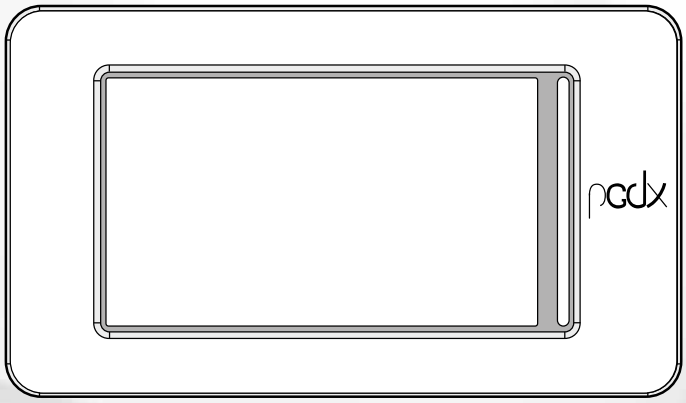
EN

25/06 - 4471921_06
Translation of Original instructions

Turbocor



CARD PCO5 - TOUCH PANEL

AERMEC

www.aermec.com

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

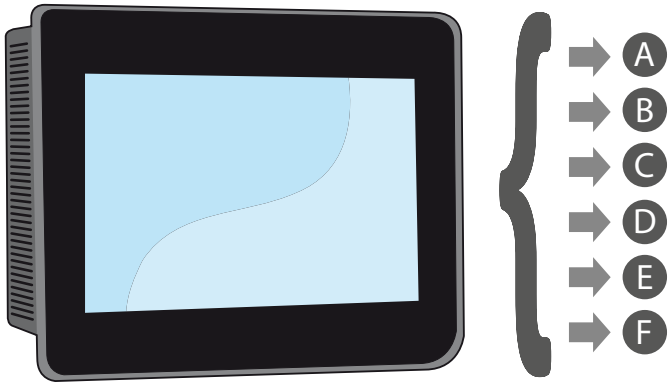
CE

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.

TABLE OF CONTENTS

1 QUICK REFERENCE

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, 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):



A Switching the unit ON/OFF (5 ON/OFF menu *on page 14*)

B Selecting the operating mode (5.1 Main page *on page 14*)

C Setting a main operating set-point (5.1 Main page *on page 14*)

D Setting the time bands (5.2 TIME PERIODS Page - Daily setting *on page 14*)

E Applying a timed program (5.3 TIME PERIODS Page - Copy time programs function *on page 14*)

F Changing the system language (10.3 Setting the language for the user interface *on page 23*)

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:

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

3 USER INTERFACE (PGDX)

3.1 INTERACTING WITH THE GRAPHIC INTERFACE

The unit command and control interface uses a touch-screen 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.

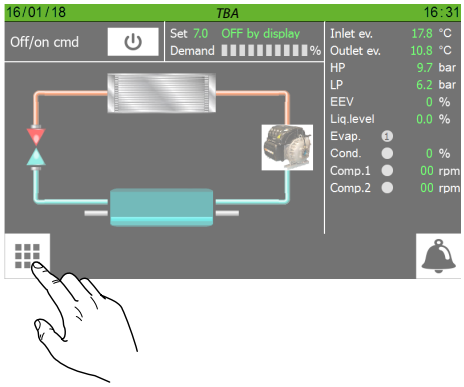
NOTICE

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;

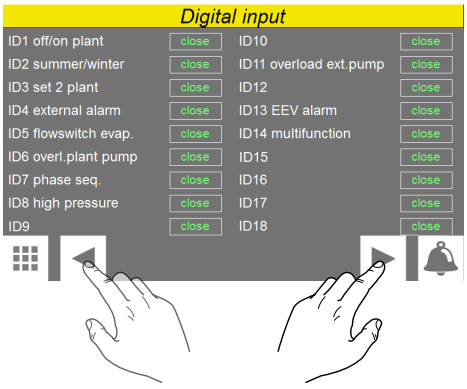
3.2 NAVIGATING BETWEEN THE PROGRAM PAGES

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:

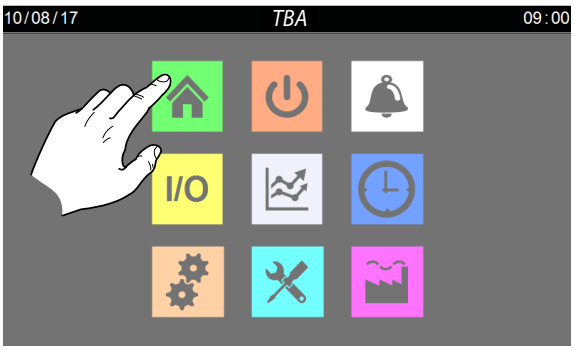
— **Entering a menu**: to enter a menu activate the menu selection page by pressing the icon ( ) available on each page of the application; then simply press the icon of the menu to be accessed (for further information on which menus are activated by the various icons, refer to the diagram on the previous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



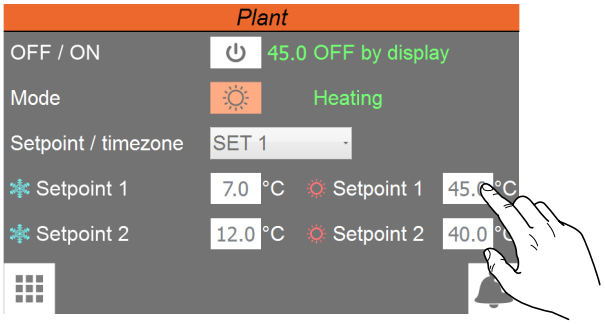
— **Return to the "Home" page**: to go back to the main (home) page, press the relative icon ( ); Not all the program pages contain this icon, but you can find it on the menu selection page so just go to that page (as explained in the first point of this list) and from there you can reach "Home".



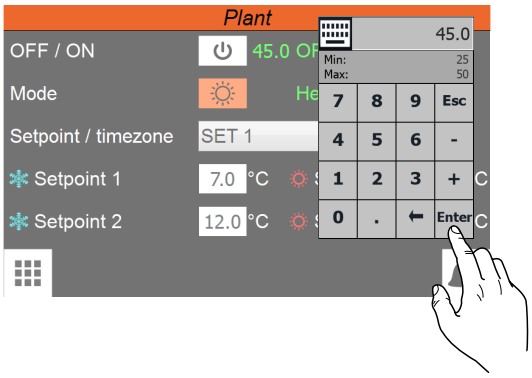
3.3 SETTING A NUMERICAL VALUE FOR A PARAMETER

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.



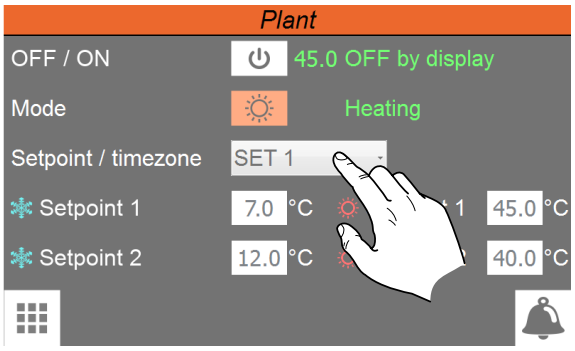
NOTICE

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.

3.4 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;



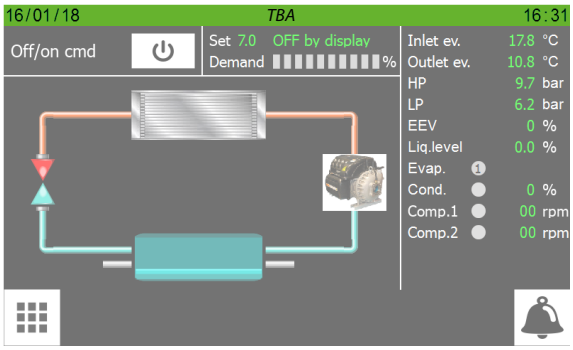
4 MAIN MONITOR

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.

NOTICE

Certain information is only visible if it is available on the unit (for example data relating to the Free-cooling circuit).

4.1 MAIN MONITOR - TBA/TBG

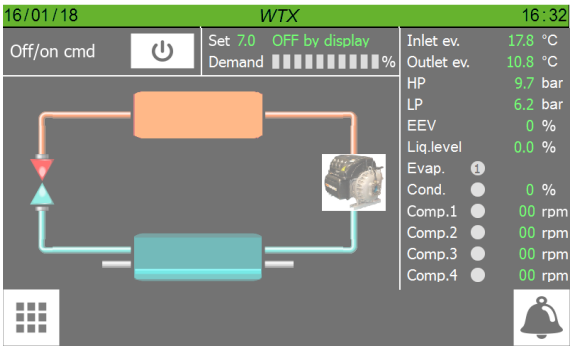


— Indicates today's date set on the system
— Indicates the current date set on the system
— Indicates the setpoint value currently set
— Indicates the current status of the unit. This status can be:
- **WAIT** = Unit waiting for control board start (5 seconds);
- **ON** = Unit active;
- **OFF from alarm** = Unit stopped due to alarm;
- **Board restart** = Unit waiting for start procedure (20 seconds);
- **OFF from BMS** = Unit turned off via command incoming from BMS;
- **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 (C);

— 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)
— They indicate the current values of the following parameters:
- **Sv.wat.inl.** = Evaporator water inlet temperature;
- **Sv.wat.out.** = Evaporator water outlet temperature;
- **AP** = Value read by the high pressure transducer;
- **BP** = Value read by the low pressure transducer;
- **EVV** = Current opening value (percentage) of the electronic valve;
- **Liq. level**. = level of liquid inside the attached heat exchanger;
- **Evap.** = Indicates the status of the pump on the evaporator (green = On; grey = Off);
- **Cond.** = Indicates the fan status (green = On; grey = Off), also indicates the fan speed as a percentage;
- **Comp.1** = Value of revs for compressor 1;
- **Comp.2** = Value of revs for compressor 2;

— Enables to access the "COMPRESSORS" page (for further information refer to the later dedicated section)
— Enables to access the "ELECTRONIC VALVE" page (this page is not available on some units. For further information refer to the later dedicated section)
— Enables to access the "CONDENSER" page (for further information refer to the later dedicated section)
— Enables to access the "EVAPORATOR" page (for further information refer to the later dedicated section)

4.2 MAIN MONITOR - WTX/WTG



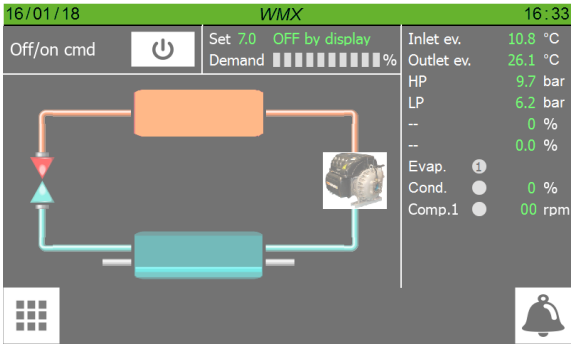
— Indicates today's date set on the system
— Indicates the current date set on the system
— Indicates the setpoint value currently set
— Indicates the current status of the unit. This status can be:
- **WAIT** = Unit waiting for control board start (5 seconds);
- **ON** = Unit active;
- **OFF from alarm** = Unit stopped due to alarm;
- **Board restart** = Unit waiting for start procedure (20 seconds);
- **OFF from BMS** = Unit turned off via command incoming from BMS;
- **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 (C);

