VISION TOUCH THR

User and maintenance manual

ENGLISH

READ AND KEEP

REV. 01-23
ENG

ELECTRICAL BOARDS FOR REFRIGERATING INSTALLATIONS

Pego

Thank you for choosing PEGO'S VISION TOUCH THR controller.

Reading this manual thoroughly will guide you through proper installation and a better use of the various features. We therefore recommend keeping this manual near the controller to make use of it during the device installation, configuration and use.

Waste disposal guidelines:

The Vision Touch controller consists of glass parts, plastic parts and metal parts.
With reference to the Directive 2012/19/UE of the European Parliament and of the Council of 4 July 2012 and related national legislation, please note that:

    A. There is the obligation not to dispose of WEEE as urban waste and to perform separate collection of this waste.

    B. Public or private waste collection facilities foreseen by local laws must be used to dispose of the materials. It is also possible to give the device back to the distributor at the end of its life when purchasing a new one.

    C. This equipment can contain dangerous substances: improper use or incorrect waste disposal could have negative effects on human health and on the environment.

    D. The symbol ▬▬ (crossed-out waste bin on wheels) applied to the pack, product and instructions indicates that the appliance was placed on the market after August 13, 2005 and must be disposed of separately.

    E. In case of abusive disposal of electrical and electronic waste, there are sanctions established by local standards in force concerning waste disposal.

CONTENTS

PARAMETERS

DIAGNOSTICS

DATALOGGER

WEB SERVER

OPERATION

APPENDICES

CHAPTER 1: INTRODUCTION

GENERAL INFORMATION	1.1

DESCRIPTION

The **VISION TOUCH THR controller** manages the temperature and humidity in seasoning, storage and industrial process environments.

The system consists of the 100N MASTER3 unit, on which all the electrical connections are made, and the VISION TOUCH THR control console, equipped with 7" TFT display with capacitive touch screen combined with a highly advanced software and a highly user-friendly interface that allows easy use.

As a whole, it allows a control of the following features: temperature (hot / cold) and humidity (humidification/dehumidification), defrosting (electric or hot gas), pause, dripping, air exchange either programmed or automatic with energy saving function and with a reading of external temperature / humidity probes, modular valves hot/cold water management, essence input in automatic programs management, evaporator fans speed adjustment (digital outputs slow / fast or with 0-10V signal), activation of internal air recirculation for destratification.

APPLICATIONS:
- Seasoning/drying cells.
- Storage cells with or without humidity control.
- Climatic cells for humidostatic tests, thermal and climatic cycles.

MAIN FEATURES:
- 7" TFT display with high resolution (800x480 WVGA), LED backlighting and capacitive touch screen.
- Front with 1,1mm chemically treated glass.
- Ability to reverse the viewing angle of the display to ensure the possibility of mounting at any height.
- Devices: USB 2.0, microSD, RS485.
- Acoustic signals.
- IP65 frontal protection.
- High quality design and icons.
- Touch screen interface with gestures, for an even more intuitive control.
- Clock and calendar (RTC).
- Password function.
- Multilingual.
- Customizable user parameter menu (unused features can be hidden, simplifying the menu).
- Contextual help in the parameter configuration menu.
- Software updating from microSD or USB.
- Alarm history combined with popup warning messages.
- Advanced HACCP function with detailed memory of temperature / humidity alarms triggered.
- 20 completely customizable programs can be stored on the device.
- Ability to export and import programs and parameters on USB or microSD supports.

- Automatic management of 21 phases for each program (up to 99 hours and 59 minutes for each phase).
- Manual or automatic functioning with execution of the selected program.
- Ability to force a manual skipping phase during the execution of a program.
- Ability to set the execution modality at the end of an automatic program such as: preservation / cyclical / standby (this last one with the ability to enable an end program warning).
- Diagram of the program in execution with progress display (completed phases, phases in progress and phases yet to be executed) and a representation of the set values and of all the remaining times.
- Temperature adjustment range: -45°C/+99°C; humidity adjustment range: 0-100 R.H.%
- Possibility of excluding heat and humidity for managing cell-only storage with the activation of the defrost cycles.
- Dehumidification program with cold / hot / independent free voltage contact.
- Features managed: temperature (hot / cold) and humidity (humidification / dehumidification), defrosting (electric or hot gas), pause, dripping, air exchange either programmed or automatic with energy saving function and with a reading of external temperature / humidity probes, modular valves hot/cold water management, essence input in automatic programs management, evaporator fans speed adjustment (digital outputs slow / fast or with 0-10V signal), activation of internal air recirculation for destratification.
- "Test center" mode to check, in a simple and intuitive way, all the digital and analogical inputs/outputs.
- RS485 serial connection with TeleNET or Modbus protocol which can be selected in the parameters.
- Data logger (temperature, humidity and relevant set point registration); graph and registered data export in CSV format.
- Web server: control the Vision Touch from web browsers (controlled access).
- Proportional humidifier control with 0-10V analogue output.
- Automatic sending of e-mail in case of alarm.

| 1.2 | PRODUCT IDENTIFICATION CODES |

200VT100THR1

- TOUCH electronic control dedicated for retarder provers. It features an elegant 7'' TFT display with capacitive touch screen combined with highly advanced software and an extremely intuitive user interface that allows easy use.
- 5m telephone cable included.
- 2 NTC probes (1x1.5 m + 1x3 m) included.

- Humidity probe sold separately.

OVERALL DIMENSIONS

1.3

Dimensions in mm:

VISION TOUCH THR

151

134,5 (X 174,5)

191

44

100N MASTER3

121,50

175

71
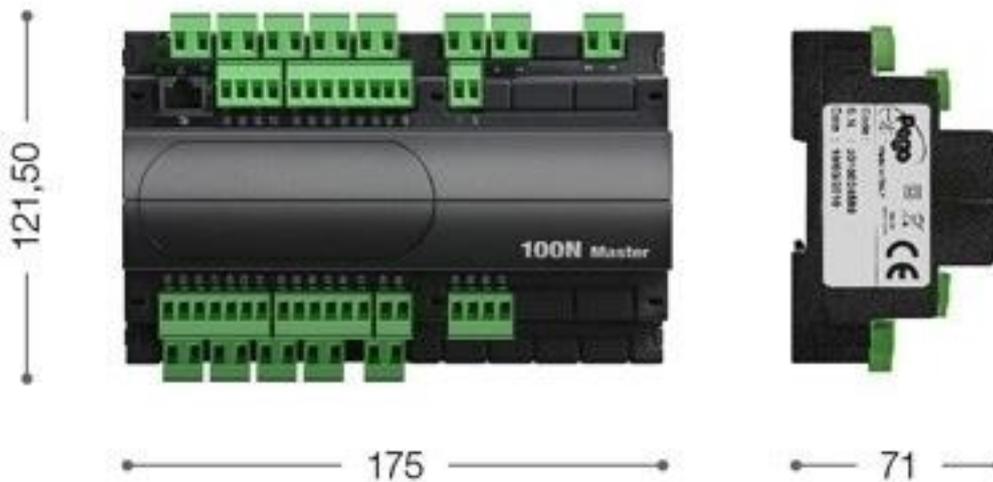
IDENTIFICATION DATA

1.4

The device described in this manual has on the side of 100N MASTER3 and on the back of the VISION TOUCH THR console, a plate bearing its identification data:

• Name of Manufacturer
• Description and code
• Serial number
• Date of production
• Power supply

Pego Console CE UK CA
MADE IN ITALY
RoHS compliant
Description: KIT VISION TOUCH THR
Code: **200VT100THR1**
S.N. : 23000000001
MFG Date: **19/05/2023**

Pego 100N MASTER3 CE UK CA
MADE IN ITALY
RoHS compliant
Description: KIT VISION TOUCH THR
Code: **200VT100THR1**
S.N. : 23000000001
MFG Date: **19/05/2023**
P. Supply: 110-230Vac +/-10% 50-60Hz

1.5	TECHNICAL FEATURES

Power supply	
Voltage	110 - 230 V~ $\pm$ 10% 50/60Hz
Max power consumption (electronic controller only)	~ 15 VA
Climatic conditions	
Operating temperature	-5T50°C <90% R.H. non-condensing
Storage temperature	-10T70°C <90% R.H. non-condensing
General features	
Type of connectable probes (temperature)	NTC 10K 1%
Resolution (ambient temperature)	0,1 °C
Precision of probe detection (ambient temperature)	± 0,5 °C
Reading range	-45 ÷ +99 °C
Humidity probe	analogue input 4-20mA
Precision of humidity probe detection	see humidity probe features
Range of humidity probe detection	0-99 RH%

Output features (voltage-free contacts)

Description	Relay installed	Features of output board	Notes
Output 3-4	(30A AC1 relay)	30A 240V~ (AC1) 10A 240V~ (AC3) (2HP) (100000 cycles)	All the outputs are voltage-free contacts
n°11 outputs from 5 to 26 (see connections diagram)	(16A AC1 relay)	16A 240V~ (AC1) 3A 240V~ (AC3)	

Dimensional features	
Dimensions 100N MASTER	121,50mm x 71mm x 175mm (HxDxL)
Dimensions VISION TOUCH THR	151mm x 44mm x 191mm (HxPxL)
Insulation and mechanical properties	
Degree of protection of display	IP65 on the front
Material of box	Self-extinguishing ABS

CHAPTER 2: INSTALLATION

GENERAL RULES FOR THE INSTALLER   2.1

1. If the program is used in applications with the risk of harming persons, machines or materials, it must be coupled with auxiliary alarm devices.

2. The programmer must NOT be installed in environments with dangerous atmospheres (flammable or explosive); it can only be connected to elements which operate in this atmosphere by means of appropriate and suitable types of interface compliant with safety standards in force.

3. Install the appliance in places which respect the degree of protection.

4. Avoid using multi-pole cables with conductors connected to inductive and power conductors, and with signal conductors like probes and digital inputs.

