERRORS

4.1 DIAGNOSTICS.

The “System Manager Kit” control continually controls the functioning status of the whole system and signals any anomalies, stating the corresponding error code on the display.

In the case of a fault that cannot be reset, contact a qualified technician (e.g. the Immergas After-Sales Technical Assistance Service).

The alarm code is displayed in the event of an error (e.g. A0036, Fig. 4-1), with the symbol  and icon  above the relevant button.



Fig. 4-1

Press the button  to display the “Alarms log”; this section displays occurred alarms, not yet reset, from the most recent to the oldest.

Press arrows   to scroll and display all extant alarms.

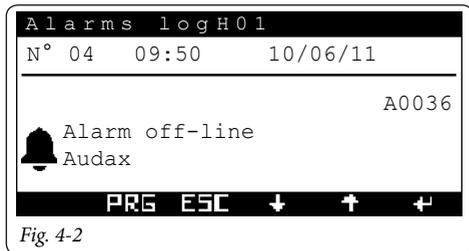


Fig. 4-2

It is also possible to view a description of the HP and boiler alarms.

EXAMPLE

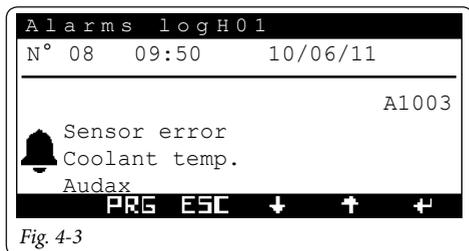


Fig. 4-3

The anomalies displayed in the “System manager kit” are listed in the “Anomalies list” chapter.

If no alarm has been triggered, it is still possible to view the “Alarms log” by proceeding as follows:

- press the button ;
- scroll with buttons   the navigation menu and select “05. ALARMS RECORDS”.



Fig. 4-4

- Press the  button to enter the menu.

As well as the error codes referring to the functioning state of the system, the “System Manager Kit” also checks its own functioning state, indicating any malfunctions.

4.2 RESET ERRORS

Press the button  to display the “Alarms log” or via the navigation menu (Fig. 4-3).

Press and hold the RES button (Fig. 4-2) to display the screen where it will be possible to reset the alarms and heat pump log (Fig. 4-4).

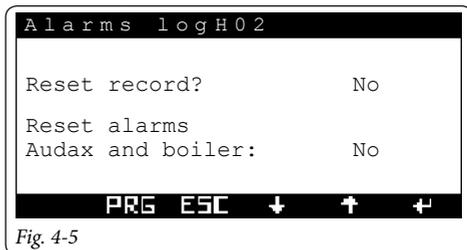


Fig. 4-5

Press button  for the option “Reset log” to start blinking.

Press arrows   to confirm (YES) or cancel (NO) any reset. At the end, press button  to confirm and for the option “Reset Audax and boiler alarms” to start blinking. Proceed in the same manner to reset any pump and boiler alarms.

At the end press button  twice to go back to the main screen.

5 MENU SUPPORT

In these pages of the menu it is possible to:

- set device language;
- display further system INFO.

Press the **PRG** button to enter the navigation menu.

Press buttons **↓** **↑** until selecting menu "05. SUPPORT" (Fig. 5-1).

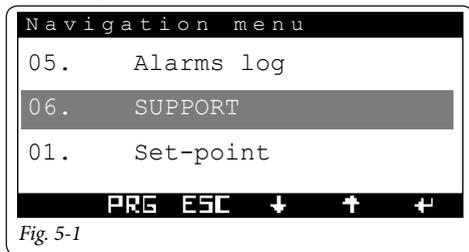


Fig. 5-1

Press the **↵** button to enter the menu.

From this screen it is possible to access the submenu to manage and configure the work parameters for the peripherals installed in the system. Some of these submenus are protected by a code (which can be used exclusively by the Immergas technician) while others are also visible to the user.

5.1 LANGUAGE MENU

- **Language.** It is possible to choose the language that will be used in the application (Italian or English)

Press the arrows **↓** **↑** and select "01. Language".

Press the **↵** button to enter the submenu.



Fig. 5-2

Press the **↵** button again to make the language that requires changing to flash.

Press the arrows **↓** **↑** to select the desired language.

At the end, press the **ESC** button to go back to the "ASSISTENZA" (ASSISTANCE) menu.

5.2 INFORMATION MENU.

It is possible to view the firmware version of the device. There is also information relative to system operation and to the heat pump connected.

In particular, it is possible to view detailed information on:

- VERSION: firmware version and other system data.
- STATUS: parameters that identify the system operational mode.
- COMMUNICATION: status of devices connected on the network.
- HEAT PUMPS: detailed information on the heat pumps.
- INTEGRATION: detailed information on integration generators.
- INPUT/OUTPUT: system inputs and outputs.

Press the arrows **↓** **↑** and select "02. Information".

Press the **↵** button to enter the submenu.

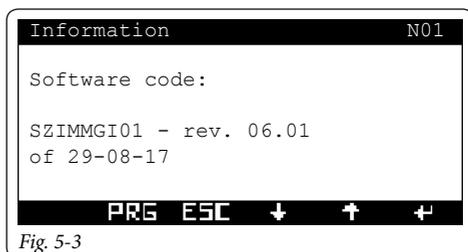


Fig. 5-3

Press arrows **↓** **↑** to display the next screens of menu "02. Information".

- **Heat pump.** The option lets you view detailed information on heat pumps (example: Audax Top 6 ErP connected to the system manager).

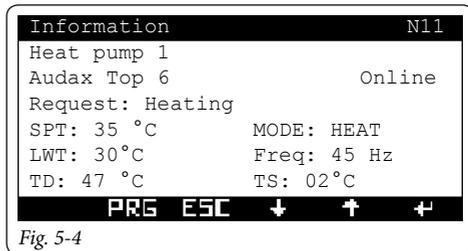


Fig. 5-4

At the end press button **ESC** twice to go back to the main screen.

At the end, press the **ESC** button to go back to the "ASSISTENZA" (ASSISTANCE) menu.

5.3 HOURS OF OPERATION

It is possible to read the operating hours of the heat pump, the auxiliary central heating and the solar pump. Press the arrows   and select "03. Ore Funzionamento". (Hours of operation).

Press the  button to enter the submenu.

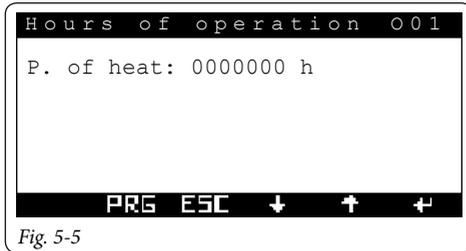


Fig. 5-5

By pressing the arrows   it is possible to view the operating hours of the devices used in the system.

At the end, press the **ESC** button to go back to the "ASSISTENZA" (ASSISTANCE) menu.

5.4 FUNCTIONS PROTECTED BY CODE.

The sub-menus listed below, included in menu "06. SUPPORT" (Fig. 5-1) are advanced settings (reserved to a qualified technician) and a password must be entered to access them.

- 04. System definition.
- 05. Thermoregulation.
- 06. Domestic hot water.
- 07. Solar system.
- 08. Integration.
- 09. Supervision.
- 10. Reset hour meter.
- 11. Manual management.
- 12. Initialisation.
- 13. Cascade parameters.

5.5 SYSTEM DEFINITION

Within this menu it is possible to set the features of the system that need to be managed.

Press the arrows   and select "04. System Definition".

Press the  button to enter the submenu.

The sub-menus are:

- ZONES
- HEAT PUMPS
- SET CORRECTION
- OTHER FUNCTIONS

5.5.1 Zones

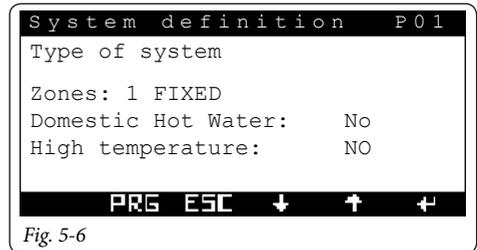


Fig. 5-6

- **Areas (1 fixed, 1 mixed, 2 mixed, 2 mixed and 1 fixed, 3 mixed).** The area no. depends on the no. of expansion kits present:

1 fixed = no expansion kit

1 mixed = 1 expansion kit (address 1)

2 mixed = 2 expansion kits (address 1 and 2)

3 mixed or 2 mixed and 1 fixed= 3 expansion kits (address 1, 2 and 3).

N.B.: If the zone in high temperature is enabled, it will only be possible to select the gas boiler in the "08. Integration" menu.

- **Remote.** Lets you select the type of remote device (zone control/remote zone control).

Press the  button again until the parameter that requires changing starts to flash.

Press the arrows   to change the desired parameter.

Press the  button again until the page title starts to flash.

By pressing the arrows   it is possible to view the other pages reported here below cyclically:



Fig. 5-7

- **Zone 01.** Hot, cold, hot/cold.
- **Zone disp..** Absent, Rem. control, Remote panel, Zone control, Temp-humid probe.

N.B.: When there is only one fixed zone it is not possible to use the temperature/humidity probes but only the zone control or ON/OFF inlet for this zone.

N.B.: For each zone it is possible to configure:

- **zone name** (max 10 characters).
- **possible presence of zone control** (Yes / No). If the zone control is disabled you will be requested to enable the room probe (temperature and humidity probe).

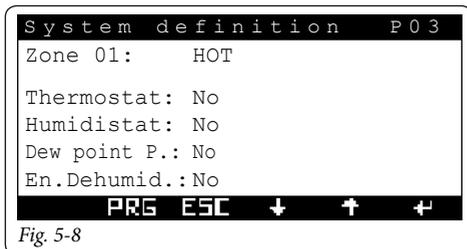


Fig. 5-8

Using the screen shown here below it is possible to choose which zone will be displayed in the user's main menu.

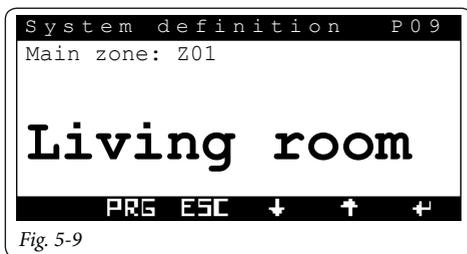


Fig. 5-9

If using dehumidifiers, it is necessary to set a maximum acceptable temperature for the dehumidifier. Furthermore, if the setpoint calculated for the dehumidification is too high to carry out a request, the alarm must be signalled and the dehumidifier stopped.

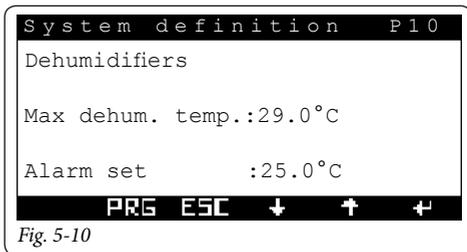


Fig. 5-10

Max dehum. temp. Maximum temperature acceptable by the dehumidifier.

Alarm set. Maximum calculated setpoint that the alarm is displayed for.

For systems with fancoils connected to expansion 5, it is possible to enable the system request even during the Winter phase. This is possible if the following condition is enabled FANCOIL IN WINTER = YES.

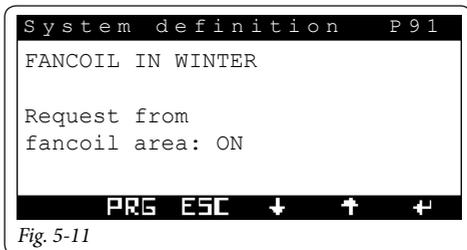


Fig. 5-11

Request from fancoil area:

- YES = the heating request is carried out by expansion 5.
- NO = the heating request are carried out by zones 1,2,3.
- **Enabling room thermostat (Yes / No).** In the event of absence of zone device and zone probes, the room thermostat is automatically enabled.
- **Enabling humidistat (Yes / No).**
- **Enabling dew point calculation (intended to eliminate any formation of condensation) (Yes / No).** This option is not included in the high temperature zone.
- **Enabling dehumidifier (Yes / No).** This option is not included in the high temperature zone.

N.B.: all room thermostat inputs, if they are not being used to request heating or cooling, can be used to deactivate the zone of reference.

5..5.2 Heat pumps

The screen shown below allows to choose the model for the heat pump used (max. 4).

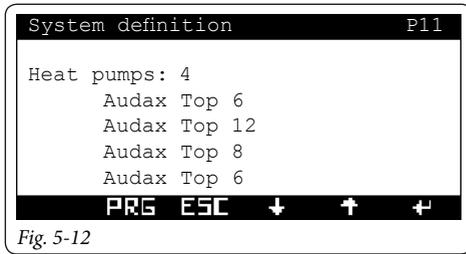


Fig. 5-12

Select "Audax 2017" for:

- Audax 6
- Audax 8
- Audax 12
- Audax 16
- Audax 16 Mono
- Audax Top 18 ErP
- Audax Top 21 ErP

Machine power is automatically detected by the system.

N.B.: hook the heat pump up to the power supply only once all necessary settings have been made.

The following pages will be explored further in the chapter relative to heat pumps.

5.5.3 Other functions

The screen shown here below allows you to enable the presence of the solar circuit and the number of pumps included in this circuit.

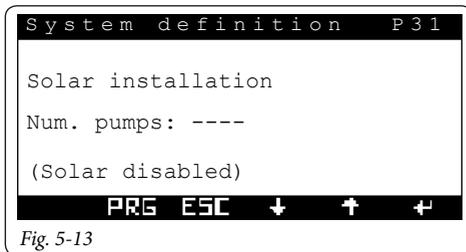


Fig. 5-13

N.B.: If the solar circuit is enabled it is also possible to enable the solar integration for heating function (puffer).

- **Number of pumps.** (1 pump, 2 pumps, solar disabled);

It is possible to select the options for the solar heating integration function (Puffer) with the screen shown below.

The PUFFER management makes it possible to heat up an inertial storage tank for heating and domestic hot water.

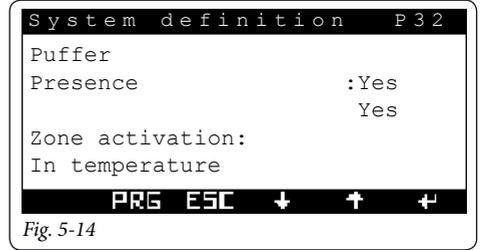


Fig. 5-14



Fig. 5-15

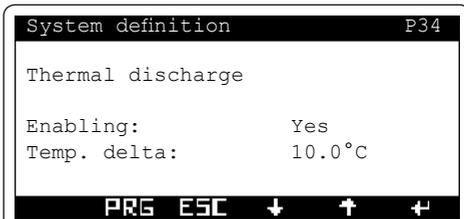


Fig. 5-17



Fig. 5-16

- **Presence.** Enable/disable solar heating integration (Yes / No);
- **Pre-heat active.** Lets you enable Puffer pre-heating in a permanent manner (Yes / No);
- **Zone activation:**
 - upon request: the zone pump activates upon receiving a request;
 - in temperature: the zone pump activates upon request only if the puffer reaches the set zone setpoint;
- **Hysteresis ON.** The generator turns on for a setpoint lower than setpoint required + Hysteresis ON;
- **Hysteresis OFF.** The generator turns on for a setpoint lower than setpoint required + Hysteresis OFF;
- **Gen.offset.** Generator required setpoint correction value.
- **DHW OFF:** Upon receiving a DHW request, the generator deactivates for a DHW temperature Exceeding: DHW setpoint + DHW OFF.

N.B.: if photovoltaic is active, pre-heating is automatically enabled with a fixed set equal to the maximum allowed by the heat pump.

- **Thermal discharge.** One can decrease the temperature of the storage tank (usually a domestic hot water storage tank) when the temperature read by the probe on the storage tank exceeds the TA set compared to the value detected on the cold probe (pool or tank). The function is disabled when the two temperatures are equivalent.

- **Separate management of central heating and cooling.** Allows to control a 3-way valve to choose whether to use the central heating system or the cooling one.
- **Enable generator switch off.** It lets you switch off all generators via an external control (Yes / No). This function is useful if using a thermoflue.

Attention: if the generator switch-off signal is active, the cooling stage is also deactivated.

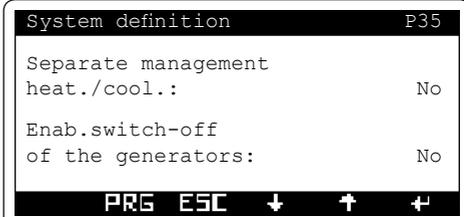


Fig. 5-18

- **System decoupling.** It allows the system to be controlled also through a plate exchanger downstream of the heat pump.
- **Photovoltaic.** It supports heat pump use when photovoltaic panels are operating.
- **System probe.** It allows managing the system through an additional generator flow probe-

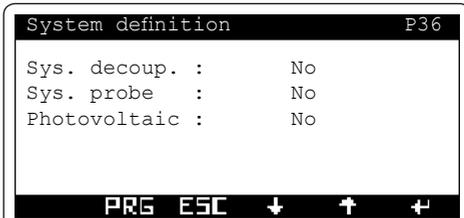


Fig. 5-19

- **Thermostat controlled inertial storage tank.** This function makes it possible to manage an inertial storage tank temperature adjusted thanks to the presence of a probe.

The inertial storage tank can work as heating and cooling.

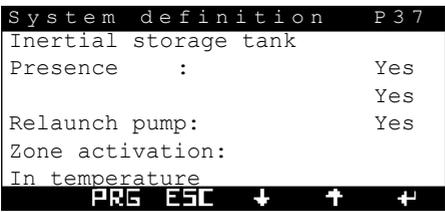


Fig. 5-20

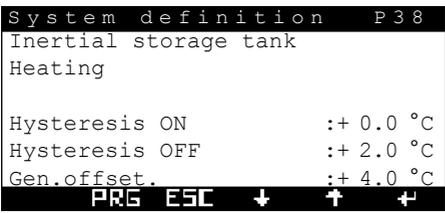


Fig. 5-21

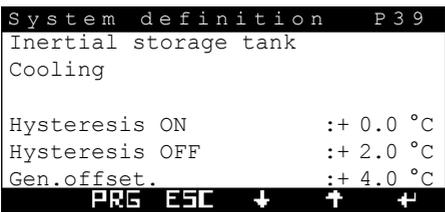


Fig. 5-22

- **Presence.** Activated/deactivates the thermostat controlled thermal storage tank (Yes/No).
- **Maintaining active.** It makes it possible to maintain the inertial storage tank in temperature permanently (Yes/No).
- **Zone activation:**
 - upon request: the zone pump activates upon receiving a request;
 - in temperature: the zone pump activates upon request only if the storage tank reaches the set zone setpoint.

CENTRAL HEATING

- **Hysteresis ON.** The generator turns on for a setpoint lower than setpoint required + Hysteresis ON.
- **Hysteresis OFF.** The generator turns on for a setpoint lower than setpoint required + Hysteresis OFF.
- **Gen.offset.** Generator required setpoint correction value. Generator setpoint = request setpoint + gener. offset.

COOLING

- **Hysteresis ON.** The generator turns on for a setpoint higher than setpoint required + Hysteresis ON.
- **Hysteresis OFF.** The generator turns on for a setpoint higher than setpoint required + Hysteresis OFF.
- **Gen.offset.** Generator required setpoint correction value. Generator setpoint = request setpoint - gener. offset

N.B.: if photovoltaic is active and WINTER season, the storage tank is automatically heated at a fixed set equal to the maximum allowed by the heat pump.

If photovoltaic is active and SUMMER WITH COOLING season, the storage tank is automatically cooled at a fixed set equal to the minimum allowed by the heat pump.

5.5.4 Setpoint correction

In the case of hydraulic disconnections. The generator required setpoint can be corrected up to a maximum that can be set by the menu.

The correction is made until the temperature of the common flow probe is reached. Once the **activation time** has passed since the beginning of a requirement, the correction is activated and incremented by 1°C for every **increasing time**.

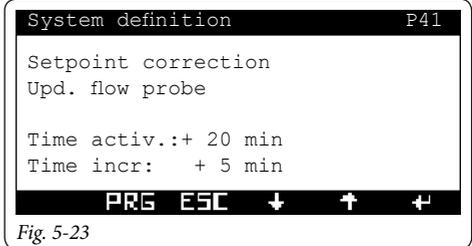


Fig. 5-23

- **Max Heat.corr.** Max correction during central heating mode.
- **Cool.Max corr.** Max correction during cooling mode.

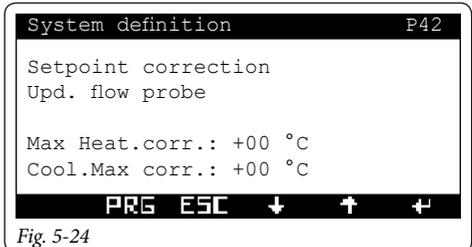


Fig. 5-24

In the case of systems with zones, the generator required setpoint can be corrected up to a maximum that can be set by the menu.

The correction is made until the temperature of the zone flow probe is reached.

Once the **activation time** has passed since the beginning of a requirement, the correction is activated and incremented by 1°C for every **increasing time**.

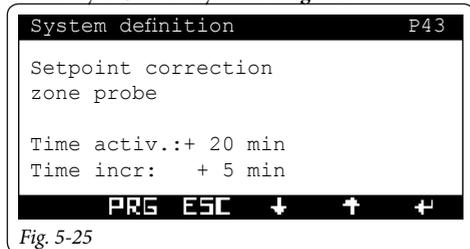


Fig. 5-25

- **Max Heat.corr.** Max correction during central heating mode.
- **Cool.Max corr.** Max correction during cooling mode.

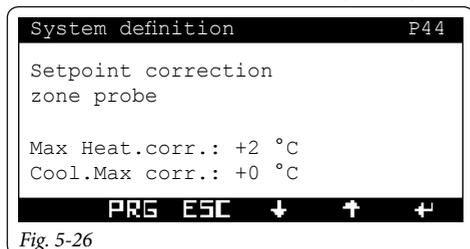


Fig. 5-26

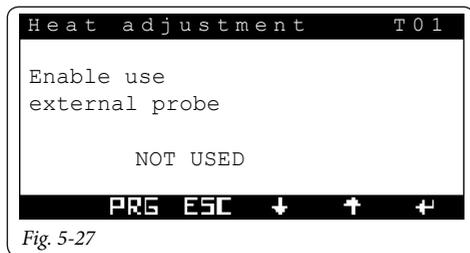


Fig. 5-27

- **Enables external probe presence.**
- Not present
- From heat pump
- From boiler
- From the system manager

N.B.: If external probe use is enabled it is possible to construct the climatic curve (see example heating curve Fig. 5-21) for heating and cooling each individual zone.

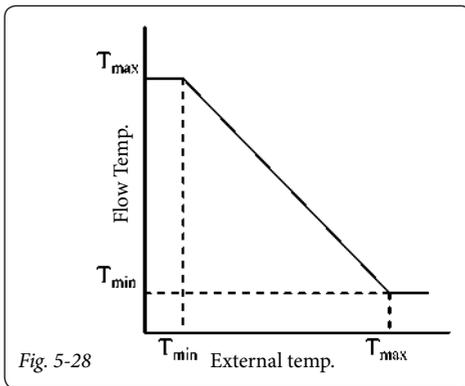


Fig. 5-28

The flow temperature range of the zones are:

- Central heating: $20 \div 85$
- Cooling: $4 \div 25$

These values can be resized based on the type of generator present.

The work range in heating phase:

- Heat pump: $20 \div 60$ (max)
- Electrical resistance: $20 \div 60$ (max)
- Boiler: $20 \div 85$
- Magis Combo: $20 \div 80$
- Pdc absence: $20 \div 85$
- Enable generator switch off = ON: $20 \div 85$

The work range in cooling phase depend exclusively from the heat pump installed.

In reality the heat pump range value can be further reduced based on the type of heat pump (see Chapter related to the heat pump). However, in case of mixed zones, the following values remain fixed:

- minimum heating temperature = 20°C
- maximum cooling temperature = 25°C

5.6 HEAT ADJUSTMENT.

In this menu it will be possible to:

- activate operation with external probe;
 - select the operating points for heating and cooling.
- Press the arrows **↓** **↑** and select "06. Heat adjustment".

Press the **←** button to enter the submenu. To build the climatic curve it is necessary to enter the required values in the screens shown here below.

Press the **←** button again until the parameter that

requires changing starts to flash.

Press the arrows **↓** **↑** to change the desired parameter.

Press the **←** button again until the page title starts to flash.

By pressing the arrows **↓** **↑** it is possible to view the other pages reported here below cyclically:

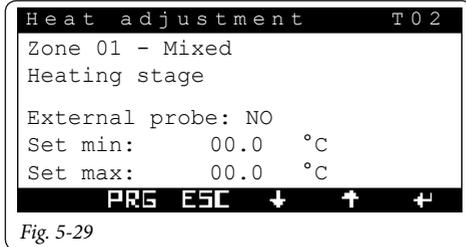


Fig. 5-29

- **External probe** (Yes / No).

It is possible to activate thermal adjustment for each individual zone.

- **Set Max.:** setpoint corresponding to minimum outside temperature.
- **Set Min.:** setpoint corresponding to maximum external temperature.

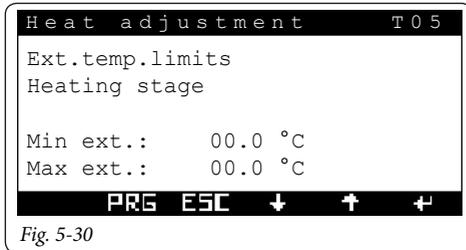


Fig. 5-30

- **Min external.** It lets you set minimum external temperature in the heating stage.
- **Max. external.** It lets you set maximum external temperature in the heating stage.

