

NPG

User manual



 CARD PC05 - TOUCH PANEL

Dear Customer,

Thank you for wanting to learn about a product Aermec. This product is the result of many years of experience and in-depth engineering research, and it is built using top quality materials and advanced technologies.

The manual you are about to read is meant to present the product and help you select the unit that best meets the needs of your system.

However, please note that for a more accurate selection, you can also use the Magellano selection program, available on our website.

Aermec, always attentive to the continuous changes in the market and its regulations, reserves the right to make all the changes deemed necessary for improving the product, including technical data.

Thank you again.

Aermec S.p.A.

SAFETY CERTIFICATIONS



This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled disposal of Waste Electrical and Electronic Equipment (WEEE), please return the device using appropriate collection systems, or contact the retailer where the product was purchased. Please contact your local authority for further details. Illegal dumping of the product by the user entails the application of administrative sanctions provided by law.

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1 QUICK REFERENCE

referring him/her to the relative page of the manual where there is a description of that specific function (for all other information, refer to the contents page):

This manual describes all the windows found in the control software of the Touch panel, but the list below contains all the basic operations that the user might need,



- A Switching the unit ON/OFF (4 ON/OFF menu p. 8)
- B Selecting the operating mode (4.1 Main page p. 8)
- C Setting a main operating set-point (4.1 Main page p. 8)
- D Setting the time bands (4.2 Time periods page p. 8)
- E Applying a timed program (4.2 Time periods page p. 8)
- F Changing the system language (7.1 Page for selecting the system language p. 10)



The software is subject to updates, so the screens in the manual may differ from your version.

2 STRUCTURE OF THE MENUS

With the touch panel, the user can manage all the operating parameters of the unit via a touchscreen graphic interface. The use of the information is easy and straightforward, thanks to the "home" page showing the main unit operating parameters. The more specific parameters and settings can be found in the various menus, accessed via the relative selection page that identifies each menu with a specific icon. These icons are highlighted below:

	Main monitor
	ON/OFF menu
	Clock menu
	Input/output menu
	Language menu
	Installer menu (password 0000)
	Help menu (PROTECTED menu)
	Manufacturer menu (PROTECTED menu)
	Alarm Menu

2.1 INTERACTING WITH THE GRAPHIC INTERFACE

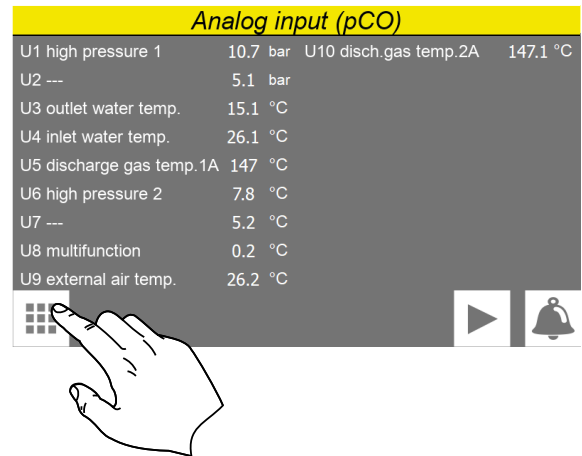
The unit command and control interface uses a touchscreen display. This interface is designed to be simple and user-friendly; the absence of actual keys means the program is managed purely by touching the screen directly, which makes it far more accessible for the user. The software manages a great deal of information, with the various items grouped into separate pages that in turn are managed via specific menus, but there are certain fundamental features that apply to all the operations, such as selecting a window, moving on to the next window, or entering a precise numerical value. The basic operations that can be carried out via the touchscreen interface are described below.

⚠ NB: The following pages show all the masks contained in the menus available to the user; Tampering with the parameters in the installer menu could cause the unit to malfunction, therefore it is recommended to have these parameters changed only by personnel assigned to unit installation and configuration.

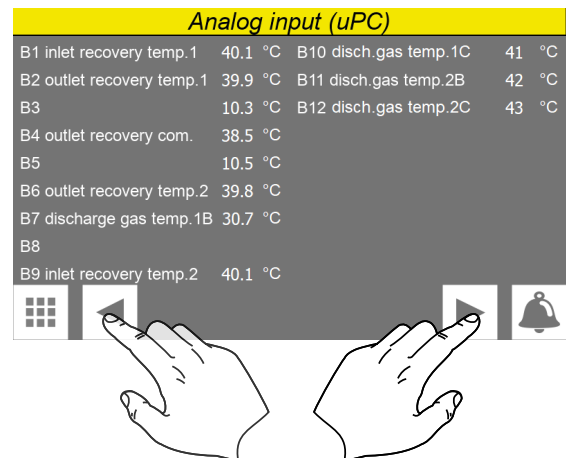
2.2 NAVIGATING BETWEEN THE PROGRAM PAGES

As already mentioned on the previous pages, the unit operating information is sub-divided into various menus, each containing several pages. The basic operations for navigating between the menus are as follows:

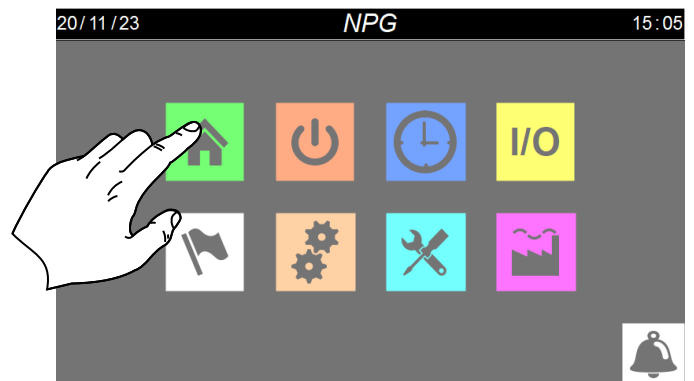
- **Entering a menu:** to enter a menu activate the menu selection page by pressing the icon () available on each page of the application; then simply press the icon of the menu to be accessed (for further information on which menus are activated by the various icons, refer to the diagram on the previous page);



- **Scroll to the next or previous page of a menu:** once you have accessed a menu, you can pass from one page to another by pressing the "right arrow" icon () to go forward, or the "left arrow" icon () to go back (unless the menu in question has just one page).