5. Avoid housing power cables in the same conduits as signal cables (probes, digital or analogue inputs, communication cables).

6. Minimize the length of the connecting cables to prevent these from coiling up and adversely affecting the electronics through induction.

7. All the conductors of the cables must be of an appropriate size to withstand the required load.

8. Place a general protection fuse upstream the electronic controller.

9. Provide a two-phase disconnecting switch compliant with foreseen safety requirements (CE marked) to shut off the power supply upstream the controller. The switch must be placed in the immediate vicinity of the regulator and must be easily reachable by the operator.

10. The length of the probes could need to be extended, in that case it is necessary to use conductors with an appropriate cross-section which, however, cannot measure less than 1mm². Extension or shortening of the probes may alter the factory settings; use an external thermometer, therefore, for testing and calibration.

11. At low temperatures of use, a decrease in the response speed of the display may be visible on the console; this is to be considered normal.

STANDARD EQUIPMENT FOR ASSEMBLY AND USE   2.2

The **VISION TOUCH THR** electronic controller is provided with the following for assembly and use:

• Nr 2 temperature probes;
• Nr 1 plug telephone cable (5m);
• Nr 1 user manual;
• Nr 1 Vision Touch THR (200VTOUCHTHR) console;
• Nr 4 media for Vision Touch console;
• Nr 1 100N MASTER3 (200100NMSTH3);

2.3　　　　**INSTALLATION AND ASSEMBLY**

Fig. 1: Install the 100N MASTER3 module on the DIN guide and close the bottom clamps to hold it in place.
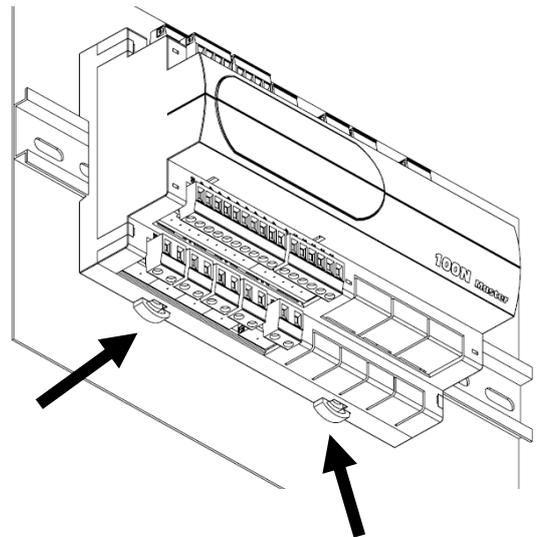
Fig. 2: VISION TOUCH THR console drilling template.

177mm

Drilling template

136mm
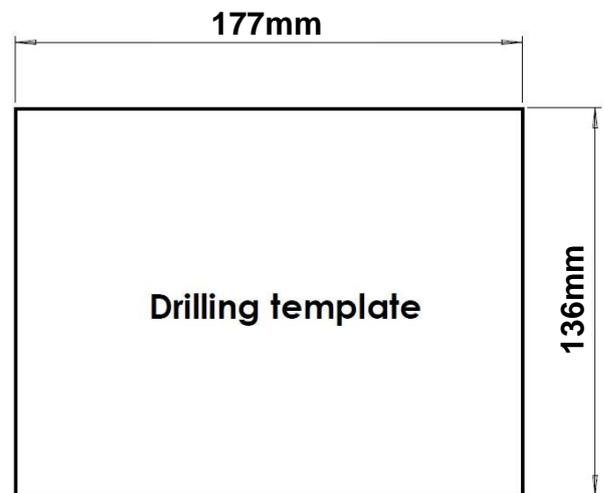
Fig. 3: In case of assembly in a low position, we suggest rotating the display by 180° to have the signal LEDs in the upper part.
It is possible to invert the viewing angle of the display by 180° by acting on the side selector. This allows you to mount the VISION TOUCH at any height.
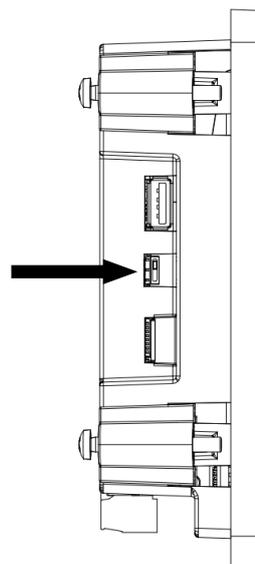
Fig. 4: Fasten the **VISION TOUCH** console with the four media to be inserted in their specific seats.
Tighten each screw until the entire border front of the console rests on the panel.
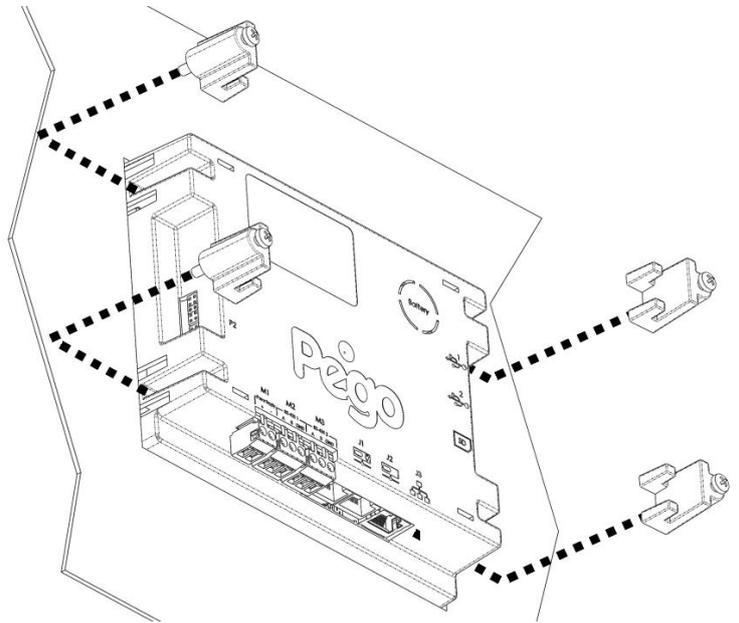
CHAPTER 3: ELECTRICAL CONNECTIONS

Down below are reported the electrical connections of the controller divided by type. The configurations of the inputs and outputs shown are set by default but can be edited to suit your needs. The connection between the console and 100N MASTER3 has two possible variants based on the distance between the two components.

| 3.1 | POWER SUPPLY AND CONNECTION CONSOLE/100N MASTER3 |

1) Connection between the console and 100N MASTER3 with distance up to 10m:

Connect the ground to the GND terminal of M2 in the console (functional ground).
This connection helps to limit the effects of the electromagnetic noise on the control system.
The earth connection must be made in a manner consistent with applicable regulations.

Connect the power to terminals 1 and 2 of 100N MASTER3.
Switching power supply:
115÷230Vac ±10% 50/60Hz
Demand: 20 VA max.

Use the supplied telephone cord and connect the 8-pin Plugs to J1in the console and to J1 in the 100N MASTER (it includes communication and power).

2) Connection between the console and 100N MASTER3 with distance up to 500m:

Connect the ground to the GND terminal of M2 in the console (functional ground).
This connection helps to limit the effects of the electromagnetic noise on the control system.
The ground connection must be realized conforming to the applicable regulations.

Connect terminal (1) of M2 in the console to terminal 37 of 100N MASTER3 and term (B) of M2 in the console to terminal 38 of 100N MASTER3.
Connect the braid of the shielded cable to the (GND) terminal of M2in the console.
Use twisted cable suitable for the transmission of RS485 signals with minimum section of 0.5mm^2 (e.g. Belden 8762 cable). Avoid placing the signal cables together with power cables.

Power supply

Connect the power to terminals 1 and 2 of 100N MASTER3.
Switching power supply:
115÷230Vac ±10% 50/60Hz
Demand: 20 VA max.