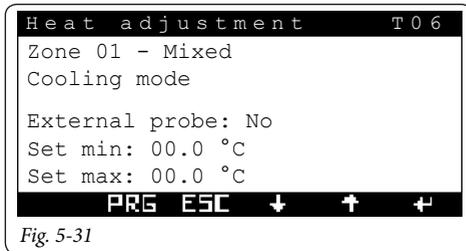


Fig. 5-31

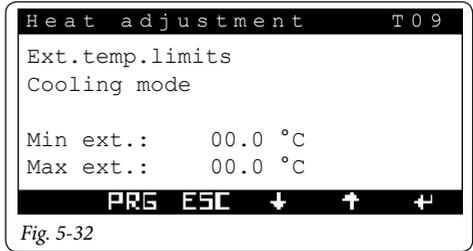


Fig. 5-32

- **Min external.** It lets you set minimum external temperature in the cooling stage;
- **Max. external.** It lets you set maximum external temperature in the cooling stage.

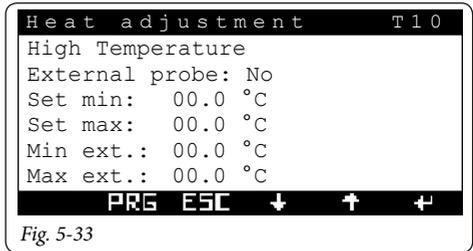


Fig. 5-33

- **Set min. / Min. external.** It lets you set minimum and minimum external temperature of the zone in high temperature;
- **Set max. / Max. external.** It lets you set maximum and maximum external temperature of the zone in high temperature.

N.B.: if an anomaly is detected on the external probe, the system uses a fixed temperature value of 6°C.

5.7 DHW.

This menu will be enabled only if "Yes" has been set under "Domestic hot water" in the "04. System definition" menu.

Press the arrows **↓** **↑** and select "06. Domestic hot water".

Press the **←** button to enter the submenu.

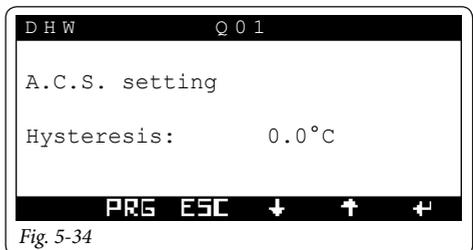


Fig. 5-34

- **Hysteresis** (3÷5°C default 5°C);

Type of D.H.W. circuit. It is possible to set an independent or shared control for DHW management.

Precedence (only for independent DHW). In case of simultaneous system request (heat or cool) and DHW, the heat pump works based on precedence or on the DHW or the system.

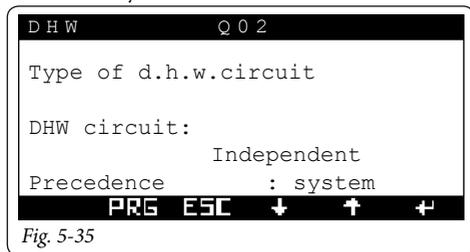


Fig. 5-35

Anti-legionella. Function that takes the DHW storage tank temperature to 65°C. Function possible only with boiler or electric resistance integration.

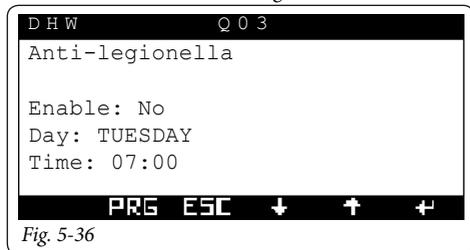


Fig. 5-36

- **Enable** (Yes / No).
- **Day**, (the day of the week that the anti-legionella function is enabled).
- **Time**. (The time at which the anti-legionella function is enabled).
- **Reduced operation**. One can temporarily vary the storage tank domestic hot water set-point (e.g. by setting it at 20 °C at night).
- **Recirculation pump**. One can enable the operation of a recirculation pump on the domestic hot water system. There are 2 daily enabling slots available.

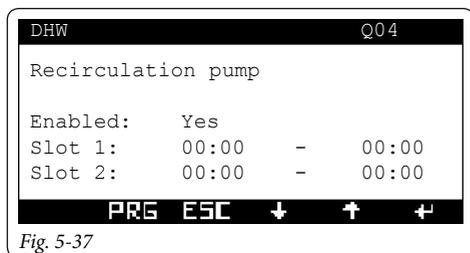


Fig. 5-37

5.8 SOLAR SYSTEM.

In this section it will be possible to set the values to manage the solar pump. This menu will be enabled only if “1” or “2” has been set under “Pump no.” in the “04. System definition” menu.

It is possible to install a second solar pump only if:

- there is only one heat pump;
- system decoupling disabled;
- system probe not installed.

Press the arrows **↓** **↑** and select “08. Solar system”.

Press the **↵** button to enter the submenu.

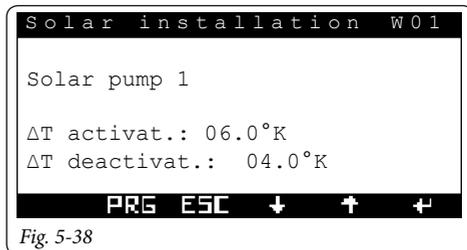


Fig. 5-38

- **ΔT activation** (1÷20°K default 6°K);
- **ΔT deactivation** (0.5÷19.5°K default 4°K);

The values reported above indicate the temperature difference between solar panel and storage tank. When this value is reached the solar circuit pump is either activated (started up) or deactivated (stopped).

N.B.: The screen for solar pump 2 is displayed even if only one solar pump has been configured.



Fig. 5-39

- **Maximum T.:** Once this value has been exceeded the solar circuit pump stops working;



Fig. 5-40

- **Enable (Yes / No).** The storage tank brings the maximum limit to 90°C and once the temperature of the manifold is lower than the one read on the storage tank, the pump is re-activated to cool the storage tank down until it reaches the maximum temperature;

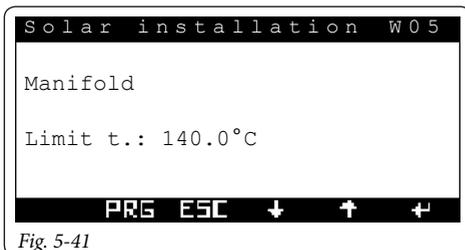


Fig. 5-41

- **Limit t.** Once this value has been exceeded the solar circuit pump stops working;



Fig. 5-42

- **Enable:(Yes / No).** This forces the solar pump to exceed the set max T. even if the set max T. for the domestic hot water is reached (it avoids stagnating);
- **Max t.** The solar circuit pump starts working again to cool the solar manifold when this value is exceeded. The pump switches off if the temperature of the manifold decreases or if the temperature of the storage tank reaches 90°C. In any case, the limit set in the “W05” screen of (Fig. remains. 5-34).

N.B.: As soon as the temperature of the manifold falls below the set setpoint this function is disabled. The storage tank's cooling system is also enabled when the temperature of the solar manifold falls 5°C below that of the storage tank.

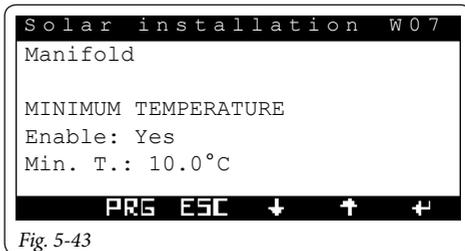


Fig. 5-43

- **Enable:** (Yes / No);
- **T. min.:** (10÷90°C) the solar circuit pump is enabled to start operating only if the temperature set on the manifold is reached.



Fig. 5-44

- **Enable (Yes / No).** This allows the pump to be enabled to start heating the solar manifold in case of very low temperatures.
- **Min.t. (-10÷10°C).** The solar circuit pump is enabled to start working if the external temperature falls below this value.

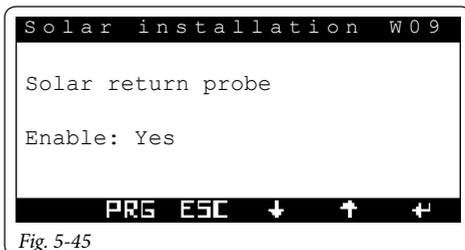


Fig. 5-45

- **Enable (Yes / No).** This allows the probe located on the solar circuit return to start working; The measured value will only be displayed.

5.9 INTEGRATION.

In this section it is possible to define auxiliary sources to be used to integrate the central heating or integration mode of action.

Press the arrows   and select “08. Integration”.

Press the  button to enter the submenu.

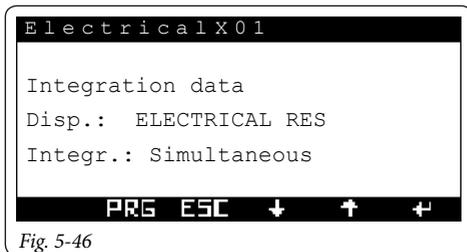


Fig. 5-46

- **Tipo di integrazione (Type of integration)** (Gas boiler, electric resistance); type of boiler integration:
 - room thermostat connection;
 - external probe connection;
 - connection with Modbus protocol;
 - connection with Magis Combo.
- **Alternative/simultaneous.** If the simultaneous functioning is selected the integration and the heat pump will work simultaneously, otherwise, if the alternative functioning is selected, either the integration will work or the heat pump will work, but never both at the same time. The simultaneous mode can be activated only if:
 - integration with boiler connected with Modbus;
 - integration with boiler through external probe.

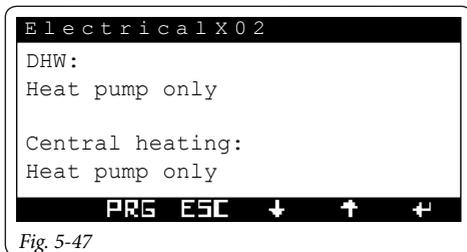


Fig. 5-47

- **DHW.** It is possible to select which generator takes care of the dhw mode:
 - Heat pump only.
 - Boiler Only.
 - Boiler and heat Pump.
- **Central heating.** It is possible to select which generator takes care of the heating mode:
 - Heat pump only.
 - Boiler Only.
 - Boiler and heat Pump.

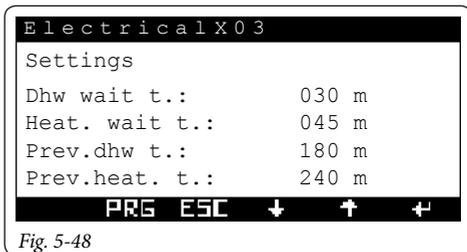


Fig. 5-48

- **Settings.** It allows setting:
 - **DHW wait time.** It is the maximum wait time before activating the DHW integration.
 - **Central heating wait time.** It is the maximum wait time before activating the central heating integration.
- The times (wait DHW and central heating) must be determined according to the type of system and water quantity.
- **Domestic hot water priority time.** It is the maximum time of operation in DHW in case of simultaneous request.
 - **Central heating priority time.** It is the maximum time of operation in central heating in case of simultaneous request.
- In case of simultaneous request (DHW and central heating) the system meets the DHW for the set time and switches to central heating for the set time until the requests are met.

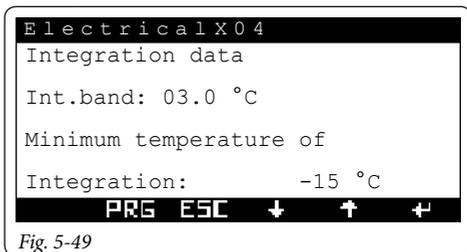


Fig. 5-49

- **Integration band.** If the flow temperature of the heat pumps is lower than the heating-set value minus the activation band divided by 2, then after a period equal to the activation delay time, the supplementary heater will be turned on.
- **Minimum integration temperature.** It lets you set the system's bivalent temperature;

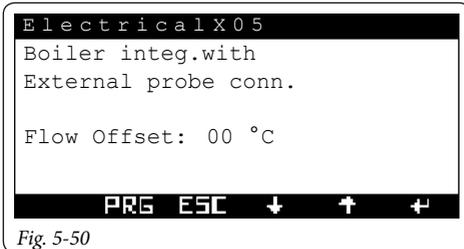


Fig. 5-50

- **Flow offset:** (included only if the boiler is used as the source of integration); This is a flow temperature OFFSET value required by the boiler (0÷15 °C). This is not available in gas boilers with ON/OFF thermostat.

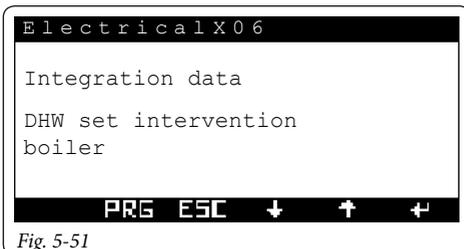


Fig. 5-51

- **DHW set boiler intervention.** In the presence of common boiler and DHW, it is the boiler forcing DHW setpoint. Under this value only the boiler works.

5.10 SUPERVISION.

In this section it is possible to set the type of supervision of the system management kit.

There are two types of supervisions:

- **digital.** You can control the system through digital inputs on expansion 5. Contact the technical assistance for further information.
- **with communication protocol.** If this mode is activated you must insert the RS485 communication card in the appropriate housing called "serial card 1" (optional).

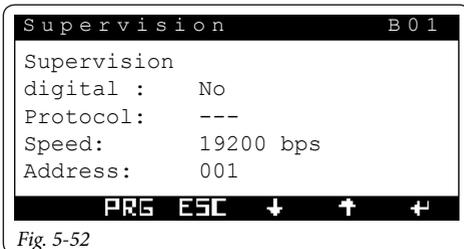


Fig. 5-52

- **Protocol.** Set on Modbus / Carel / Winload
- **Speed.** 1200 / 2400 / 4800 / 9600 / 19200

- **Address.** Set Modbus address of manager. Contact the technical assistance for further information.

5.11 TELEPHONE DIALLER.

Using digital supervision, illustrated in the previous paragraph, it is possible to use a telephone dialler to manage system operational modes. For connections, see the related electrical diagram.

5.12 RESET METER.

In this section it is possible to reset the operation hour counter for the heat pump, the source of integration, and solar circuit 1 and 2.

Press the arrows and select "10. Reset hour meter".

Press the button to enter the submenu.

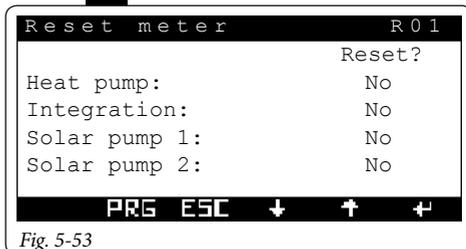


Fig. 5-53

5.13 MANUAL MANAGEMENT.

In this section it is possible to, based on the selected configuration, enable or disable the various available controls.

Press the arrows and select "11. Manual management".

Press the button to enter the submenu.

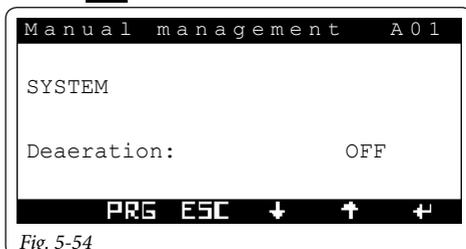


Fig. 5-54

- **Deaeration.** It lets you alternatively enable system circulating pumps to aid in proper system venting.

- In order to activate the function, before entering the Manual management menu, it is necessary to place the system in STAND-BY.

- The function deactivates automatically after 9 hours, changing the operational mode or manually disabling the function.

N.B.: the function has no effect on the Audax Top heat pump.

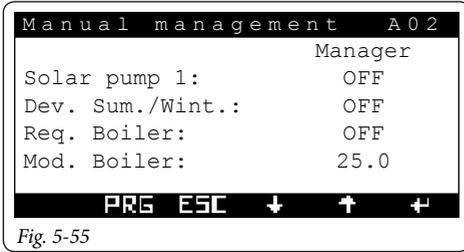


Fig. 5-55

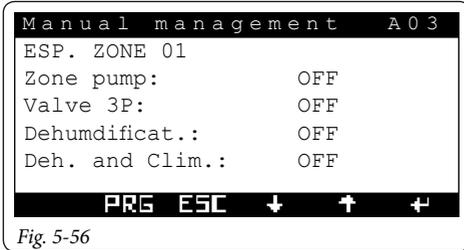


Fig. 5-56

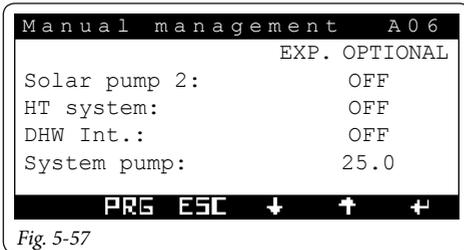


Fig. 5-57

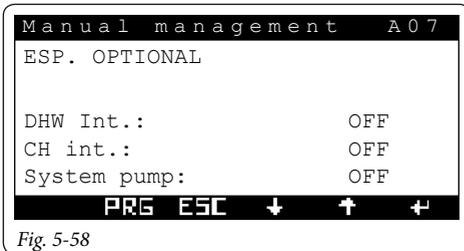


Fig. 5-58

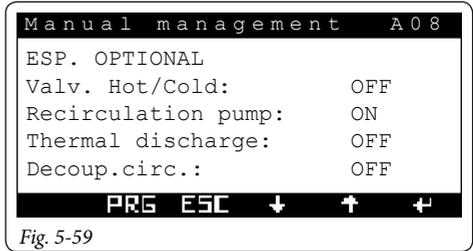


Fig. 5-59

When you exit the menu any enabled commands are reset.

5.14 INITIALISATION.

In this section it is possible to restore the factory settings. By performing this operation all of the operations previously carried out will be deleted including time periods, zone numbering, etc...

Press the arrows and select "12. Initialisation".

Press the button to enter the submenu.

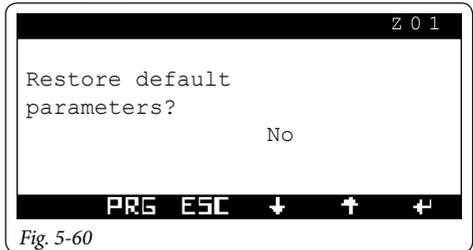


Fig. 5-60

5.15 CASCADE PARAMETERS.

This menu is activated only if the heat pumps are more than one (max. 4). The manager deals with the activation and deactivation of the heat pumps according to the parameters set and to a possible request on the system.

As a result of a heating request the heat pumps are activated in sequence, the activation of an individual heat pump is determined according to the flow temperature of the heat pumps in set configuration and to the heating-set. If the flow temperature of the heat pumps is lower than the heating-set value minus the activation band divided by 2, then after a period equal to the activation delay time, the next machine will be started and so on up to the maximum value set in the system definition parameter (P07).

Vice-versa if, after a deactivation delay time, the flow temperature of the heat pumps is higher than the heating-set value plus the activation band divided by 2, then one of the heat pumps will be switched off and so on up to complete switch-off of the heat pumps.

In the event of a domestic hot water or puffer request the operation is similar.

In the event of cooling requests the logic is inverted. (Activation if the flow temperature of the heat pumps is greater than the cooling-set plus activation band divided by 2).

N.B.: in order to simplify the installation and maintenance operations of the machines, it is necessary to separately power the heat pumps.

- Battery management.

- **Simultaneous.** All machines in set configuration will intervene.

- **Cascade.** The machines are activated in sequence.

Attention: in case of installation in set configuration, each heat pump must be equipped with omnipolar disconnection.

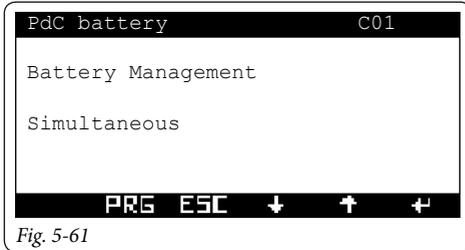


Fig. 5-61

- **Activation band.** The cascade generators are activated/ deactivated if the common delivery probe is outside the set-point range \pm temperature / 2 set (E.g. 45° flow 10 set-point, range = $40 \div 50$ °C).

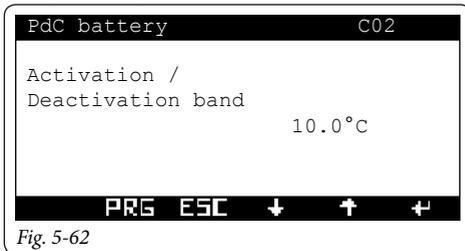


Fig. 5-62

- **Heating mode.** In case of heating or cooling mode it corresponds to the wait time before the activation or deactivation of a machine.

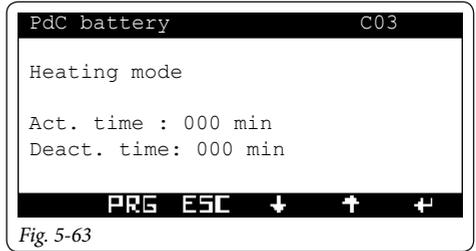


Fig. 5-63

- **DHW mode.** In case of DHW request it corresponds to the wait time before the activation of a machine.

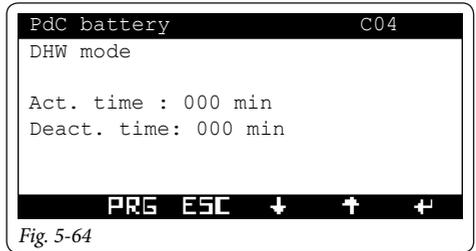


Fig. 5-64

N.B.: the total activation time (DHW and heating) of the machines in set configuration must be less than the integration time (if present).

- **Reversing period.** In presence of several heat pumps one can perform a rotation in the activation of the first heat pump in the cascade management. The parameter sets the for how many days the heat pump stays the first one to be activated.

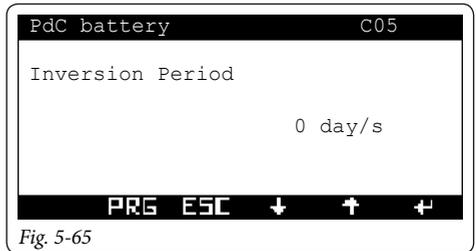


Fig. 5-65

6 LIST OF PROGRAMMABLE PARAMETERS

“Main” menu.

n° page	Description	Range adjustment	Value default	Value customis.
M01	Functioning modes	Stand-by, Summer, Air conditioning, Winter	Stand-by	
M02	DHW time slots	No / Yes	No	
M02	Set DHW manual	10 - 50 (60 with boiler/ electrical res.)	10	
M03	Set DHW comfort	10- 50 (60 with boiler/ electrical res.)	20	
M03	Set DHW ECO	10- 50 (60 with boiler/ electrical res.)	10	
M04	Set DHW boiler (independent circuit)	10-60	20	
M05	Set ZN1 Room temp.	5,0 - 35,0 °C	20	
M05	Set ZN1 Flow Temp.	5 - 85 °C °C	25	
M05	ZN1 Flow Offset	-15 - +15 °C	0	
M06	Set ZN2 Room temp.	5,0 - 35,0 °C	20	
M06	Set ZN2 Flow Temp.	5 - 85 °C °C	25	
M06	ZN2 Flow Offset	-15 - +15 °C	0	
M07	Set ZN3 Room temp.	5,0 - 35,0 °C	20	
M07	Set ZN3 Flow Temp.	5 - 85 °C °C	25	
M07	ZN3 Flow Offset	-15 - +15 °C	0	
M08	Set SHT Room temp.	5,0 - 35,0 °C	20	
M08	Set ZHT Flow Temp.	5 - 85 °C °C	25	
M08	ZHT Flow Offset	-15 - +15 °C	0	

“Set room” menu.

n° page	Description	Range adjustment	Value default	Value customis.
S01	Set comfort ZN1 Air Conditioning	5 - 35	25	
S01	Set reduced ZN1 Air Conditioning	5 - 35	28	
S01	Set humidity ZN1 Air Conditioning	30% - 70%	50	
S02	Set comfort ZN2 Air Conditioning	5 - 35	25	
S02	Set reduced ZN2 Air Conditioning	5 - 35	28	
S02	Set humidity ZN2 Air Conditioning	30% - 70%	50	
S03	Set comfort ZN3 Air Conditioning	5 - 35	25	
S03	Set reduced ZN3 Air Conditioning	5 - 35	28	
S03	Set humidity ZN3 Air Conditioning	30% - 70%	50	
S04	Set comfort ZN1 Winter	5 - 35	20	
S04	Set reduced ZN1 Winter	5 - 35	16	
S05	Set comfort ZN2 Winter	5 - 35	20	
S05	Set reduced ZN2 Winter	5 - 35	16	
S06	Set comfort ZN3 Winter	5 - 35	20	

n° page	Description	Range adjustment	Value default	Value customis.
S06	Set reduced ZN3 Winter	5 - 35	16	
S07	Set comfort ZHT Winter	5 - 35	20	
S07	Set reduced ZHT Winter	5 - 35	16	

“User settings” menu.

n° page	Description	Range adjustment	Value default	Value customis.
D01	Party mode	No / Yes	No	
D02	Type of gas	Methane / LPG	Methane	
D02	Gas price	1 - 900,00 c€	100.00	
D02	Gas price	1 - 900,00 c€	70.00	
D02	Unit of measurement LPG gas	m3 / l / kg	litre	
D03	F1 Electricity price	1 - 900,00 c€	28.00	
D03	F2 Electricity price	1 - 900,00 c€	27.00	
D03	F3 Electricity price	1 - 900,00 c€	27.00	
D04	Type of Tariff	Dual-rate, Multi-rate	Dual	
D04	Slot 1 - ON	00:00 - 24:00	08:00	
D04	Slot 2 - ON	00:00 - 24:00	19:00	
D04	Slot 3 - ON	00:00 - 24:00	23:00	
D05	Heat pump manual disabling	Yes/No	No	
D05	Heat pump temporary enabling	Yes/No	No	
D06	HP enabling: Monday	CAL1, CAL2, CAL3,- CAL4	CAL1	
D06	HP enabling: Tuesday	CAL1, CAL2, CAL3, CAL4	CAL1	
D06	HP enabling: Wednesday	CAL1, CAL2, CAL3, CAL4	CAL1	
D06	HP enabling: Thursday	CAL1, CAL2, CAL3, CAL4	CAL1	
D06	HP enabling: Friday	CAL1, CAL2, CAL3, CAL4	CAL1	
D06	HP enabling: Saturday	CAL1, CAL2, CAL3, CAL4	CAL1	

n° page	Description	Range adjustment	Value default	Value customis.
D06	HP enabling: Sunday	CAL1, CAL2, CAL3, CAL4	CAL1	
D07	Integration manual disabling	Yes/No	No	
D08	Set cooling (separate heating / cooling management)	5-25	20	
D09	Enable use of fancoil in WINTER	Yes/No	No	
D09	Set zone flow	20-85	25	