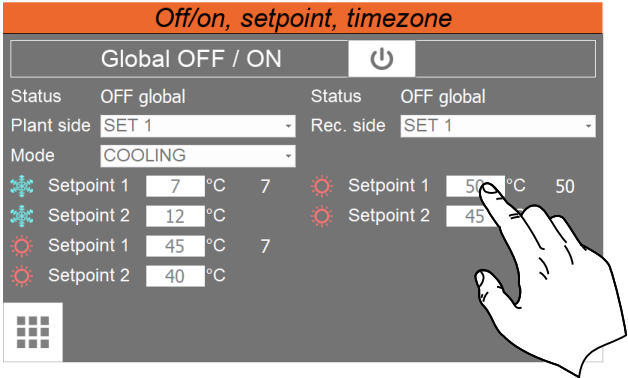
- **Return to the "Home" page:** to go back to the main (home) page, press the relative icon () ; Not all the program pages contain this icon, but you can find it on the menu selection page so just go to that page (as explained in the first point of this list) and from there you can reach "Home".



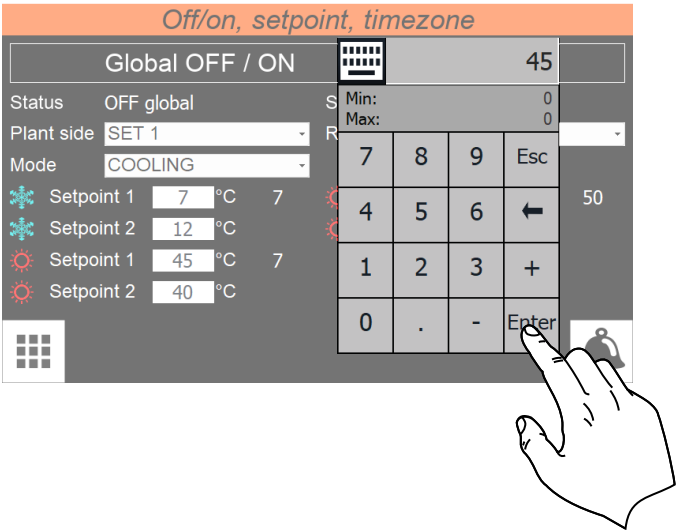
2.3 SETTING A NUMERICAL VALUE FOR A PARAMETER

Many parameters (e.g. the seasonal operating set-points) require the user to enter a numerical value. In these cases, proceed as follows:

- 1. Once you have accessed a page containing an editable numerical value (e.g. the operating set-points), press on the value already displayed.



- 2. A numerical keypad will now appear, where you can enter a new value;
- 3. Press "Enter" on the keypad to confirm and apply the new value, or press "Esc" to delete the operation.

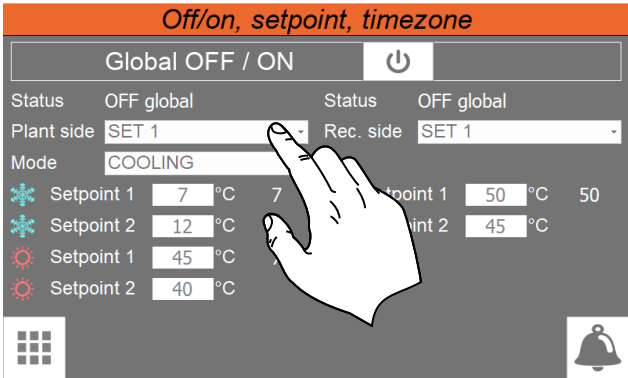


 Once you have selected the numerical value to be modified, the numerical keypad will show the Minimum and Maximum values that can be set for that parameter.

2.4 SETTING A VALUE, SELECTING IT FROM A LIST

Some parameters (e.g. selecting the setpoints to be used) provide for the user to select an option taken from a list of possible alternatives; in these cases, proceed as follows:

- 1. Once in a page that contains an editable value (e.g. the setpoint to be used), press directly on the currently displayed option;
- 2. After having selected it, a list of options will be displayed via dropdown menu;
- 3. Pressing one of the options selects it and applies it;



3 MAIN MONITOR

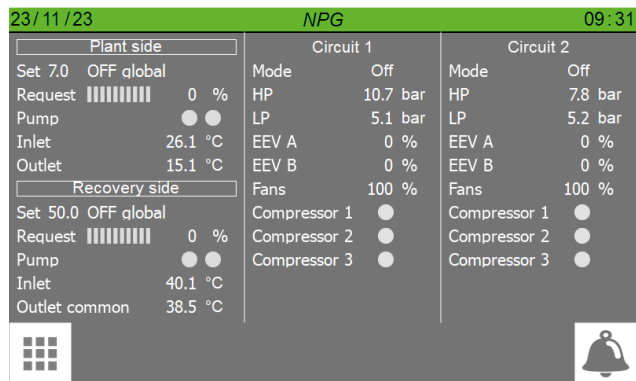
This page contains general information on the current status and operation of the unit. Moreover, by pressing the graphical elements that represent the components of the cooling circuit, it is possible to enter specific sub-windows where to view the data relating to the selected component;



ATTENTION: some displays are only available if the unit is provided with them.