Connect terminal (-) of M1 in the console to terminal 45 of 100N MASTER3 and term (+) of M1 in the console to terminal 46 of 100N MASTER3.
Avoid placing the signal cables together with power cables.
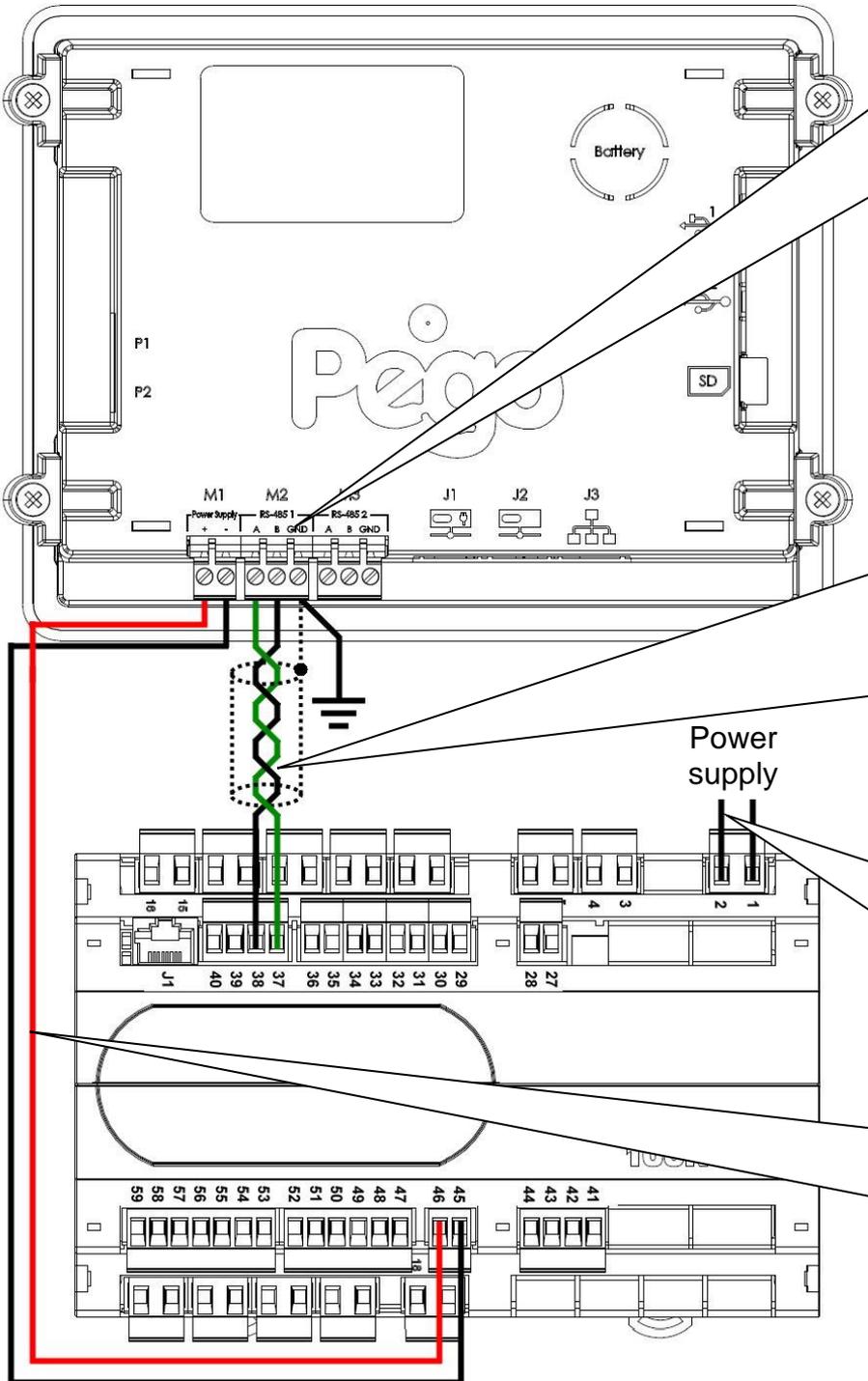
| **3.2** | **DIGITAL OUTPUT CONNECTION ON 100N MASTER3** |
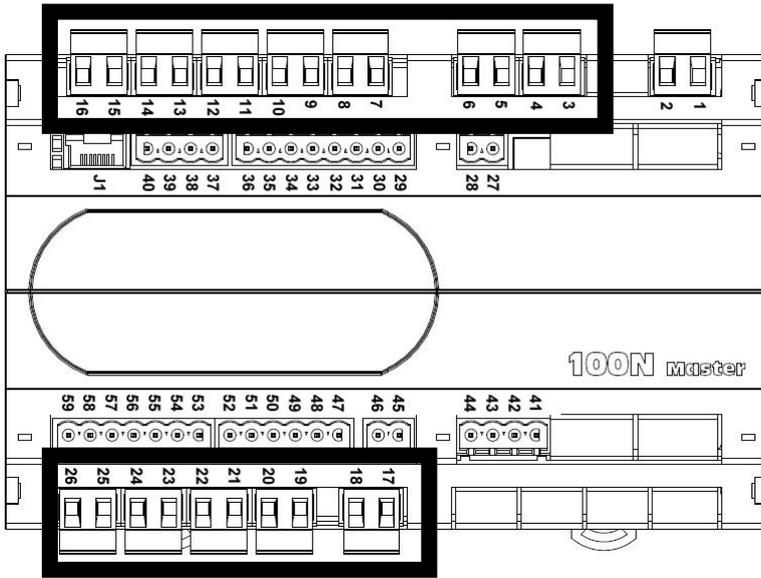
POSSIBLE CONFIGURATIONS
DIGITAL OUTPUTS DO1÷DO12

Access menu:
Parameters > Configure I/O > Digital outputs

0 = Disabled
1 = Hot
2 = Cold
3 = Fan high speed
4 = Fan low speed
5 = Humidification
6 = Dehumidification
7 = Light
8 = Air Renewal
9 = Pause
10 = Defrosting
11 = Essence
12 = End recipe
13 = Alarm (only DO12)

Positive values = Contact N.O.
Negative values = Contact N.C.

PIN TERMINALS	DIGITAL OUTPUT		DEFAULT SETTINGS DIGITAL OUTPUTS	RELAY OUTPUT FEATURES (Voltage-free contacts)
3-4	**DO1**	❄	2 = Cold (contact N.O)	Relay 30A 240V~ (AC1) 10A 240V~ (AC3) (2HP)
5-6	**DO2**	🔥	1 = Hot (contact N.O)	Relay 16A 240V~ (AC1) 3A 240V~ (AC3)
7-8	**DO3**	❈ᴴ	3 = Fans high speed (contact N.O)	Relay 16A 240V~ (AC1) 3A 240V~ (AC3)
9-10	**DO4**	❈ᴸ	4 = Fans low speed (contact N.O)	Relay 16A 240V~ (AC1) 3A 240V~ (AC3)
11-12	**DO5**	❘❘❘	5 = Humidify (contact N.O)	Relay 16A 240V~ (AC1) 3A 240V~ (AC3)
13-14	**DO6**	❳❳❳	6 = Dehumidify (contact N.O)	Relay 16A 240V~ (AC1) 3A 240V~ (AC3)
15-16	**DO7**	☀	7 = Light (contact N.O)	Relay 16A 240V~ (AC1) 3A 240V~ (AC3)
25-26	**DO8**	❈	8 = Air renewal (contact N.O)	Relay 16A 240V~ (AC1) 3A 240V~ (AC3)
23-24	**DO9**	💤	9 = Pause (contact N.O)	Relay 16A 240V~ (AC1) 3A 240V~ (AC3)
21-22	**DO10**	❄	10 = Defrosting (contact N.O)	Relay 16A 240V~ (AC1) 3A 240V~ (AC3)
19-20	**DO11**	🧴	11 = Essence (contact N.O)	Relay 16A 240V~ (AC1) 3A 240V~ (AC3)
17-18	**DO12**	🔔	13 = Alarm (contact N.O)	Relay 16A 240V~ (AC1) 3A 240V~ (AC3)

DIGITAL INPUT CONNECTION ON 100N MASTER3   **3.3**
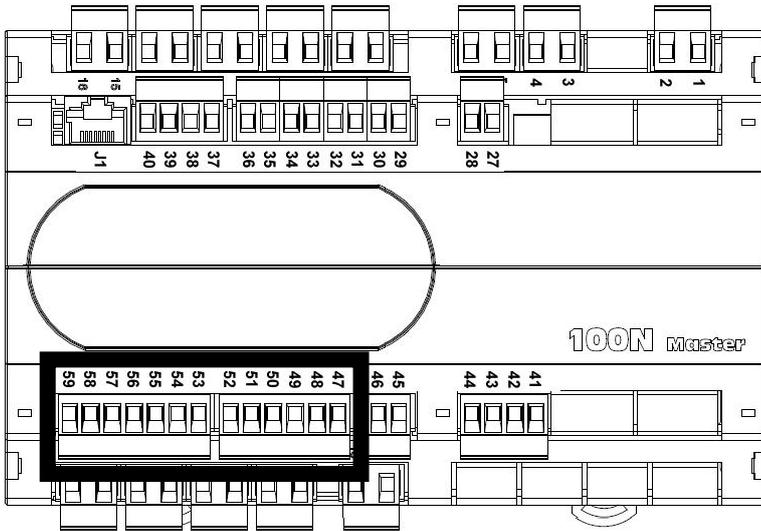
POSSIBLE CONFIGURATIONS DIGITAL INPUTS DI1÷DI12
Access menu: *Parameters > Configure I/O > Digital inputs*
0 = Disabled 1 = Door switch 2 = Alarm 3 = Stand-by 4 = Disable hot 5 = Disable humidity 6 = Compressor protection 7 = Humidifier alarm 8 = Fans protection 9 = Generic Warning 1 10 = Generic Warning 2 11 = Generic Warning 3
Positive values = Contact N.O. Negative values = Contact N.C

PIN TERMINALS	DIGITAL INPUT		DEFAULT SETTINGS OF DIGITAL INPUTS (Use voltage-free contacts)
47-59	**DI1**		1 = Door switch (function Not active with contact N.O.)
48-59	**DI2**		2 = Alarm (function Not active with contact N.O.)
49-59	**DI3**		3 = Stand-by from remote (function Not active with contact N.O.)
50-59	**DI4**		4 = Disable hot (function Not active with contact N.O.)
51-59	**DI5**		5 = Disable humidity (function Not active with contact N.O.)
52-59	**DI6**		6 = Compressor protection (function Not active with contact N.O.)
53-59	**DI7**		7 = Humidifier alarm (function Not active with contact N.O.)
54-59	**DI8**		8 = Fans protection (function Not active with contact N.O.)
55-59	**DI9**		9 = Generic Warning 1 (function Not active with contact N.O.)
56-59	**DI10**		10 = Generic Warning 2 (function Not active with contact N.O.)
57-59	**DI11**		12 = High pressure (function Not active with contact N.O.)
58-59	**DI12**		13 = Low pressure (function Not active with contact N.O.)