— 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)
— They indicate the current values of the following parameters:
- **Sv.wat.inl.** = Evaporator water inlet temperature;

- **Sv.wat.out.** = Evaporator water outlet temperature;
- **AP** = Value read by the high pressure transducer;
- **BP** = Value read by the low pressure transducer;
- **EVV** = Current opening value (percentage) of the electronic valve;
- **Liq. level**. = level of liquid inside the attached heat exchanger;
- **Evap.** = Indicates the status of the pumps, where (1) indicates the primary one and (2) the reserve one, on the evaporator (green = On; grey = Off);
- **Cond.** = Indicates the status of the pump (if installed and managed by the unit board) on the condenser (green = On; grey = Off);
- **Comp.1** = Compressor 1 speed percentage value;
- **Comp.2** = Compressor 2 speed percentage value;
- **Comp.3** = Compressor 3 speed percentage value;
- **Comp.4** = Compressor 4 speed percentage value;

— Enables to access the "COMPRESSORS" page (for further information refer to the later dedicated section)
— Enables to access the "ELECTRONIC VALVE" page (this page is not available on some units. For further information refer to the later dedicated section)
— Enables to access the "CONDENSER" page (for further information refer to the later dedicated section)
— Enables to access the "EVAPORATOR" page (for further information refer to the later dedicated section)

4.3 MAIN MONITOR - WMX/WMG



— Indicates today's date set on the system
— Indicates the current date set on the system
— Indicates the setpoint value currently set
— Indicates the current status of the unit. This status can be:

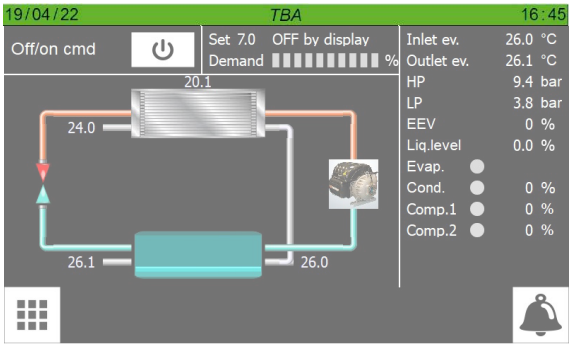
- **WAIT** = Unit waiting for control board start (5 seconds);
- **ON** = Unit active;
- **OFF from alarm** = Unit stopped due to alarm;
- **Board restart** = Unit waiting for start procedure (20 seconds);
- **OFF from BMS** = Unit turned off via command incoming from BMS;
- **OFF from time** = Unit 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 (C);

— 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)
— They indicate the current values of the following parameters:

- **Sv.wat.inl.** = Evaporator water inlet temperature;
- **Sv.wat.out.** = Evaporator water outlet temperature;
- **AP** = Value read by the high pressure transducer;
- **BP** = Value read by the low pressure transducer;
- **Evap.** = Indicates the status of the pumps on the evaporator (green = On; grey = Off);
- **Cond.** = Indicates the status of the pump (if installed and managed by the unit board) on the condenser (green = On; grey = Off);
- **Comp.1** = Compressor 1 speed percentage value;

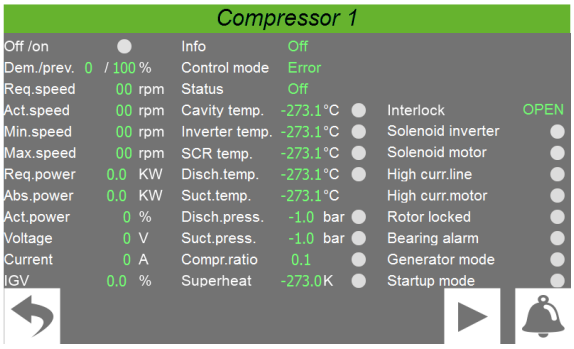
— Enables to access the "COMPRESSORS" page (for further information refer to the later dedicated section)
— Enables to access the "CONDENSER" page (for further information refer to the later dedicated section)
— Enables to access the "EVAPORATOR" page (for further information refer to the later dedicated section)

4.4 MAIN FREECOOLING MONITOR - TBA/TBG



— Indicates the Freecooling input temperature
— Enables to access the "COMPRESSORS" page (for further information refer to the later dedicated section)
— Enables to access the "CONDENSER" page (for further information refer to the later dedicated section)
— Enables to access the "EVAPORATOR" page (for further information refer to the later dedicated section)

4.5 MAIN MONITOR - COMPRESSORS PAGE



1. Indicates which compressor the page data refers to
2. They indicate the current values of the following parameters:

Off/on = current status of the compressor (green = On; grey = Off);
Req./MaxReq. = power level required by the compressor;
Sp.Req. = target speed which the compressor aims at to achieve the request;
Cur.sp.. = current compressor speed;
Min.Sp. = minimum speed value calculated by the compressor per work area;
Max.sp.. = maximum speed value calculated by the compressor per work area;
Pow.req. = power value required by the compressor;
Pow.Aabs. = current power absorbed by the compressor;
Cur.pow. = percentage of power currently supplied;
Voltage = voltage of the compressor;
Current = current absorbed by the compressor;
IGV = opening percentage of the IGV valve;

3. They indicate the current values of the following parameters:

Info = indicates the current status of the compressor, this can be:
— **Off**: compressor off;
— **On**: compressor on;
— **Repositioning**: compressor off repositioning of the IGV valve in progress;
— **Al.Turbocor**: compressor in alarm;
— **Lim.High TGP**: Limit for pressing gas temperature;
— **Off stable demand**: preliminary stage for switching on the new compressor, the active compressors are required to stabilise at a set speed;
— **Off write speed**: calculation of the target speed for the new compressor at start-up, checking the current speeds of the active compressors;
— **On start compressor**: compressor ready for start-up;
— **On stag. valve open**: staging valve open;
— **On closing stag. valve**: staging valve closed;
— **Off time between startup**: compressor off for minimum switch-off time;

Mode control = indicates the control mode; this mode can be:
— **Error**: the compressor signals an error condition;
— **Calibration mode**: compressor in calibration stage (support only);
— **Manual mode**: compressor active in manual mode (support only);
— **Analog mode**: not used;
— **Modabus mode**: compressor active via command of the pCO board;
— **Chiller mode**: not used;

Status = indicates the current status of the compressor, it can be:
— **off**: compressor off;
— **Locked out state**: situation after an alarm has ceased;
— **System Resetting**: the compressor is in reset stage;
— **Ramping Up**: the compressor is in start-up stage;
— **Partially Closed Vane**: the compressor is closing the IGV valve;
— **Normal Operation State**: the compressor is operating normally;
— **Maximum Flow State**: the compressor is operating at full speed;
— **Minimum IGV% reached**: minimum opening of the IGV valve;
— **Interlock Open**: the compressor is waiting for consent from the pCO board;
— **Fault is Active**: the compressor is stopped for alarm;
— **Inverter temp. High**: high temperature of the internal inverter;
— **Ready for demand**: the compressor is ready;
(1) Temp. cavity = indicates the current cavity temperature;
(1) Temp. inverter = indicates the current temperature of the internal inverter;
(1) Temp.SCR = indicates the current temperature of the SCR;
(1) Temp.mand. = indicates the current temperature of the pressing line;
Int.temp. = indicates the current intake temperature;
(1) Press.mand. = indicates the current pressure of the pressing line;
(1) Int.pres. = indicates the current intake pressure;
(1) Compr.rat. = indicates the current value of the compression ratio;
(1) Superheat = indicates the overheating value;

4. They indicate the current values of the following parameters:

(2) Interlock = current status of consent to compressor operation;
(2) Inverter solenoid = current status of the inverter solenoid;
(1) Line high curr. = current status of the compressor power supply;
(3) Motor high curr. = motor overcurrent control;
(3) Rotor blocked = rotor lock control;
(3) Bearing alarm = bearing alarm control;
(3) Generator mode = inertial rotation control after stop;
(3) Start mode = compressor start-up procedures control;

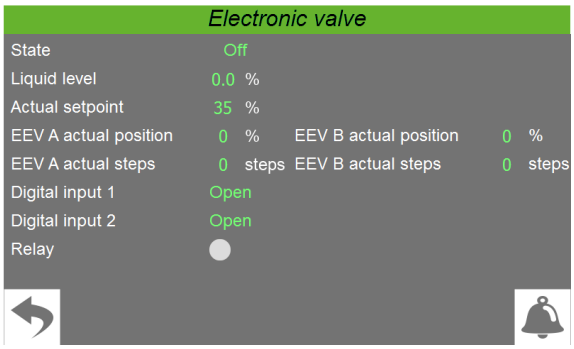
Key:

(1) These signals may have one of the following states:
grey = standard size;
yellow = size in pre-alarm;
red = size in alarm;

(2) These signals may have one of the following states:
green = load energised;
grey = load in standby;

(3) These signals may have one of the following states:
grey = standard size;
yellow = non standard size;

4.6 MAIN MONITOR - ELECTRONIC VALVE PAGE



1. They indicate the current values of the following parameters:

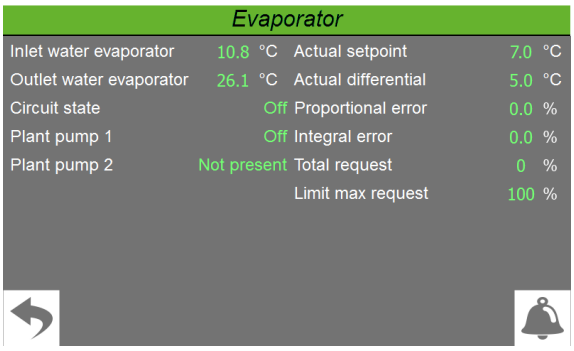
Mode = indicates the current status of the electronic valve, this status can be:
— **Off**: valve off;
— **On**: valve operating;
— **Start**: valve in start-up mode;
— **Alarm**: valve in alarm;
— **Forced**: valve in forced operation (compressor start-up);
— **Forced manual**: valve in forced manual operation (support);
— **Forced at zero**: valve in forced operation at zero (leak detection alarm);

Liquid level = level of liquid inside the attached heat exchanger;
Current setpoint = Indicates the percentage value of the liquid level to be reached for flooded exchangers;
EEV A current position = opening percentage of valve A;
EEV A current steps = opening of valve A expressed in steps
Digital input 1 = status of digital input ID1 on the electronic driver of the valve;
Digital input 2 = status of digital input ID2 on the electronic driver of the valve;
Relay = relay status on the electronic driver of the valve (green = On; grey = Off);

1. They indicate, only visible on units with at least 3 compressors, the current values of the following parameters:

EEV B current position = opening percentage of valve B;
EEV B current steps = opening of valve A expressed in steps;

4.7 MAIN MONITOR - EVAPORATOR PAGE



1. They indicate the current values of the following parameters:

Evap.water inlet = indicates the temperature of the evaporator water inlet;
Evap.water outlet = indicates the temperature of the evaporator water outlet;
Mode = indicates the current status of the evaporator and any preventions of the machine, this status can be:
— **Off**: heat exchanger not active;
— **On**: heat exchanger active;
— **High pressure prevention**: heat exchanger in prevention mode for high condensation pressure;
— **Low pressure prevention**: heat exchanger in prevention mode for low evaporation pressure;
— **Low temperature prevention**: heat exchanger in prevention mode for low evaporator temperature;