3.1 MAIN MONITOR - 2-PIPE UNIT

2-PIPE VERSION

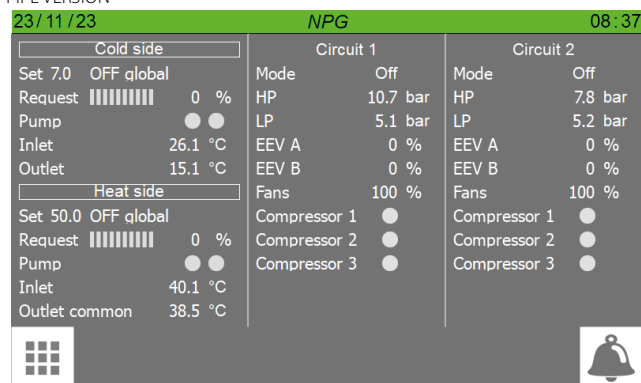


On this page you can:

- View the following values for the system side and the recovery side:
 - Indicates the setpoint value currently set
 - Indicates the current power value required by the thermostat. The power percentage required is represented by the green colour of the bands (each band indicates a 10% of power)
 - Indicates the status of the pump (green = On; grey = Off);
 - Water in. = Inlet water temperature on system side or recovery side;
 - Water out. = Outlet water temperature on system side or recovery side;
- View the following values dedicated to the two circuits:
 - Indicates the operating mode of the circuit;
 - AP = Value read by the high pressure transducer;
 - BP = Value read by the low pressure transducer;
 - Current opening value (percentage) of the electronic valve;
 - Indicates the fan speed in percent;
 - Comp.1 = Value of revs for compressor 1;
 - Comp.2 = Value of revs for compressor 2;
 - Comp.3 = Value of revs for compressor 3;

3.2 MAIN MONITOR - 4-PIPE UNIT

4-PIPE VERSION



On this page you can:

- View the following values for the cooling side and the heating side:
 - Indicates the setpoint value currently set
 - Indicates the current power value required by the thermostat. The power percentage required is represented by the green colour of the bands (each band indicates a 10% of power)
 - Indicates the status of the pump (green = On; grey = Off);
 - Water in. = Inlet water temperature on cooling side or heating side;
 - Water out. = Outlet water temperature on cooling side or heating side;
- View the following values dedicated to the two circuits:
 - Indicates the operating mode of the circuit;
 - AP = Value read by the high pressure transducer;
 - BP = Value read by the low pressure transducer;
 - Current opening value (percentage) of the electronic valve;
 - Indicates the fan speed in percent;
 - Comp.1 = Value of revs for compressor 1;
 - Comp.2 = Value of revs for compressor 2;
 - Comp.3 = Value of revs for compressor 3;

4 ON/OFF MENU

This page enables to manage the crucial commands of the uni. Through this window the user can turn the machine on or off, set the values relative to the setpoints and, for the units that require it, set the seasonal operating mode.

4.1 MAIN PAGE

4-PIPE VERSION

2-PIPE VERSION

— Enables to turn the unit on or off (it turns on if the background is green, off if it is white)

— Indicates the setpoint value currently set

— Indicates the current status of the unit. This status can be:

OFF from time = Unit turned off from time setting;

OFF from ID = Unit turned off via digital input (ID1);

OFF from Display = Unit turned off from pressing the key on the touch display;

— It enables to select which setpoint to use on the unit, by selecting it from a drop-down menu that will contain:

SET1 = enables setpoint 1;

SET2 = enables setpoint 2;

PERIODS = enables operation through the time program (in this case, the button (

) to access the TIME PERIODS page for the relative settings will appear

— Indicates the operating mode currently set for the unit;

— It enables to set the value related to SETPOINT1 to be used in cooling mode

— It enables to set the value related to SETPOINT1 to be used in heating mode

— It enables to set the value related to SETPOINT2 to be used in cooling mode

— It enables to set the value related to SETPOINT2 to be used in heating mode

— Enables to access the TIME PERIODS page. This key only appears if the "pe-riods" option is selected in the field



Attention:

— If the unit is a 4-pipe version, the cooling side and the heating side will be displayed with respective setpoints.

— If the unit is a 2-pipe version, the system side and the recovery side will be displayed with the respective additional setpoint.

4.2 TIME PERIODS PAGE

— Indicates the day to which the displayed time settings refer

— Indicates the start times for the time periods (each day can have up to four)

— Indicates the end times for the time periods (each day can have up to four)

— Indicates the action to be associated with each time period (each day can have up to four); the possible actions can be:

OFF = during the specified time period the system chillers will be off;

SET1 = during the specified time period the chillers will be on with the main set;

SET2 = during the specified time period the chillers will be on with the secondary set;

— Indicates the day from which the hourly program will be copied

— Indicates the day to which the hourly program will be copied (taken from the hourly program of the specified day)

5 CLOCK MENU

With the CLOCK menu you can set the system timer (on the pCO5+ board) and the display timer.

5.1 DATE AND TIME SETTINGS ON THE MAIN BOARD AND ON THE TOUCH DISPLAY BOARD

— Indicates the actual date and time set on the touch display board timer

— Indicates the actual date and time set on the pCO5+ board timer

— Allows to adjust and/or modify the date and time on the touch display board

— Allows to adjust and/or modify the date and time on the pCO5+ board

— Pressing the 'REGULATE' button confirms the set time of the pCO5+ board

6 INPUT/OUTPUT MENU

These pages contain the values and states associated with inputs and outputs available on the unit.



Attention: inputs and outputs may vary depending on the configuration of your unit (2 or 4 tubes).

6.1 ANALOGUE INPUTS

Analog input (pCO)			
U1 high pressure 1	10.7 bar	U10 disch.gas temp.2A	147.1 °C
U2 ---	5.1 bar		
U3 outlet water temp.	15.1 °C		
U4 inlet water temp.	26.1 °C		
U5 discharge gas temp.1A	147 °C		
U6 high pressure 2	7.8 °C		
U7 ---	5.2 °C		
U8 multifunction	0.2 °C		
U9 external air temp.	26.2 °C		

The values read by the transducers and by the probes connected to the various analogue inputs available on the unit board are indicated.

6.2 ANALOGUE INPUTS (UPC)

Analog input (uPC)			
B1 inlet recovery temp.1	40.1 °C	B10 disch.gas temp.1C	41 °C
B2 outlet recovery temp.1	39.9 °C	B11 disch.gas temp.2B	42 °C
B3	10.3 °C	B12 disch.gas temp.2C	43 °C
B4 outlet recovery com.	38.5 °C		
B5	10.5 °C		
B6 outlet recovery temp.2	39.8 °C		
B7 discharge gas temp.1B	30.7 °C		
B8			
B9 inlet recovery temp.2	40.1 °C		

The values read by the transducers and by the probes connected to the various analogue inputs available on the uPC board are indicated.