“Clock” menu.

n° page	Description	Range adjustment	Value default	Value customis.
K01	Time	0 - 23	--	
K01	Minutes	0 - 59	--	
K01	Day of the week	Monday / Tuesday / Wednesday / Thursday / Friday / Saturday / Sunday	--	
K01	Day of year	1 - 31	--	
K01	Month of year	1 - 12	--	
K01	Year	0-99	--	
K02	Calendar 1 Slot 1 ON	0-24, 0-45	00:00	
K02	Calendar 1 Slot 1 OFF	0-24, 0-45	24:00	
K02	Calendar 1 Slot 2 ON	0-24, 0-45	00:00	
K02	Calendar 1 Slot 2 OFF	0-24, 0-45	00:00	
K02	Calendar 1 Slot 3 ON	0-24, 0-45	00:00	
K02	Calendar 1 Slot 3 OFF	0-24, 0-45	00:00	
K02	Calendar 1 Slot 4 ON	0-24, 0-45	00:00	
K02	Calendar 1 Slot 4 OFF	0-24, 0-45	00:00	
K03	Calendar 2 Slot 1 ON	0-24, 0-45	6:00	
K03	Calendar 2 Slot 1 OFF	0-24, 0-45	8:00	
K03	Calendar 2 Slot 2 ON	0-24, 0-45	11:00	
K03	Calendar 2 Slot 2 OFF	0-24, 0-45	13:00	
K03	Calendar 2 Slot 3 ON	0-24, 0-45	17:00	
K03	Calendar 2 Slot 3 OFF	0-24, 0-45	23:00	
K03	Calendar 2 Slot 4 ON	0-24, 0-45	00:00	
K03	Calendar 2 Slot 4 OFF	0-24, 0-45	00:00	
K04	Calendar 3 Slot 1 ON	0-24, 0-45	7:00	
K04	Calendar 3 Slot 1 OFF	0-24, 0-45	23:00	
K04	Calendar 3 Slot 2 ON	0-24, 0-45	00:00	
K04	Calendar 3 Slot 2 OFF	0-24, 0-45	00:00	
K04	Calendar 3 Slot 3 ON	0-24, 0-45	00:00	
K04	Calendar 3 Slot 3 OFF	0-24, 0-45	00:00	
K04	Calendar 3 Slot 4 ON	0-24, 0-45	00:00	
K04	Calendar 3 Slot 4 OFF	0-24, 0-45	00:00	
K05	Calendar 4 Slot 1 ON	0-24, 0-45	00:00	

n° page	Description	Range adjustment	Value default	Value customis.
K05	Calendar 4 Slot 1 OFF	0-24, 0-45	00:00	
K05	Calendar 4 Slot 2 ON	0-24, 0-45	00:00	
K05	Calendar 4 Slot 2 OFF	0-24, 0-45	00:00	
K05	Calendar 4 Slot 3 ON	0-24, 0-45	00:00	
K05	Calendar 4 Slot 3 OFF	0-24, 0-45	00:00	
K05	Calendar 4 Slot 4 ON	0-24, 0-45	00:00	
K05	Calendar 4 Slot 4 OFF	0-24, 0-45	00:00	
K06	Zone 1: Monday	CAL1, CAL2, CAL3,CAL4	CAL1	
K06	Zone 1: Tuesday	CAL1, CAL2, CAL3,CAL4	CAL1	
K06	Zone 1: Wednesday	CAL1, CAL2, CAL3,CAL4	CAL1	
K06	Zone 1: Thursday	CAL1, CAL2, CAL3,CAL4	CAL1	
K06	Zone 1: Friday	CAL1, CAL2, CAL3,CAL4	CAL1	
K06	Zone 1: Saturday	CAL1, CAL2, CAL3,CAL4	CAL1	
K06	Zone 1: Sunday	CAL1, CAL2, CAL3,CAL4	CAL1	
K07	Zone 2: Monday	CAL1, CAL2, CAL3,CAL4	CAL1	
K07	Zone 2: Tuesday	CAL1, CAL2, CAL3,CAL4	CAL1	
K07	Zone 2: Wednesday	CAL1, CAL2, CAL3,CAL4	CAL1	
K07	Zone 2: Thursday	CAL1, CAL2, CAL3,CAL4	CAL1	
K07	Zone 2: Friday	CAL1, CAL2, CAL3,CAL4	CAL1	
K07	Zone 2: Saturday	CAL1, CAL2, CAL3,CAL4	CAL1	
K07	Zone 2: Sunday	CAL1, CAL2, CAL3,CAL4	CAL1	
K08	Zone 3: Monday	CAL1, CAL2, CAL3,CAL4	CAL1	
K08	Zone 3: Tuesday	CAL1, CAL2, CAL3,CAL4	CAL1	
K08	Zone 3: Wednesday	CAL1, CAL2, CAL3,CAL4	CAL1	
K08	Zone 3: Thursday	CAL1, CAL2, CAL3,CAL4	CAL1	
K08	Zone 3: Friday	CAL1, CAL2, CAL3,CAL4	CAL1	
K08	Zone 3: Saturday	CAL1, CAL2, CAL3,CAL4	CAL1	

n° page	Description	Range adjustment	Value default	Value customis.
K08	Zone 3: Sunday	CAL1, CAL2, CAL3,CAL4	CAL1	
K09	HT Zone: Monday	CAL1, CAL2, CAL3,CAL4	CAL1	
K09	HT Zone: Tuesday	CAL1, CAL2, CAL3,CAL4	CAL1	
K09	HT Zone: Wednesday	CAL1, CAL2, CAL3,CAL4	CAL1	
K09	HT Zone: Thursday	CAL1, CAL2, CAL3,CAL4	CAL1	
K09	HT Zone: Friday	CAL1, CAL2, CAL3,CAL4	CAL1	
K09	HT Zone: Saturday	CAL1, CAL2, CAL3,CAL4	CAL1	
K09	HT Zone: Sunday	CAL1, CAL2, CAL3,CAL4	CAL1	
K10	DHW: Monday	CAL1, CAL2, CAL3,CAL4	CAL1	
K10	DHW - Tuesday	CAL1, CAL2, CAL3,CAL4	CAL1	
K10	DHW- Wednesday	CAL1, CAL2, CAL3,CAL4	CAL1	
K10	DHW - Thursday	CAL1, CAL2, CAL3,CAL4	CAL1	
K10	DHW - Friday	CAL1, CAL2, CAL3,CAL4	CAL1	
K10	DHW - Saturday	CAL1, CAL2, CAL3,CAL4	CAL1	
K10	DHW - Sunday	CAL1, CAL2, CAL3,CAL4	CAL1	
K11	Holiday start day	1 - 31	1	
K11	Holiday start month	1 - 12	8	
K11	Holiday start year	0-99	16	
K11	Holiday end day	1 - 31	31	
K11	Holiday end month	1 - 12	8	
K11	Holiday end year	0-99	16	
K11	Enable holidays	Yes/No	No	

“Assistance \ Language” menu.

n° page	Description	Range adjustment	Value default	Value customis.
L01	Language	Italian / English	Italian	

“Assistance \ Operational hours” menu.

n° page	Description	Range adjustment	Value default	Value customis.
O01	PdC 1: CH			

O01	PdC 1: Cooling			
O01	PdC 1: Domestic hot water.			
O02	PdC 2: CH			
O02	PdC 2: Cooling			
O02	PdC 2: Domestic hot water.			
O03	PdC 3: CH			
O03	PdC 3: Cooling			
O03	PdC 3: Domestic hot water.			
O04	PdC 4: CH			
O04	PdC 4: Cooling			
O04	PdC 4: Domestic hot water.			
O05	Boiler integration CH			
O05	Boiler integration Cooling			
O06	Electric heaters: CH			
O06	Electric heaters: DHW			
O07	Solar and puffer: Solar pump 1			
O07	Solar and puffer: Solar pump 2			
O07	Solar and puffer: Puffer pump / Inertial storage tank pump			

“Assistance \ System definition” menu.

n° page	Description	Range adjustment	Value default	Value range
P01	Average	1 FIXED, 1 MIX, 2 MIX, 2 MIX + 1 FIXED, 3 MIX	1 FIXED	
P01	Domestic hot water	No / Yes	Yes	
P01	High Temperature	No / Yes	NO	
P02	Mode	Hot, Cold, Hot/Cold	Hot	
P02	Zone name		LIVING ROOM	
P02	Disp.	Absent, Rem. Control, Remote panel, Zone Control, Temp-humid probe	Remote panel	
P03	Thermostat	No / Yes	No	
P03	Humidistat	No / Yes	No	
P03	P. Dew Point	No / Yes	No	
P03	En. Dehumid.	No / Yes	No	
P04	Mode	Hot, Cold, Hot/Cold	Hot	
P04	Zone name		KITCHEN	
P04	Disp.	Absent, Rem. Control, Remote panel, Zone Control, Temp-humid probe	Absent	
P05	Thermostat	No / Yes	No	
P05	Humidistat	No / Yes	No	

n° page	Description	Range adjustment	Value default	Value range
P05	P. Dew Point	No / Yes	No	
P05	En. Dehumid.	No / Yes	No	
P06	Mode	Hot, Cold, Hot/Cold	Hot	
P06	Zone name		BEDROOMS	
P06	Disp.	Absent, Rem. Control, Remote panel, Zone Control, Temp-humid probe	Absent	
P07	Thermostat	No / Yes	No	
P07	Humidistat	No / Yes	No	
P07	P. Dew Point	No / Yes	No	
P07	En. Dehumid.	No / Yes	No	
P08	Zone name		BATHROOM	
P08	Disp.	Absent, Rem. Control, Remote panel, Zone Control, Temp-humid probe	Absent	
P08	Thermostat	No / Yes	No	
P09	Main zone	1 - 4	1	
P10	Max dehumidifier temp.	15 - 50	25	
P10	Alarm set	15 - 50	25	
P11	Heat pumps	1 - 4	0	
P11	1:	Audax 2017/ Audax Top 6 / Audax Top 8 / / Audax Top 12 / Audax Top 16/ Audax 6 kW/ Audax 8 kW / Audax 10 kW / Audax 16 kW/ Audax 18 kW, Magis Pro 5 / 8 10, Magis Combo 5 / 8 / 10, Magis Combo Plus 5 / 8 / 10	Audax 2017	
P11	2:	Audax 2017/ Audax Top 6 / Audax Top 8 / / Audax Top 12 / Audax Top 16/ Audax 6 kW/ Audax 8 kW / Audax 10 kW / Audax 16 kW/ Audax 18 kW	Audax 2017	
P11	3:		Audax 2017	
P11	4:		Audax 2017	
P12	Magis Pro Configuration	Two pipes / Four pipes	Two pipes	
P13	Mode	Max sp / Modul	Modul	
P13	Speed Minimum	19-50 %	50 %	

n° page	Description	Range adjustment	Value default	Value range
P13	Speed Maximum	50-100 %	100 %	
P13	Delta T	2-20	5	
P14	Reduction enabling	No/Yes	No	
P14	Power in reduced	50-100 %	75 %	
P15	Mode	Max sp / Modul	Modul	
P15	Speed Minimum	19-50 %	50 %	
P15	Speed Maximum	50-100 %	100 %	
P15	Delta T	2-20	5	
P16	Reduction enabling	No/Yes	No	
P16	Power in reduced	50-100 %	75 %	
P17	Mode	Max sp / Modul	Modul	
P17	Speed Minimum	19-50 %	50 %	
P17	Speed Maximum	50-100 %	100 %	
P17	Delta T	2-20	5	
P18	Reduction enabling	No/Yes	No	
P18	Power in reduced	50-100 %	75 %	
P19	Mode	Max sp / Modul	Modul	
P19	Speed Minimum	19-50 %	50 %	
P19	Speed Maximum	50-100 %	100 %	
P19	Delta T	2-20	5	
P20	Reduction enabling	No/Yes	No	
P20	Power in reduced	50-100 %	75 %	
P21	Model	Audax Top 18 / Audax Top 21	Audax Top 18	
P21	Configure	Yes/No	No	
P22	Start Scan	Yes/No	No	
P23	Ind. 11	Audax 6/ Audax 8 / Audax 12/ Audax 16 /Audax 16 Mono / Audax Top 6 /Audax Top 8/Audax Top 12 / Audax Top 16 /Audax Top 18 / Audax Top 21 /Audax 6 kW/ Audax 8 – 18 kW		
P23	Ind. 12	Audax 6/ Audax 8 / Audax 12/ Audax 16 /Audax 16 Mono / Audax Top 6 /Audax Top 8/Audax Top 12 / Audax Top 16 /Audax Top 18 / Audax Top 21 /Audax 6 kW/ Audax 8 – 18 kW		

n° page	Description	Range adjustment	Value default	Value range
P23	Ind. 13	Audax 6/ Audax 8 / Audax 12/ Audax 16 /Audax 16 Mono / Audax Top 6 /Audax Top 8/Audax Top 12 / Audax Top 16 /Audax Top 18 / Audax Top 21 /Audax 6 kW/ Audax 8 – 18 kW		
P23	Ind. 14	Audax 6/ Audax 8 / Audax 12/ Audax 16 /Audax 16 Mono / Audax Top 6 /Audax Top 8/Audax Top 12 / Audax Top 16 /Audax Top 18 / Audax Top 21 /Audax 6 kW/ Audax 8 – 18 kW		
P24	Ind:	0 - 255	0	
P24	Param	0 - 32676	0	
P24	Start	Yes/No	NO	
P25	Type	Top 6-8-12-16 / Audax	Audax	
P25	New address to assign	12 -14	12	
P25	Configure	Yes/No	No	
P26	Type	Top 6-8-12-16 / Audax	Audax	
P26	Current address	12 - 14	12	
P26	Configure	Yes/No	No	
P31	Number of solar pumps	0-2	0	
P32	Puffer included	Yes/No	No	
P32	Pre-heating	Yes/No	No	
P32	Zone activation	Upon Request / In temperature	In temperature	
P33	Hysteresis ON	-10 - +20	1	
P33	Hysteresis OFF	-10 - +20	4	
P33	Generator offset	-10 - +30	6	
P33	DHW OFF	0 - 10	10	
P34	Thermal discharge enabling	Yes/No	No	
P34	Insertion temperature	10-99	55	
P34	Delta Temperature	0-99	10	
P35	Hot/cold separate management	Yes/No	No	
P35	Enab.generator switch off	Yes/No	No	
P36	System decoupling	Yes/No	No	
P36	System probe	Yes/No	No	
P36	Photovoltaic	Yes/No	No	
P37	Acc. Inertial Presence	No/Yes	No	
P37	Maintaining	No/Yes	No	

n° page	Description	Range adjustment	Value default	Value range
P37	Relaunch pump	No/Yes	No	
P37	Zone activation	Upon Request / In temperature	In temperature	
P38	Hysteresis Heat ON	-10 - +20	1	
P38	Hysteresis Heat OFF	-10 - +20	4	
P38	Generator Offset heat	-10 - +30	6	
P39	Hysteresis Cool. ON	-10 - +20	1	
P39	Hysteresis Cool OFF	-10 - +20	4	
P39	Cool. Generator offset	-10 - +30	6	
P41	Activation time	1-120	10	
P41	Increase time	1-20	3	
P42	Max Heat correction	0-10	0	
P42	Min Cool correction	-10 - 0	0	
P43	Activation time	1-120	20	
P43	Increase time	1-20	5	
P44	Max Heat correction	0-10	2	
P44	Min Cool correction	-10 - 0	0	
P91	Request from fancoil zone:	OFF/ON	OFF	

“Assistance \ Thermoregulation” menu.

n° page	Description	Range adjustment	Value default	Value customis.
T01	Enable use of external probe	Not used, From heat pump, From boiler, From system manager	From heat pump	
T02	External probe	No/Yes	No	
T02	Set zone 1 minimum flow	20 – 85*	25	
T02	Set zone 1 maximum flow	20 – 85*	45	
T03	External probe	No/Yes	No	
T03	Set zone 2 minimum flow	20 – 85*	25	
T03	Set zone 2 maximum flow	20 – 85*	45	
T04	External probe	No/Yes	No	
T04	Set zone 3 minimum flow	20 – 85*	25	
T04	Set zone 3 maximum flow	20 – 85*	45	
T05	External minimum temperature	-20 - 0	-5	
T05	External maximum temperature	+5 - +25	25	
T06	Set zone 1 minimum flow	5 – 25*	18	
T06	Set zone 1 maximum flow	5 – 25*	20	
T07	Set zone 2 minimum flow	5 – 25*	18	
T07	Set zone 2 maximum flow	5 – 25*	20	
T08	Set zone 3 minimum flow	5 – 25*	18	
T08	Set zone 3 maximum flow	5 – 25*	20	
T09	External minimum temperature	20-35	25	
T09	External maximum temperature	25-40	35	

n° page	Description	Range adjustment	Value default	Value customis.
T10	External probe	No/Yes	No	
T10	Set zone HT minimum flow	20 - 85*	25	
T10	Set zone HT maximum flow	20 - 85*	45	
T10	External minimum temperature	-20 - 0	-5	
T10	External maximum temperature	5 - 25	25	

* = the range can be reduced based on the type of generator installed

“Assistance \ DHW” menu.

n° page	Description	Range adjustment	Value default	Value customis.
Q01	DHW hysteresis	3 - 7	5	
Q02	DHW circuit	Independent / Shared	Shared	
Q03	Legionella enabling	No / Yes	No	
Q03	Legionella cycle day	Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday	Monday	
Q03	Legionella cycle time	00:00 - 24:00	07:00	
Q04	DHW recirculation enabling	No / Yes	No	
Q04	Start Slot 1	00:00 - 24:00	00:00	
Q04	End Slot 1	00:00 - 24:00	00:00	
Q04	Start Slot 2	00:00 - 24:00	00:00	
Q04	End Slot 2	00:00 - 24:00	00:00	
Q05	Max time allowed for DHW	1-48	5	
Q05	Max time allowed for anti-legionella	1-48	3	

“Assistance \ Solar” menu.

n° page	Description	Range adjustment	Value default	Value customis.
W01	Pump 1 connection DT	1 - 20	6	
W01	Pump 1 disconnection DT	0,5 - 19,5	4	
W02	Pump 2 connection DT	1 - 20	6	
W02	Pump 2 disconnection DT	0,5 - 19,5	4	
W03	Maximum tank temperature	20 - 90	70	
W04	Tank cooling enabling	Yes/No	No	
W05	Manifold maximum temperature	110 - 190	140	
W06	Manifold cooling enabling	Yes/No	no	
W06	Manifold cooling start temperature	110 - 190	120	
W07	Manifold minimum temperature enabling	Yes/No	no	
W07	Manifold minimum temperature	10 - 90	10	
W08	Anti-freeze enabling	Yes/No	no	
W08	Anti-freeze temperature	-10 - +10	4	
W09	Enable solar return probe	Yes/No	No	

“Assistance \ Integration” menu.

n° page	Description	Range adjustment	Value default	Value customis.
X01	Integration device	Res. Electrical, TA Boiler, Ext S. Boiler, Modbus Boiler, None, Magis Combo	----	
X01	Mode of integration	Simultaneous/Alternative	Alternative	
X02	DHW	Only pdc/ pdc + boiler/ only boiler/pdc+res. Electrical/only electrical res.	Only pdc	
X02	Heating	Only pdc/ pdc + boiler/ only boiler/pdc+res. Electrical/only electrical res.	Only pdc	
X03	DHW wait time	1 - 540 min	30	
X03	Central heating wait time	1 - 540 min	45	
X03	Domestic hot water priority time	1 - 540 min	60	
X03	Central heating priority time	1 - 540 min	180	
X04	Integration band	0 - 20	3	
X04	Minimum integration temperature	-20 - +35	-15,0	
X05	Boiler flow offset	0 - 15	0	
X06	DHW set boiler intervention	10 - 60	10	

“Assistance \ Supervisor” menu.

n° page	Description	Range adjustment	Value default	Value customis.
B01	Digital supervision	No / Yes	No	
B01	Protocol	---, Carel, Modem RS 232, Modbus, Winload	Winload	
B01	Baudrate	1200, 2400, 4800, 9600, 19200	19200	
B01	Address	1 - 100	1	

“Assistance \ Reset” menu.

n° page	Description	Range adjustment	Value default	Value customis.
R01	Heat pump	No/Yes	No	
R01	Heat pump 2	No/Yes	No	
R01	Heat pump 3	No/Yes	No	
R01	Heat pump 4	No/Yes	No	
R02	Solar pump 1	No/Yes	No	
R02	Solar pump 2:	No/Yes	No	

R03	Integr.: DHW.	No/Yes	No	
R03	Integr.: Sys.	No/Yes	No	
R03	Puffer circ.	No/Yes	No	

“Assistance \ Manual management” menu.

n° page	Description	Range adjustment	Value default	Value customis.
A01	Venting	OFF/ON		
A02	Solar pump 1	OFF/ON		
A02	DHW Dev	OFF/ON		
A02	Dev. Summer / Winter	OFF/ON		
A02	System res.	OFF/ON		
A02	Boiler request	OFF/ON		
A02	Res. DHW	OFF/ON		
A02	Set Boiler:	25 - 85		
A03	Zone 1 pump	OFF/ON		
A03	Valve 3P zone 1	STOP/OPEN/CLOSE		
A03	Zone 1 dehumidification	OFF/ON		
A03	Dehum. and Cooli. zone 1	OFF/ON		
A04	Zone 2 pump	OFF/ON		
A04	Valve 3P zone 2	STOP/OPEN/CLOSE		
A04	Zone 2 dehumidification	OFF/ON		
A04	Dehum. and Cool zone 2	OFF/ON		
A05	Zone 3 pump	OFF/ON		
A05	Valve 3P zone 3	STOP/OPEN/CLOSE		
A05	Zone 3 dehumidification	OFF/ON		
A05	Dehum. and Cool zone 3	OFF/ON		
A06	Solar pump 2:	OFF/ON		
A06	HT system	OFF/ON		
A07	Int. Domestic hot water	OFF/ON		
A07	Central heating	OFF/ON		
A07	System pump	OFF/ON		
A08	Valv. Hot/Cold	OFF/ON		
A07	Recirculation pump	OFF/ON		
A07	Thermal discharge	OFF/ON		
A07	Decoup.circ.:	OFF/ON		
A11	Audax 1: circulation pump test	NO/YES		
A12	Audax 1: Manual functioning	0= OFF, 1= Cooling Test, 2= Heating Test, 3= Cool. Test raff. With ramp 4=heat. test With ramp		
A13	Audax 1: High pressure switch test	NO/YES		
A21	Audax 2 circulation pump test	NO/YES		

A22	Audax 2 Manual functioning	0= OFF, 1= Cooling Test, 2= Heating Test, 3= Cool. Test raff. With ramp 4=heat. test With ramp		
A23	Audax 2 High pressure switch test	NO/YES		
A31	Audax 3: circulation pump test	NO/YES		
A32	Audax 3: Manual functioning	0= OFF, 1= Cooling Test, 2= Heating Test, 3= Cool. Test raff. With ramp 4=heat. test With ramp		
A33	Audax 3: High pressure switch test	NO/YES		
A41	Audax 4: circulation pump test	NO/YES		
A42	Audax 4: Manual functioning	0= OFF, 1= Cooling Test, 2= Heating Test, 3= Cool. Test raff. With ramp 4=heat. test With ramp		
A43	Audax 4: High pressure switch test	NO/YES		

“Assistance \ Heat pump set” menu.

n° page	Description	Range adjustment	Value default	Value customis.
C01	Battery Management	Cascade, Simultaneous	Cascade	
C02	Activation band	1 - 10 °C	6.0	
C03	Cen. heat. / cool. activation time	0-120 m	15	
C03	Cen. heat. / cool. deactivation time	0-120 m	10	
C04	DHW/puffer activation time	0-120 m	15	
C04	DHW/puffer deactivation time	0-120 m	10	
C05	Rotation period	0 - 7	7	

7 NOTES FOR DEVICES FOR ZONES

7.1 NOTES FOR ZONE CONTROL

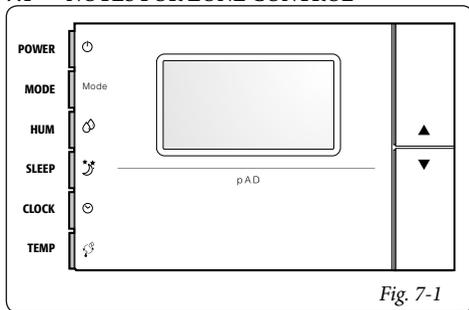


Fig. 7-1

N.B.: The zone controls must be configured so that they work correctly with the system manager, and the address in particular must be set up using the following procedure:

- 1 - press the UP key;
- 2 - within three seconds press the DOWN key;
- 3 - when the term "PAR" appears on the main area, release the DOWN key keeping the UP key down and press the TEMP key within three seconds.

Procedure to change parameters

In this mode, all symbols are shut off, except for the following fields:

888 indicates the value of the parameter currently being changed;

88:88 indicates the name of the parameter currently being changed.

To set the parameters proceed as follows:

- 1 -The field **88:88** is flashing. Select the parameter you need to change using the UP/DOWN keys, then press TEMP.
- 2 -The field **88:88** is flashing. Set the desired value using the UP/DOWN keys, then press TEMP.
- 3 -Repeat the actions from point 1 to complete all of the desired operations.
- 4 -To exit parameter change and save the changes that have been made, simply keep TEMP pressed down for 3 seconds.