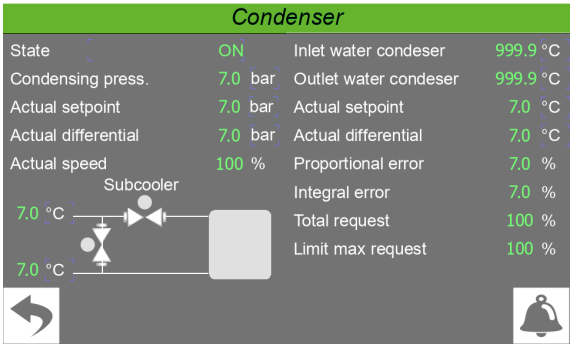
Pul. pump 1 / Pul. pump 2 = indicates the current status of the pumps to the evaporator (based on the unit they can be one or two), this status can be:
— **Off**: pump not active;
— **On**: pump active;
— **Switch-off**: pump in switch-off stage;
— **Flow switch**: flow switch alarm;
— **Pump inversion**: change between pump 1 and pump 2 in progress;
— **Alarm**: pump in alarm;
— **Force On**: pump forced in on mode;
— **Not present**: pump not present;

2. They indicate the current values of the following parameters:

Current setpoint = It indicates the value of the setpoint currently set
Current differential = It indicates the value of the differential applied to the setpoint;
Proportional error = It indicates the percentage value relative to the proportional error of the PID logic;
Integral error = It indicates the percentage value relative to the integral error of the PID logic;

Total request = It indicates the percentage value of the thermostat request;
Maximum request limit = level of potential power limitation of the thermostat;

4.8 MAIN MONITOR - CONDENSER PAGE



1. They indicate the current values of the following parameters:

Mode = indicates the current status of the condenser, this can be:
— **Off**: heat exchanger not active (fan/pump);
— **On**: heat exchanger active (fan/pump);
— **Start**: fixed speed for compressors start-up (fan/pump);
— **Alarm**: condenser in alarm;
— **Forced**: fan/pump in forced operation (support);

Condens. pressure. = indicates the condensation pressure value;
Current setpoint = It indicates the value of the condensation pressure setpoint set
Current differential = It indicates the value of condensation pressure setpoint differential;
Current speed = Indicates current speed of the modulating pump (adjusted based on the 0-10 signal of the analog output Y1) or of the fan;

2. They indicate the current values of the following parameters (only visible for water/water units):

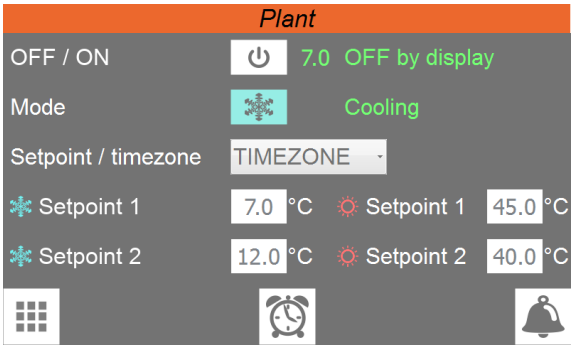
Cond.water inlet = indicates the temperature at condenser inlet;
Cond.water outlet = indicates the temperature at condenser outlet;

The following parameters are only visible for units in heating mode:
— **Cond.water outlet** = indicates the temperature at condenser outlet;
— **Current differential** = It indicates the value of the differential applied to the setpoint;
— **Proportional error** = It indicates the percentage value relative to the proportional error of the PID logic;
— **Integral error** = It indicates the percentage value relative to the integral error of the PID logic;
— **Total request** = It indicates the percentage value of the thermostat request;
— **Maximum request limit** = level of potential power limitation of the thermostat;

5 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.

5.1 MAIN PAGE

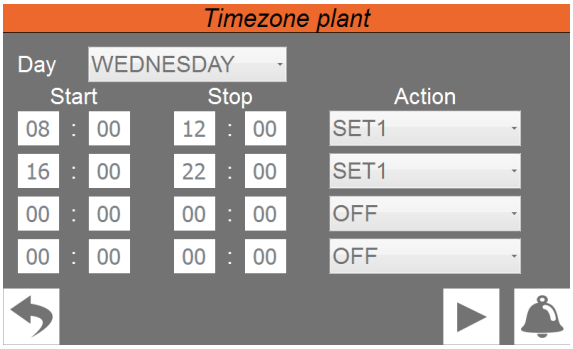


— Indicates the setpoint value currently set
— Indicates the current status of the unit. This status can be:
- **WAIT** = Unit waiting for control board start (5 seconds);
- **ON** = Unit active;
- **OFF from alarm** = Unit stopped due to alarm;
- **Board restart** = Unit waiting for start procedure (20 seconds);
- **OFF from BMS** = Unit turned off via command incoming from BMS;
- **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 ( );

— Indicates the operating mode currently set for the unit;
— Enables to turn the unit on or off (it turns on if the background is green, off if it is white)
— If the unit is a heat pump, it enables to select the operating mode. Each press will change the status (blue = cooling, orange = heating). Moreover the active mode will be indicated in full next to the key;
— 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

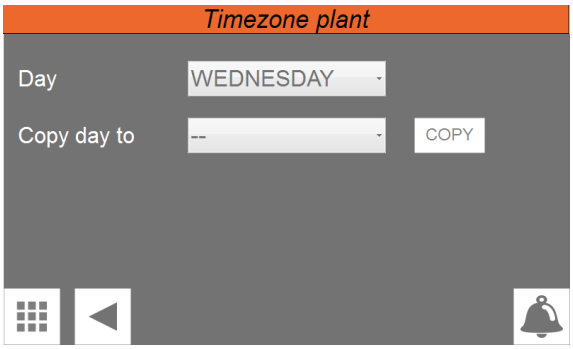
— It enables to set the value related to SETPOINT1 to be used in cooling mode
— It enables to set the value related to SETPOINT2 to be used in cooling mode
— Enables to access the TIME PERIODS page. This key only appears if the "periods" option is selected in the field
— If the unit is a heat pump, the SETPOINT1, to be used for heating, will be displayed (and can be set)
— If the unit is a heat pump, the SETPOINT2, to be used for heating, will be displayed (and can be set)

5.2 TIME PERIODS PAGE - DAILY SETTING



— 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;

5.3 TIME PERIODS PAGE - COPY TIME PROGRAMS FUNCTION

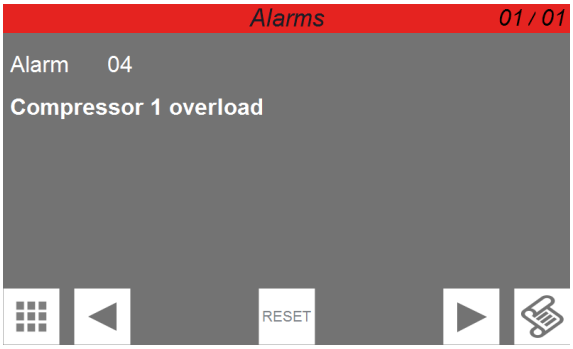


— Indicates the day from which the hourly program will be copied
— Indicates the day to which the hourly program will be copied (taken from the hourly program of the specified day)

6 ALARM MENU

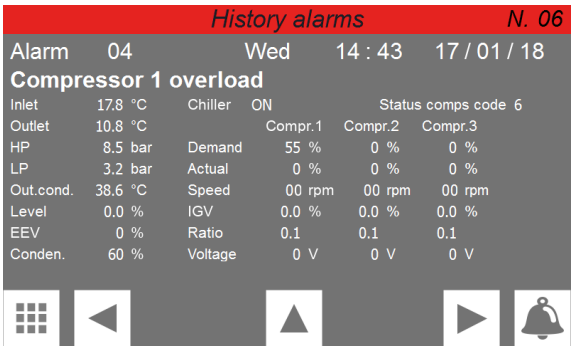
The ALARM menu is used to view (and reset, if necessary) the alarm conditions that may arise on the unit while it's working. The alarms are divided into various categories according to their seriousness. Remember that some of them can cause serious damage to the unit so, before performing a reset, it's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

6.1 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 this key Reset for a few seconds resets the currently active alarm displayed (if the alarm includes a manual reset)

6.2 DISPLAYS ALARMS LOG



— 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 fo the alarm
— Alarm code and description
— Collection of the operating parameters of the unit recorded when the alarm was generated

6.3 LIST OF ALARMS

Each alarm can have a specific type of reset, these types can be:

— **Auto (automatic)** = the alarm disappears when the event which generated it ceases;
— **Man (manual)** = to resume normal operation, manual recognition by an operator is required (via a touch screen or BMS);
— **Semi (semi-automatic)** = the alarm is automatic, but if it is triggered more than 3 times in an hour then it becomes with manual reset;
— **TurboAL** = characteristic alarm of Turbocor compressors. It is automatically reset with the following procedure:

1. Turn off the affected compressor removing request;
2. Wait for a time of 30s (settable);
3. 10% power is given to the TurboCor;
4. The Turbocor resets the alarm;
5. The TurboCor repositions the IGV valve (approximately 120 s);
6. The pCO can turn on the TurboCor compressor again;

Code	Description	Reset
AL001	From digital input	Auto
AL002	Phase or voltage monitor	Auto (sw>=2.2.3)
AL003	Evaporator Anti-freeze	Manual
AL004	Compressor 1 circuit breaker	Manual
AL005	System Flow Meter	Manual
AL006	From digital input, EEV	Auto
AL007	Pressure Switch high pressure	Manual (password)
AL008	Transducer High pressure	Manual
AL009	Pressure Switch low pressure	Manual (password)
AL010	Transducer low pressure	Manual
AL011	Critical low pressure	Manual
AL012	Fan/condenser pump circuit breaker	Manual
AL013	System pump 1 circuit breaker	Manual
AL014	System pump 2 circuit breaker	Manual
AL015	System pump 1 maintenance	Auto
AL016	System pump 2 maintenance	Auto
AL017	Compressor 1 Maintenance	Auto
AL018	Compressor 2 Maintenance	Auto
AL019	Probe U1 broken or disconnected	Auto
AL020	Probe U2 broken or disconnected	Auto
AL021	Probe U3 broken or disconnected	Auto
AL022	Probe U4 broken or disconnected	Auto
AL023	Probe U5 broken or disconnected	Auto
AL024	Probe U6 broken or disconnected	Auto
AL025	Probe U7 broken or disconnected	Auto
AL026	Probe U8 broken or disconnected	Auto
AL027	Probe U9 broken or disconnected	Auto
AL028	Probe U10 broken or disconnected	Auto
AL029	Turbocor1 Pressing line Gas High Temp.	Manual
AL030	Turbocor2 Pressing line Gas High Temp.	Manual
AL031	Turbocor1 Inverter temp	Auto
AL032	Turbocor1 Discharge temp	Auto
AL033	Turbocor1 Suction pres	Auto
AL034	Turbocor1 Discharge pres	Auto
AL035	Turbocor1 Rotor Lock	Auto
AL036	Turbocor1 Phase current	Manual Remove voltage for 30s
AL037	Turbocor1 Cavity temp	TurboAL
AL038	Turbocor1 overcurrent	TurboAL
AL039	Turbocor1 Compressor ratio	TurboAL
AL040	Turbocor1 DC Low Voltage	TurboAL
AL041	Turbocor 1 SCR temp	TurboAL
AL042	Turbocor1 System Locked out	Manual Remove voltage for 30s
AL043	Turbocor1 Calibration failed	TurboAL
AL044	Turbocor1 Bearing Self Test Failed	TurboAL
AL045	Turbocor1 Axial displacement	TurboAL