6.3 DIGITAL INPUTS

Digital input (pCO)			
ID1 high press.switch 1	close	ID10 low press.switch 2	close
ID2 low press.switch 1	close	ID11 overload compr.2A	close
ID3 on/off plant/cold side	close	ID12 overload compr.2B	close
ID4 cool/heat plant	close	ID13 overl.pump 1 plant/cold	close
ID5 flowswitch plant/cold side	close	ID14 overl.pump 2 plant/cold	close
ID6 overload compr.1A	close	ID15 overload fan 1	close
ID7 overload compr.1B	close	ID16 overload fan 2	close
ID8 phase monitor	close	ID17	close
ID9 high press.switch 2	close	ID18 multifunction	close

The statuses of the digital inputs available on the unit board are indicated

6.4 DIGITAL INPUTS (UPC)

Digital input (uPC)			
ID1 flowswitch rec/heat side	close	ID10 chain fans 2	close
ID2 overl.pump 1 rec/heat	close		
ID3 overl.pump 2 rec/heat	close		
ID4 overload compr.1C	close		
ID5 overload compr.2C	close		
ID6 on/off rec/heat side	close		
ID7 setpoint 2 rec/heat side	close		
ID8 leak detector	close		
ID9 chain fans 1	close		

The statuses of the digital inputs available on the uPC board are indicated.

6.5 DIGITAL OUTPUTS

Digital Output (pCO)			
NO1 compressor 1A	☐	NO10 fans 1	☐
NO2 compressor 1B	☐	NO11 fans 2	☐
NO1 compressor 2A	☐	NO12 reverse valve 1 plant	☐
NO4 compressor 2B	☐	NO13 reverse valve 1 rec/heat	☐
NO5 compressor 1C	☐	NO14 reverse valve 2 plant	☐
NO6 compressor 2C	☐	NO15 reverse valve 2 rec/heat	☐
NO7 pump 1 plant/cold side	☐	NO16 heater exchanger plant/cold	☐
NO8 alarm active	☐	NO17 pump 1 rec/heat	☐
NO9 pump 2 plant/cold side	☐	NO18 pump 2 rec/heat side	☐

The statuses of the available digital outputs are indicated (green = On; grey = Off).

6.6 DIGITAL OUTPUT (UPC)

Digital Output (uPC)			
NO1 unloading tank valve 1	☐	NO10 evaporator valve 2	☐
NO2 unloading tank valve 2	☐	NO11 liquid valve from battery 1	☐
NO3 spill oil valve 1	☐	NO12 liquid valve from battery 2	☐
NO4 spill oil valve 2	☐		
NO5 recovery valve 1	☐		
NO5 recovery valve 2	☐		
NO7 battery valve 1	☐		
NO8 battery valve 2	☐		
NO9 evaporator valve 1	☐		

The statuses of the available digital outputs of the uPC board are indicated (green = On; grey = Off).

6.7 ANALOGUE OUTPUTS

Analog output (pCO)		
Y1 fan speed 1	0	%
Y2 fan speed 2	0	%
Y3 fan speed common	0	%
Y4	0	%
Y5	0	%
Y6	0	%

The percentage values of the analog outputs of the board are indicated

6.8 INPUTS/OUTPUTS (PCOE)

Input/output (pCOe)			
B1 liquid temperature 1	60.1 °C	NO1 fan compressor box	☐
B2 liquid temperature 2	60.2 °C	NO2 heater battery 1 (optional)	☐
B3 suction gas temp.1	60.3 °C	NO4 heater battery 2 (optional)	☐
B4 suction gas temp.2	60.4 °C	NO4	☐
ID1	close	Y1	0 %
ID2	close		
ID3	close		
ID4	close		

The statuses of the available digital inputs and outputs of the pCOe board are indicated.

6.9 INPUTS/OUTPUTS (EVD 1)

Input/output (EVD 1)			
S1 low pressure A	5.1 bar	NO A	☐
S2 suction gas temp.A	0 °C	NO B	☐
S3 low pressure B	5.1 bar		
S4 suction gas temp.B	0 °C		
DI1	close	Superheat A	0 K
DI2	close	Opening A	0 %
		Superheat B	0 K
		Opening B	0 %

The statuses of the available digital inputs and outputs of the EVD 1 board are indicated.

6.10 INPUTS/OUTPUTS (EVD 2)

Input/output (EVD 2)			
S1 low pressure A	5.2 bar	NO A	☐
S2 suct. gas temp.A	0 °C	NO B	☐
S3 low pressure B	5.2 bar		
S4 suct. gas temp.B	0 °C		
DI1	close	Superheat A	0 K
DI2	close	Opening A	0 %
		Superheat B	0 K
		Opening B	0 %

The statuses of the available digital inputs and outputs of the EVD 2 board are indicated.

7 LANGUAGE MENU

The LANGUAGE menu is used to modify the interface language for the various menus. The system language is usually set in the factory, according to the country where the unit will be used, but it can be altered at any time via this menu.

7.1 PAGE FOR SELECTING THE SYSTEM LANGUAGE



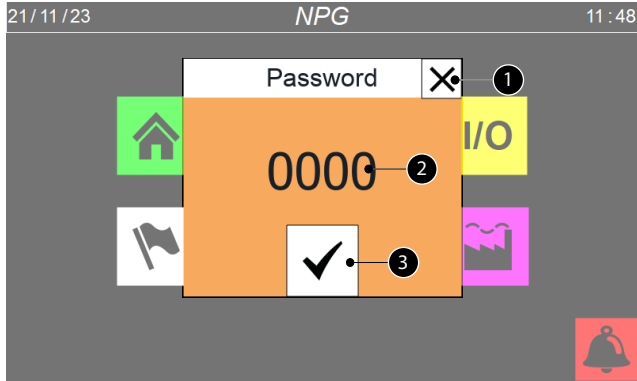
- Used to set Italian as the system language
- Used to set English as the system language

8 INSTALLER MENU

The INSTALLER menu is used to access many of the settings for operating and adjusting the unit; it may, however, contain parameters that should only be modified by persons responsible for maintenance and/or assistance on the unit or system, and for this reason it's protected by a password.