To exit parameter change without saving the changes that have been made, simply wait 60 seconds after pressing the last key, or press SLEEP. 45 seconds after pressing the last key the name of the parameter or the numerical value will flash. If the parameters regarding communication (Ad01) are changed, communication will be re-initialised from the zone control.

Below we provide the meanings for the operating parameters:

Ad01 - Network address for the zone control (1÷32)
- Default 2;

Ad02 - Supervisor address - (**Do not change**)

Br01 - Baud rate - (**Do not change**)

Br02 - Baud rate supervision - (**Do not change**)

En01 - Enable buzzer (0÷1) - Default 1.

Pc01 - Room probe calibration - (**Do not change**)

rEL - Release firmware indication - (**Do not change**)

Prot - Select protocol - (**Do not change**)

The required addresses are:

- 21 = Zone 1
- 22 = Zone 2
- 23 = Zone 3
- 24 = Zone AT

When configuration is complete, restart the control zone by shutting off and turning the electric power supply back on.

Note: The zone control cannot be used to programme the time periods, which can only be programmed on system manager, but it will be possible to manage the request to operate the zone being referred to manually by setting the desired set.

7.2 NOTES FOR ZONE REMOTE CONTROL

Please refer to the relevant instructions sheet for installation instructions. The required addresses to use are:

- 31 = Zone 1
- 32 = Zone 2
- 33 = Zone 3
- 34 = Zone AT

On the zone remote control it is possible to set:

- operation mode;
- room set point;
- room humidity set point.

The following can also be displayed:

- zone room temperature;
- relative humidity;
- current DHW set;
- zone flow set;
- generic alarm signal;
- activation of:
 - heat pump;
 - boiler;
 - zone antifreeze.

- zone pump;
- zone dehumidification.

The zone remote control manages the heating/cooling of the associated zone.

The functions valid for the secondary remote zone control are enabled with:

- Buttons to the side of the display (Ref. 2 - 3 Fig. 7-2) allow to select the available functions.
- main switch (Ref. 1 Fig. 7-2) by turning it one can select the values of the parameters. The parameter being edited flashes, to store the selected value press the main selector.

Programming current time and day. Press and hold the “time slot ” button until the “    ” function appears.

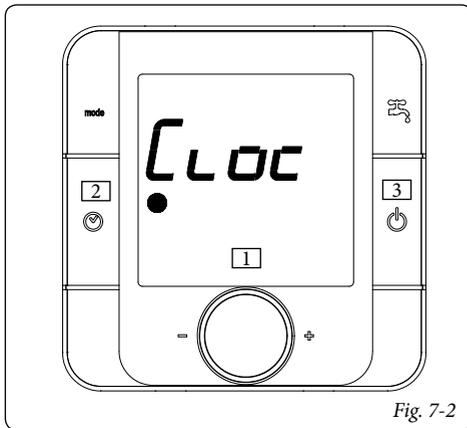


Fig. 7-2

Select the function and adjust it according to the current time and day.

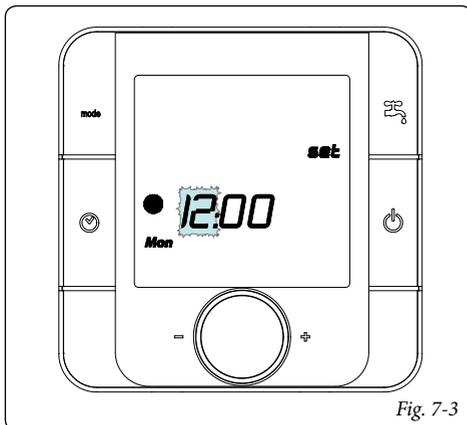


Fig. 7-3

Ignition. Press and hold the “on / off ” button; the remote control goes into stand-by and displays the operating modes, the room temperature and the time.

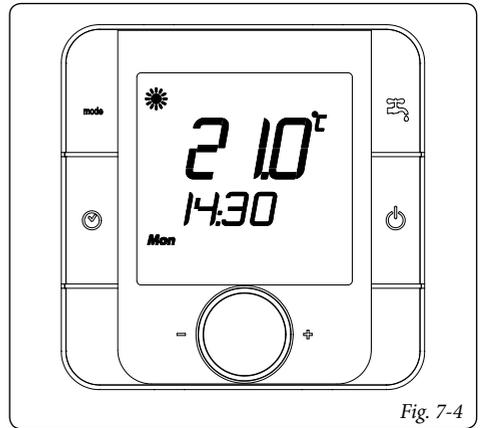


Fig. 7-4

Select operating mode. By pressing the “Mode ” button one can select the operating mode of the system in cyclic mode between:

- “Summer with cooling ”, system operating in room cooling (performed by the heat pump) and domestic hot water production mode.
- “Winter ”, system operating in room heating and domestic hot water production mode.
- “Domestic hot water ”, system operating in domestic hot water production mode only.

Time slots adjustment. The “Time band” parameter enables to adjust the room temperatures in time slots, it is possible to adjust up to a maximum of 6 time slots and the programming can be set day by day for the whole week, for 5 days (Mon-Fri) and 2 days (Sat-Sun).

Press and hold the “time band ” button until the “   ” function appears, turn the main selector until the “     ” parameter appears.

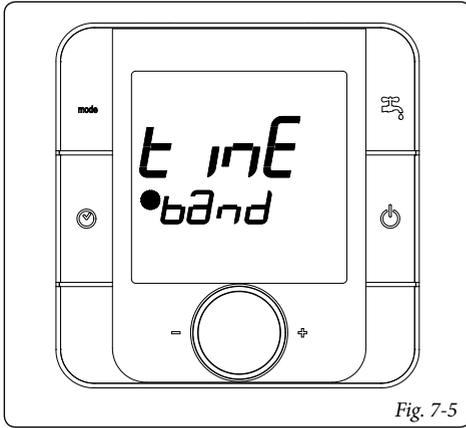


Fig. 7-5

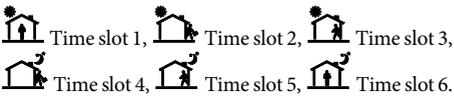
Select the function and adjust the time slots.

- Select the interval of days that one wishes to program, the days being programmed flash.



Fig. 7-6

- Select the time slots, which are shown according to the sequence below:



- Then select the temperature for that time slot.

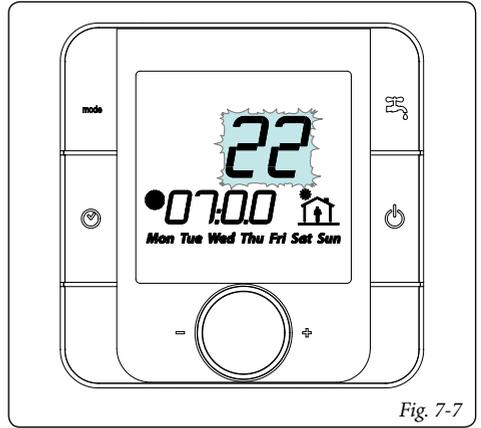


Fig. 7-7

N.B.: when selecting the temperature relating to the time slot, one can also set the boiler in OFF mode "OFF" that allows to switch the boiler off in the pre-set time interval.

Repeat the operations for all the time slots and for the days required.

To exit the time slot programming mode wait for a few seconds or turn the selector until "E S C" appears and press the main selector.

Time slot activation. By pressing the button "☺" one can activate system operation according to the settings made previously. The activation of the time slot mode is signalled by the activation of the relative symbol "●". To disable the function and enable manual operation press the button "☺" again. In case of time slots disabling from OFF mode, a new room set must be restored.

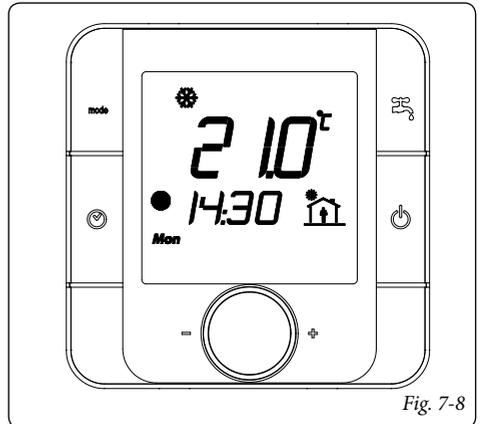


Fig. 7-8

Function lock. In conjunction with the activation of the time slots, the manual room temperature control mode is disabled; this status is signalled by the activation of the relative symbol “”.

Room temperature manual adjustment. In the event the time slots are not used, one can set the room temperature simply by turning the main selector.

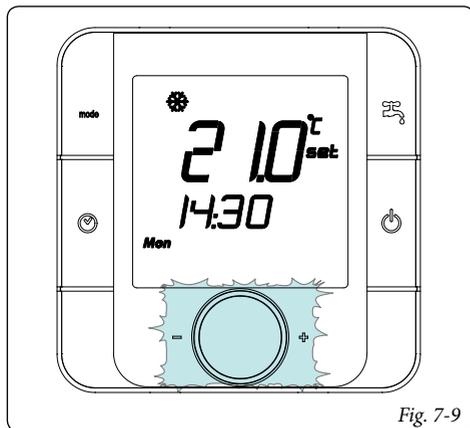


Fig. 7-9

Once the required room temperature is set, the display will go back to showing the measured room temperature.

Room humidity adjustment. To display the humidity in the room, press the main selector, during the display of the humidity one can change the desired humidity value, simply by turning the main selector.

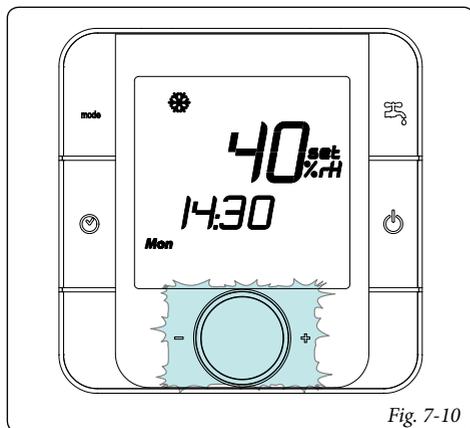


Fig. 7-10

By pressing the new selector, the zone flow set and the system active dhw set can be displayed.

Anomalies display. In the event there is an anomaly in progress, the remote control displays the status via the symbol “”.

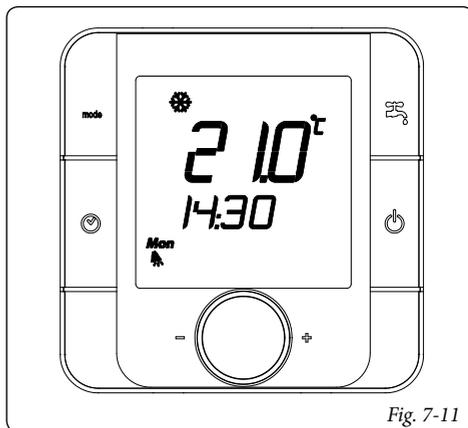


Fig. 7-11

7.3 NOTES FOR THE ZONE REMOTE PANEL

Please refer to the relevant instructions sheet for installation instructions. The required addresses to use are:

- 41 = Zone 1
- 42 = Zone 2
- 43 = Zone 3
- 44 = Zone AT

If using the remote panel you can configure the following parameters also via the panel:

- time slots calendars
- room set-point of relative zone

After configuring a remote panel the system must be reset.

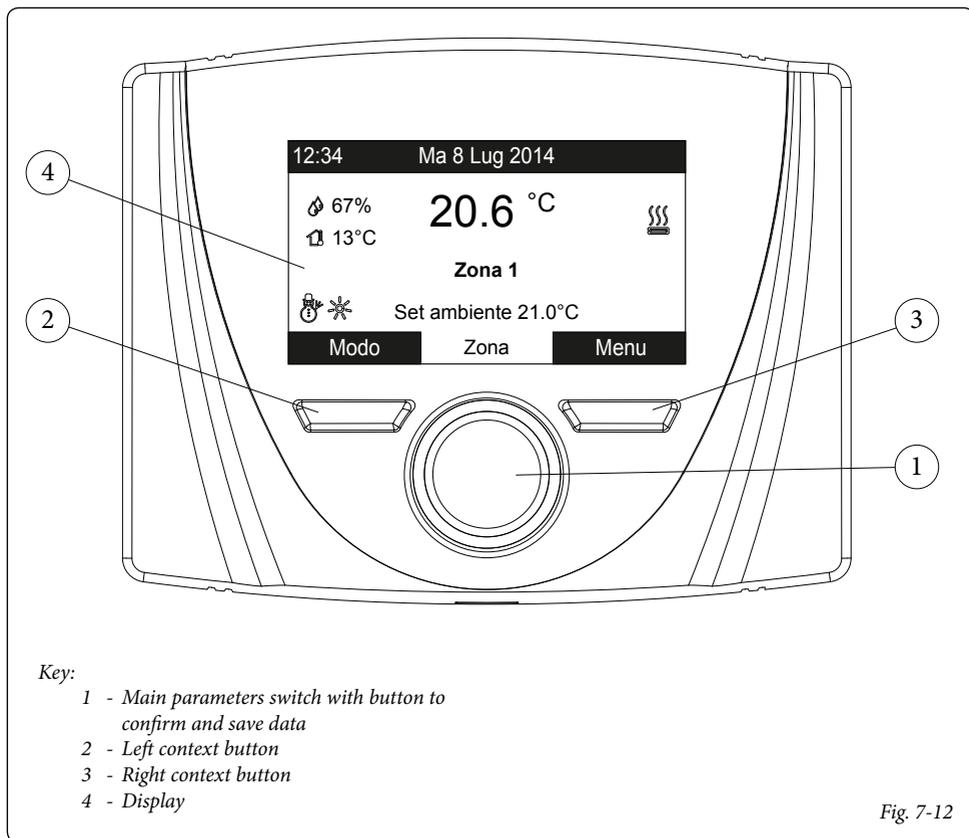


Fig. 7-12

Once the device has been powered, it goes into the status prior to switch-off. Press the “Modo” (Mode) button to cyclically select the desired mode amongst those available.

The operation mode is general and applies to all zones, the current mode in use is displayed by the relative icon at the bottom left corner (Fig. 7-12).

Also, depending on the system’s configuration, the main screen displays various information regarding the system, amongst which:

Status	Description
nn	Room humidity value
nn	External temperature value (external probe enabled)
	Production of Domestic Hot Water in progress
	Request for room central heating or cooling in progress

	Dehumidify and cool room in progress
	Dehumidify room in progress
	Comfort temperature operation
	Economy temperature operation
	Operation in manual mode
	External probe enabled
	Anomaly present

The lower part of the display shows the parameter that can be changed (it varies according to configuration). Once the system has captured the data (indicated with the text “Attesa dati...” (Waiting for data...)), it is possible to change the value by turning the main switch and pressing to confirm the parameter change.

The values that can be found according to the configuration, are:

- Set room: defines the room zone temperature.
- Set flow: defines the system's flow temperature to the zone.
- Flow offset: changes the operation curve of the external probe.

Status	Description
	Stand-by
	Summer
	Summer with cooling
	Winter

Fig. 7-13

• **Comfort / Economy / Manual operation.**

Once the calendar is set and the relative association of days is executed, the system operates automatically by switching from “comfort” to “economy” according to what has been set.

- **Comfort** (☀). During periods in comfort mode, a relative icon appears next to the operation mode.
- **Economy** (☾). During periods in economy mode, a relative icon appears next to the operation mode.
- **Manual** (👉). If the remote panel was set to manage the room temperature of the zone, if required, it is possible to change the value manually for a determined range.

Turning the main switch changes the room temperature, and pressing it confirms the change. The change is displayed by the symbol “👉”. This change remains activate until the next time slot change within the active calendar or until the default value of the parameter is restored.

• **Operation with external probe.**

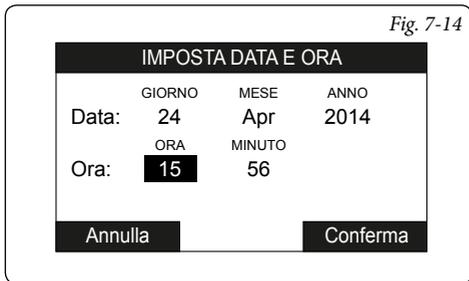
When the system is associated with the external probe, the relative symbol () is displayed. From this moment, the system's flow temperature for room central heating is managed by the external probe depending on the external temperature measured. It is possible to change the operation curve by using the main switch and changing the external probe offset (Fig. 7-12).

• **Clock and programs.**

From this menu, it is possible to set the system's date and time as well as the time slots for operation in comfort and economy mode.

- **Date and time.** On first electric supply voltage from the remote panel, or in the event of a voltage drop, you must set the date and time. Proceed as follows:
 - Press the “Menu” button (Ref. 3 Fig. 7-12), select by pressing the main selector (Ref. 1 Fig. 7-12) the item “Clock and Programs”, then “Date and time”.

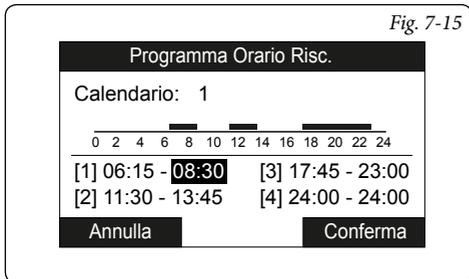
- Once you have accessed the menu, adjust the various items highlighted by turning the main switch. Set the value and save it by pressing the main switch. Each time it is saved, it moves to the next item.
- After programming, press “Conferma” (Confirm).



- **Time slots.** The remote panel enables you to set 4 calendars with 4 time operating slots in system comfort mode. The system will operate in economy mode during out-of-range time of these 4 time slots.

After setting these 4 calendars it is possible to associate them to the various days of the week and DHW function according to one's needs.

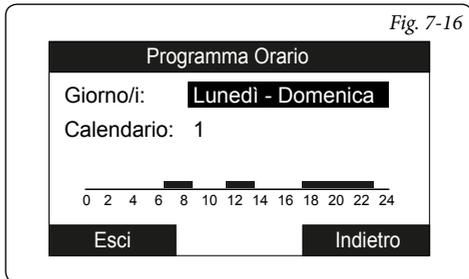
- Press the “Menu” button, select by pressing the main selector (Ref. 1 Fig. 7-12) the item “Clock and Programs”, then “Time slots”.
- Once you have accessed the menu, adjust the various items highlighted by turning the main switch. Set the value and save it by pressing the main switch. Each time it is saved, it moves to the next item.
- After programming, press “Conferma” (Confirm).



- **Time programme.** Time slots (Calendars from 1 to 4) are assigned to Zones in these menus. (Calendar from 1 to 4) to the associated Zone. You can assign the calendar to a single day or to a group of days.(single day, Monday - Friday, Saturday - Sunday, Monday - Saturday, Monday - Sunday).

Therefore each day may be personalised with 4 different operating programs.

For convenient selection, the bottom part displays the graphics of the relevant calendar being selected (Fig. 7-17).



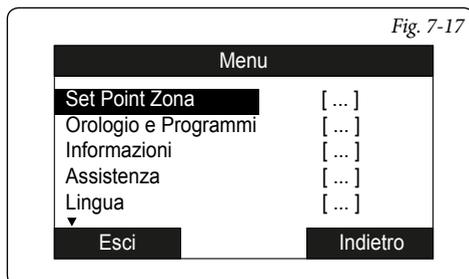
- **Settings menu.**

Press the “Menu” button to access a list of variables that enable you to customise use of the system.

To browse the menus, which can be accessed by pressing the relative “RH” or “LH” context buttons, scroll through the sub-menus displayed by turning the main switch. Press the said selector to select the one highlighted. By pressing repeatedly, you can scroll down the menu levels and go back to a previous level by pressing the “Indietro” (Back) context button. To exit the menu completely, press the “Esci” (Exit) button, which will take you back to the initial page of normal operation.

To confirm the parameter change, press the main switch.

Fig. 7-17



Hereunder is a list of available menus

MAIN MENU	
Menu item	Description
Zone Set Point	Defines the operating parameters to manage the zone
Clock and Programs	Defines the date/time and time operating slots
Information	Display system operating data
Service	Password protected menu dedicated to a qualified technician
Language	Defines the remote panel operation language

Zone Set Point Menu				
Menu item	Description	Range	Default	Customised value
Set central heating comfort	Room temperature heating zone in Comfort mode	15 ÷ 35 °C	20	
Set central heating economy	Room temperature heating zone in Economy mode	5 ÷ 25 °C	16	
Set cooling comfort	Room temperature cooling zone in Comfort mode	15 ÷ 35 °C	25	
Set cooling economy	Room temperature cooling zone in Economy mode	15 ÷ 35 °C	28	
Cooling humidity set	Humidity value set for zone in cooling mode	30 ÷ 70 %	50	

Clock and programs menu				
Menu item	Description	Range	Default	Customised value
Time slots	Defines the time range for operation in Comfort and Economy mode			
Zone Program	Time zone scheduling		Mon - Sun Cal 1	

Information Menu				
Menu item	Description	Range	Default	Customised value
Outside temperature	External temper. detected by the external probe (optional)			
Calculated set system temperature	Flow temperature requested by the generators			
Board software version	System software revision			
Display software version	Display software revision installed on the remote panel			

Assistance Menu				
Menu item	Description	Range	Default	Customised value
Password protected menu dedicated to a qualified technician				

Language Menu				
Menu item	Description	Range	Default	Customised value
Language	Defines the remote panel operation language	ITA - ENG	ITA	

8 NOTE FOR GENERATORS

8.1 NOTES FOR MAGIS PRO

The A11, T02 parameters and the parameter families UXX, RXX, IXX are automatically set by the system manager.

Settings required:

- A12 = OFF;
- A13 = 1;
- A21 = 11;
- A22 = OFF;
- P06 = IN;

The range for integration and precedence times are reduced to:

- 10 - 240 minutes

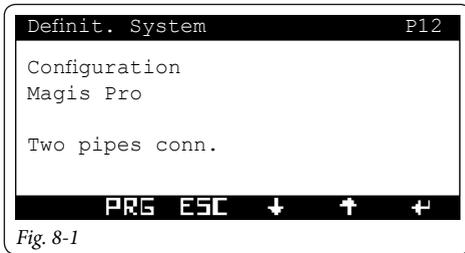


Fig. 8-1

- **Two pipes connection.** The device is used by connecting only the flow and return pipes.

- **Four pipes connection.** The device is used by connecting the system and dhw flow and return pipes (for information contact the Support Service).

If optional external probe is used:

- connect the optional external probe to Magis Pro.
- Select R01 = IU.
- Disconnect and reconnect power supply from the device.

8.2 NOTES FOR MAGIS COMBO

The A11, T02 parameters and the parameter families UXX, RXX, IXX are automatically set by the system manager.

Settings required:

- A12 = OFF;
- A13 = 1;
- A21 = 11;
- A22 = OFF;
- P06 = IN;

The range for integration and precedence times are reduced to:

- 10 - 240 minutes

In the X01 page set the “Disp.” = “Boiler with external probe” parameter to enable the potential burner ignition. If optional external probe is used:

- connect the optional external probe to Magis Combo.
- Select R01 = IU.
- Disconnect and reconnect power supply from the device.

8.3 NOTES FOR AUDAX TOP 18/21 ERP

These models are part of the Audax heat pump family (see subsequent paragraph).

8.4 NOTES FOR AUDAX

This heat pump family includes the following models:

- Audax 6
- Audax 8
- Audax 12
- Audax 16
- Audax 16 Mono
- Audax Top 18 ErP
- Audax Top 21 ErP

With these machines, the circulation pumps operation logic can be configured.

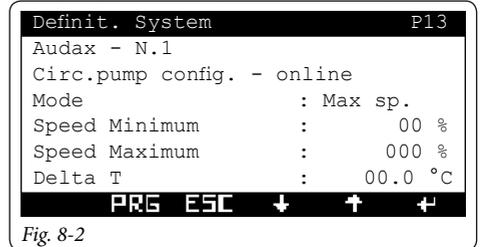


Fig. 8-2

The parameters are:

- **Mode.** Enable the pump operation with speed set “Max. speed” or the modulating mode with tracking of the “Modulating” temperature differential.
- **Minimum speed.** Value of minimum speed used in modulating operation.
- **Maximum speed.** Value of maximum speed used in modulating operation.
- **Delta T.** Temperature delta to be maintained with modulating operation.

A machine power reduction can be set.

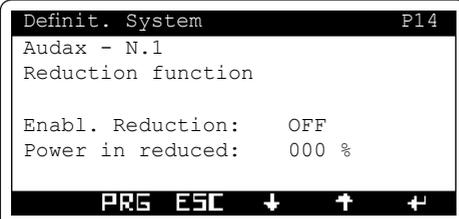


Fig. 8-3

The parameters are:

- **Reduction enabling.** Enable PdC operation frequency reduction, which is controlled by the said terminal board.
- **Power in reduced.** Power percentage in reduction mode.

If main machine board is replaced, performing the parameterisation operation is required.

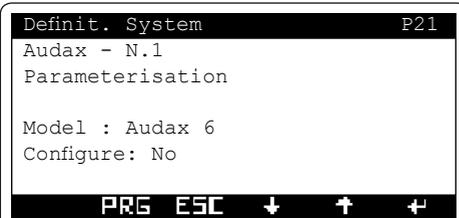


Fig. 8-4

The parameters are:

- **Model.** Select the heat Pump model to parametrise.
- **Configure.** Select “Yes” to start parameterisation.

Scan Audax.

With this function it is possible to verify the presence of installed heat pumps.

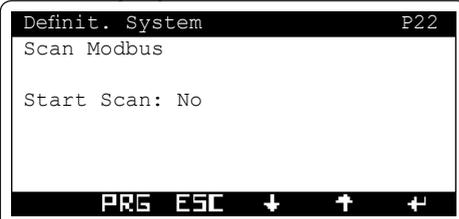


Fig. 8-5

- **Start Scan.** It enables the machine scanning function. The result of this operation is shown in the next page:

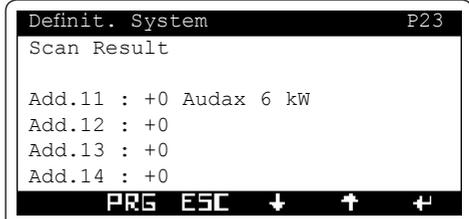


Fig. 8-6

Modbus Analysis.