Code	Description	Reset
AL046	Turbocor1 Axial static load	TurboAL
AL047	Turbocor1 Front radial disp X	TurboAL
AL048	Turbocor1 Front radial disp Y	TurboAL
AL049	Turbocor1 Front radial load X	TurboAL
AL050	Turbocor1 Front radial load Y	TurboAL
AL051	Turbocor1 Back radial disp X	TurboAL
AL052	Turbocor1 Back radial disp Y	TurboAL
AL053	Turbocor1 Back radial load X	TurboAL
AL054	Turbocor1 Back radial load Y	TurboAL
AL055	Turbocor1 Sigle phase Overcurrent	TurboAL
AL056	Turbocor1 DC high voltage	TurboAL
AL057	Turbocor1 High current	TurboAL
AL058	Turbocor1 Sensors error	TurboAL
AL059	Turbocor1 IGBT error	TurboAL
AL060	Turbocor1 High widing temp	TurboAL
AL061	Turbocor1 Bearing error	TurboAL
AL062	Turbocor1 Superheat	TurboAL
AL063	Turbocor1 Inverter error signal	TurboAL
AL064	Turbocor1 AVC data missing	TurboAL
AL065	Turbocor1 Motor Back EMF low	TurboAL
AL066	Turbocor1 EEprom error	TurboAL
AL067	Turbocor1 Generator mode	TurboAL
AL068	Turbocor1 SCR phase	TurboAL
AL069	Turbocor1 offline	Auto
AL070	Turbocor1 Compressor is Booting Up	TurboAL
AL071	Turbocor2 Inverter temp	TurboAL
AL072	Turbocor2 Discharge temp	TurboAL
AL073	Turbocor2 Suction pres	TurboAL
AL074	Turbocor2 Discharge pres	TurboAL
AL075	Turbocor2 Rotor Lock	Auto
AL076	Turbocor2 Phase current	Manual Remove voltage for 30s
AL077	Turbocor2 Cavity temp	TurboAL
AL078	Turbocor2 overcurrent	TurboAL
AL079	Turbocor2 Compressor ratio	TurboAL
AL080	Turbocor2 DC Low Voltage	TurboAL
AL081	Turbocor 2 SCR temp	TurboAL
AL082	Turbocor2 System Locked out	Manual Remove voltage for 30s
AL083	Turbocor2 Calibration failed	TurboAL
AL084	Turbocor2 Bearing Self Test Failed	TurboAL
AL085	Turbocor2 Axial displacement	TurboAL
AL086	Turbocor2 Axial static load	TurboAL
AL087	Turbocor2 Front radial disp X	TurboAL
AL088	Turbocor2 Front radial disp Y	TurboAL
AL089	Turbocor2 Front radial load X	TurboAL
AL090	Turbocor2 Front radial load Y	TurboAL
AL091	Turbocor2 Back radial disp X	TurboAL
AL092	Turbocor2 Back radial disp Y	TurboAL
AL093	Turbocor2 Back radial load X	TurboAL
AL094	Turbocor2 Back radial load Y	TurboAL
AL095	Turbocor2 Sigle phase Overcurrent	TurboAL
AL096	Turbocor2 DC High Voltage	TurboAL
AL097	Turbocor2 High current	TurboAL
AL098	Turbocor2 Sensors error	TurboAL
AL099	Turbocor2 IGBT error	TurboAL
AL100	Turbocor2 High widing temp	TurboAL
AL101	Turbocor2 Bearing error	TurboAL
AL102	Turbocor2 Superheat	TurboAL
AL103	Turbocor2 Inverter error signal	TurboAL

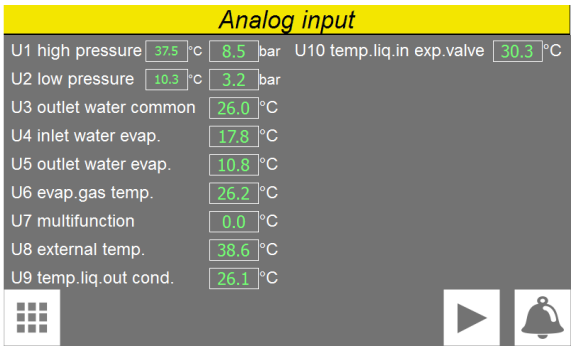
Code	Description	Reset
AL104	Turbocor2 AVC data missing	TurboAL
AL105	Turbocor2 Motor Back EMF low	TurboAL
AL106	Turbocor2 EEprom error	TurboAL
AL107	Turbocor2 Generator mode	TurboAL
AL108	Turbocor2 SCR phase	TurboAL
AL109	Turbocor2 offline	Auto
AL110	Turbocor2 Compressor is Booting Up	TurboAL
AL111	EVD Offline	Auto
AL112	EVD S1 Probe Error	Auto
AL113	EVD S2 Probe Error	Auto
AL114	EVD EEV motor error	Auto
AL115	EVD EEprom damaged	Manual
AL116	Low Liquid Level	Auto
AL117	High Liquid Level	Auto
AL118	Modbus master disconnected (communication with Turbocor)	Auto
AL119	Compressor 2 circuit breaker	Manual
AL120	EVD Battery discharged	Auto
AL121	Master Offline	Auto
AL122	Slave Offline	Auto
AL123	Gas Leak (IN16 open)	Manual (password)
AL124	Board restart after blackout	Auto
AL125	Compressor 3 Maintenance	Auto
AL126	Compressor 4 Maintenance	Auto
AL127	Default parameters! pCO5 board restart	Restart board
AL128	Turbocor3 Pressing line Gas High Temp.	Manual
AL129	Turbocor4 Pressing line Gas High Temp.	Manual
AL132	Compressor 3 circuit breaker	Manual
AL133	Compressor 4 circuit breaker	Manual
AL134	Master in alarm	Auto
AL135	Slave in alarm	Auto
AL136	Flowswitch condenser	Manual
AL137	Freecooling efficiency	Manual
AL151	Turbocor3 Inverter temp.	TurboAL
AL152	Turbocor3 Discharge temp.	TurboAL
AL153	Turbocor3 Suction press.	TurboAL
AL154	Turbocor3 Discharge press.	TurboAL
AL155	Turbocor3 Rotor Lock	TurboAL
AL156	Turbocor3 Phase current	TurboAL
AL157	Turbocor3 Cavity temp.	TurboAL
AL158	Turbocor3 overcurrent	TurboAL
AL159	Turbocor3 Compressor ratio	TurboAL
AL160	Turbocor3 DC Low Voltage	TurboAL
AL161	Turbocor3 SCR temp.	TurboAL
AL162	Turbocor3 System Locked out	TurboAL
AL163	Turbocor3 Calibration failed	TurboAL
AL164	Turbocor3 Bearing Self Test Failed	TurboAL
AL165	Turbocor3 Axial displacement	TurboAL
AL166	Turbocor3 Axial static load	TurboAL
AL167	Turbocor3 Front radial disp X	TurboAL
AL168	Turbocor3 Front radial disp Y	TurboAL
AL169	Turbocor3 Front radial load X	TurboAL
AL170	Turbocor3 Front radial load Y	TurboAL
AL171	Turbocor3 Back radial disp X	TurboAL
AL172	Turbocor3 Back radial disp Y	TurboAL
AL173	Turbocor3 Back radial load X	TurboAL
AL174	Turbocor3 Back radial load Y	TurboAL
AL175	Turbocor3 Single phase Overcurrent	TurboAL
AL176	Turbocor3 DC High Voltage	TurboAL
AL177	Turbocor3 High current	TurboAL

Code	Description	Reset
AL178	Turbocor3 Sensors error	TurboAL
AL179	Turbocor3 IGBT error	TurboAL
AL180	Turbocor3 High winding temp	TurboAL
AL181	Turbocor3 Bearing error	TurboAL
AL182	Turbocor3 Superheat	TurboAL
AL183	Turbocor3 Inverter error signal	TurboAL
AL184	Turbocor3 24Vdc fault	TurboAL
AL185	Turbocor3 Motor Back EMF low	TurboAL
AL186	Turbocor3 EEprom error	TurboAL
AL187	Turbocor3 Generator mode	TurboAL
AL188	Turbocor3 SCR phase	TurboAL
AL189	Turbocor3 Offline	Auto
AL190	Turbocor3 Compressor is Booting Up	TurboAL
AL191	Turbocor4 Inverter temp.	TurboAL
AL192	Turbocor4 Discharge temp.	TurboAL
AL193	Turbocor4 Suction press.	TurboAL
AL194	Turbocor4 Discharge press.	TurboAL
AL195	Turbocor4 Rotor Lock	TurboAL
AL196	Turbocor4 Phase current	TurboAL
AL197	Turbocor4 Cavity temp.	TurboAL
AL198	Turbocor4 overcurrent	TurboAL
AL199	Turbocor4 Compressor ratio	TurboAL
AL200	Turbocor4 DC Low Voltage	TurboAL
AL201	Turbocor4 SCR temp.	TurboAL
AL202	Turbocor4 System Locked out	TurboAL
AL203	Turbocor4 Calibration failed	TurboAL
AL204	Turbocor4 Bearing Self Test Failed	TurboAL
AL205	Turbocor4 Axial displacement	TurboAL
AL206	Turbocor4 Axial static load	TurboAL
AL207	Turbocor4 Front radial disp X	TurboAL
AL208	Turbocor4 Front radial disp Y	TurboAL
AL209	Turbocor4 Front radial load X	TurboAL
AL210	Turbocor4 Front radial load Y	TurboAL
AL211	Turbocor4 Back radial disp X	TurboAL
AL212	Turbocor4 Back radial disp Y	TurboAL
AL213	Turbocor4 Back radial load X	TurboAL
AL214	Turbocor4 Back radial load Y	TurboAL
AL215	Turbocor4 Single phase Overcurrent	TurboAL
AL216	Turbocor4 DC High Voltage	TurboAL
AL217	Turbocor4 High current	TurboAL
AL218	Turbocor4 Sensors error	TurboAL
AL219	Turbocor4 IGBT error	TurboAL
AL220	Turbocor4 High winding temp	TurboAL
AL221	Turbocor4 Bearing error	TurboAL
AL222	Turbocor4 Superheat	TurboAL
AL223	Turbocor4 Inverter error signal	TurboAL
AL224	Turbocor4 24Vdc fault	TurboAL
AL225	Turbocor4 Motor Back EMF low	TurboAL
AL226	Turbocor4 EEprom error	TurboAL
AL227	Turbocor4 Generator mode	TurboAL
AL228	Turbocor4 SCR phase	TurboAL
AL229	Turbocor4 Offline	Auto
AL230	Turbocor4 Compressor is Booting Up	TurboAL

7 INPUT/OUTPUT MENU

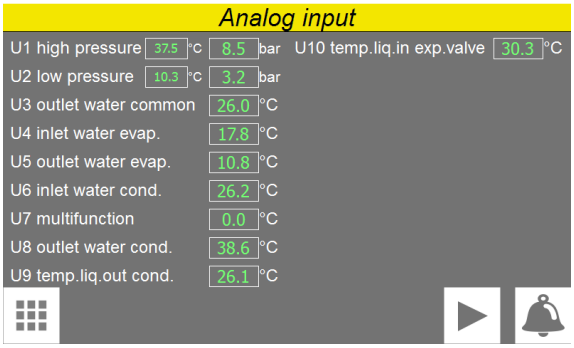
These pages contain the values and states associated with inputs and outputs available on the unit.