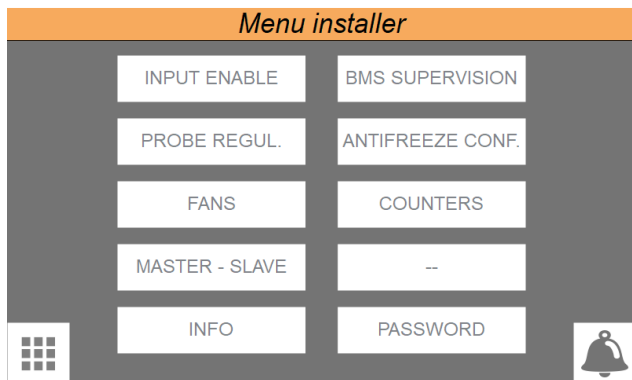
■ **USER PASSWORD: 0000**

8.1 ACCESS THE MENU VIA PASSWORD (0000)



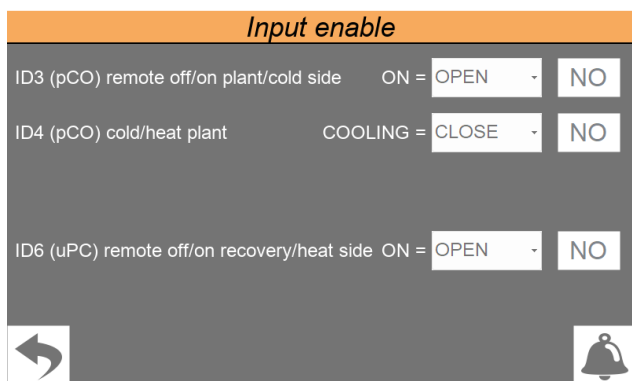
1. This key is used to quit the window and go back to the menu selection page
2. Indicates the current value of the password to be used for accessing the installer menu
3. This key is used to confirm the access password entered

8.2 SUBMENU SELECTION PAGE



This menu is used to enter the submenus that contain the machine configuration parameters.

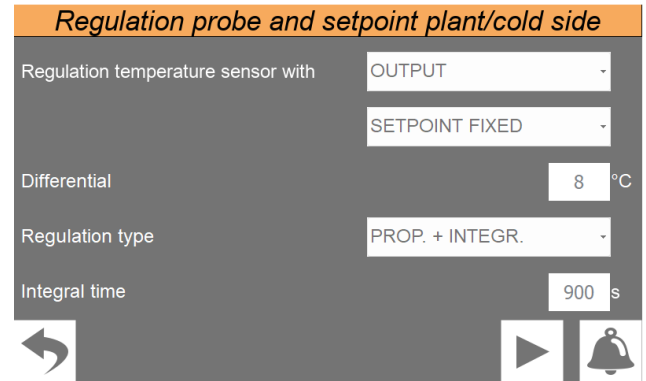
8.3 SETS DIGITAL INPUTS LOGIC



- Enables or disables digital input ID3 (its function is to give the ON/OFF command from digital input on system side or cooling side)
- Sets the logic with which to manage the ID3 input. The logics can be:
CLOSED = if ID3 is closed, the unit is ON;
OPEN = if ID3 is open, the unit is ON;

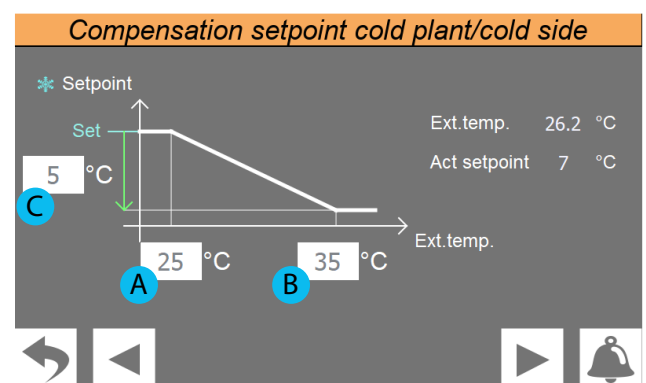
- Enables or disables digital input ID4 (its function is to set the operating mode of the system)
- Enables or disables digital input ID6 (its function is to give the ON/OFF command from the digital input on heating side or recovery-side system)
- Set the logic with which to manage the ID6 input. The logics can be:
CLOSED = if ID3 is closed, the unit is ON;
OPEN = if ID3 is open, the unit is ON;

8.4 SELECTION OF CONTROL LOGIC ON SYSTEM SIDE OR COOLING SIDE



- Sets the probe on which to base cooling adjustment. The potential choices are:
IN. = Inlet water probe;
OUTLET = Outlet water probe;
COND.COM. = Common outlet probe;
- Sets the setting to be used for cold setpoint adjustment. The possible choices are:
FIXED SETPOINT = The adjustment does not perform any dynamic correction on the cold setpoint value;
SETPOINT COMPENS. = The cooling setpoint is compensated according to the outside temperature using the climate curve;
- Sets the differential value to be applied to the cold setpoint
- Select the type of adjustment to be used. The possible choices are:
PROPORTIONAL: Applies the proportional error;
PROP.+INTEGR.: Applies proportional + integral error;
- Sets the integral time to be used in the adjustment algorithm

8.5 SETTING THE CLIMATE CURVE TO BE USED ON THE SYSTEM SIDE OR COOLING SIDE



- Indicates the current value of the following parameters:
Ext.temp. = value of the external air temperature;
Current set. = current value calculated for the cold setpoint based on the external temperature;
- A.** Sets the external air temperature below which the cold setpoint is not compensated
- B.** Sets the external air temperature above which the cold setpoint is compensated with the value indicated in the parameter (C)
- C.** Sets the maximum offset to be applied to the cooling setpoint at the maximum external air temperature value (B). Naturally, for external air temperature values between (A) and (B), the offset to be applied to the setpoint will be between 0 and (C), calculated directly proportionally to the increase in the external air temperature (as shown in the graph)