With the following function it is possible to interrogate the devices present in the MODBUS communication bus.

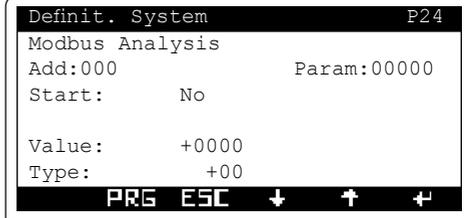


Fig. 8-7

- **Ind.** Device address.
- **Param.** Parameter to be read.
- **Start.** Start reading.
- **Value.** Value of the interrogation.
- **Type.** Result of the interrogation.

For details, contact Immergas Technical Assistance.

- **Orientation.** In presence of several heat pumps communicating with each other, setting the machines with different addresses is required.

Machine	Address
Heat pump 1	11
Heat pump 2	12
Heat pump 3	13
Heat pump 4	14

In the Audax kW models, the orientation can be performed via control panel.

For the Audax Top ErP and Audax models you must set the addresses as follows.

Turn off all machines on the same communication bus except the one to be configured.

You must set the addresses as follows:

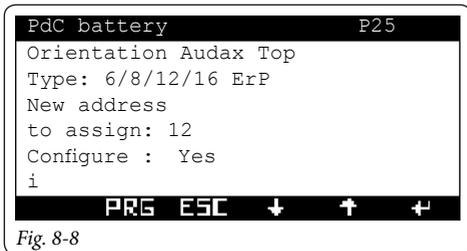


Fig. 8-8

- **Type:** select the heat pump type.
- Audax Top 6/8/12/16 ErP
- Audax
- **Current address.** Set the current address of the machine (value between 12 and 14 based on heat pump no.).

In case of configuration problems, the initial address of a machine can be restored (address 11).

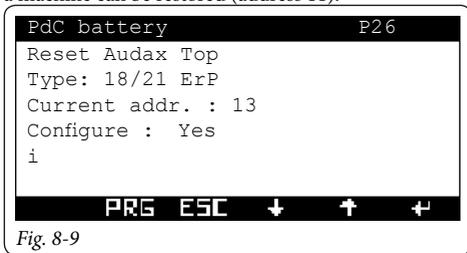


Fig. 8-9

- **Type:** select the heat pump type.
- Audax Top 6/8/12/16 ErP
- Audax
- **Current address.** Set the current address of the machine (value between 12 and 14 based on heat pump no.).
- **Configure.** Select YES to start address configuration process.
- **New address.** Set the new address (value between 12 and 14 based on heat pump no.).
- **Configure.** Select YES to start address configuration process.

Certain manual functions of the machine can be enabled.

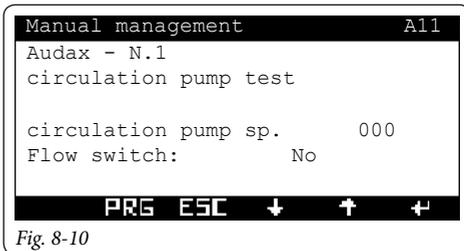


Fig. 8-10

The parameters are:

- **Circ.pump.override.** Enables the circulation pump to be manually overridden at the set speed.
- **Flow switch.** Displays flow switch status.

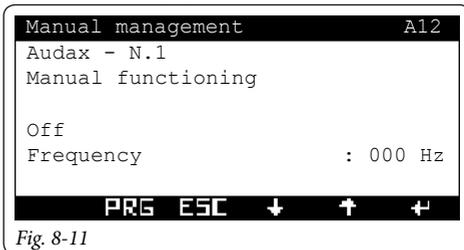


Fig. 8-11

- **Manual functioning.** Heat pump operation override (all controls on the flow and return sensors are disabled with these modes).
- Off
- Test cooling
- Test central heating
- Test cooling with ramp
- Test central heating with ramp
- **Frequency.** Machine frequency is displayed.

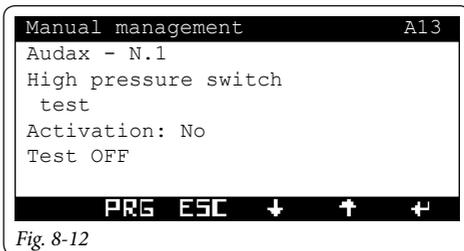


Fig. 8-12

- **Pressure switch test**(present only for the Audax Top 18/21 ErP models). Test method for high pressure switch. To run the test, set the value to 1 and wait for the test result.

8.5 WORK RANGE OF HEAT PUMPS.

The maximum and minimum temperatures of the heat pumps depend on the type of machine installed.

The following tables highlight the operational limits

	Audax kW	Audax Top	Audax
Max heat T	55	60	60
Min heat T	25	20	20
Min cool T	7	6	5
Max cool T	20	18	18

	Magis Pro	Magis Combo
Max heat T	55	80
Min heat T	25	25
Min cool T	7	7
Max cool T	20	20

8.6 NOTE FOR BOILER.

When the high temperature zone is enabled it is only possible to choose gas boiler. Based on the type of boiler available, it is possible to choose whether it can be controlled using the external probe inlet or the room thermostat. The high-temperature zone can only be enabled if there is at least one mixed zone.

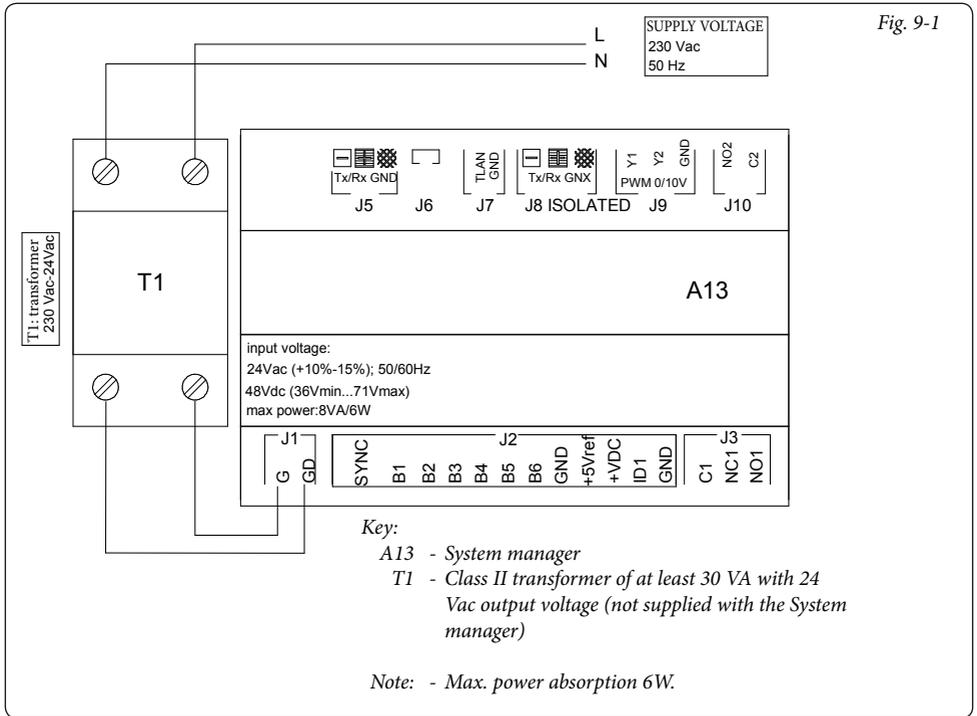
If boiler power is significantly greater than system request, increase heating ramp to the maximum possible. In case of boiler connection with TA or external probe:

- in the boiler, adjust the temperature to one suitable for heating and DHW operation;
- adapt the system boiler power, considering the possible DHW operation.

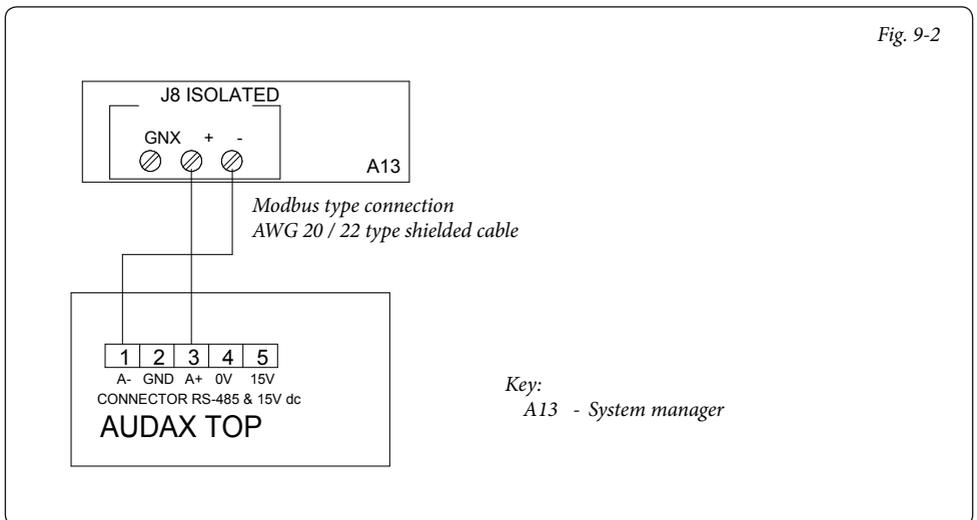
9

ELECTRICAL DIAGRAMS

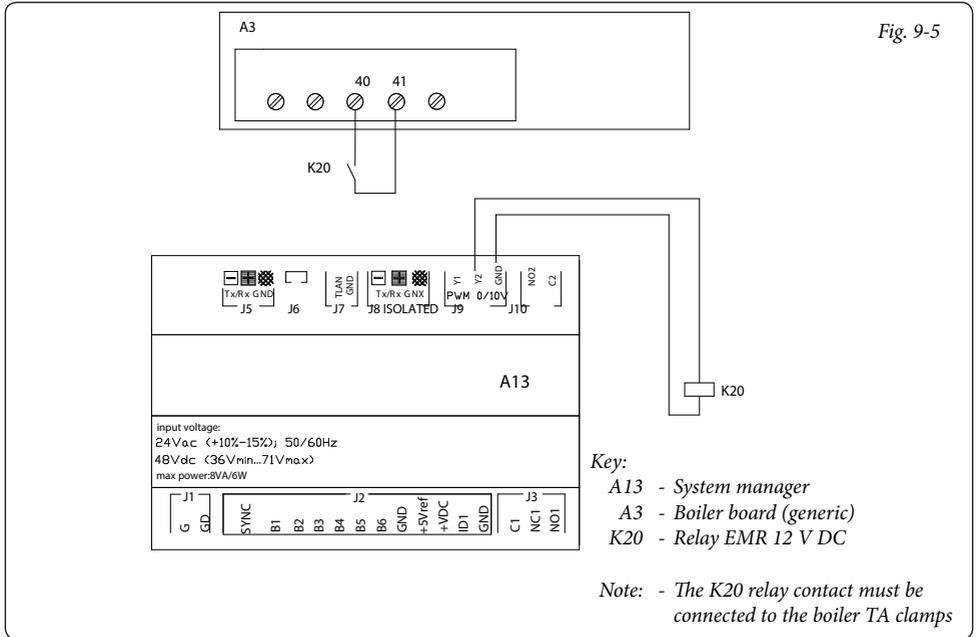
9.1 SYSTEM MANAGER - POWER SUPPLY CONNECTION.



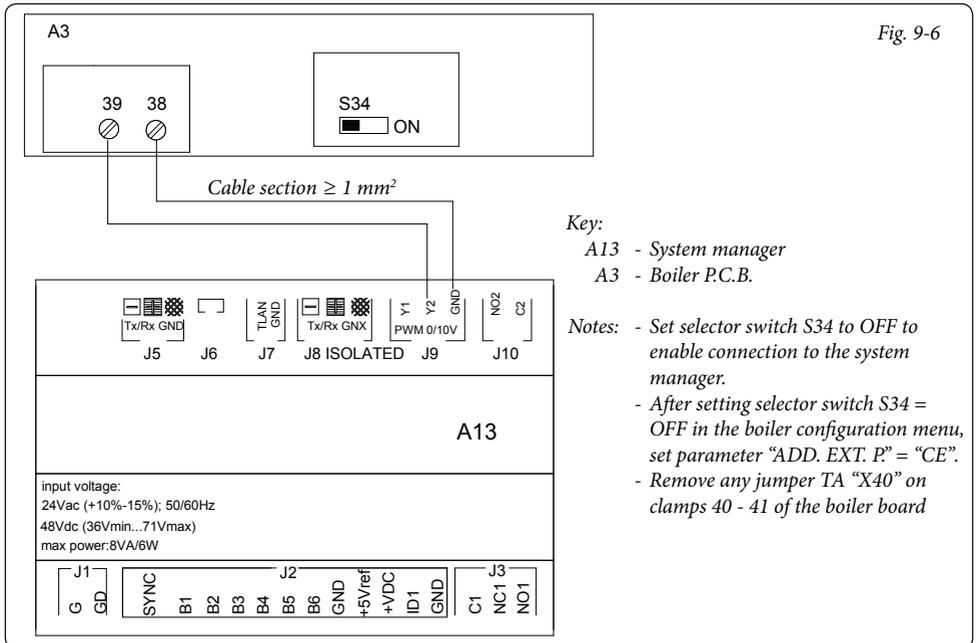
9.2 SYSTEM MANAGER - CONNECTION TO AUDAX TOP 6/8/12/16 ERP.



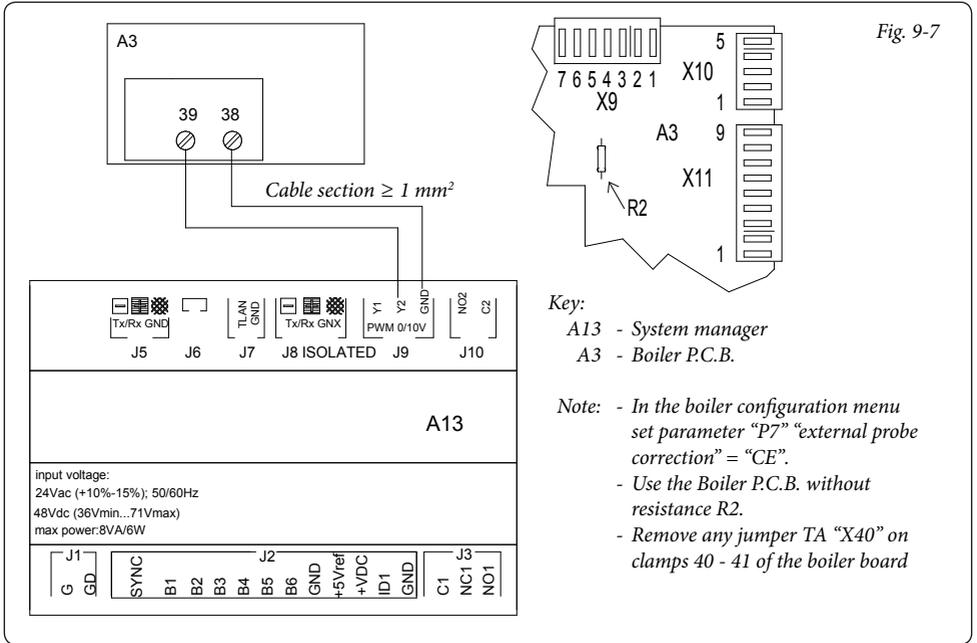
9.5 SYSTEM MANAGER - CONNECTION TO BOILER THROUGH TA INPUT.



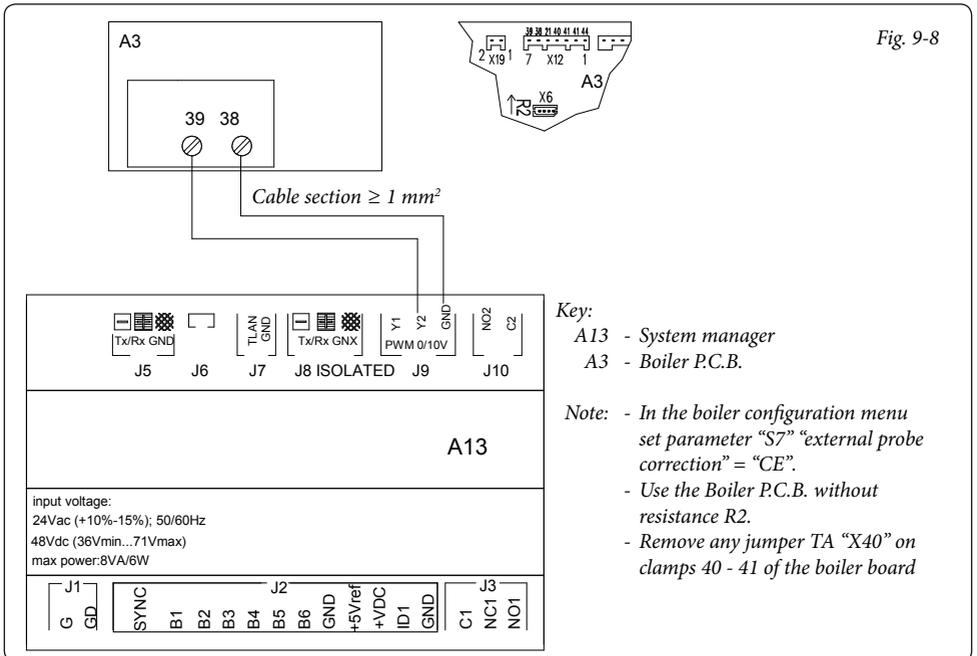
9.6 SYSTEM MANAGER - CONNECTION TO SUPERIOR ERP BOILER THROUGH EXTERNAL PROBE INPUT.



9.7 SYSTEM MANAGER - CONNECTION TO VICTRIX TT BOILER THROUGH EXTERNAL PROBE INPUT.



9.8 SYSTEM MANAGER - CONNECTION TO VICTRIX EXA BOILER THROUGH EXTERNAL PROBE INPUT.



9.9 SYSTEM MANAGER - EXPANSIONS POWER SUPPLY CONNECTION.

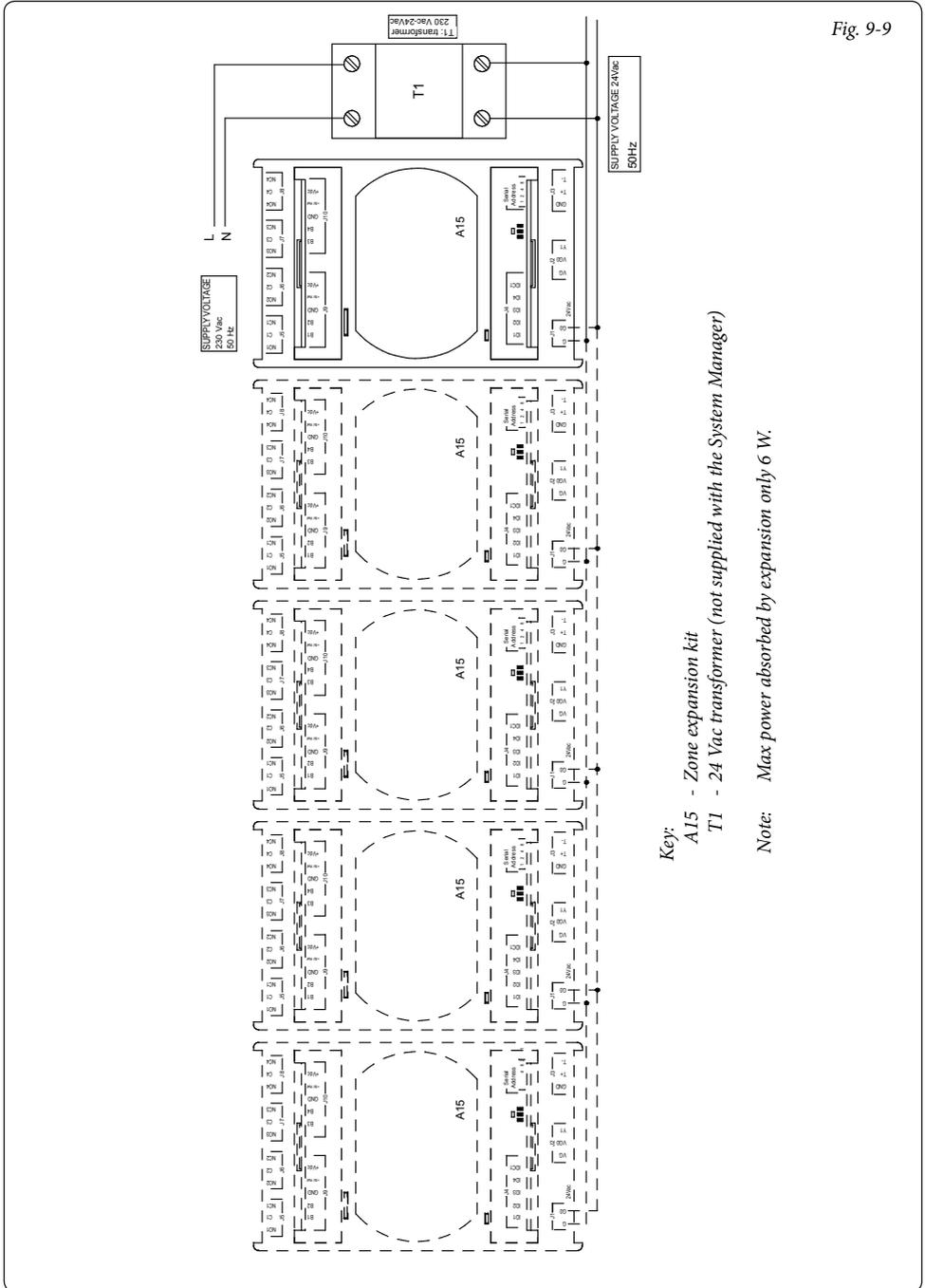
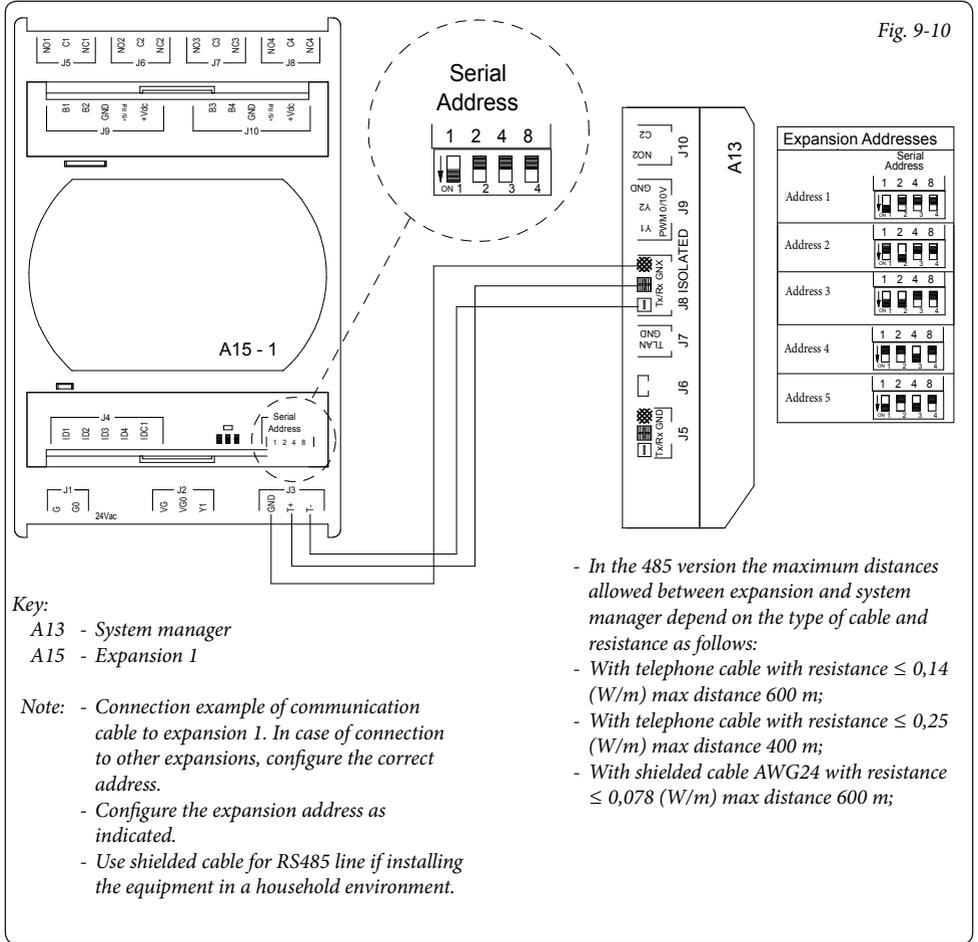


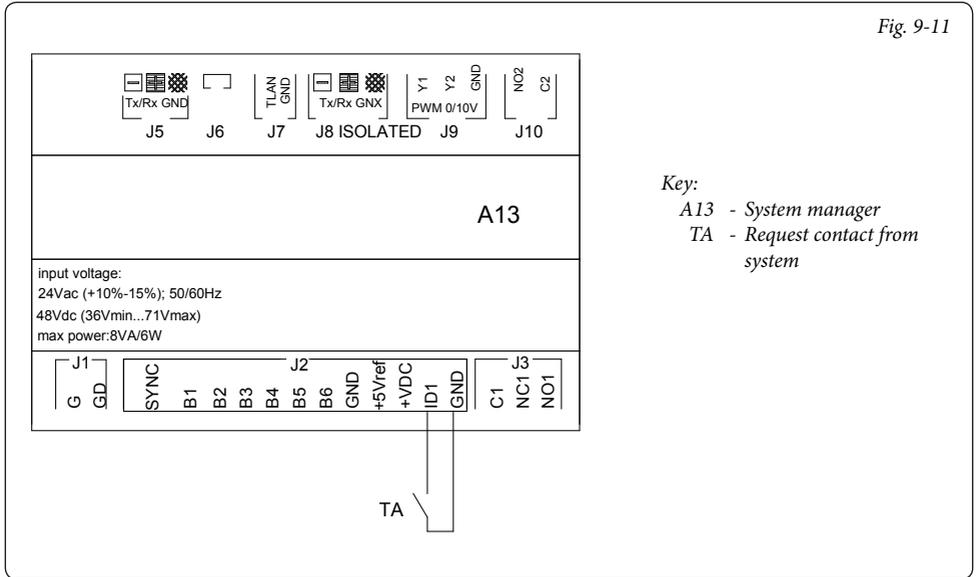
Fig. 9-9

Key:
 A15 - Zone expansion kit
 T1 - 24 Vac transformer (not supplied with the System Manager)
 Note: Max power absorbed by expansion only 6 W.