7.1 TBA/TBG ANALOGUE INPUTS PAGE



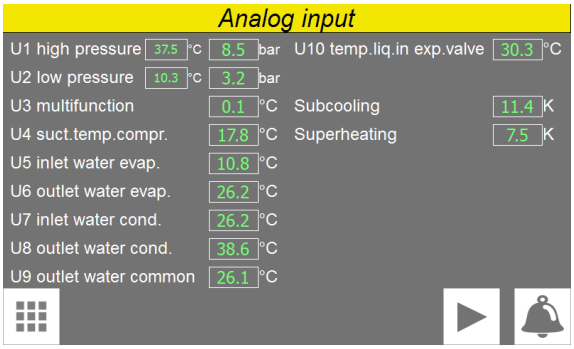
The values read by the transducers and by the probes connected to the various analogue inputs available on the unit board are indicated.

7.2 WTX/WTG ANALOGUE INPUTS PAGE



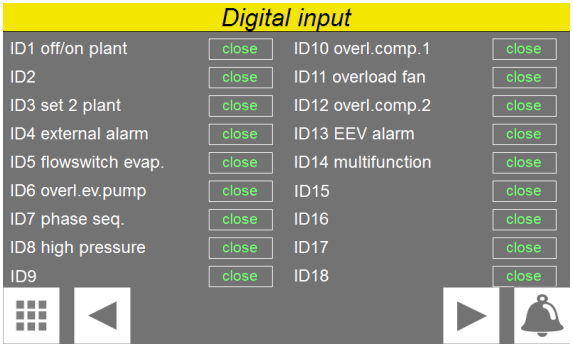
The values read by the transducers and by the probes connected to the various analogue inputs available on the unit board are indicated.

7.3 WMX/WMG ANALOGUE INPUTS PAGE



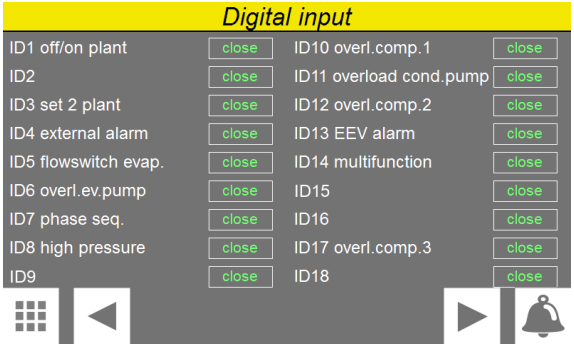
The values read by the transducers and by the probes connected to the various analogue inputs available on the unit board are indicated.

7.4 TBA/TBG DIGITAL INPUTS PAGE



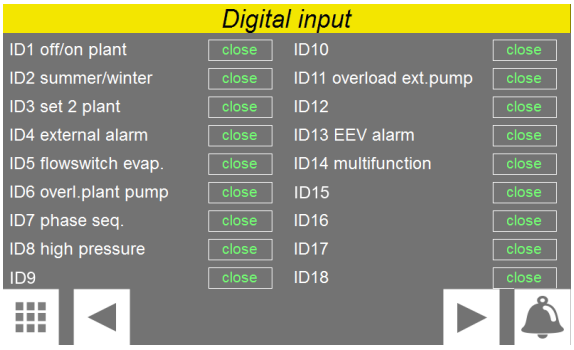
The statuses of the digital inputs available on the unit board are indicated

7.5 WTX/WTG DIGITAL INPUTS PAGE



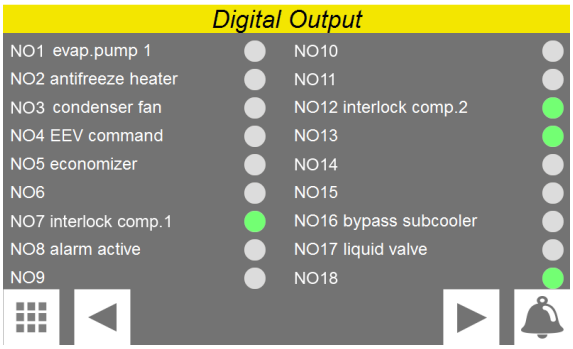
The statuses of the digital inputs available on the unit board are indicated

7.6 WMX/WMG DIGITAL INPUTS PAGE



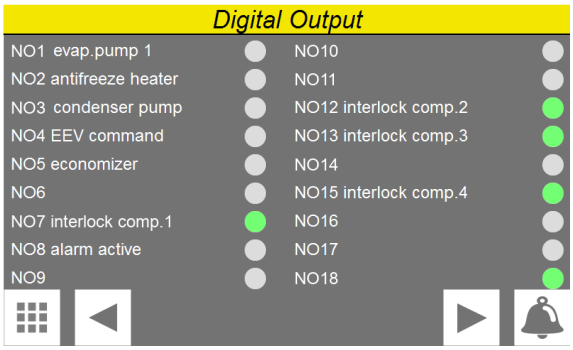
The statuses of the digital inputs available on the unit board are indicated

7.7 TBA/TBG DIGITAL OUTPUTS PAGE



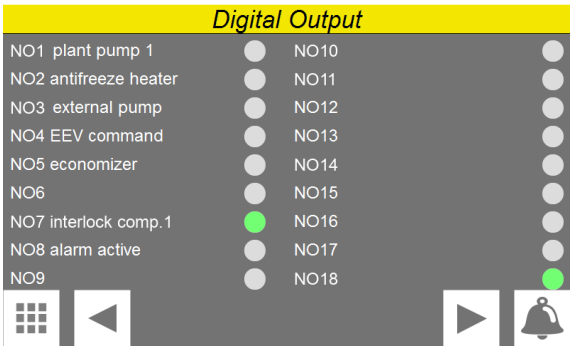
The statuses of the available digital outputs are indicated (green = On; grey = Off).

7.8 WTX/WTG DIGITAL OUTPUTS PAGE



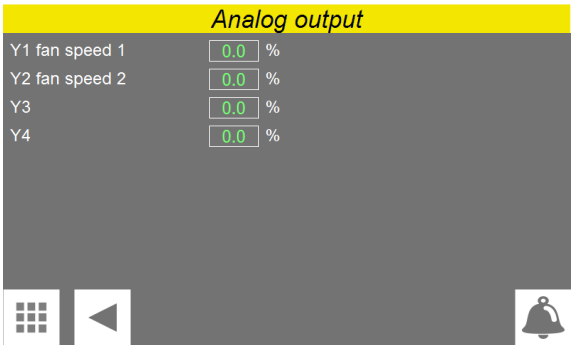
The statuses of the available digital outputs are indicated (green = On; grey = Off).

7.9 WMX/WMG DIGITAL OUTPUTS PAGE



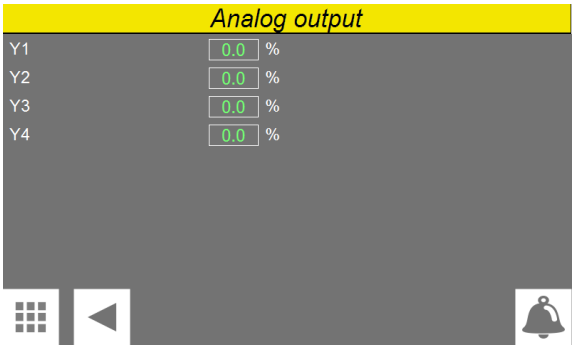
The statuses of the available digital outputs are indicated (green = On; grey = Off).

7.10 TBA/TBG ANALOG OUTPUTS PAGE



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

7.11 WTX/WMX/WMG/WTG ANALOG OUTPUTS PAGE

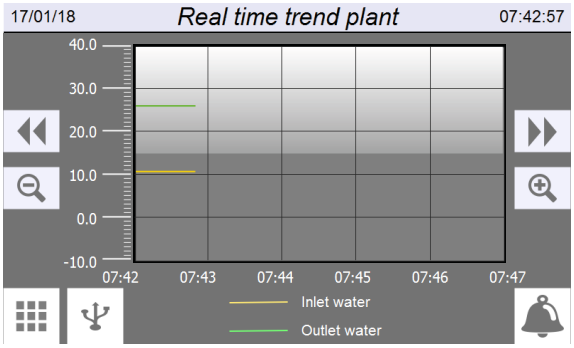


The percentage values of the analog outputs of the board are indicated

8 DIAGRAM MENU

Through the GRAPHS menu it is possible to display, in real-time, the graph of the evaporator inlet and outlet temperature probes.

8.1 GRAPHS IN REAL TIME

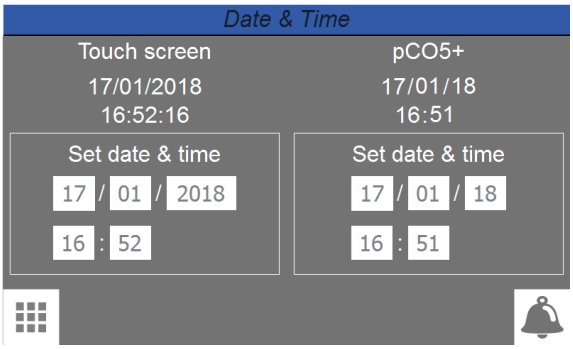


— Indicates system date
— Indicates system time
— Saves the data stored in memory (4000 pairs of evaporator inlet/outlet temperature values, sampled every 10 seconds) on USB. This port is available behind the touch screen
— Scrolls the graph backward along the X axis (time)
— Scrolls the graph forward along the X axis (time)
— Performs a negative zoom of the graph
— Performs a positive zoom of the graph

9 CLOCK MENU

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

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

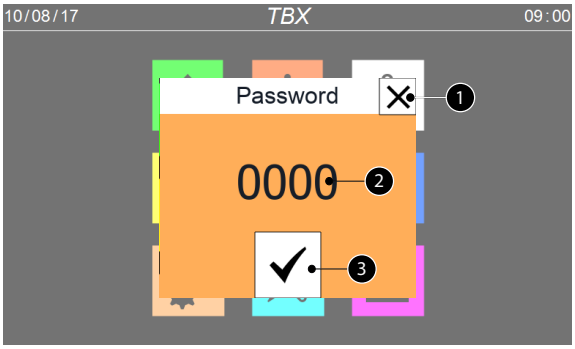


— Indicates the actual date and time set on the touch display board timer
— Indicates the actual date and time set on the pCO5+ board timer
— Allows to adjust and/or modify the date and time on the touch display board
— Allows to adjust and/or modify the date and time on the pCO5+ board

10 INSTALLER MENU

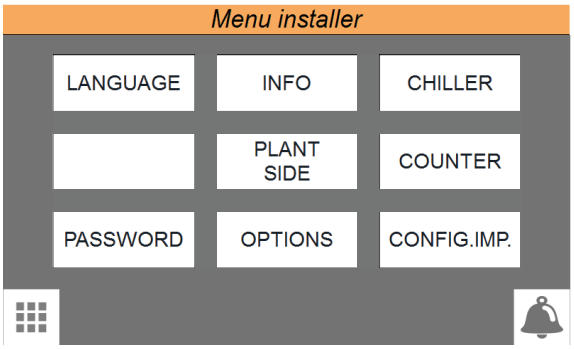
The INSTALLER menu is used to access many of the settings for operating and adjusting the unit; it may, however, contain parameters that should only be modified by persons responsible for maintenance and/or assistance on the unit or system, and for this reason it's protected by a password.
USER PASSWORD: 0000