8.6 SELECTION OF ADJUSTMENT LOGIC ON SYSTEM SIDE (2 PIPES)

Compensation setpoint heat plant

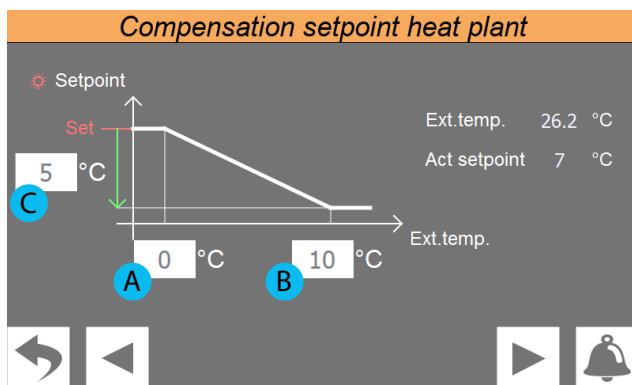
Regulation SETPOINT FIXED

Differential 8 °C

Navigation icons: back, left, right, bell

- Sets the setting to be used for heating setpoint adjustment. The options are:
FIXED SETPOINT = The adjustment does not perform any dynamic correction on the heating setpoint value;
SETPOINT COMPENS. = The heating setpoint is compensated according to the outside temperature using the climate curve;
- Sets the differential value to be applied to the hot setpoint

8.7 SETTING THE CLIMATE CURVE TO BE USED ON SYSTEM SIDE (2 PIPES)



- Indicates the current value of the following parameters:
Ext.temp. = value of the external air temperature;
Set.current = current value calculated for the heating setpoint based on the external temperature;
- A.** Sets the external air temperature below which the heating setpoint is not compensated
- B.** Sets the external air temperature above which the heating setpoint is compensated with the value indicated in the parameter (C)
- C.** Sets the maximum offset to be applied to the heating setpoint at the maximum external air temperature value (B). Naturally, for external air temperature values between (A) and (B), the offset to be applied to the setpoint will be between 0 and (C), calculated directly proportionally to the increase in the external air temperature (as shown in the graph)

8.8 SELECTION OF CONTROL LOGIC ON RECOVERY SIDE OR HEATING SIDE

Regulation probe and setpoint recovery/heat side

Regulation temperature sensor with OUTPUT COMMON

SETPOINT FIXED

Differential 8 °C

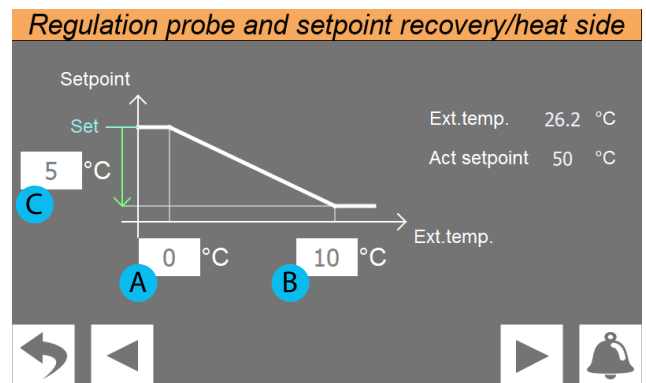
Regulation type PROP. + INTEGR.

Integral time 900 s

Navigation icons: back, left, right, bell

- Sets the probe on which to base recovery side adjustment. The options are:
IN. = Inlet water probe;
OUTLET = Outlet water probe;
COND.COM. = Common outlet probe;
"BOILER" = probe in the storage tank.
- Sets the setting to be used for heating setpoint adjustment. The options are:
FIXED SETPOINT = The adjustment does not perform any dynamic correction on the heating setpoint value;
SETPOINT COMPENS. = The heating setpoint is compensated according to the outside temperature using the climate curve;
- Sets the differential value to be applied to the hot setpoint
- Select the type of adjustment to be used. The possible choices are:
PROPORTIONAL: Applies the proportional error;
PROP.+INTEGR: Applies proportional + integral error;
- Sets the integral time to be used in the adjustment algorithm

8.9 SETTING THE CLIMATE CURVE TO BE USED ON RECOVERY SIDE OR HEATING SIDE



- Indicates the current value of the following parameters:
Ext.temp. = value of the external air temperature;
Set.current = current value calculated for the heating setpoint based on the external temperature;
- A.** Sets the external air temperature below which the heating setpoint is not compensated
- B.** Sets the external air temperature above which the heating setpoint is compensated with the value indicated in the parameter (C)
- C.** Sets the maximum offset to be applied to the heating setpoint at the maximum external air temperature value (B). Naturally, for external air temperature values between (A) and (B), the offset to be applied to the setpoint will be between 0 and (C), calculated directly proportionally to the increase in the external air temperature (as shown in the graph)

8.10 LIMIT POWER REQUEST SETTING OF THE THERMOSTAT

Set a potential power request limit of the thermostat to prevent alarm conditions or set a maximum ceiling on unit consumptions.

■ *Note: The limit, expressed as a percentage, can be set in the three modes: cooling, heating and recovery.*

8.11 FAN CONTROL PAGE

On this page you can:

- Switch the condenser on or off during the night
- Set control start time
- Set control end time
- Set maximum fan speed

■ *Note: fan speed limitation is only possible in cooling mode.*

- Set the minimum fan speed percentage
- Set the percentage of the maximum fan speed in cooling mode
- Set the percentage of the maximum fan speed in heating mode

8.12 SETS LOGIC FOR MASTER/SLAVE UNITS MANAGEMENT

— Select the type of installation. This type can be:

STAND ALONE = a single unit;

MASTER = unit configured as Master (installation consisting of two separate units);

SLAVE = unit configured as Slave (installation consisting of two separate units);

— It is possible to set the power distribution in the initial phase for both the cooling side and for the recovery or heating side.

— Switches off the Slave unit if the Master unit is in alarm or if communication fails.