3.4 ANALOGUE INPUT CONNECTION ON 100N MASTER3
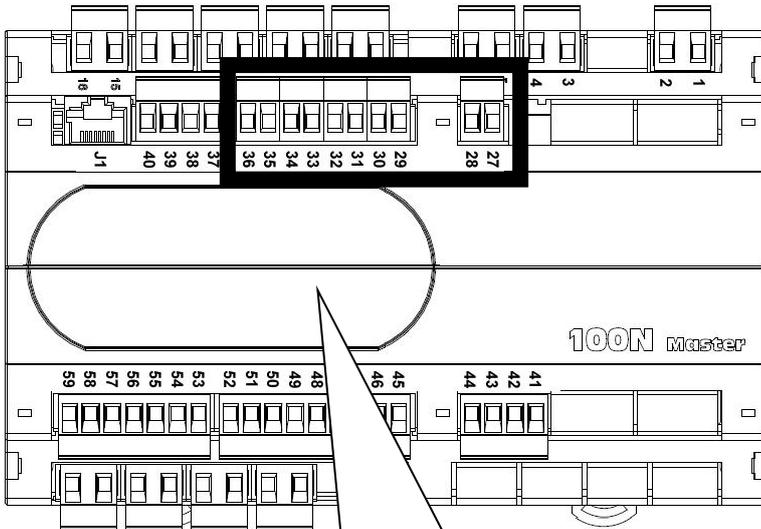
POSSIBLE CONFIGURATIONS ANALOGUE INPUTS AI1÷AI5
Access menu: *Parameters >Configure I/O >Analogue inputs*
0 = Disabled 1 = Ambient temperature (NTC) 2 = Evaporator temperature (NTC) 3 = Ambient humidity probe (4-20mA) 4 = Hot water temperature (NTC) 5 = Cold water temperature (NTC) 6 = External temperature (NTC) 7 = External humidity (4-20mA) 8 = pH probe (4-20mA) 9 = Piercing probe (NTC)
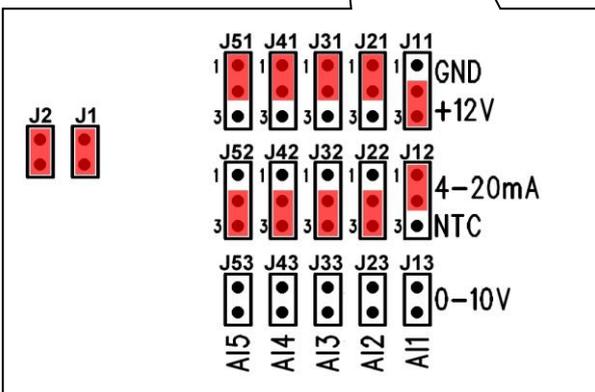
The selection of the desired function for each analogue input is done by the configuration of the dedicated parameter in the "Parameters > Configure I/O > analogue inputs" menu combined with the correct setting of the Hardware configuration jumpers on the 100N MASTER3 under the removable front cover (see the side image).
In particular, the configuration is as follows:
• For NTC probes: J*1=1-2, J*2=2-3, J*3=open
• For 4-20mA probes: J*1=2-3, J*2=1-2, J*3=open
*= number analogue input

PIN TERMINALS	DESCRIPT. TERMINALS	TYPE OF SIGNAL	ANALOGUE INPUT	DEFAULT SETTINGS ANALOGUE INPUTS	DEFAULT SETTINGS BRIDGES ON 100N-MASTER3
27	RH	4-20mA	AI1	3 = Ambient humidity probe	J11=2-3 J12=1-2 J13= open
28	V+				
29		NTC	AI2	1 = Ambient temp.	J21=1-2 J22=2-3 J13= open
30					
31		NTC	AI3	2 = Evaporator temp.	J31=1-2 J32=2-3 J33= open
32					
33		NTC	AI4	0 = Disabled	J41=1-2 J42=2-3 J43= open
34					
35		NTC	AI5	0 = Disabled	J51=1-2 J52=2-3 J53= open
36					

ANALOGUE OUTPUT CONNECTION ON 100N MASTER3   3.5
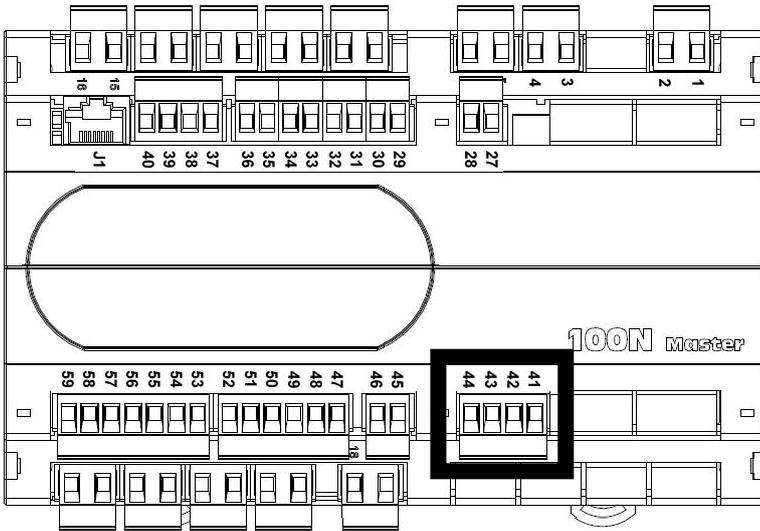
POSSIBLE CONFIGURATIONS ANALOGUE OUTPUTS AO1÷ AO3
Access menu: *Parameters >Configure I/O >analogue outputs*
0 = Disabled 1 = Cold water adjustment 2 = Hot water adjustment 3 = Speed of the evaporator fans 4 = Humidifier regulation

PIN TERMINALS	DESCRIPT. TERMINALS	TYPE OF SIGNAL	ANALOGUE OUTPUT	DEFAULT SETTINGS ANALOGUE OUTPUTS
41	Ref.	0-10V	**AO1**	2 = Hot water adjustment
44	Gnd			
42	Ref.	0-10V	**AO2**	1 = Cold water adjustment
44	Gnd			
43	Ref.	0-10V	**AO3**	3 = Speed of the evaporator fans
44	Gnd			

ETHERNET CONNECTION ON VISION TOUCH   3.6
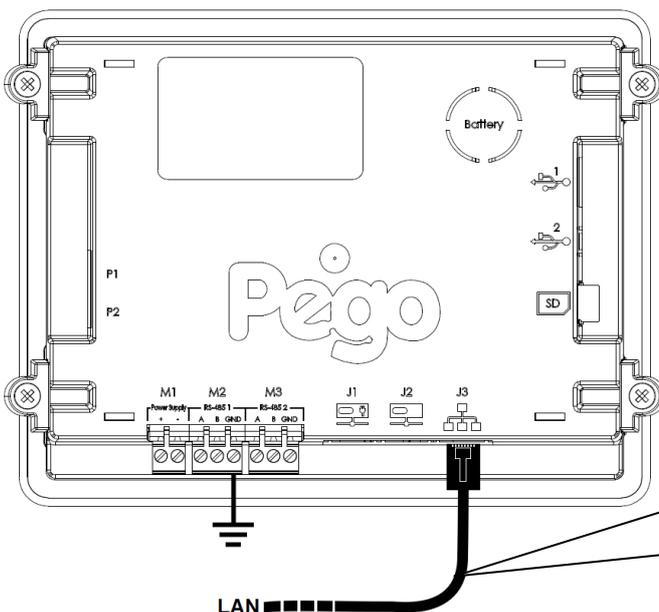
Connect the Ethernet cable with RJ45 connector to the J3 input of the Vision Touch console. Connect the other end of the cable to the existing LAN or to the PC.

| **3.7** | **CONNECTION TO RS-485 FOR TELENET OR MODBUS-RTU** |
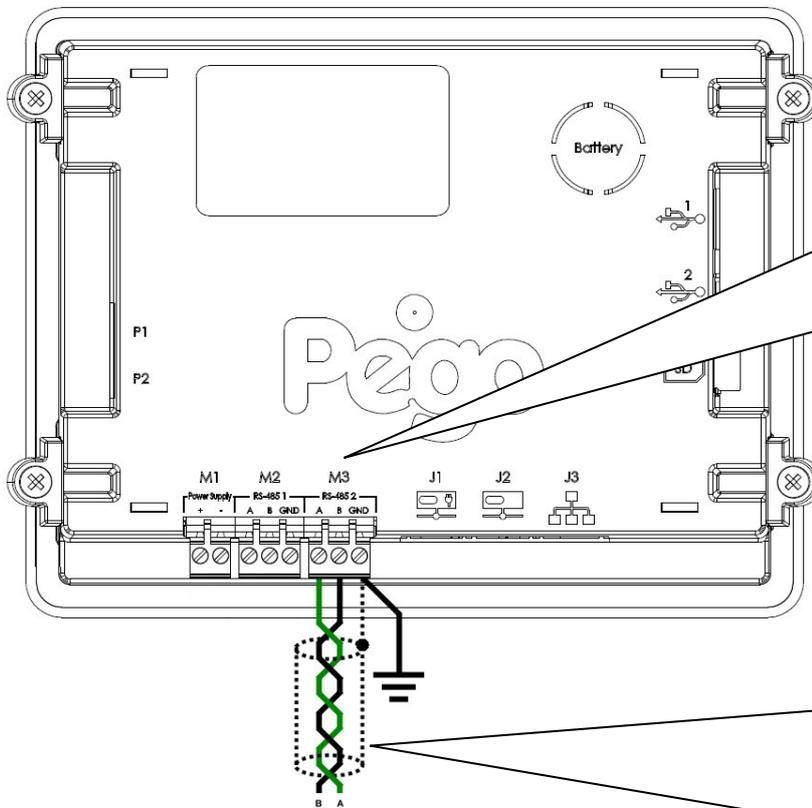
Connect the earth to the GND terminal of M3 in the console (functional earth). This connection helps to limit the effects of the electromagnetic noise on the control system. The ground connection must be made in a manner consistent with applicable regulations.

Connect the terminal (A) of M3 in the console to signal A of the Modbus line and the terminal (B) of M3 in the console to signal B of the Modbus line. Connect the braid of the shielded cable to the terminal (GND) of M3 in the console.
Use twisted cable suitable for the transmission of RS485 signals with minimum section of 0.5mm² (e.g. Belden 8762 cable).
Avoid placing the signal cables together with power cables.