10.1 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

10.2 SUBMENU SELECTION PAGE

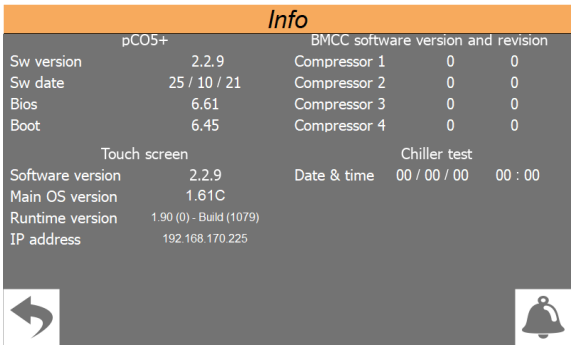


— Enter the "LANGUAGE" submenu
— Enter the "INFO" submenu
— Enter the "CHILLER" submenu
— Enter the "SYSTEM SIDE" submenu
— Enter the "COUNTS" submenu
— Enter the "PASSWORD" submenu
— Enter the "OPTIONS" submenu
— Enter the "SYSTEM CONFIGURATIONS" submenu

10.3 SETTING THE LANGUAGE FOR THE USER INTERFACE

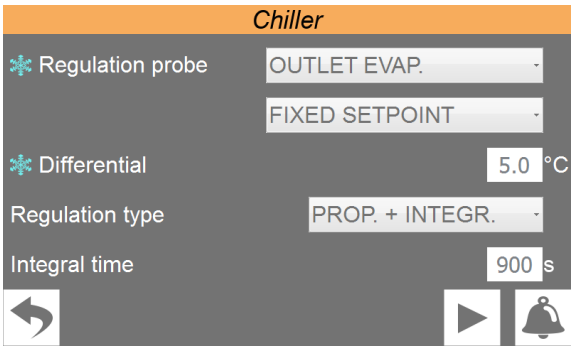
— Used to set English as the system language
— Used to set Italian as the system language
— Used to set Russian as the system language

10.4 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 current software version installed on the turbocor compressors 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

10.5 SELECTION OF THE ADJUSTMENT LOGIC IN COOLING



— Sets the probe on which to base cooling adjustment. The potential choices are:
- **EVAP.INL.** = Evaporator inlet;
- **EVAP.OUT.** = Evaporator outlet;
- **COM.OUT.** = Common evaporator outlet;

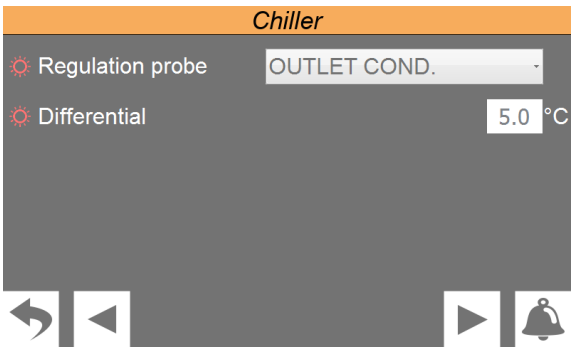
— Sets the setting to be used for cold setpoint adjustment. The possible choices are:
- **FIXED SETPOINT** = The adjustment does not perform any dynamic correction on the cold setpoint value;
- **SETPOINT COMPENS.** = The cold setpoint is compensated based on the external temperature by using the climatic curve (this adjustment is not available on the water/water units);

— 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;
- **PID**: NOT AVAILABLE;

— Sets the integral time to be used in the adjustment algorithm

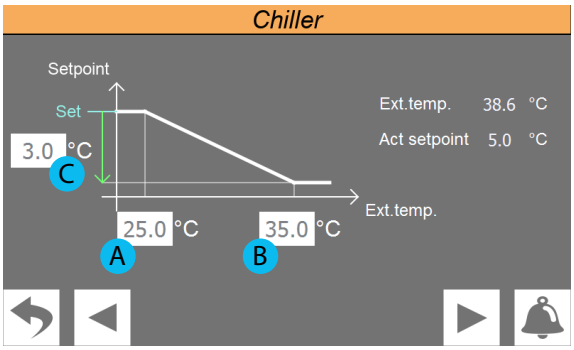
10.6 SELECTION OF THE HEATING ADJUSTMENT LOGIC (HEAT PUMPS ONLY)



— Sets the probe on which to base heating adjustment. The potential choices are:
- **COND.INL.** = Condenser inlet;
- **COND.OUT.** = Condenser outlet;
- **COND.COM.** = Condenser common outlet;

— Sets the differential value to be applied to the hot setpoint

10.7 SETTING THE CLIMATIC CURVE TO BE USED IN COOLING (ONLY AIR/WATER UNIT)



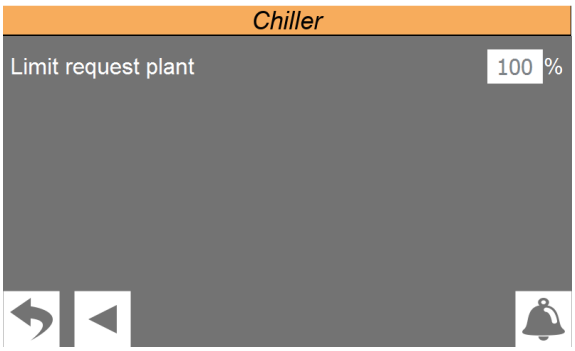
— Indicates the current value of the following parameters:
Ext.temp. = value of the external air temperature;
Current set. = current value calculated for the cold setpoint based on the external temperature;

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)

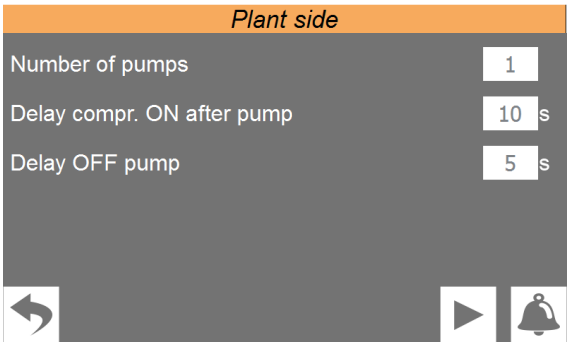
C. Sets the maximum offset to be applied to the cold setpoint at the maximum external air temperature value (B). Naturally, for external air temperature values between (A) and (B), the offset to be applied to the setpoint will be between 0 and (C), calculated directly proportionally to the increase in the external air temperature (as shown in the graph)

10.8 LIMIT POWER REQUEST SETTING OF THE THERMOSTAT



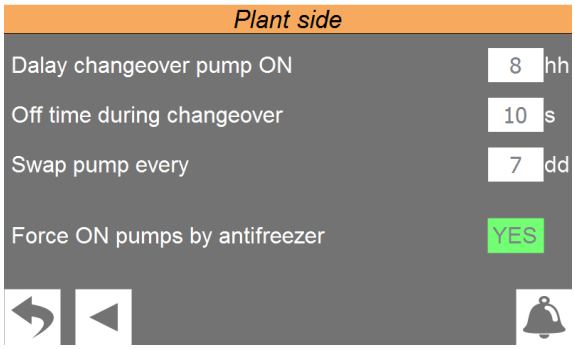
Set a potential power request limit of the thermostat to prevent alarm conditions or set a maximum ceiling on unit consumptions.

10.9 PUMP SETTINGS (PAGE 1)



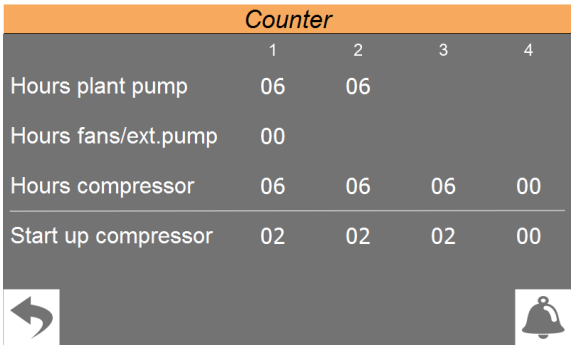
— Sets the number of pumps installed on the system side. The number of pumps can be 2 at maximum (in case of water/water machines in heating, this page is used to define the number of system side pumps)
— Sets the delay for compressor switch-on after switching on the system side pumps
— Sets the delay switch-off of pumps on the system side after switching off the compressors

10.10 PUMP SETTINGS (PAGE 2)



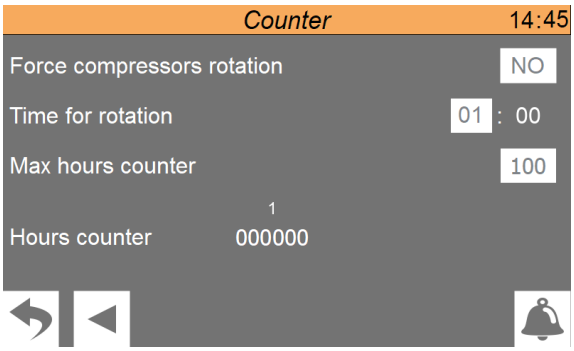
1. Sets the number of working hours after which the main pump is replaced by the backup pump and vice versa. After the number of hours set, the pumps will be inverted as soon as all the compressors are inactive. First the pump will be switched off, then there will be a stop, equal to the waiting time specified in parameter (2), after which the backup pump will be started as main pump
2. Sets the waiting time during the pump reversing stage
3. Sets how many days before forcing pump inversion in the event that the unit never has compressors stopped
4. Sets use of the system side pumps to perform the antifreeze function when required

10.11 DISPLAYS THE WORK HOURS STATUS OF THE COMPONENTS OF THE UNIT (PAGE 1)



— 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):
  - **Pump hours sys.** = system side pumps work hours number;
  - **Ext. fan/pump hours** = source side pumps work hours number;
  - **Compressor hours** = compressors work hours number;
— Indicates the number of peaks made by each compressor

10.12 DISPLAYS THE WORK HOURS STATUS OF THE COMPONENTS OF THE UNIT (PAGE 2)

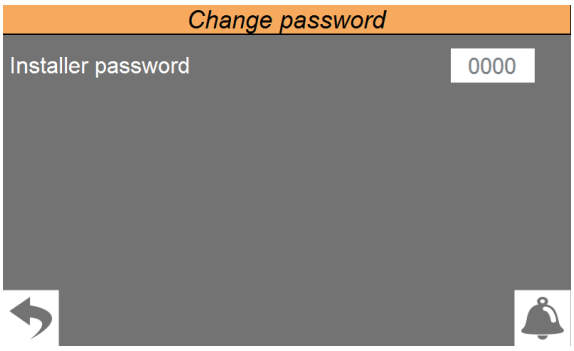


— Compressor rotation forcing enabling
— Indicates the time when the rotation is carried out if the maximum hour count has been exceeded
— Displays the elapsed hours. The count starts only if the function is enabled and resets only if rotation is carried out with another compressor.