— Switch on or off percentage request of the Slave unit pump on system side or cooling side

— Switch on or off percentage request of the Slave unit pump on recovery side or heating side

8.13 DISPLAY SOFTWARE VERSIONS OF THE BOARDS

— Indicates the current software version installed on the pCO5+ control board

— Indicates the current software version installed on the touch display board

— Indicates the date and time of the test carried out at the factory of the unit, in addition to the configured code of the unit

8.14 SETTINGS RELATED TO THE BMS

BMS supervision

	BMS Card (BMS1)	BMS built-in (BMS2)
Address	1	1
Protocol	CAREL	MODBUS
Speed	19200	19200
Stop bit	2 stop bit	2 stop bit

- Sets the address to be assigned to the BMS1
- Sets the protocol to be used for the BMS1. The available protocols are:
MODBUS;
CAREL;
LON WORKS (currently not available);
pCOWeb;
- Sets the communication speed for the BMS1
- Set 'Stop bit' value
- Sets the address to be assigned to the BMS2

BMS supervision

Enable off/on by supervisor	NO
Enable cooling/heating by supervisor	YES

- Sets whether to enable the ON/OFF command from an external BMS supervisor
- Set whether to enable mode operation from external BMS supervisor

8.15 CONFIGURING THE ANTIFREEZE CONDITIONS

Antifreeze

Antifreeze alarm plant/cold side	
Threshold	3 °C
Differential	1 °C
Force ON pumps	YES

- Anti-freeze alarm temperature threshold on system side or cooling side
- Anti-freeze alarm temperature differential on system side or cooling side
- Forcing the pump to switch on in the event of an alarm

Antifreeze

Antifreeze alarm recovery/heat side	
Threshold	3 °C
Differential	1 °C
Force ON pumps	YES

- Anti-freeze alarm temperature threshold on recovery side or heating side
- Anti-freeze alarm temperature differential on recovery side or heating side
- Forcing the pump to switch on in the event of an alarm

Options

Antifreeze resistance	
Threshold	4 °C
Differential	1 °C
Force ON pumps plant/cold side	YES
Force ON pumps recovery/heat side	YES

- Anti-freeze resistance temperature threshold
- Anti-freeze resistance temperature differential
- Forcing switch on of pump on system-side or cooling side
- Forcing switch on of pump on recovery side or heating side

8.16 PUMP SETTINGS

Options

Enable cycle force on	
Pumps plant/cold side	NO
Pumps recovery/heat side	NO
Cycle time	30
Pulse force	2
Min temperature external air	5 °C

- Cyclic switching on of pumps on system-side or cooling side
- Cyclic switching on of pumps on recovery side or heating side
- Pump switch-on duration
- Pump switch-off duration
- Minimum outside temperature threshold for pump switch-on

8.17 DISPLAYS THE WORK HOURS STATUS OF THE COMPONENTS OF THE UNIT

Counter						
	1A	1B	1C	2A	2B	2C
Hours compressor	000000	000003	000003	000000	000000	000000
Start up compressor	000000	000000	000000	000000	000000	000000
	1	2				
Hours plant pump	000000	000000				
Hours rec pump	000000	000000				
Hours fans	000000	000000				

- Indicates the number of hours of operation for the various components (the number at the top indicates the index of the component in case there are more than one on the unit)
- Indicates the number of peaks made by each compressor
- Pump hours sys. = system side pumps work hours number
- Fan hours = number of fan working hours

8.18 SETS PASSWORD FOR INSTALLER MENU (DEFAULT 0000)

Change password	
Installer password	0000

Enables to change the password value to access the installer menu. We recommend that not to change the default password and, if changing it is required, to mark and store the new password in order to ensure the possibility of access in the future.

9 HELP MENU



Menu protected and blocked by a password.



WARNING: this menu contains parameters that may cause malfunctioning if they are incorrectly set. For this reason, only technical maintenance personnel or other authorised personnel may access this menu. For more information, contact After Sales Service.

10 MANUFACTURER MENU



Menu protected and blocked by a password.

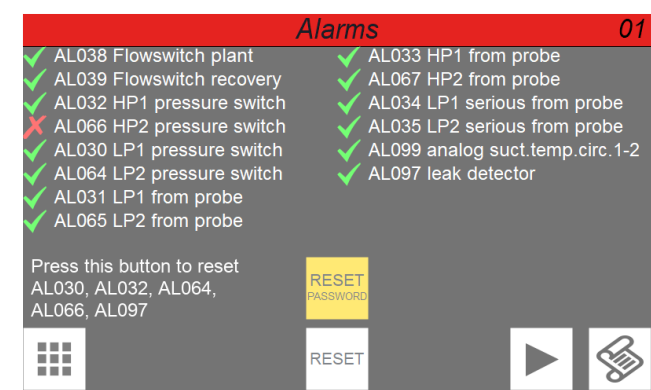


WARNING: this menu contains parameters that may cause malfunctioning if they are incorrectly set. For this reason, only technical maintenance personnel or other authorised personnel may access this menu. For more information, contact After Sales Service.

11 ALARM MENU

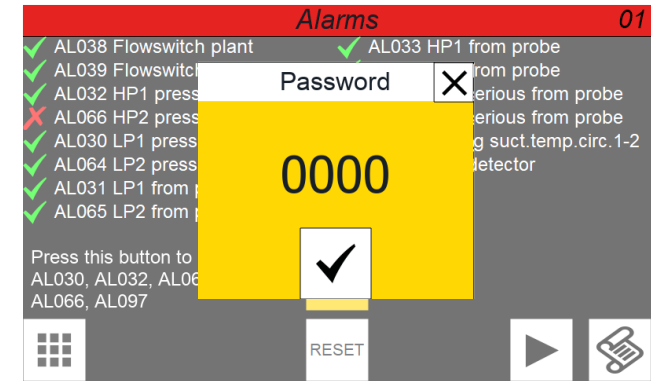
The ALARM menu is used to view (and reset, if necessary) the alarm conditions that may arise on the unit while it's working. The alarms are divided into various categories according to their seriousness. Remember that some of them can cause serious damage to the unit so, before performing a reset, it's important to be sure about the nature of the alarm and the reason it was triggered (contacting specialised technical personnel if necessary).