1) Example of connection between the console and the Modbus line:

For a correct functioning, the MASTER must have a RS485 polarized.
In case of communication problems, it is recommended to connect a resistance equal to 120Ω between A and B at the beginning and end of the line.
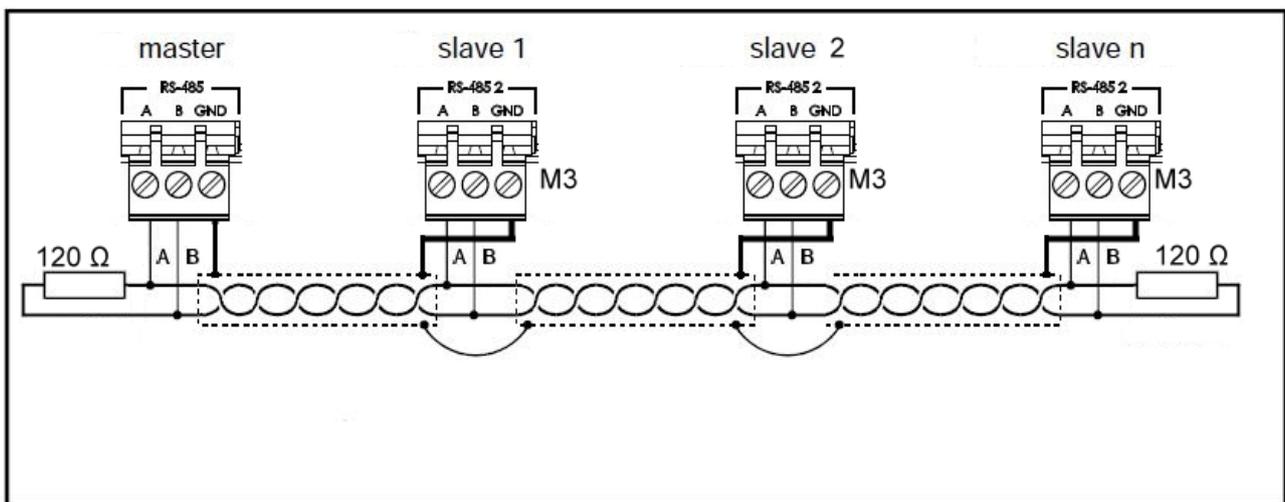
CHAPTER 4: SWITCHING ON

| COMMISSIONING | 4.1 |

When the controller is switched on for the first time, the "Language Selection" and "time and date setting" pages of the system are displayed to make it easier for the user to start up with the controller. These settings can even be modified further on by means of the "Language" and "Date and time", items you find within the "Parameters" menu.

Set the language by pressing these buttons.

Confirm the settings by pressing the confirmation button.

Set the date and time by scrolling your finger over the digits from the top downwards.

Confirm the settings by pressing the confirmation button.

Automatic date and time synchronization via Web (ethernet connection required).

4.2   **SWITCH-ON CONTROL**

Every time the controller is switched on, an information pop-up is displayed with the starting date and time, requesting the user to acquire the information by pressing "OK". This allows to verify the return from an electrical blackout.

Controller starting date and time

Information acquisition button

The start-up event is also memorized inside the "alarms" menu to make it possible to verify this information over time.

---   Device power on
Begin: 18-12-2012   13:45:24
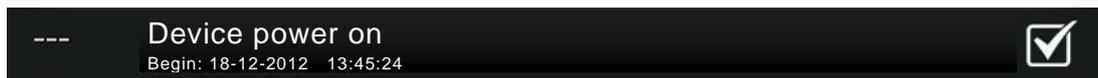
CHAPTER 5: USER INTERFACE

This section illustrates the features and instructions for using the display, the light indicators and the buttons making up the user interface of the VISION TOUCH THR, and therefore represents an essential requirement to correctly program and configure the controller.

CONSOLE FUNCTIONAL ZONES	5.1

The display is divided into 3 main parts:
- **Main display:** interactively displays the various home pages and menu items.
- **Status bar:** it is divided into 3 parts and displays the following data:
    - On the left: running status and name of the program in progress.
    - In the middle: description of current visualization of the main display.
    - On the right: current date/time, presence of USB key, or access as installer.
- **Button bar:** views the main operating buttons and their status.

At the bottom in the middle there are two LEDs:
Green LED: Flashing = controller in Stand-by / On fixed = Controller powered.
Red LED: Flashing = controller in Alarm.

Main display

Status bar

Button bar

Indicator LEDs

5.2 MAIN DISPLAY

The section of the main display views the work and setting pages based on the position (for example Home, Configuration, and phase). A detailed description of the various pages will be made further on in this manual.

5.3 STATUS BAR

The Status Bar is situated in the lower part of the display (above the Button Bar, if applicable) and displays some important information relating to the status of the device, such as the name of the recipe in progress and the description of the currently displayed page. It is always present except when, in some rare cases, it is temporarily hidden to fully exploit the display.

salami medium-a 🕐	Home 1/2	🔓📶📇 22/10/12 17:27:03
Status (running ▶ or stopped ■) and name of program in progress. Data logger status (🕐 if registrations are active).	**Description of current page, its position and total nr of pages present.**	**USB Presence Icon, SD presence Icon, User logged as installer.**	**Current date and time.**
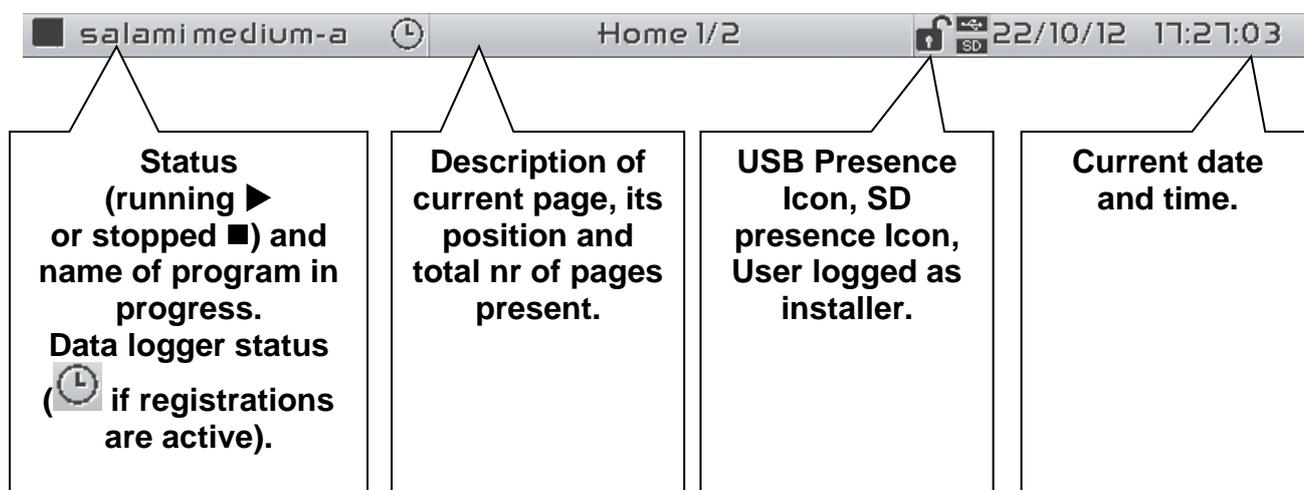
BUTTON BAR

The Button Bar is located at the bottom of the display and shows the main operating buttons and their status. It is always present except for some rare cases where it is temporarily hidden to take full advantage of the display space.

The buttons can have different shapes but always include an icon, a description and a color that identifies the status.
In particular, the color code of the buttons is the following:

BLUE:
Button which can be enabled

GREY:
Button not active (Disabled)

GREEN:
Button function activated or Confirmation button

YELLOW:
Cancel button

RED:
Alarm triggered indication or File elimination button

ORANGE:
Indication of alarm no longer triggered but yet to be acquired

Some buttons provide delayed activation to avoid involuntary commands (see for example the stand-by). Pressing them displays the progressive color change until the function is activated.

Description of buttons in Button Bar:

BACK:
Inside a menu or level: Go back to previous level or menu.
In a HOME page: Go back to the previous Home page.
If held for longer than 3 seconds: Go back to HOME 1 page

Back

PARAMETERS: Enter the parameter setting menu

Settings

ALARMS: Enter the alarm log menu
Red: Alarm triggered
Orange: Alarm over but yet to be acquired
Blue: No Alarm triggered or to be acquired

If the alarm log menu contains only items already acquired (shown in black) a waste bin will appear inside this button indicating the possibility of cancelling the entire log.

Alarm

MANUAL AIR RENEWAL: Activates a manual air renewal or deactivates an automatic or manual one in progress (delayed start).
Green: Air renewal active
Blue: Air renewal not active

Air cycle

MANUAL PAUSE: Activates a manual pause or deactivates an automatic or manual one in progress (delayed start).
Green: Pause active
Blue: Pause not active

Pause

MANUAL DEFROST: Activates a manual defrost or deactivates an automatic or manual one in progress (delayed start).
Green: Defrost output active
Blue: Defrost output not active

Defrost

MANUAL CELL LIGHT BUTTON: Manually activates/deactivates the cell light.
Green: Light active
Blue: Light not active
Flashing light icon: Indicates the forced activation of the light from the digital input of the micro gate open. With the open gate digital input, the manual cell light, defrost, pause and air cycle buttons are deactivated.

Light

STANDBY BUTTON: Activates/deactivates the standby status (delayed start)
Green: Standby active (System OFF)
Blue: Standby not active (System ON)
During standby, the program in progress keeps the count of the remaining time.

Standby

MANUAL ESSENCE:
(Included in Extended Button bar)
Manually activates/deactivates the essence.
Green: Essence active
Blue: Essence not active

Essence

DATA EXPORT IN CSV FORMAT:
(Present in the Extended Button bar)
Exports data logger registered data in a CSV file on USB or SD support.

REGISTRATIONS HISTORY:
(Present in the Extended Button bar)
Accessed the registrations history page.