NOTICE

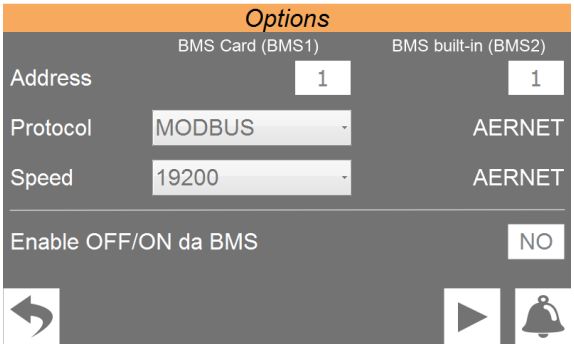
The hours of compressors 2/3/4 are displayed only if enabled.

10.13 SETS PASSWORD FOR INSTALLER MENU (DEFAULT 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.

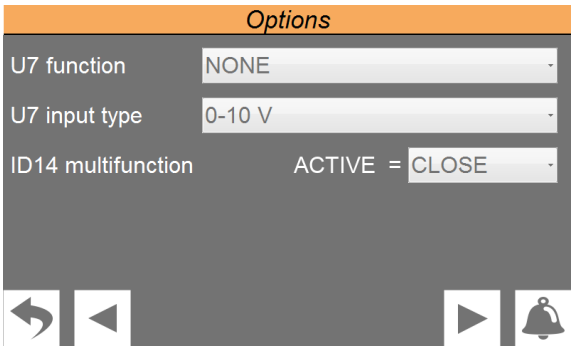
10.14 SETTINGS RELATED TO THE BMS



— Sets the address to be assigned to the BMS1 (i.e. accessory AER485P1)
— 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
— Sets the address to be assigned to the BMS2 (i.e. accessory AERNET)
— Sets whether to enable the ON/OFF command from an external BMS supervisor

10.15 TBA/TBG/WTX/WTG MULTIFUNCTION INPUT SETTINGS

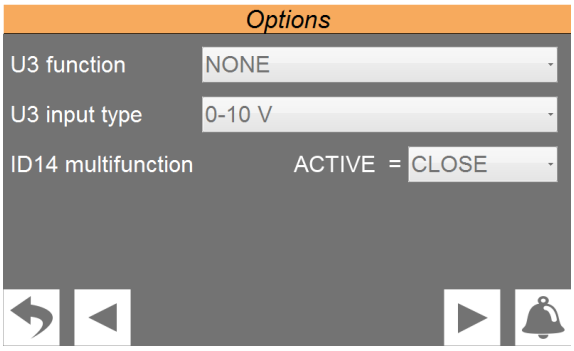


— Sets the function to be assigned to the analogue input U7. The functions can be:
- **NONE** = multifunction input not used;
- **POWER LIMIT** = based on the signal applied to the analogue input U7, a value will be established to be applied to the power request limit by the system;
- **POWER REQUEST** = based on the signal applied to the analogue input U7, the power request that the unit must meet will be established;
- **SETPOINT** = based on the signal applied to the analogue input U7, the value of the setpoint to be applied to the unit will be established;

— Sets the type of signal applied to the analogue input U7. The signals managed can be:
- **0-10V** = signal in 0-10V voltage;
- **4-20mA** = signals in 4-20mA current;
- **NTC** = signal from NTC temperature probe;

— To enable the U7 multifunction input, it is required to operate on the digital input ID14. It is possible to choose the state with which to enable use of the multifunctional input:
- **CLOSED** = if ID14 is closed the U7 input open;
- **OPEN** = if ID14 is open the U7 input enabled;

10.16 WMX/WMG MULTIFUNCTION INPUT SETTINGS



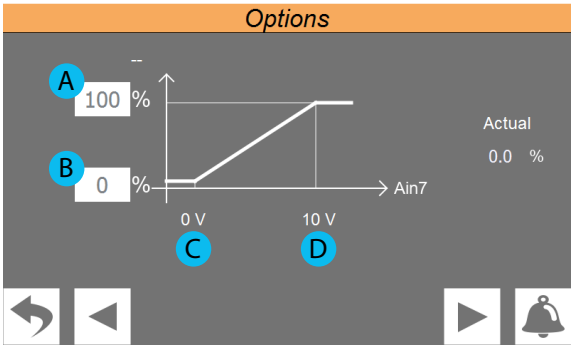
— Sets the function to be assigned to the analogue input U3. The functions can be:
- **NONE** = multifunction input not used;

- **POWER LIMIT** = based on the signal applied to the analogue input U3, a value will be established to be applied to the power request limit by the system;
- **POWER REQUEST** = based on the signal applied to the analogue input U3, the power request that the unit must meet will be established;
- **SETPOINT** = based on the signal applied to the analogue input U3, the value of the setpoint to be applied to the unit will be established;

— Sets the type of signal applied to the analogue input U3. The signals managed can be:
- **0-10V** = signal in 0-10V voltage;
- **4-20mA** = signals in 4-20mA current;
- **NTC** = signal from NTC temperature probe;

— To enable the U3 multifunction input, it is required to operate on the digital input ID14. It is possible to choose the state with which to enable use of the multifunctional input:
- **CLOSED** = if ID14 is closed the U3 input open;
- **OPEN** = if ID14 is open the U3 input enabled;

10.17 SETS SIGNAL MANAGEMENT LOGIC FOR MULTIFUNCTION INPUT



1. Indicates the function selected for the multifunction input. This function can be:
- **NONE** = multifunction input not used;
- **POWER LIMIT** = based on the signal applied to the analogue input, a value will be established to be applied to the power request limit by the system;
- **POWER REQUEST** = based on the signal applied to the analogue input, the power request that the unit must meet will be established;
- **SETPOINT** = based on the signal applied to the analogue input, the value of the setpoint to be applied to the unit will be established;

2. Indicates the current percentage value that will be applied to the assigned function based on the signal applied to the analog input

A. Sets (depending on the type of signal chosen on the previous page) the percentage value to be assigned to the function (1) if the signal at the multifunction input will have the value (D)

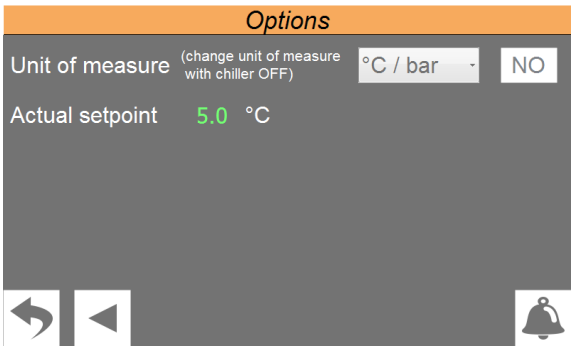
B. Sets (depending on the type of signal chosen on the previous page) the percentage value to be assigned to the function (1) if the signal at the multifunction input will have the value (C)

C - D: These fields will only be editable if, on the previous page, an NTC signal has been selected as input type. In this case the two extreme temperature values within which the selected function must be modulated must be specified

NOTICE

Multi-function power inlet is not available for TBA units with power supply "7" (460V/3/60Hz) and "8" (575V/3/60Hz) since it is used for the operation of differential pressure transmitter.

10.18 SET UNIT OF MEASUREMENT FOR THE SYSTEM



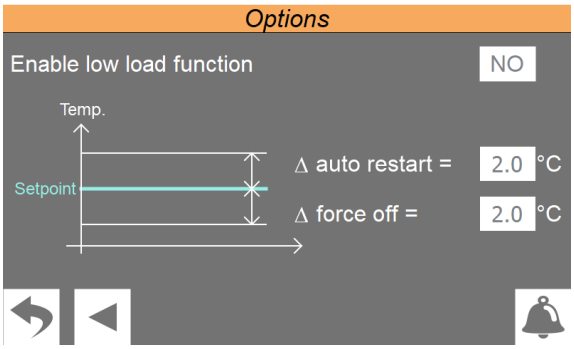
— Selects the type of unit of measurement to be used. The choices available are:
°C/bar;
°F/psi;

NOTICE

To change the units of measurement the unit must be off (for example "Off from display")

— Indicates the current working setpoint value with relative unit of measure

10.19 ENABLE LOW LOAD FUNCTION

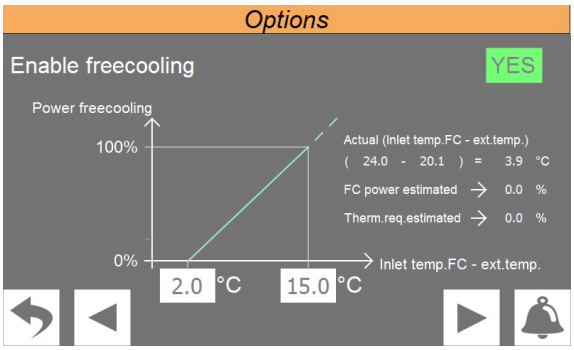


— Enables/disables the low load function
— **Auto restart**: Sets the low load outlet temperature value
— **Forcing off**: Sets the forcing value of the compressor switch-off
— The graph indicates the low load function values

NOTICE

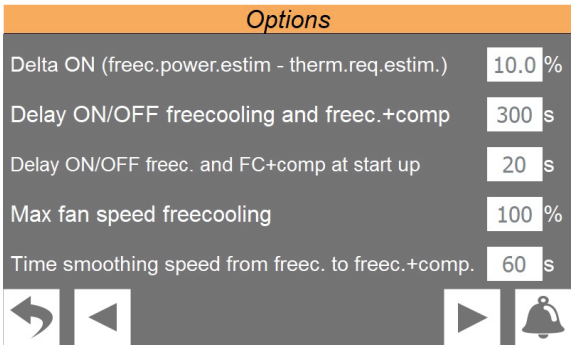
In the case of low load active and compressor on, the message "Low load" will appear; in the case of low load active and compressor off, the message "Low load: auto restart" will appear.

10.20 ENABLE FREECOOLING



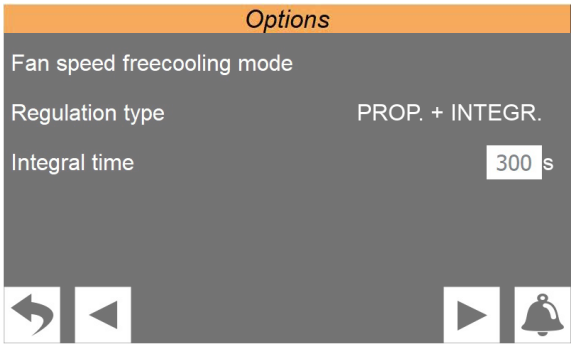
— Indicates that the Freecooling function is enabled or disabled
— Indicates the difference between the Freecooling input temperature and the outdoor temperature
— Indicates the estimated Freecooling power
— Indicates the estimated thermostatic request
— The graph illustrates the proportion between the Freecooling power and the value of the difference between the Freecooling input temperature and the outdoor temperature

10.21 FREECOOLING PARAMETERS



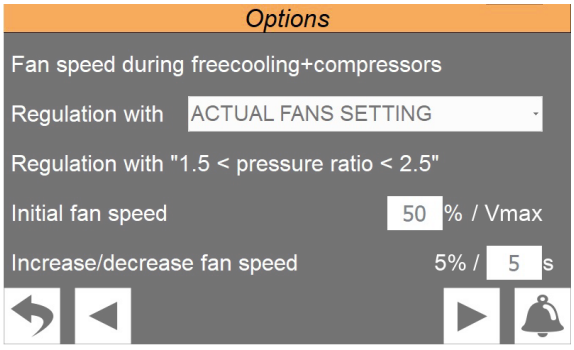
— Indicates the difference between the estimated Freecooling power and the estimated thermostatic request
— Indicates the Freecooling switch-on/switch-off delay and the Freecooling + compressor
— Indicates the Freecooling switch-on/switch-off delay and the Freecooling + compressor switch-on
— Indicates the maximum speed of the Freecooling fans
— Indicates the fan speed change delay from Freecooling to Freecooling + compressor