11.1 DISPLAYS ACTIVE ALARMS



- Indicates the currently active alarm number
- Indicates the total number of alarms currently active on the system
- Indicates the code of the currently active alarm
- Indicates the description of the currently active alarm
- Go to alarms log
- Holding down this key  resets the currently displayed active alarm (if the alarm can be manually reset)

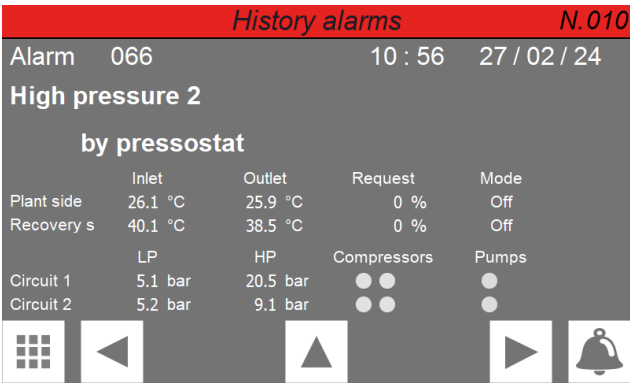
Pressing the 'RESET PASSWORD' key will take you to a screen where you can reset the alarms:



 **Attention:** a password will be required to gain access, so please contact the after-sales service.

11.2 DISPLAYS ALARMS LOG

The alarms has the memory available is suitable to contain 100 alarms, once the index has reached the value of 99, its increase will start from 00 again (over-writing the oldest alarm).



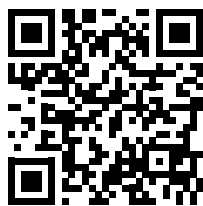
- It indicates the alarm number within the log (the log contains a maximum of 100 alarms, after which it saves the next ones overwriting the oldest ones)
- Date and time for the alarm
- Alarm code and description
- Collection of the operating parameters of the unit recorded when the alarm was generated

11.3 LIST OF ALARMS

Code	Description	Note
RL 001	Clock/battery	
RL 002	PLC memory	
RL 003	Phase power supply	
RL 005	Analog HP1	
RL 006	Analog HP2	
RL 007	Analog LP1	
RL 008	Analog LP2	
RL 009	Analog inlet plant	
RL 010	Analog outlet plant 1	
RL 011	Analog outlet plant com.	
RL 012	Analog inlet recovery 1	
RL 012	Analog inlet recovery 2	
RL 013	Analog outlet recovery 1	
RL 014	Analog outlet recovery 2	
RL 015	Analog outlet rec. com.	
RL 016	Analog external air	
RL 017	Analog liquid temp. 1	
RL 018	Analog liquid temp. 2	
RL 020	Maintenance CP1	
RL 021	Maintenance rec. pump 1	
RL 022	Maintenance plant pump 1	
RL 023	Overload CP1	
RL 024	Overload plant pump	
RL 025	Overload plant pump 2	
RL 026	Overload rec. pump	
RL 027	Overload rec. pump 2	
RL 028	Overload fan 1	
RL 029	Overload fan 2	
RL 030	LP1 pressure switch	
RL 031	LP1 from probe	
RL 032	HP1 pressure switch	
RL 033	HP1 from probe	
RL 034	LP1 serious from probe	
RL 035	LP2 serious from probe	
RL 038	Flowswitch plant	
RL 039	Recovery flow switch	
RL 040	Antifreeze plant 1	
RL 041	Antifreeze plant common	
RL 042	Antifreeze recovery 1	
RL 043	Antifreeze recovery 2	
RL 044	Antifreeze recovery com.	
RL 045	Offline uPC	
RL 046	Offline pCOe	
RL 048	Analog delivery comp.1	
RL 049	Analog delivery comp.2	
RL 051	Maintenance CP1A	
RL 052	Maintenance CP1B	
RL 053	Maintenance CP2	
RL 054	Maintenance CP2A	
RL 055	Maintenance CP2B	
RL 056	EVD circ. 1	
RL 057	Maintenance rec.pump 2	
RL 058	Mainten. plant pump 2	
RL 059	Overload CP1A	
RL 060	Overload CP1B	
RL 061	Overload CP2	
RL 062	Overload CP2A	
RL 063	Overload CP2B	
RL 064	LP2 pressure switch	
RL 065	LP2 from probe	
RL 066	HP2 pressure switch	
RL 067	HP2 from probe	
RL 070	EVD circ. 2	
RL 075	High temp. deliv. comp.1	
RL 076	high temp. deliv. comp.2	
RL 078	Defrost not available plant	
RL 079	Defrost not available recovery	
RL 084	System high temperature	
RL 085	High recovery temperature	
RL 090	Master offline	
RL 091	Slave offline	

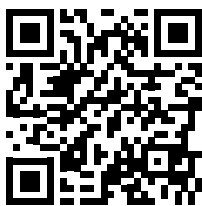
Code	Description	Note
RL 092	Slave alarm	
RL 093	Master alarm	
RL 094	Analog sanitary tank	
RL 095	No DeltaP circ.1	
RL 096	No DeltaP circ.2	
RL 097	Leak Detector	
RL 099	Analog suct. temp. circ. 1-2	
RL 100	Low SH circ.1	
RL 101	Low SH circ.2	
RL 104	Envelope circ. 1	
RL 105	Envelope circ. 2	

SCARICA L'ULTIMA VERSIONE:



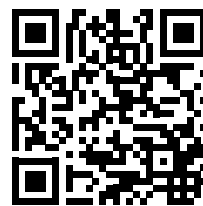
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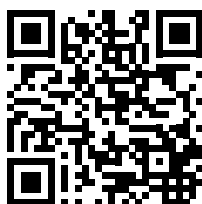
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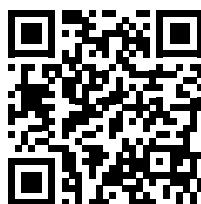
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