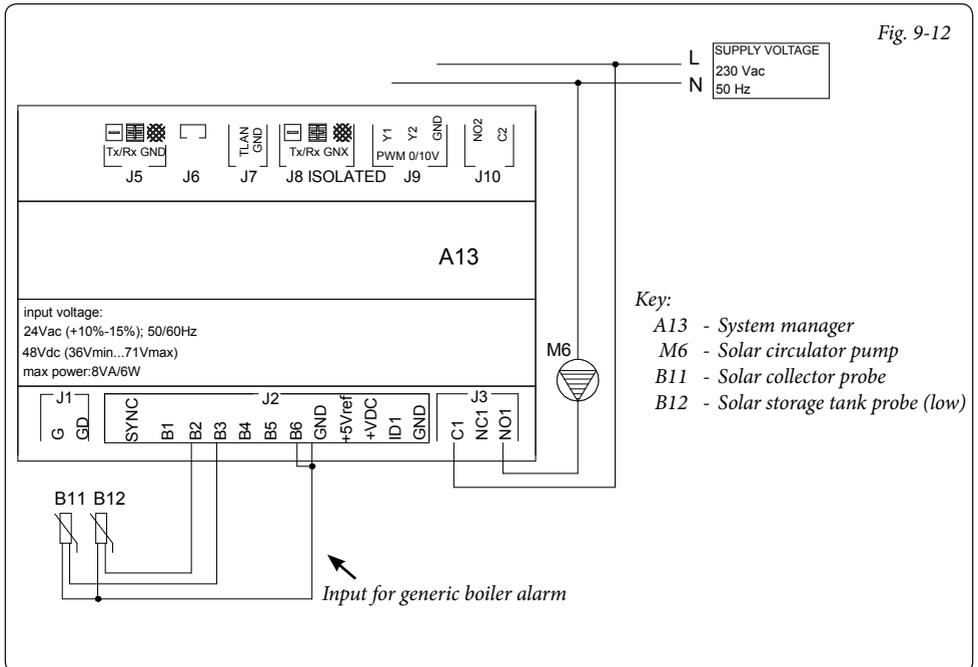
9.10 SYSTEM MANAGER - EXPANSION COMMUNICATION CABLE CONNECTION.



9.11 SYSTEM MANAGER - TA REQUEST CONNECTION WITH 1 FIXED ZONE.

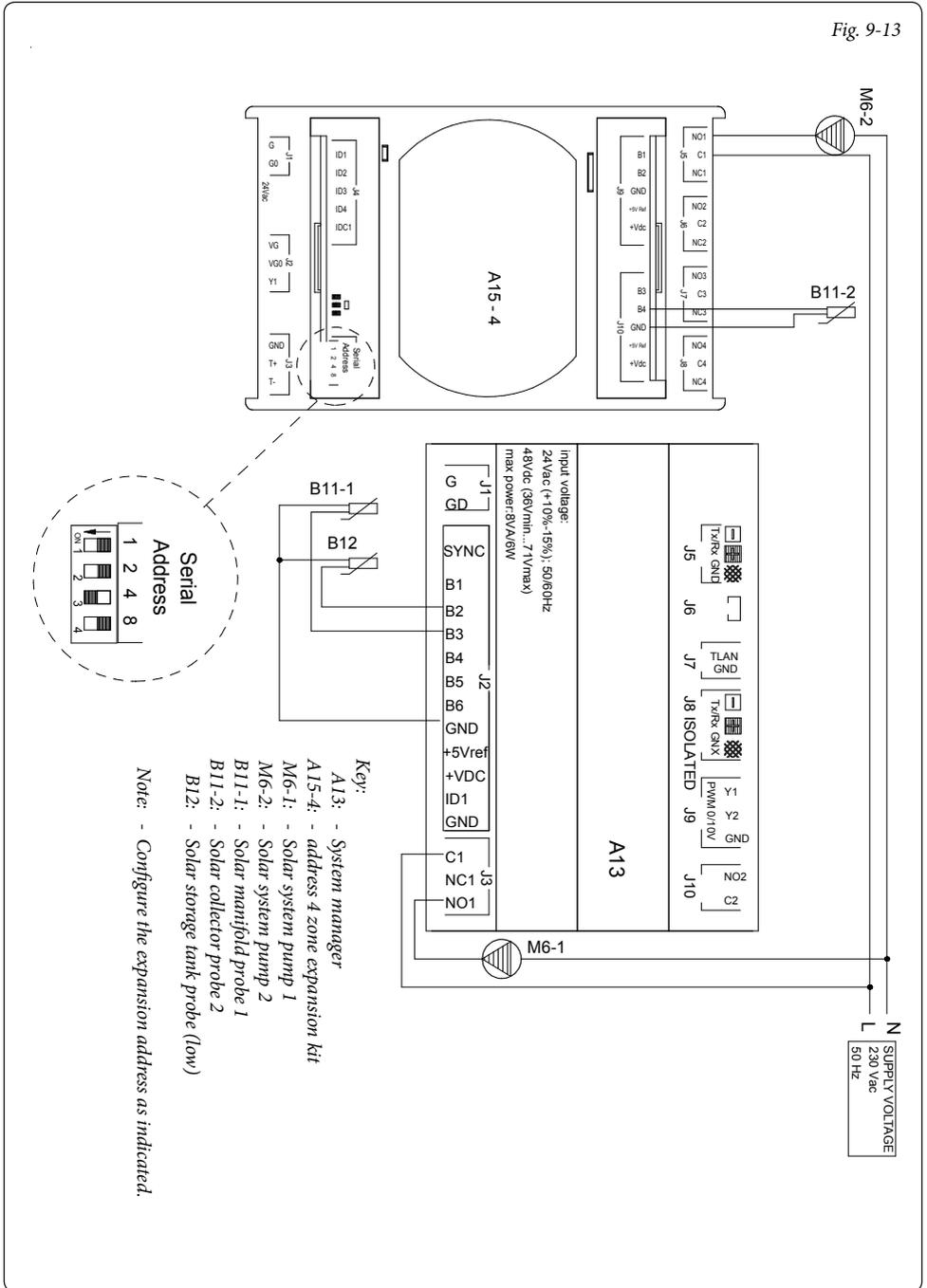


9.12 SYSTEM MANAGER - CONNECTION TO 1 SLOPING ROOF THERMAL SOLAR SYSTEM.

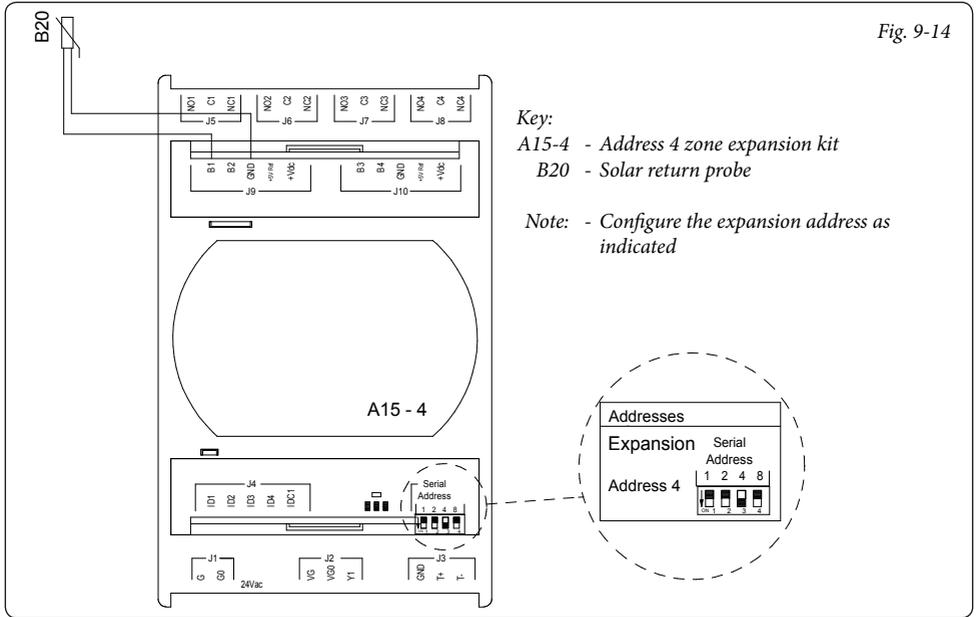


9.13 SYSTEM MANAGER - CONNECTION TO 2 SLOPING ROOFS THERMAL SOLAR SYSTEM.

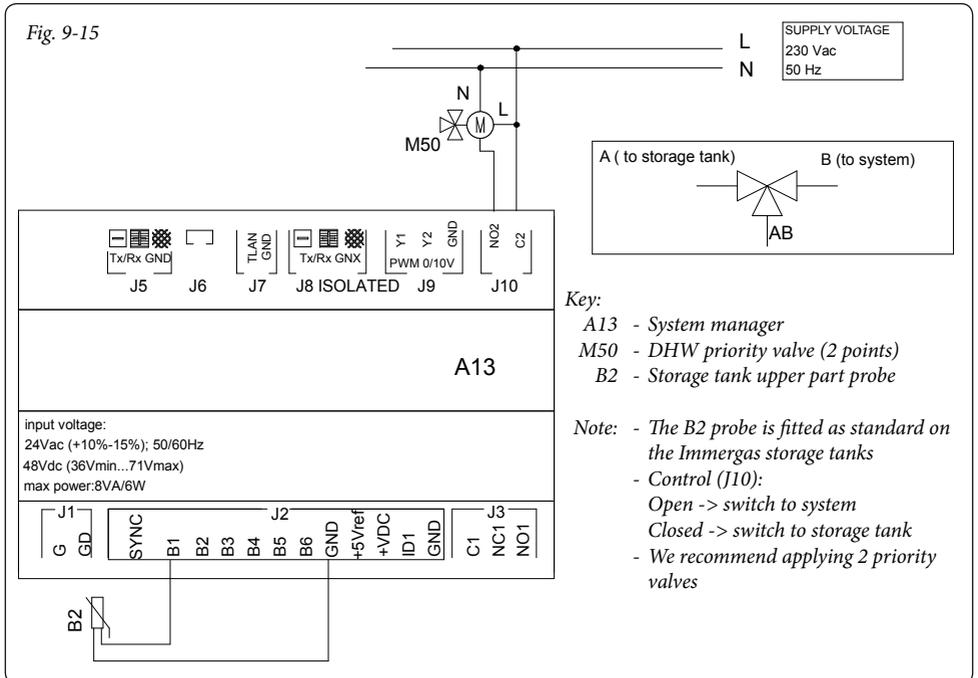
Fig. 9-13



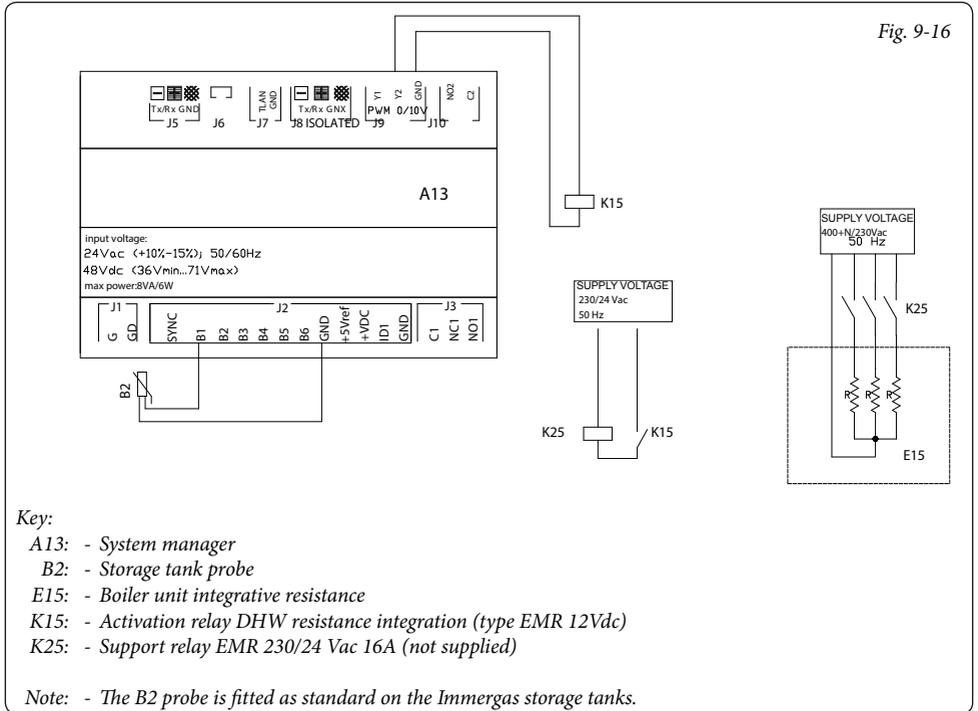
9.14 SYSTEM MANAGER - SOLAR RETURN PROBE CONNECTION.



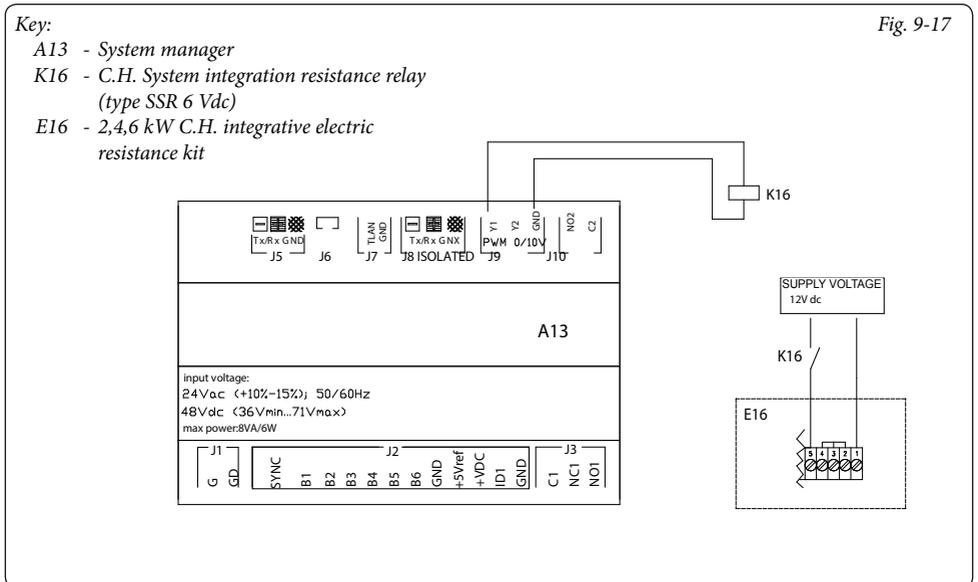
9.15 SYSTEM MANAGER - STORAGE TANK THREE-WAY CONNECTION.



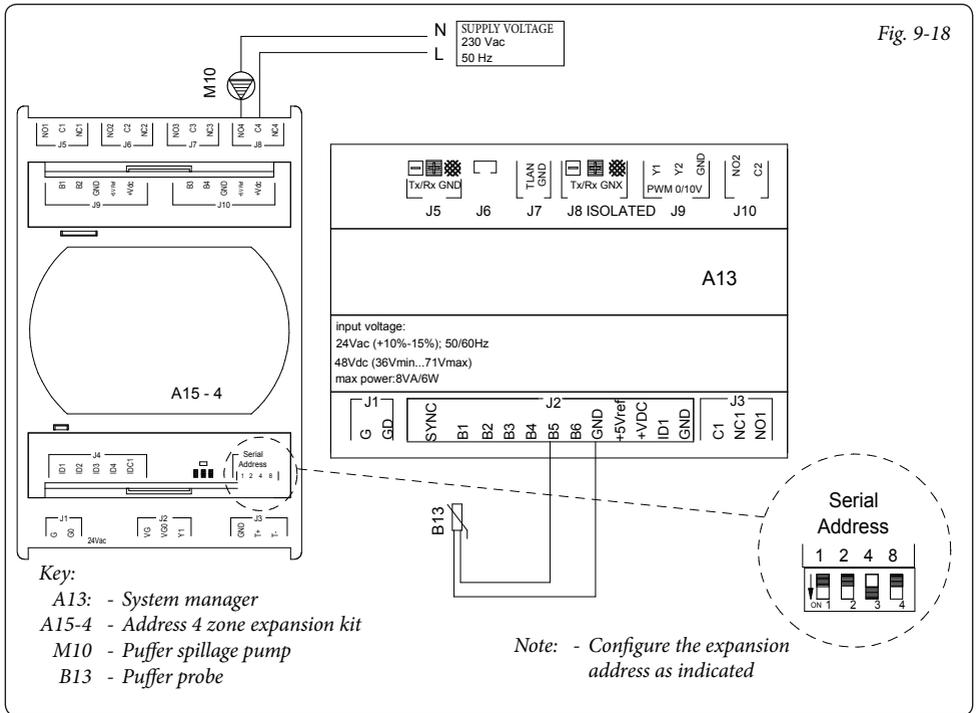
9.16 SYSTEM MANAGER - CONNECTION TO ELECTRIC DHW INTEGRATION RESISTANCE.



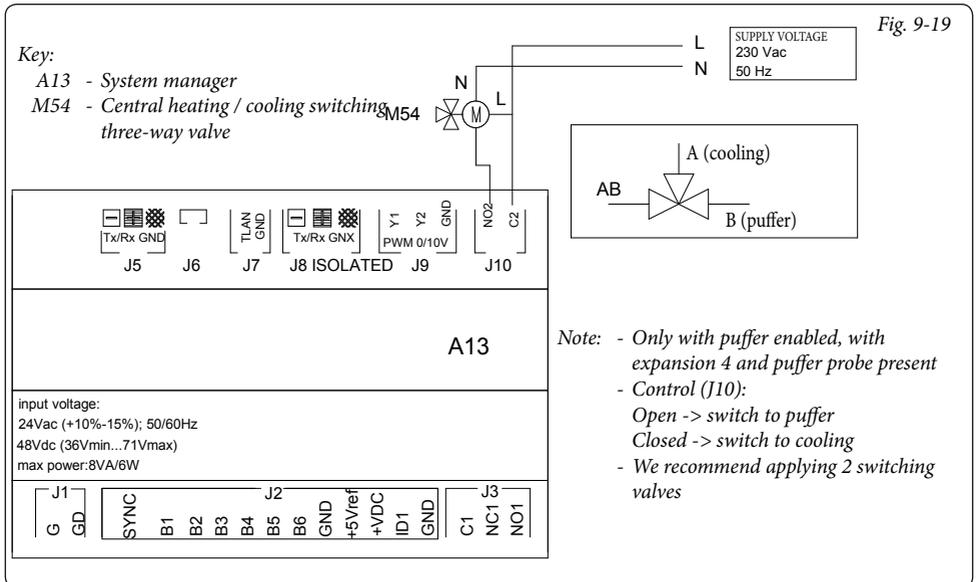
9.17 SYSTEM MANAGER - CONNECTION TO ELECTRIC CENTRAL HEATING INTEGRATION RESISTANCE.



9.18 SYSTEM MANAGER - PUFFER PROBE CONNECTION.

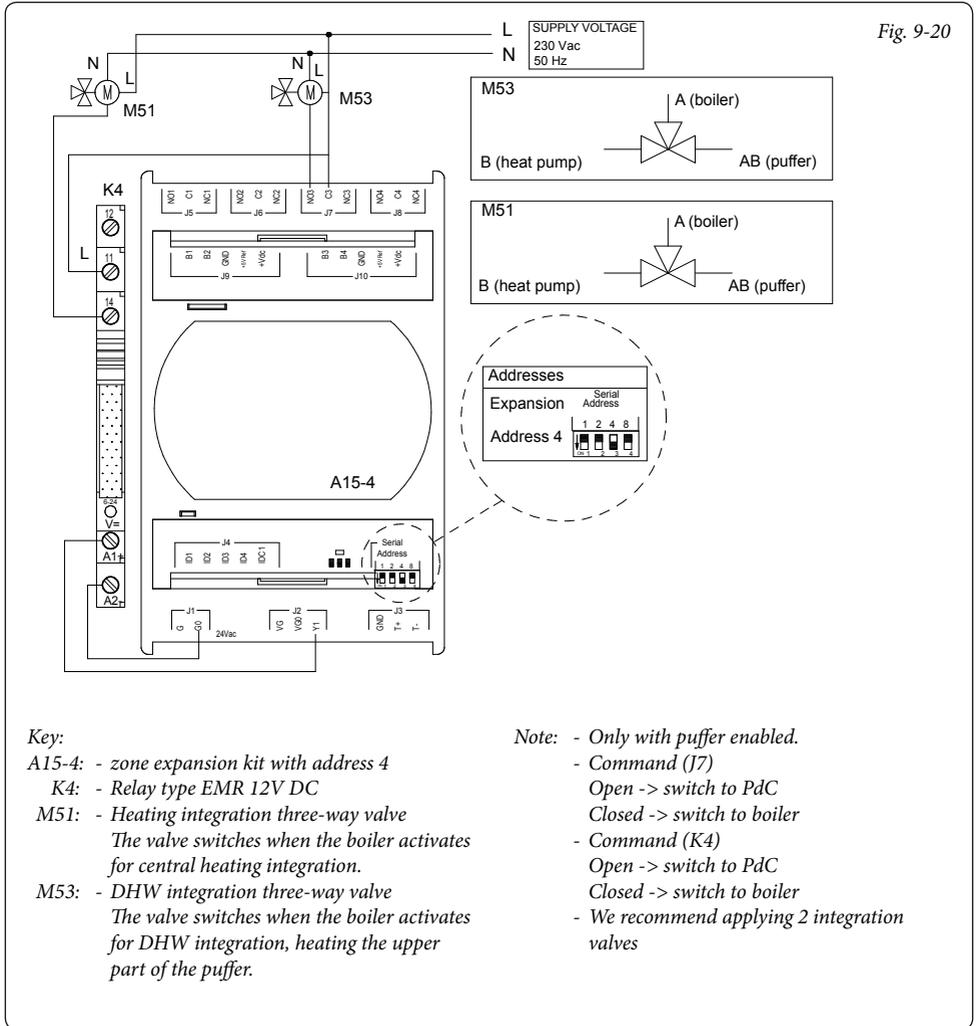


9.19 SYSTEM MANAGER - CENTRAL HEATING/COOLING THREE-WAY CONNECTION IN SYSTEMS WITH PUFFER.

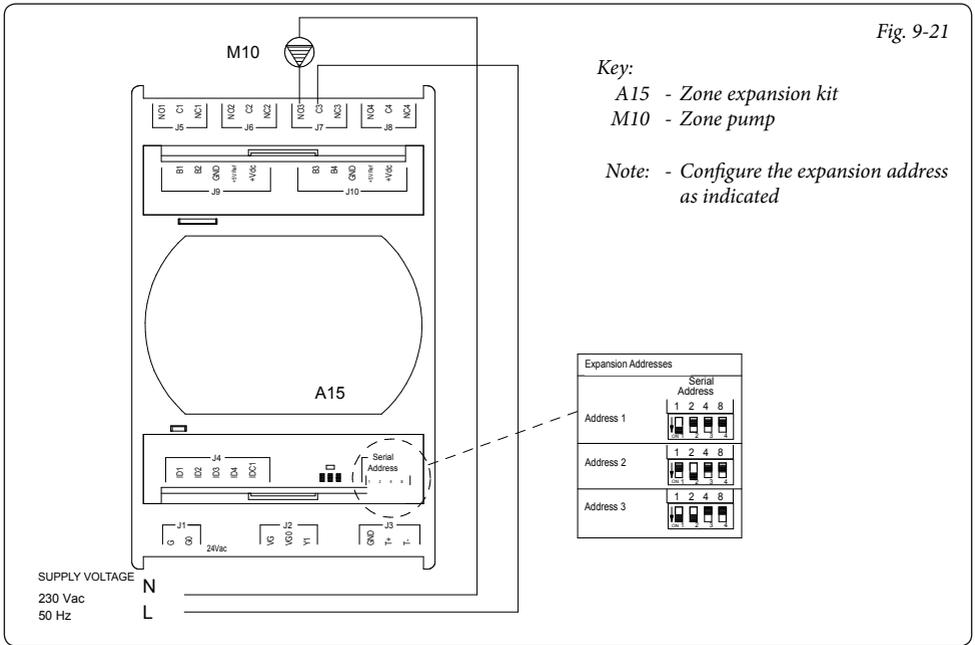


9.20 SYSTEM MANAGER - THREE-WAY INTEGRATION CONNECTION IN SYSTEMS WITH PUFFER.

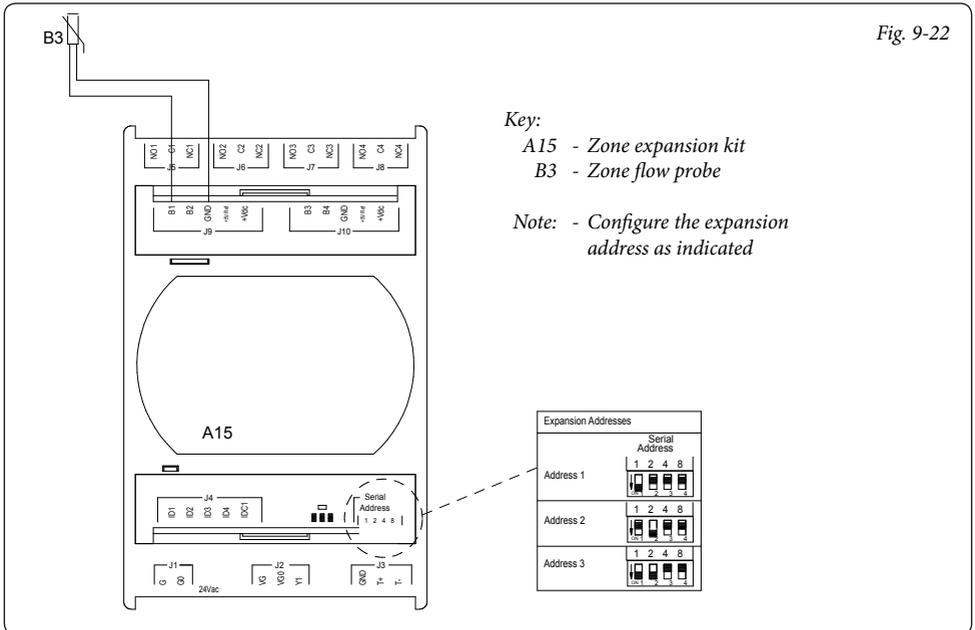
Fig. 9-20



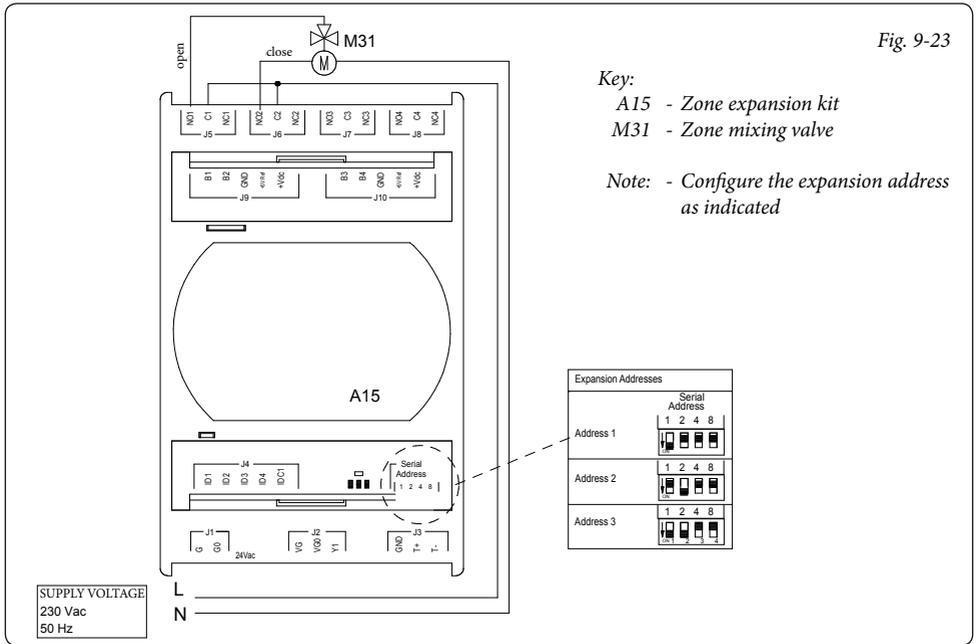
9.21 SYSTEM MANAGER - EXPANSION ZONE PUMP CONNECTION.