EXTENDED BUTTON BAR OPENING BUTTON:
Opens or closes the EXTENDED BUTTON BAR that allows access to additional buttons.

5.5	GESTURE

The Vision Touch, aside from normal pressing of keys, on some pages supports gestures which allow the user a more natural, and therefore simpler, interaction.

Change Home Page: When you are on one of the two Home pages, move your finger to the left or to the right to pass from that one Home page to the next, or to the previous one.
Note: it is also possible to move inside the Home pages by pressing the Back button.
The middle of the status bar presents the description of the page currently displayed, its position and the total number of pages displayable (for example 1/2 means you are viewing page 1 of a total number of 2 displayable pages).

Description of current page, its position and total nr of pages present.

Change Page of a table or parameter list: Move your finger up or down to pass to the next or previous data page.
The middle of the status bar presents the description of the page currently displayed, its position and the total number of pages displayable.

Description of current page, its position and total nr of pages present.
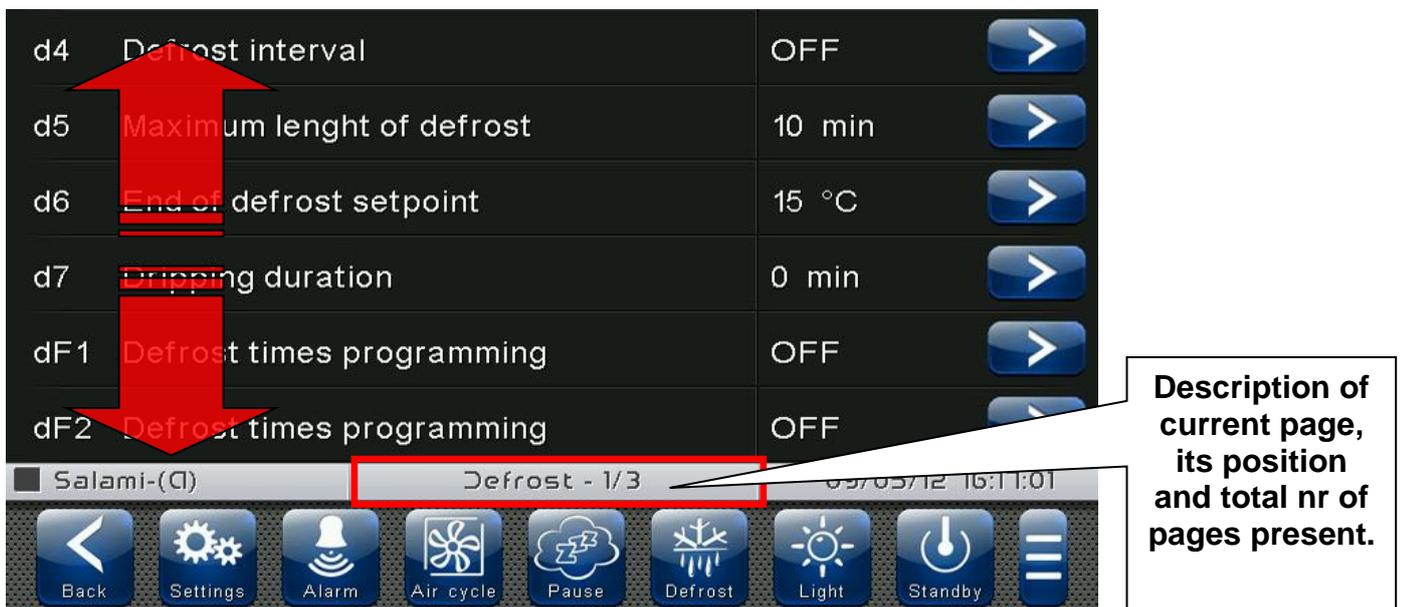
Change parameters with roll selection: Move your finger up or down by one roll to change its value (suggestion: move your finger starting from the outside of the roll and pass through it completely).
If the value you are trying to set is not allowed and is not included in the range of the PARAMETERS, the background of the roll will turn red for an instant, indicating that the action is not allowed.
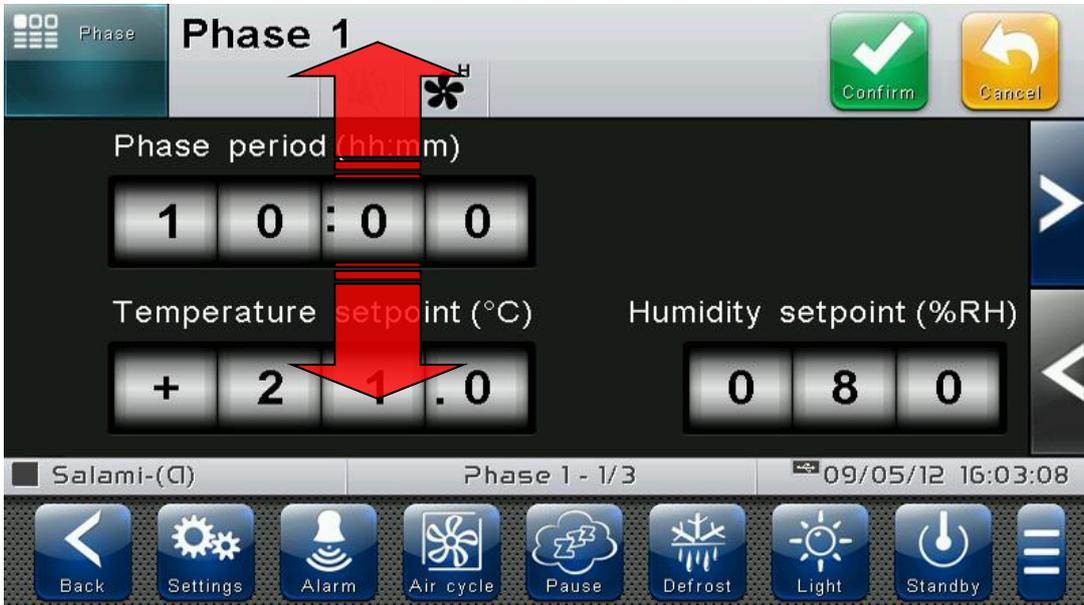
Changing parameters with a switch: Move your finger to the right or to the left to activate or deactivate a switch.
Selection of parameters with Flags: press the flag to change the status or to select one of the possible options.

"Edit" mode in Home 1 and 2 pages: When you are on one of the Home pages, touch a free point of the screen, avoiding the buttons area, and keep pressing for more than three straight seconds: by this way, you go into edit mode of the page itself. To exit this mode, press the "Back" button or wait for the automatic exit after one minute of inactivity.

Edit Home 1 Page, Change Set Point with Wheel: Once you have entered edit mode on Home 1, it is possible to change the humidity and temperature Set Points currently in use. The variations are temporary and do not alter the preset program. Turn clockwise to increase or anti-clockwise to decrease the value of the Wheel of the Set Point you want to be modified, else act on the plus or minus buttons. Then, confirm the new values by pressing the green confirmation button.

CHAPTER 6: HOME PAGES

The "Home" pages are the main interface of the controller from whence it is possible to access the mostly used features. They are divided as it follows:

HOME 1
Display and modification of temperature and humidity set points, display of I/O status and secondary or information PARAMETERS.

HOME 2
Complete management of programs (Recipes): Visualization, creation, editing, cancellation, loading, export, import.

HOME 1 – Temperature / Humidity, I/O status management

6.1

"Home 1" allows to view and modify Temperature and Humidity settings, to visualize the digital input/output statuses, additional adjustments and coupled probes, additional inputs such as pH and the status of the recipe being run.

When in visualization, it is divided into 3 main sections:
- **Temperature adjustment dial.**
- **Humidity adjustment dial.**
- **Multifunction data visualization dial.**
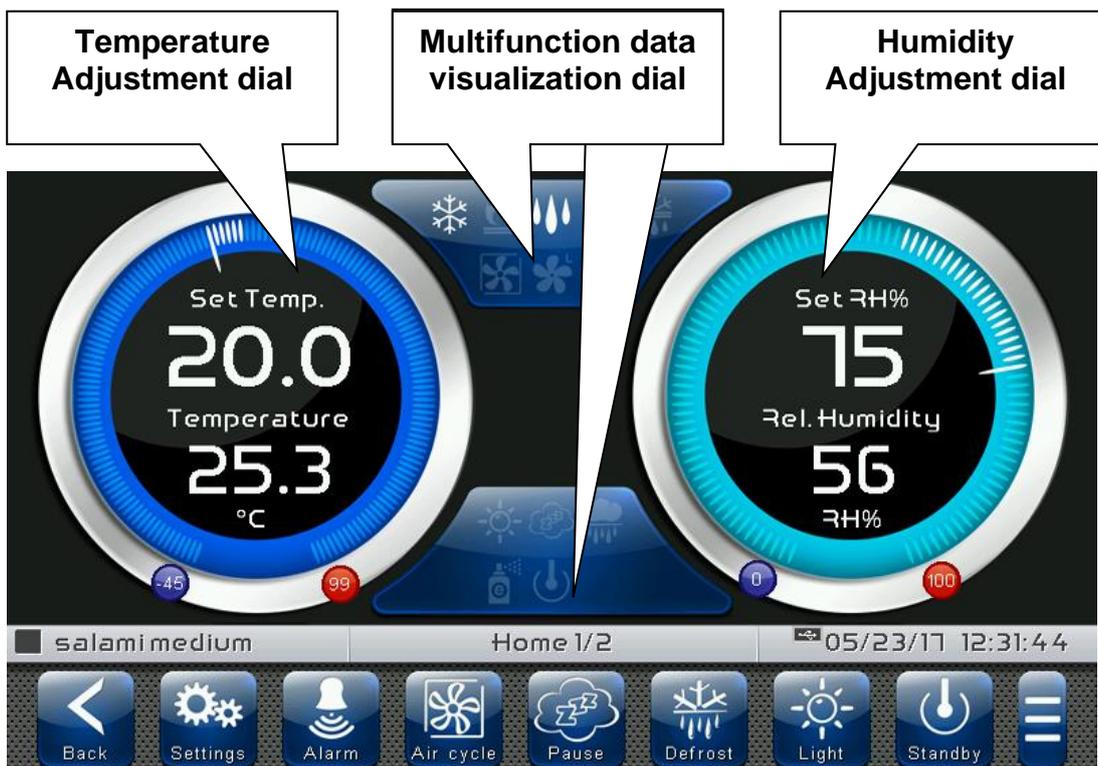
Temperature adjustment dial: displays all that regards temperature adjustment, in particular:

- The temperature set point (can be modified by pressing the dial for 3 seconds).
- Adjustment probe temperature measurement.
- The status of the call (Cold/Hot/No call).
- The Minimum Temperature alarm set on At1 which can be reached on "Parameters > Alarm adjustments > At1 Minimum temperature alarm" and indicated with the icon ●.
- The Maximum Temperature alarm set on At2 which can be reached on "Parameters > Alarm adjustments > At2 Maximum temperature alarm" and indicated with the icon ●.