10.22 FREECOOLING FANS



— Indicates the Freecooling fan speed
— Indicates the type of fan regulation
— Indicates the integral time of fan regulation

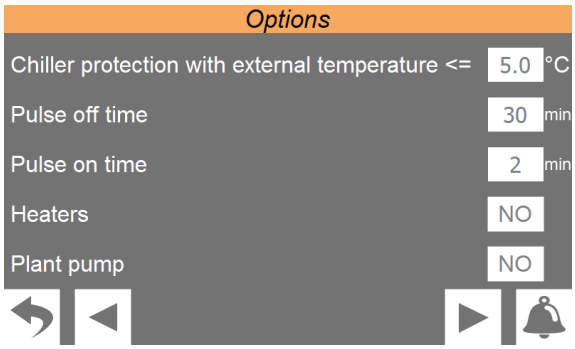
10.23 FREECOOLING FANS + COMPRESSORS



— Indicates the Freecooling + compressors fan speed

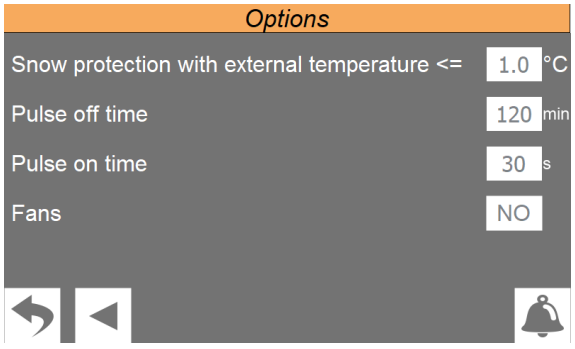
— Indicates the type of Freecooling + compressors fan regulation
— Indicates the type of regulation with which points 4 and 5 can be used
— Indicates the initial fan speed with regulation as in point 3
— Indicates the increase or decrease of the fan speed with regulation as in point 3

10.24 CHILLER PROTECTION PAGE



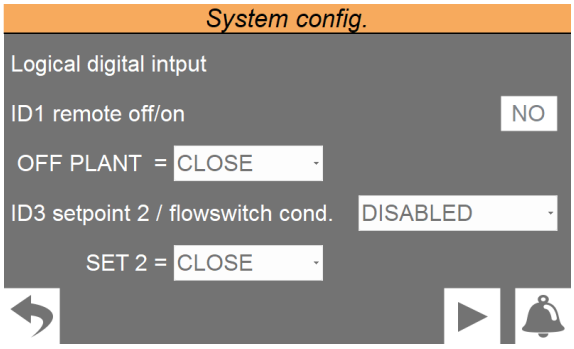
— Indicates the chiller protection activation threshold
— Indicates the pump off time
— Indicates the pump on time
— Indicates the resistance enabling/disabling
— Indicates the pump switch-on enabling/disabling

10.25 FANS PROTECTION PAGE



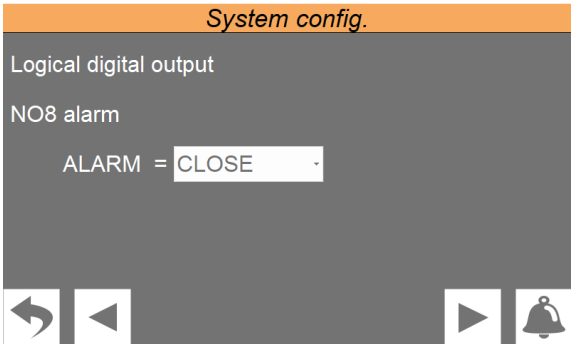
— Indicates the fan protection activation threshold
— Indicates the fan off time
— Indicates the fan on time
— Indicates the fan enabling/disabling

10.26 SETS DIGITAL INPUTS LOGIC



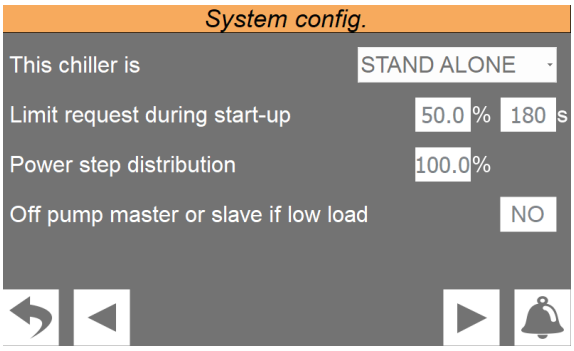
— Enables or disables digital input ID1 (its function is to give the ON/OFF command from digital input)
— Sets the logic with which to manage input ID1. The logics can be:
  ◦ **CLOSED** = if ID1 is closed the unit is OFF;
  ◦ **OPEN** = if ID1 is open the unit is OFF;
— Enables or disables digital input ID3 (its function is to use setpoint 2)
— Sets the logic with which to manage the ID3 input. The logics can be:
  ◦ **CLOSED** = if ID3 is closed the setpoint 2 is selected;
  ◦ **OPEN** = if ID3 is open the setpoint 2 is selected;

10.27 SETS DIGITAL OUTPUTS LOGIC



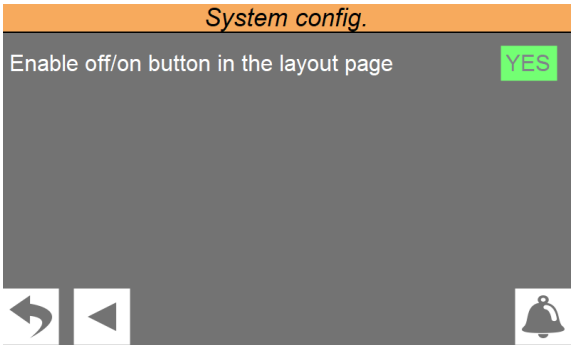
Sets the logic with which to manage the NO8 output (output to signal an active alarm). The logics can be:
CLOSED = if NO8 closed it indicates alarm active;
OPEN = if NO8 open it indicates alarm active;

10.28 SETS LOGIC FOR MASTER/SLAVE UNITS MANAGEMENT



1. 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);
2. Sets the value to which the power request is limited in the initial stage, in order to avoid start-up of both chillers for a "false" load
3. Sets for how long to keep the lock specified in point (2) active
4. Enables to set the power distribution between Master and Slave. With parameter = 0.1% the required power increases simultaneously on the Master and on the Slave. With parameter = 100.0% the required power increases first on one chiller then on the other based on the number of hours of operation. Priority is given to the master or slave by looking at the number of operating hours of the master and slave compressors.
5. It turns the master or slave pump off if there is no compressor request in that circuit.

10.29 ENABLE OFF/ON KEY IN THE LAYOUT PAGE



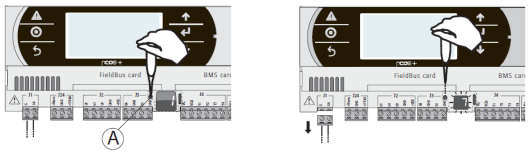
YES = the off/on key in the system layout page is present;
NO = the off/on key in the system layout page is hidden and only the machine status is displayed.

10.30 NOTES ON CONNECTING TWO MASTER/SLAVE UNITS

Number	Element	Unit	Address	
			pLAN	MODBUS
1	Display touch screen	Master	6	
2	pCO5+ control board		1	
3	EEV electronic valve driver			198
4	Driver turbocor 1			1
5	Driver turbocor 2			2
6	Display touch screen	Slave	7	
7	pCO5+ control board		2	
8	EEV electronic valve driver			198
9	Driver turbocor 1			1
10	Driver turbocor 2			2

The Master/Slave electrical connection of the two chillers is performed via a pLAN line cable as shown in the figure (dotted line).
The pLAN address of the Master board must be set to 1 manually (default setting).
The pLAN address of the Slave board must be set to 2 manually, according to the following procedure:

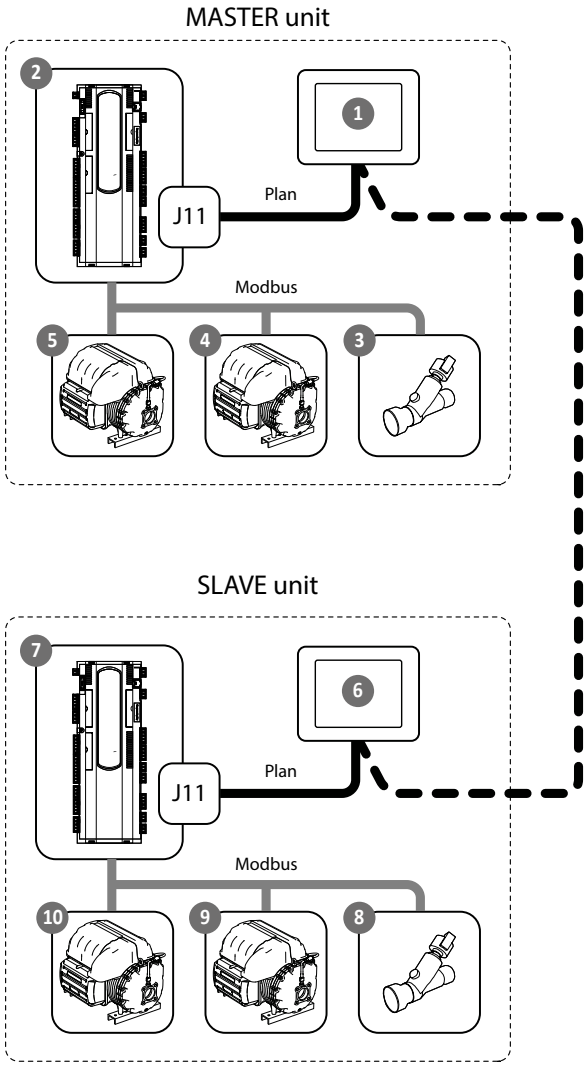
1. Using a suitable screwdriver, press the "A" key for 5 seconds. The pLAN address will start to flash;
2. Repeatedly press the key until reaching the desired address and remove the screwdriver;
3. Wait until the address starts flashing quickly, in this stage the address is stored but not yet active for the application program;
4. Disconnect power from the control;
5. Return power to the control, now the address is active;



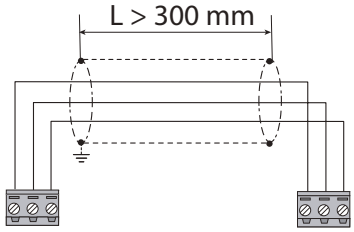
NOTICE

IMPORTANT 1: Provide the "evaporator common output probe" of the master and place it in a point where the water temperature change is detected with only the master on or with only the slave on. If a storage tank is present position it inside it.

IMPORTANT 2: In case of WMX and WMG should you wish to change the mode (COOLING/HEATING) it must be done both on the master and on the slave. The master does NOT force change of the operating mode of the slave.



pLAN cable characteristics for MASTER/SLAVE connection:



Connect the screen to the ground

SCARICA L'ULTIMA VERSIONE:

http://www.aermec.com/qrcode.asp?q=6159

DOWNLOAD THE LATEST VERSION:

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