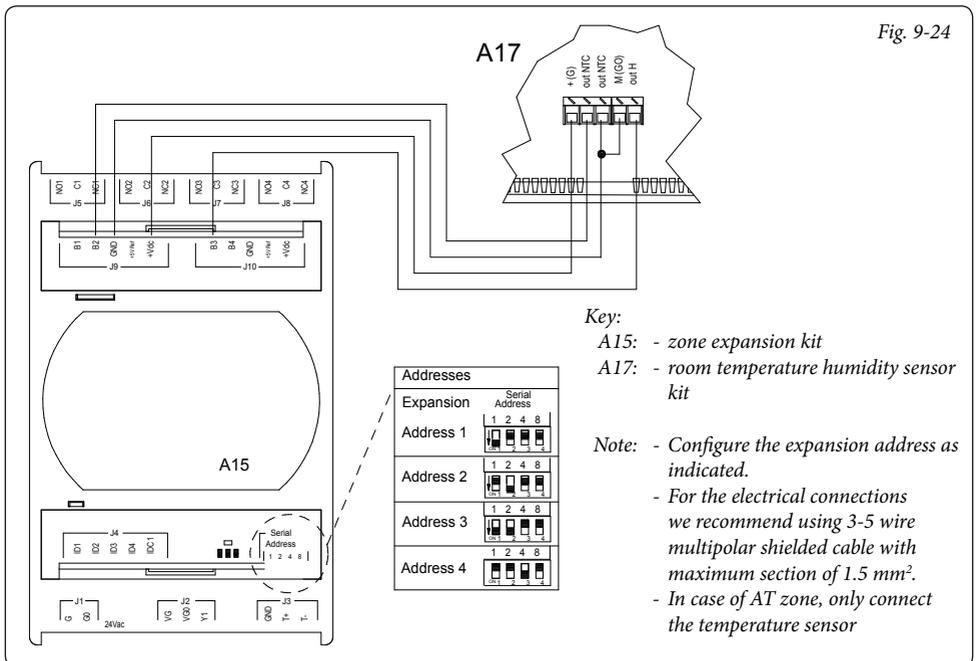
9.22 SYSTEM MANAGER - EXPANSION ZONE FLOW PROBE CONNECTION.



9.23 SYSTEM MANAGER - EXPANSION ZONE MIXER CONNECTION.

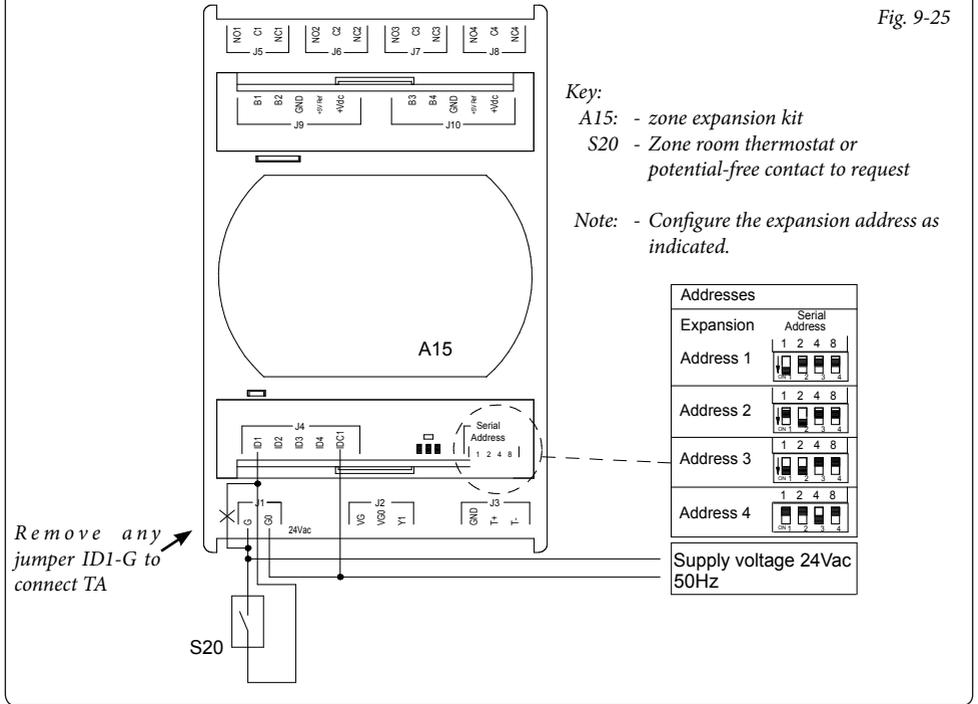


9.24 SYSTEM MANAGER - CONNECTION TO TEMPERATURE AND HUMIDITY PROBE.



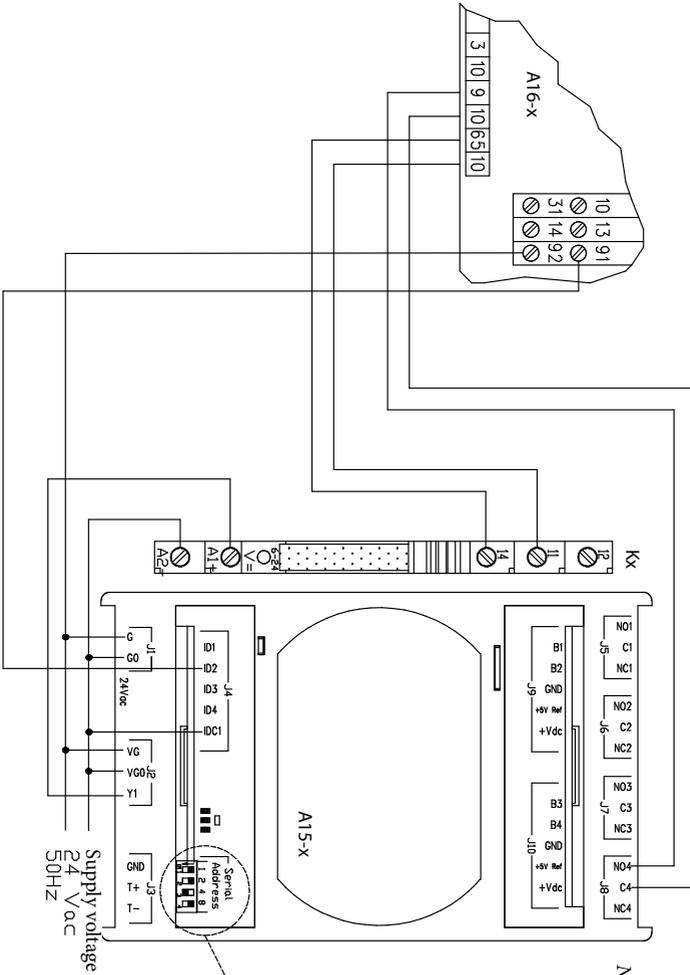
9.25 SYSTEM MANAGER - CONNECTION TO ZONE ROOM THERMOSTATS.

Fig. 9-25



9.26 SYSTEM MANAGER - CONNECTION TO DEHUMIDIFIER KIT.

Fig. 9-26



Key:

A15-x: - zone x (1,2,3) expansion kit

A16-x: - Dehumidifier kit zone x (1,2,3)

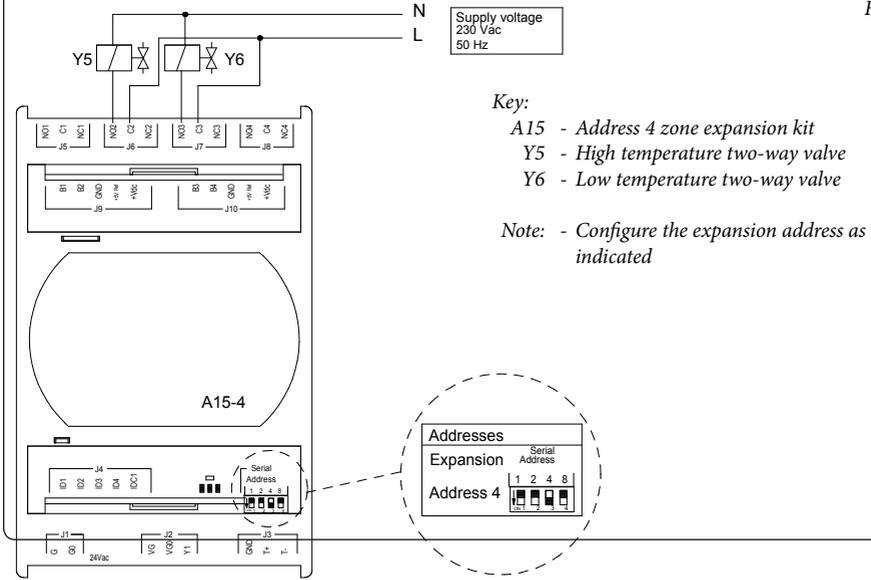
Kx: - Relay EMR 12V dc, zone x (1,2,3) cooling enabling.

Note: - For the electrical connections we recommend using shielded cable with maximum section of 1.5 mm². - Configure the expansion address as indicated.

Expansion Addresses	
Serial Address	Address
1 2 4 8	Address 1
1 2 4 8	Address 2
1 2 4 8	Address 3

9.27 SYSTEM MANAGER - HIGH-TEMPERATURE ZONE VALVES CONNECTION.

Fig. 9-27



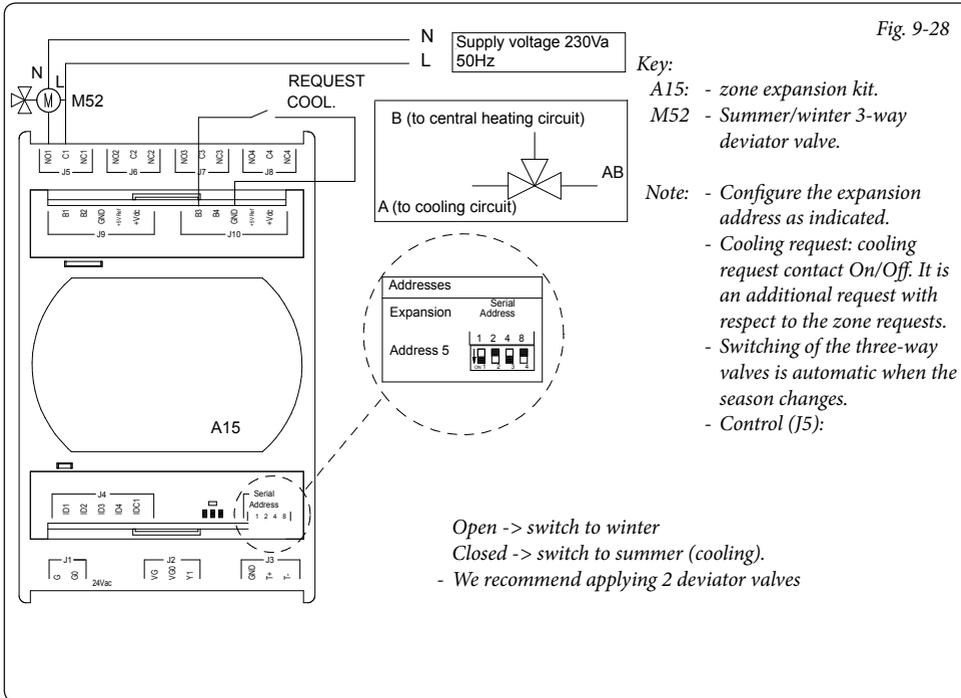
Key:

- A15 - Address 4 zone expansion kit
- Y5 - High temperature two-way valve
- Y6 - Low temperature two-way valve

Note: - Configure the expansion address as indicated

9.28 SYSTEM MANAGER - SUMMER/WINTER THREE-WAY CONNECTION.

Fig. 9-28



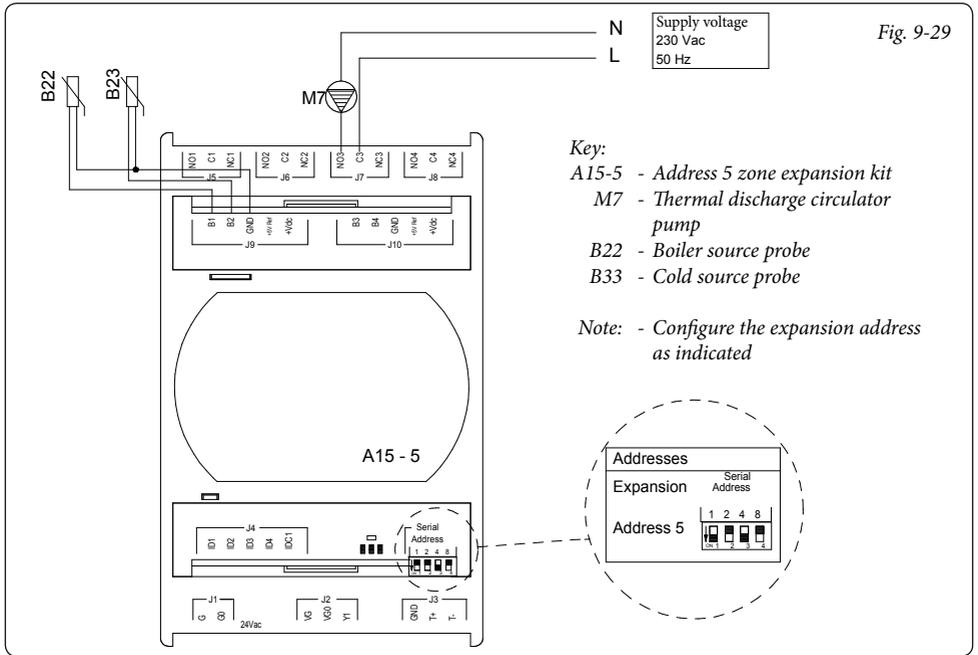
Key:

- A15: - zone expansion kit.
- M52 - Summer/winter 3-way deviator valve.

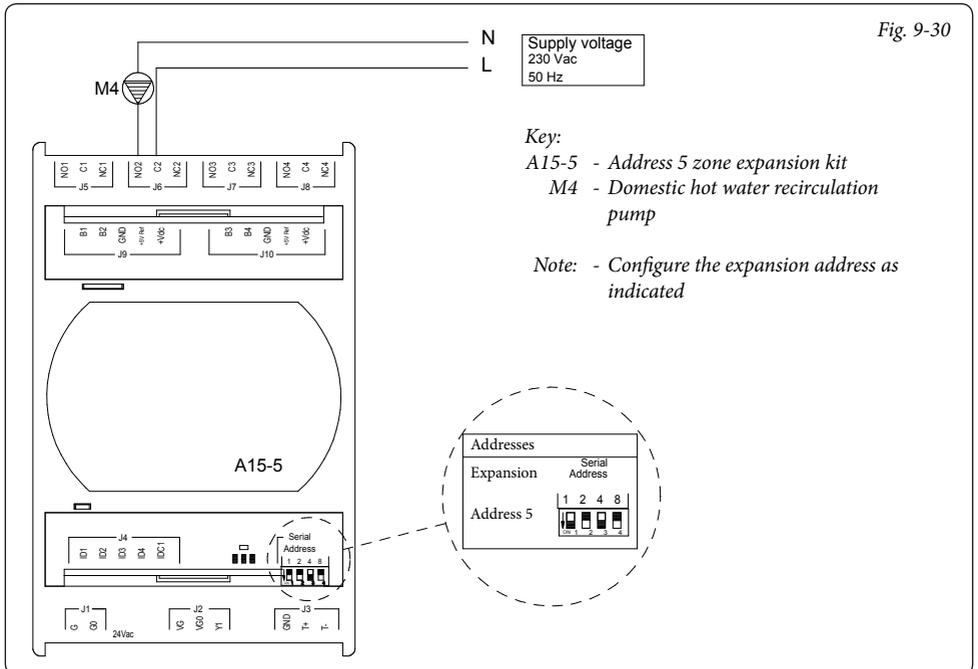
Note: - Configure the expansion address as indicated.
- Cooling request: cooling request contact On/Off. It is an additional request with respect to the zone requests.
- Switching of the three-way valves is automatic when the season changes.
- Control (J5):

Open -> switch to winter
Closed -> switch to summer (cooling).
- We recommend applying 2 deviator valves

9.29 SYSTEM MANAGER - THERMAL DISCHARGE CONNECTION.

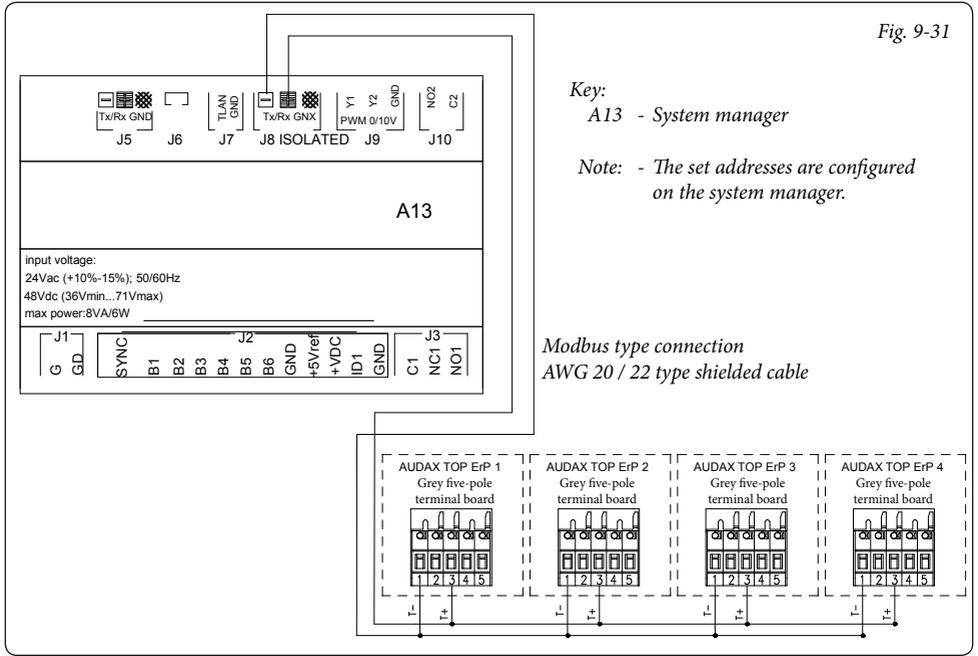


9.30 SYSTEM MANAGER - CONNECTION TO DHW RECIRCULATION.



9.31 SYSTEM MANAGER - AUDAX TOP 6/8/12/16 ERP COIL CONNECTION.

Fig. 9-31



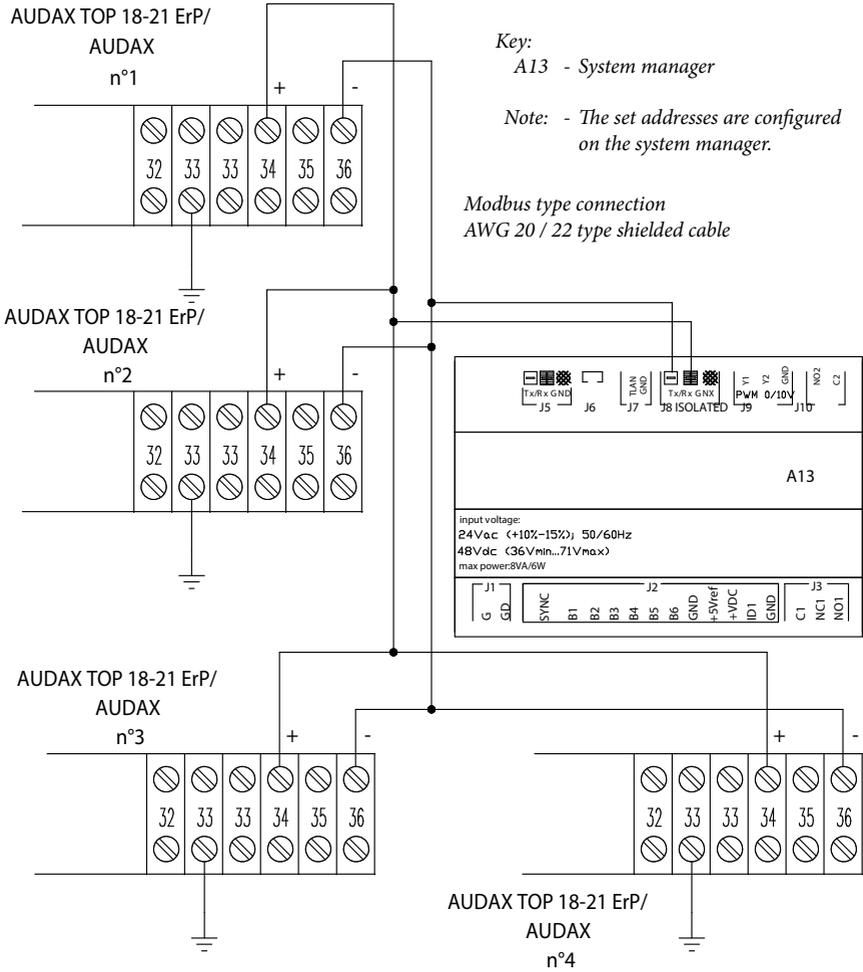
Key:
A13 - System manager

Note: - The set addresses are configured on the system manager.