If Enb=1 and the temperature set point is equal or lower to LSt, the temperature management and its maximum and minimum alarms are temporarily disabled.

Temperature value Bar-graph	**Status of call:**
Temperature Set-Point Bar-graph	Cold Call / Hot Call / No Call
Temperature Set Point	**Adjustment probe temperature**
Notice of Set-point changed with program in progress	
Minimum temperature alarm	**Maximum temperature alarm**

Set Temp.
30.0
Temperature
27.7
°C
CHANGED
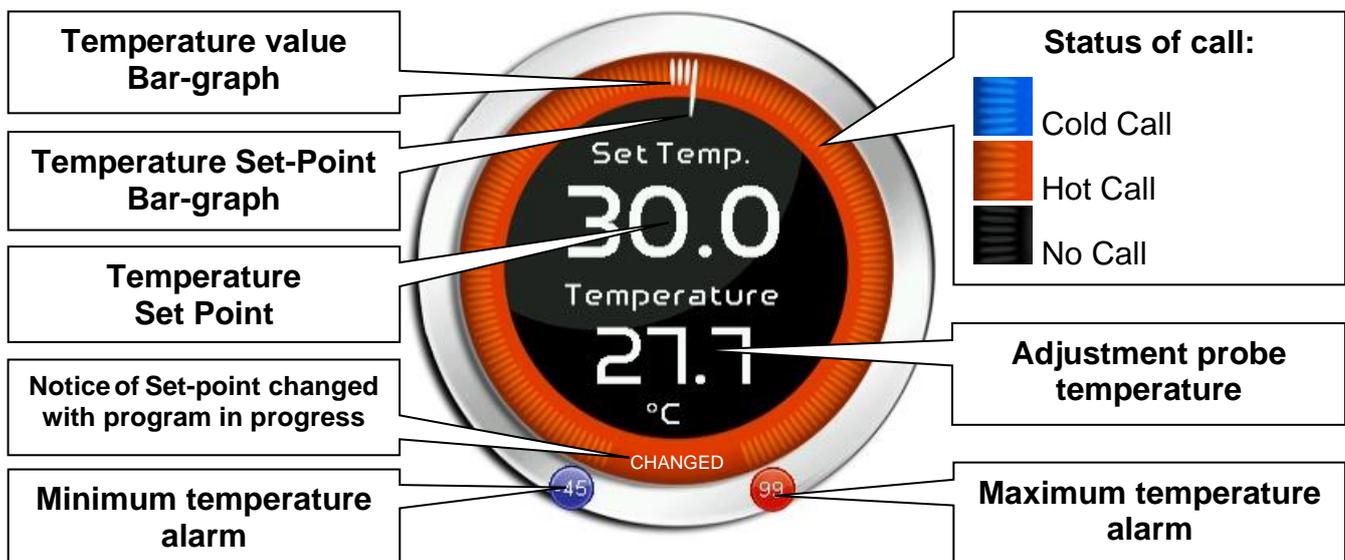
Humidity adjustment dial: Displays all that regards humidity adjustment, in particular:

- The humidity set point (can be modified by pressing the dial for 3 seconds).
- Adjustment probe humidity measurement.
- The status of the call (Humidify/Dehumidify/No call).
- The Minimum Humidity alarm set on AU1 which can be reached on "Parameters > Alarm adjustments > AU1 Minimum humidity alarm" and indicated with the icon 🔵.
- The Maximum Humidity alarm set on AU2 which can be reached on "Parameters > Alarm adjustment >AU2 Maximum humidity alarm" and indicated with the icon 🔴.

If Enb=1 and the humidity set point is equal to 0, the moisture management and its maximum and minimum alarms are temporarily disabled.

Status of the call:

🟨 Dehumidify Call

🟦 Humidify Call

⬛ No Call

Humidity Set Point

Minimum Humidity ALARM

Humidity Set Point Bar-graph

Humidity value Bar-graph

Adjustment probe humidity measurement

Notice of Set-point changed with program in progress

Maximum Humidity alarm

Set RH%

60

Rel. Humidity

72

RH%

CHANGED

Multifunction data visualization dial: it consists of two parts which, when touched, cyclically alternate the data displayed. Following, are reported for you the various screens and their related meanings. Note: Some data is only viewed if the relative function is enabled in the configuration parameters.

DIGITAL OUTPUT STATUS
(Always visible)
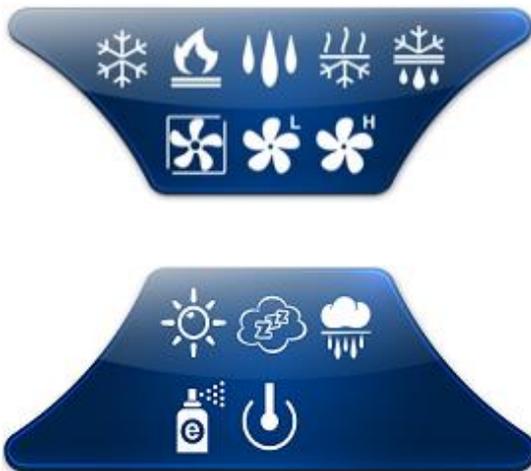
❄	Cold Flashing= Standby	✹L	Fans low speed Flashing= Standby
🔥	Hot	✹H	Fans high speed Flashing= Standby
⦀	Humidify	✹	Fans with 0-10V output
⦀❄	Dehumidify separate	☀	Light Flashing= door switch
⦀❄	Dehumidify for heat	💤	Pause
⦀❄	Dehumidify for cold	🌧	Dripping
❄	Defrost Flashing= Dripping	e	Essence
✹	Air change	⏻	Standby
✹A	Air change automatic	⦀❄	Dehumidifies with heat recovery

DIGITAL INPUT STATUS
(Always visible)
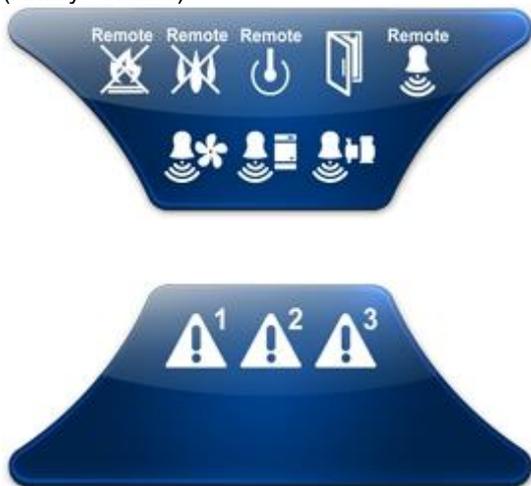
Remote ⚡	Disable heat remotely	✹	Fans protection
Remote	Disable humidity remotely	⚠1	Generic Warning 1
Remote ⏻	Standby remotely	⚠2	Generic Warning 2
🚪	Door switch	⚠3	Generic Warning 3
Remote 🔔	Generic alarm remotely	HP ⦿	High pressure
🔔	Compressor protection	LP ⦿	Low pressure
🔔	Humidifier alarm		

PROGRAM IN PROGRESS COUNTDOWN
(visible while the program is running)

salami medium
⏱
49²3h

This dial is only displayed while the program is running.
It indicates the name and the time remaining to the end of the program in progress.

STAGE IN PROGRESS COUNTDOWN
(visible while the program is running)

This dial is only displayed while the program is running. It indicates the name and the time remaining to the end of the stage in progress.

EVAPORATOR TEMP. PROBE MEASUREMENT
(visible if enabled)

This dial is only viewed if the PARAMETER "Parameters > Defrosts > dE Evaporator probe enabled = 1" and if the related analogue input is set.

Ph PROBE MEASUREMENT
(visible if enabled)

This dial is only viewed if the PARAMETER "Parameters > pH probe > EpH measurement enabling = 1" and if the related analogue input is set.

HOT WATER TEMP. PROBE MEASUREMENT
(visible if enabled)

This dial is only viewed if the PARAMETER "Parameters > Hot water management > EHv Hot water management enabling = 1" and if the related analogue input is set.

COLD WATER TEMP. PROBE MEASUREMENT
(visible if enabled)

This dial is only viewed if the PARAMETER "Parameters > Cold water management > EHv Cold water management enabling = 1" and if the related analogue input is set.

EXTERNAL TEMP. PROBE MEASUREMENT
(visible if enabled)

This dial is only viewed if the PARAMETER "Parameters > Automatic air change> EEs Energy saving enabling = 1" and if the related analogue input is set.