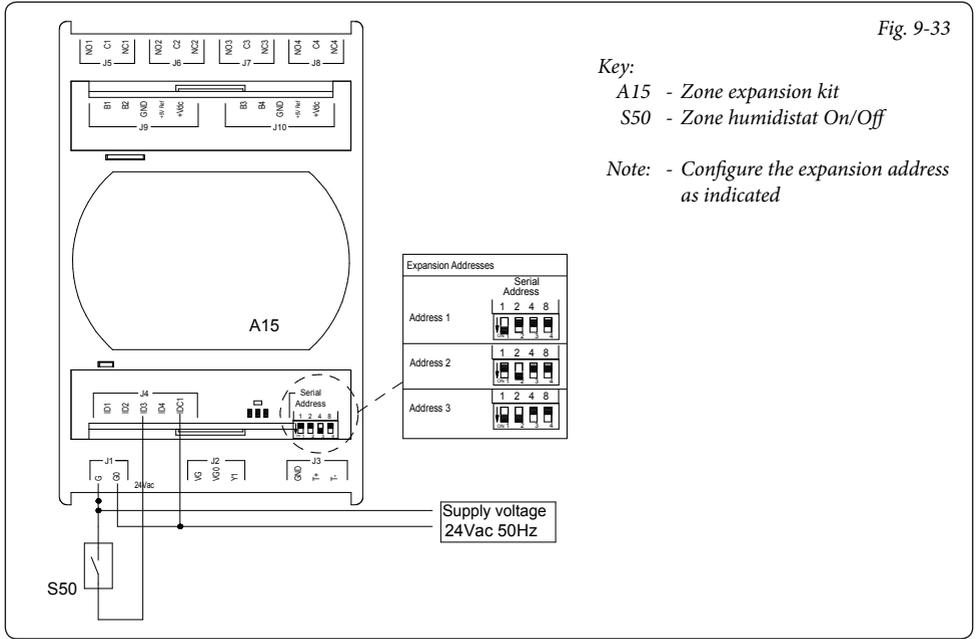
Modbus type connection
AWG 20 / 22 type shielded cable

9.32 SYSTEM MANAGER - AUDAX TOP 18/21 ERP AND AUDAX COIL CONNECTION.

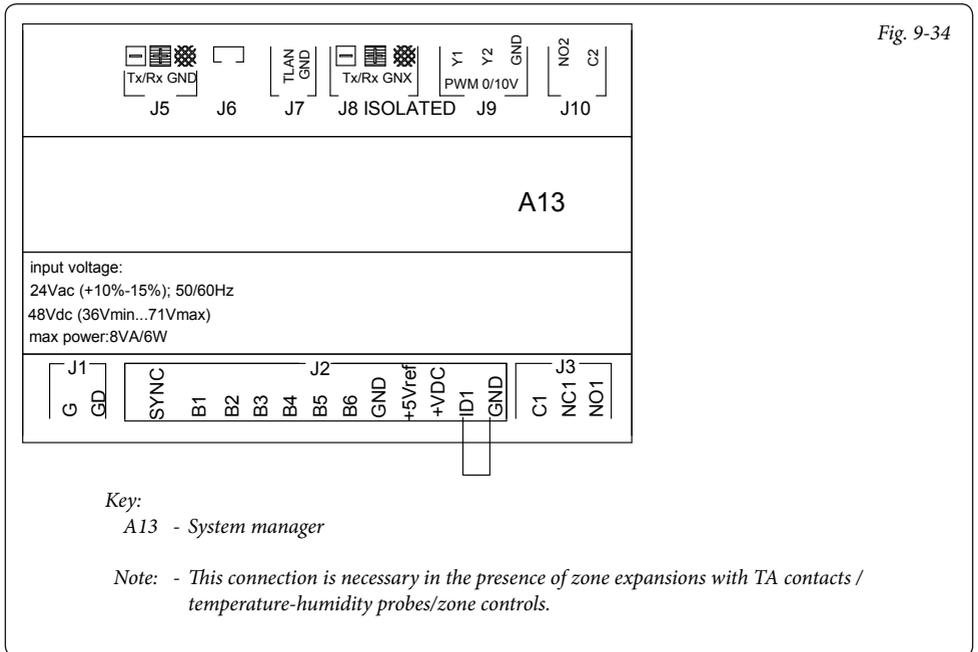
Fig. 9-32



9.33 SYSTEM MANAGER - CONNECTION TO HUMIDISTAT.

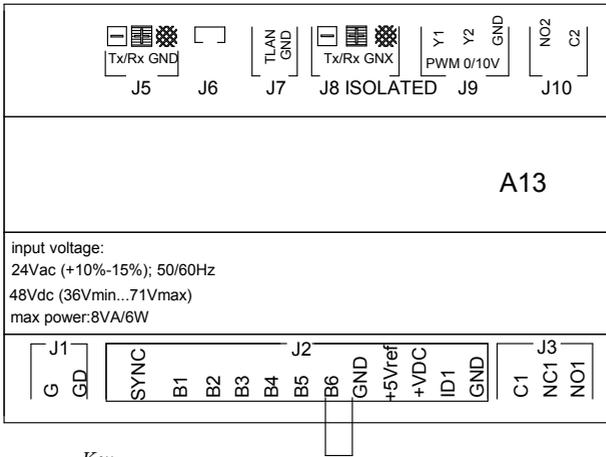


9.34 SYSTEM MANAGER - CONNECTION TO SAFETY THERMOSTAT.



9.35 SYSTEM MANAGER - CONNECTION TO BOILER ALARM SIGNAL.

Fig. 9-35



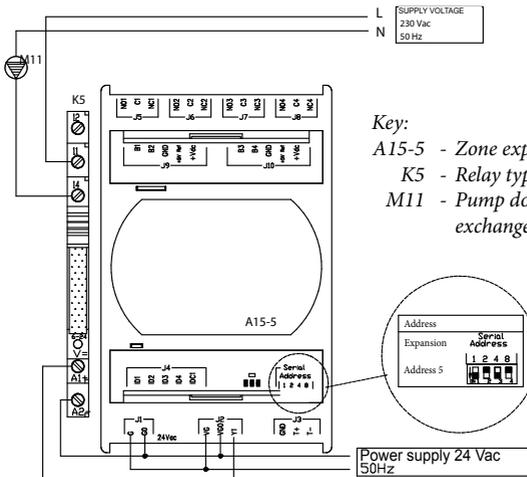
Key:

A13 - System manager

Note: - If you wish to connect a boiler alarm signal, remove the jumper and bring the alarm signal on clamps B6 - GND.

9.36 SYSTEM MANAGER - CONNECTION TO PLATE EXCHANGER DOWNSTREAM OF HEAT PUMP.

Fig. 9-36



Key:

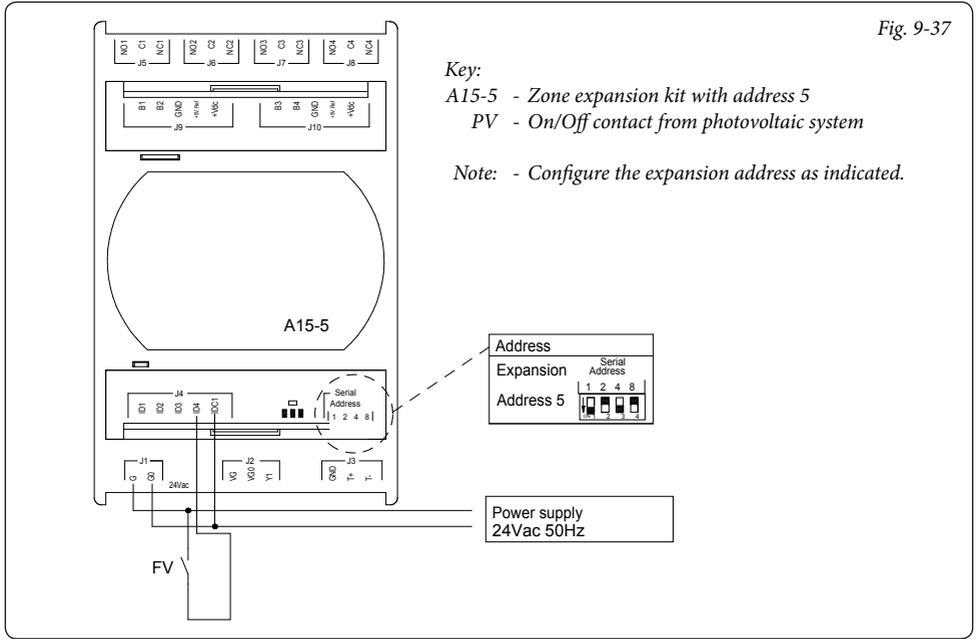
A15-5 - Zone expansion kit with address 5

K5 - Relay type EMR 12 V dc

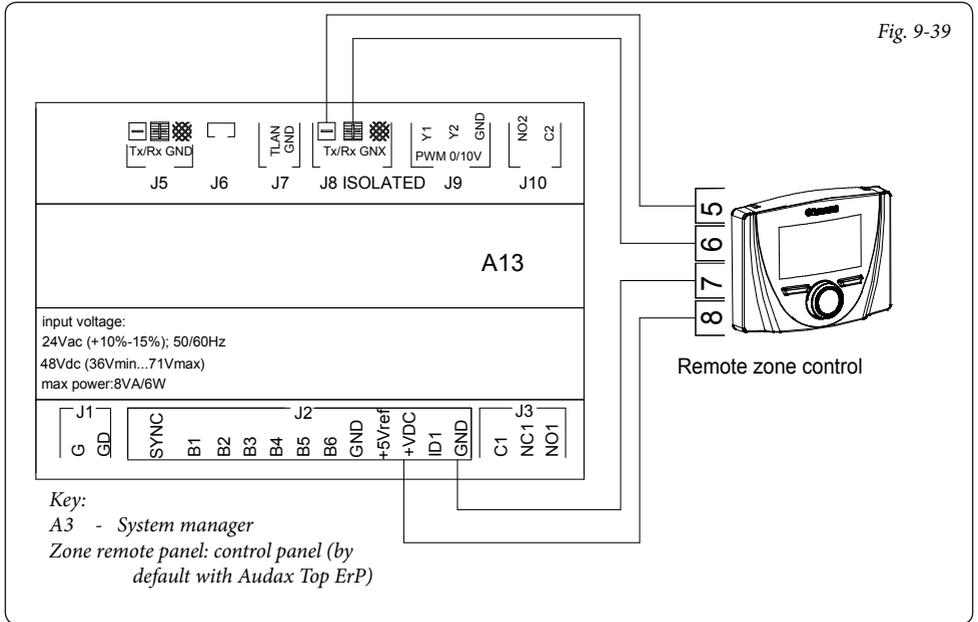
M11 - Pump downstream of the plate heat exchanger on heat pumps

9.37 SYSTEM MANAGER - CONNECTION TO PHOTOVOLTAIC SYSTEM.

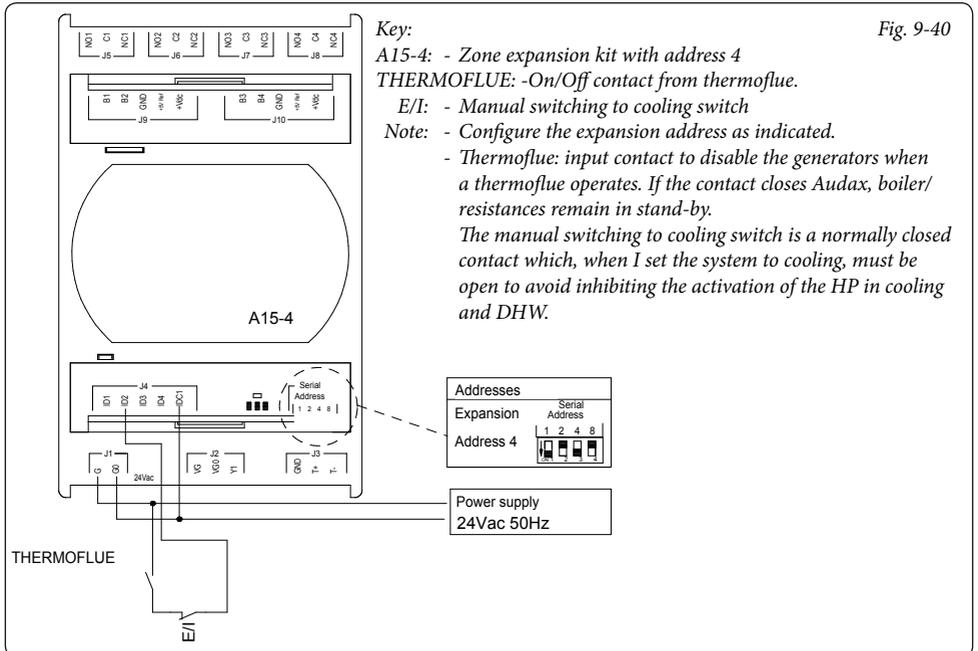
Fig. 9-37



9.39 SYSTEM MANAGER - CONNECTION TO ZONE REMOTE PANELS.

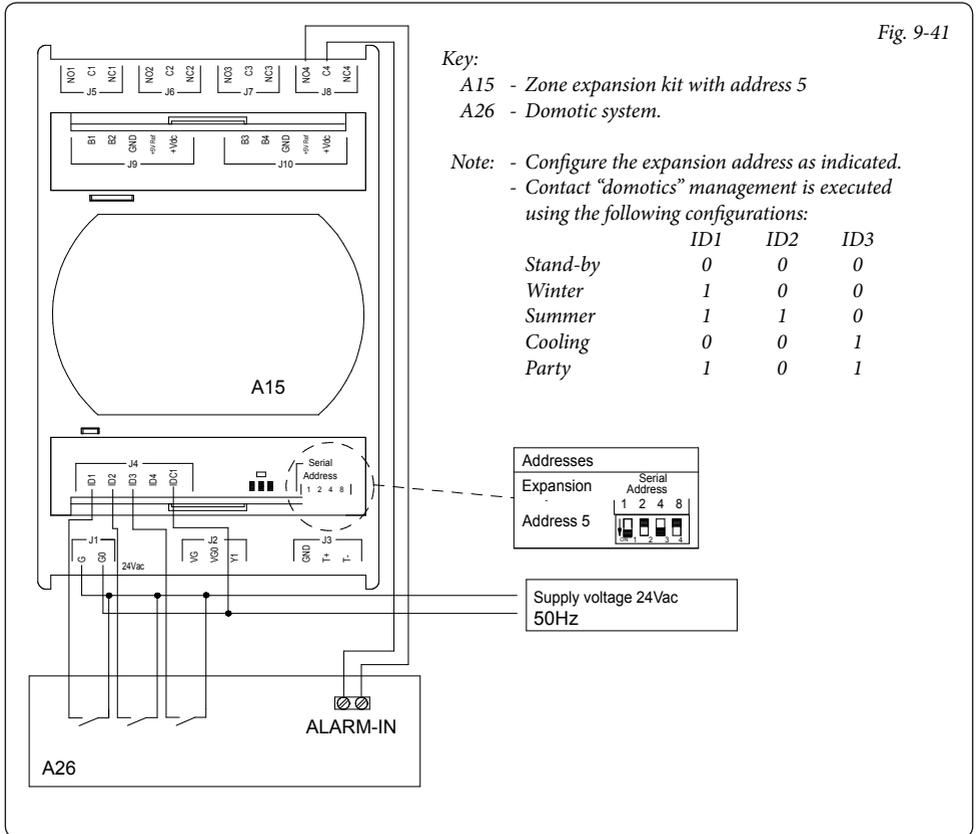


9.40 SYSTEM MANAGER - CONNECTION TO THERMOFLUE.

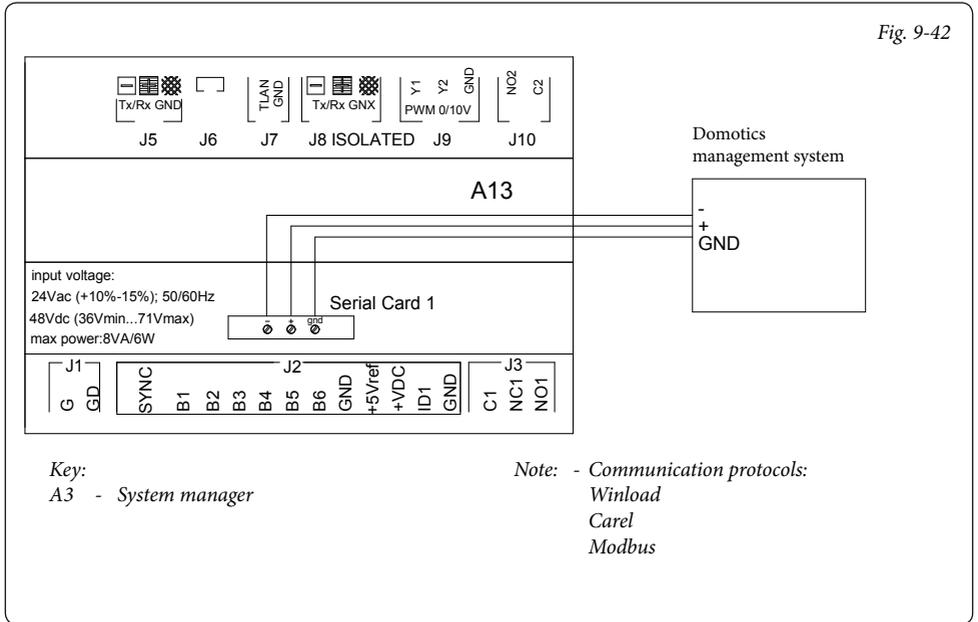


9.41 SYSTEM MANAGER - CONNECTION TO DOMOTICS WITH DIGITAL SIGNALS.

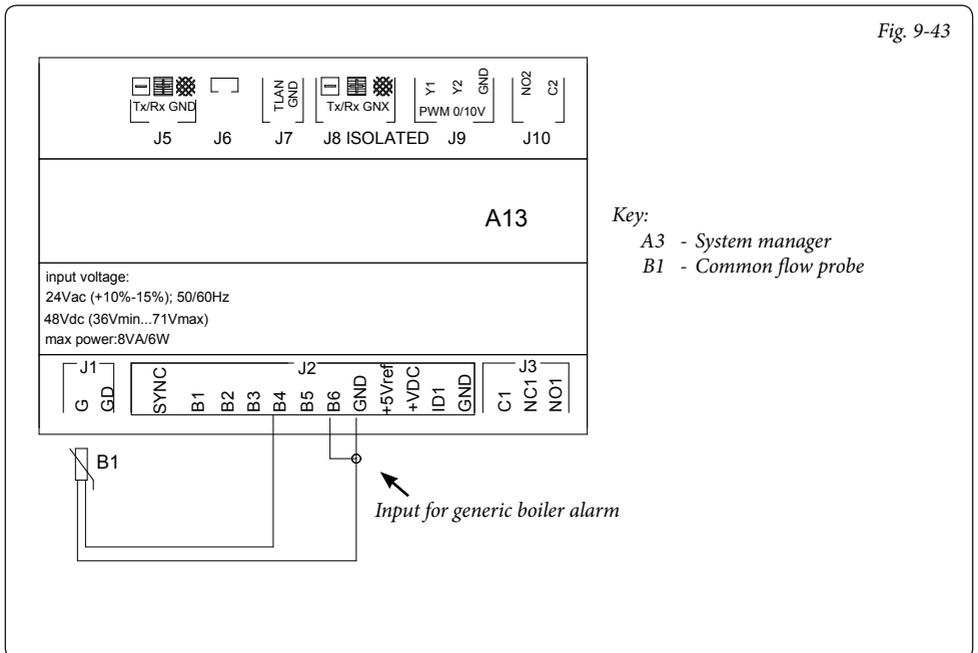
Fig. 9-41



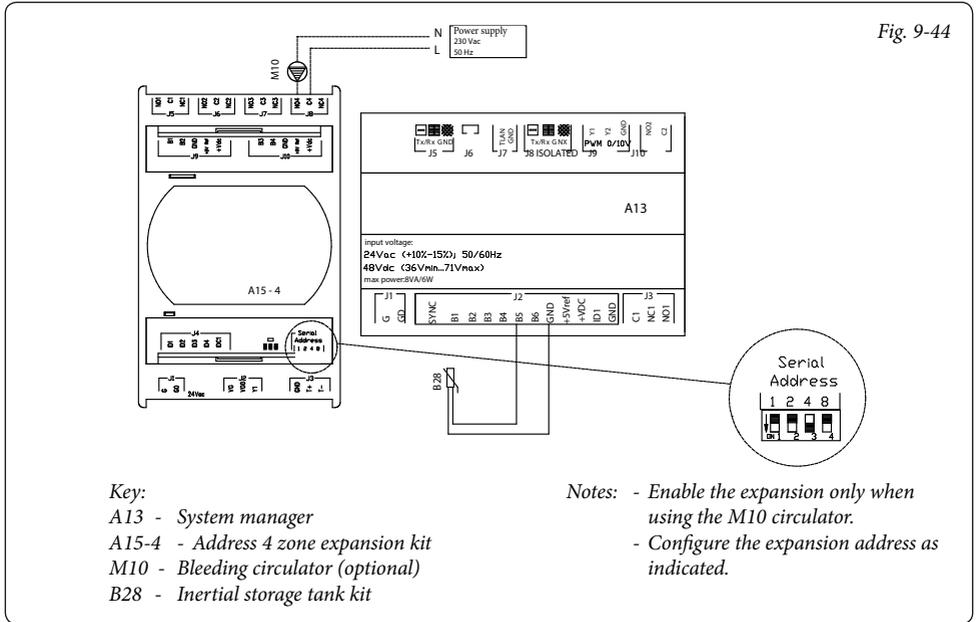
9.42 SYSTEM MANAGER - CONNECTION TO DOMOTICS WITH COMMUNICATION PROTOCOL.



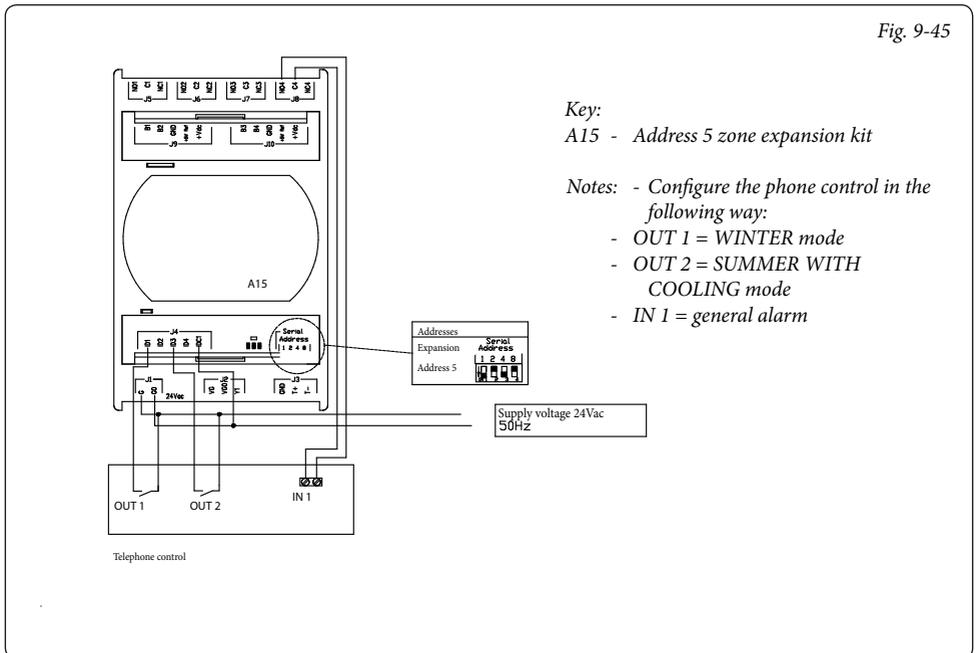
9.43 SYSTEM MANAGER - CONNECTION TO COMMON FLOW PROBE.



9.44 SYSTEM MANAGER - CONNECTION TO INERTIAL STORAGE TANK PROBE.



9.45 SYSTEM MANAGER - CONNECTION TO PHONE DIALLER.



10 LIST OF ANOMALIES.

Alarm Code	Alarm Description
A0012	Domestic hot water boiler/inlet probe anomaly
A0015	Configuration failed anomaly
A0032	Zone 2 Low Temperature probe anomaly
A0033	Zone 3 Low Temperature probe anomaly
A0036	IMB Bus communication loss
A0039	Solar collector probe anomaly
A0040	Solar cylinder probe anomaly
A0041	Solar manifold high temperature alarm
A0042	Solar storage tank high temperature alarm
A0048	System flow probe anomaly
A0052	Storage tank probe anomaly for thermal discharge
A0053	Thermal discharge probe anomaly
A0054	Heating storage tank probe anomaly
A0055	Zone 1 temperature probe anomaly
A0056	Solar collector 2 probe anomaly
A0057	Solar return temperature probe anomaly
A0101	Off-line Audax alarm
A0102	Expansion 1 off-line alarm
A0103	Expansion 2 off-line alarm
A0104	Expansion 3 off-line alarm
A0105	Expansion 4 off-line alarm
A0106	DHW probe alarm (DHW with double probe)
A0107	Boiler alarm
A0114	Incorrect configuration of digital Supervision inputs
A0115	Expansion 5 off-line alarm
A0116	Audax 2 off-line alarm
A0117	Audax 3 off-line alarm
A0118	Audax 4 off-line alarm
A0119	Audax Top configuration alarm
A0120	Alarm set high for dehumidification Zone 1
A0121	Zone 1 device off-line alarm
A0122	Zone 2 device off-line alarm
A0123	Zone 3 device off-line alarm
A0124	HT Zone off-line device alarm
A0125	Zone 1 room temperature probe anomaly

A0126	Zone 2 room temperature probe anomaly
A0127	Zone 3 room temperature probe anomaly
A0128	HT Zone room temperature probe malfunction alarm
A0129	Zone 1 humidity probe anomaly
A0130	Zone 2 humidity probe anomaly
A0131	Zone 3 humidity probe anomaly
A0132	Alarm set high for dehumidification Zone 2
A0133	Zone 1 dehumidifier fault alarm
A0134	Zone 2 dehumidifier fault alarm
A0135	Zone 3 dehumidifier fault alarm
A0136	Alarm set high for dehumidification Zone 3
A0137	Reset system alarm - Restart the system
A0138	Screed heater alarm in progress
A0139	De-aeration alarm in progress
A0140	Inertial storage tank probe alarm
A0177	DHW maximum time alarm
A0178	Anti-Legionella cycle not successful

N.B.: For alarms concerning the boiler, refer to the relevant instructions booklet.

The heat pump reports an anomaly by means of a structured code as follows: "Anxxx", where "n" indicates the number of the heat pump while "xxx" indicates the fault code (refer to the instruction manual).

During the service life of the products, performance is affected by external factors, e.g. the hardness of the D.H.W., atmospheric agents, deposits in the system and so on. The declared data refers to new products that are correctly installed and used in accordance with applicable regulations.

Note: correct periodic maintenance is highly recommended.



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