**EXTERNAL HUMIDITY PROBE
MEASUREMENT**
(visible if enabled)

This dial is only viewed if the PARAMETER "Parameters > Automatic air change> EEs Energy saving enabling = 1" and if the related analogue input is set.
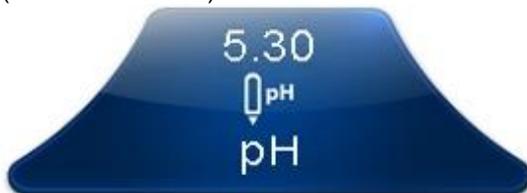
PIERCING PROBE MEASUREMENT
(visible if enabled)

This dial is only displayed if the PARAMETER "Parameters > Piercing probe > EnS Pin probe enabled = 1" and if the related analogue input is set.

ESSENCE COUNTDOWN
(visible if enabled)

This dial is only displayed while the manual essence is enabled. It indicates the time remaining to the end of the manual essence.

"Set point edit" mode on Home 1 page:
Touch one of the adjustment dials on the screen (Temperature or humidity) for more than three consecutive seconds.

Once you have entered the edit mode, it is possible to change the humidity and the temperature Set Points currently in use by rotating the Wheel clockwise to increase, or anti-clockwise to decrease, the value of the Set Point you want to be modified. Otherwise, you can press the plus and minus buttons. Then confirm the new values by pressing the green "Confirm" button or by pressing "Cancel" to go back to the display screen.
To exit this mode, you can also press the "Back" button or wait for the automatic exit after one minute of inactivity.

6.3	HOME 2 – Loaded program visualization (Recipe)

"Home 2" allows complete management of the programs (Recipes): status progress display, creation, modification, cancellation, loading from archive, and export/import from USB or SD.

When in visualization, it is divided into 2 main sections:
- **Program summarizing bar and status of adjustment PARAMETERS.**
- **Program phases and their state of execution (Time line).**
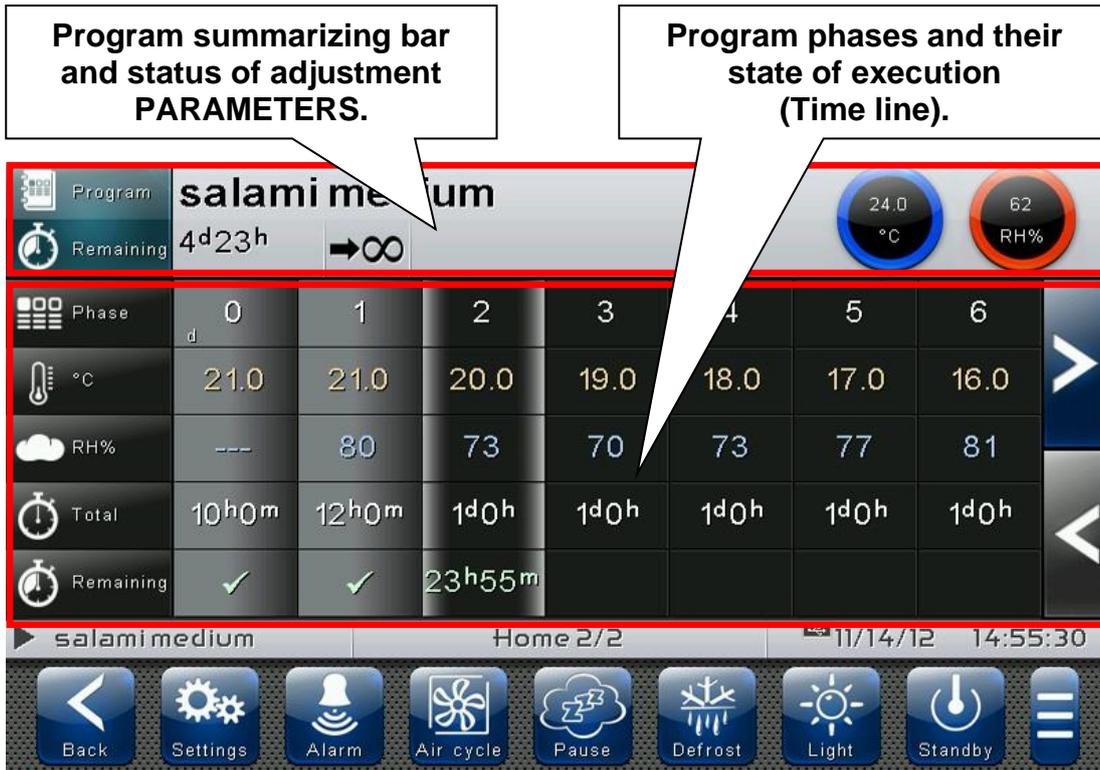
Program summarizing bar and status of adjustment PARAMETERS: Views the summary of the loaded program and the current temperature and humidity values, in particular:
- Name of loaded program and Time remaining to the end of program; the latter is present if the program is running.
- Type of operation at end of program: (➡∞ At end of program preserve settings of last phase carried out / 🔁 At end of program repeat phases - cyclical / ➡⏻ At end of program switch to standby).
- Current temperature and humidity values and statuses of calls (see dial colors).
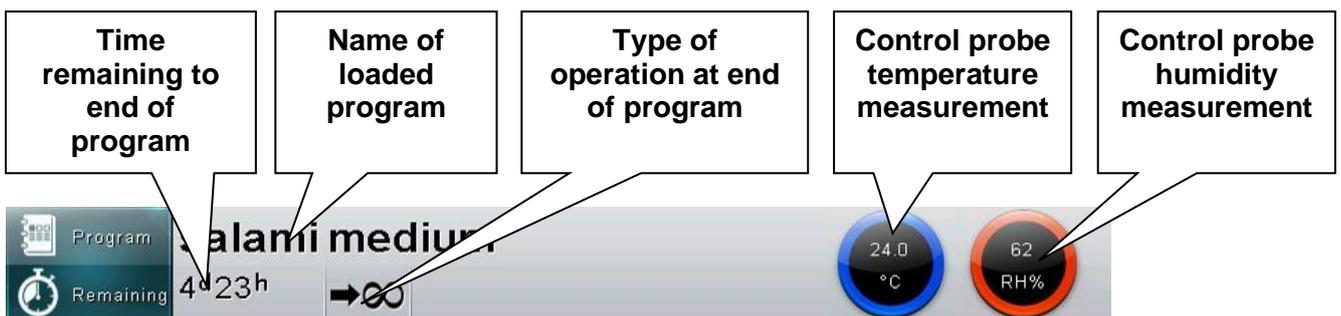
Program phases and their state of execution (Time line): Views the phases of a program and all related data, in particular:

• Key of set values in phases.
• Phases already carried out (grey background and green check on remaining time; they appear if the program is running).
• Phase in execution (background with grey side bands and green remaining time; they appear if the program is running).
• Phases yet to be carried out (black background).

| Key of set values in phases | Phases already carried out | Phase in execution | Phases to be carried out | Buttons to move between phase pages |

The columns have a summary of the specific settings for each individual phase and, if the program is running, they display the remaining time for the phase in progress (if the phase has already been carried out, a green check appears in the remaining time line).

Phase N°

Phase options: d = dripping / e = essence
p = pause (Cyclic) / a = air change
f = piercing probe / P = pause (The whole phase)

Temperature setting in phase

Humidity setting in phase

Time duration of the phase

Phase Status or Time remaining to end of phase:

23h55m = Remaining time to the end of the phase

✓ = Phase executed and completed by time

🌡✓ = Phase executed and completed by the needle probe (if enabled)

6.4   HOME 2 – Enter Home 2 Edit Mode

By entering edit mode in Home 2 it is possible to perform the following features:

With stopped Program (not running):
• Start the program currently loaded.
• Start the program manager (save / load / import / export).
• Edit the program currently loaded.

With running Program:
• Stop the program in progress.
• Skip the phase being run.
• View the program currently loaded in detail.

"Program edit" mode on Home 2 page:
Touch any part of the Home 2 screen (on the program summary bar or on the phase list) for more than three consecutive seconds.

To exit this mode, you can also press the "Back" button or wait for the automatic exit after one minute of inactivity.

HOME 2 – Home 2 Edit Mode with Program Stopped	6.5

With stopped Program (not running) and entering edit mode in Home 2, the following screen appears:

Change the generic settings of the loaded program.

Program manager: save, load, import, export.

Start program currently loaded.

Add a new phase of the loaded program. 21 manageable phases (from 0 to 20).

Exit edit mode.

Change the settings of the phases of the loaded program.

Cancel the phases of the loaded program.

HOME 2 – Start program	6.6

This button appears with the program stopped and entering edit mode in Home 2.

Start program:
Start running the loaded program.
Once pressed, the program starts running and the button changes to Stop.
The graph views the progress of the phases.

6.7	HOME 2 – Load / Save / Export / Import program

The following button appears when the program is stopped and you have entered the edit mode in Home 2.

Program manager:
Once pressed, the management program, shown in the following picture, opens up.

It saves the current program in the internal memory of the controller as.

Inside the menu:

It imports programs from a USB external memory unit loading them in the internal memory of the controller.

Inside the menu:

 = Import from USB

N.B. Make sure that the USB memory unit is inserted.

It imports programs from an SD external memory unit loading them in the internal memory of the controller.

Inside the menu:

 = Import from SD

N.B. Make sure that the SD memory unit is inserted.

Load the program to be carried out from the internal memory of the controller.

Inside the menu:

 = Load

 = Cancel

Export programs from the internal memory of the controller to the external USB memory unit.

Inside the menu:

 = Export to USB

N.B. Make sure that the USB memory unit is inserted.

It exports programs from the internal memory of the controller to the external SD memory unit.

Inside the menu:

 = Export to SD

N.B. Make sure that the SD memory unit is inserted.

HOME 2 – Add / Edit / Cancel program phases 6.8

These buttons appear with the program stopped and entering edit mode in Home 2:

New phase

Add a new phase of the loaded program.
21 manageable phases (from 0 to 20)

Changes the generic settings of the loaded program or the settings of the various phases.

Cancel the phases of the loaded program.

By pressing the button on the left of the program name, at the top of the summary bar, you enter the following program options configuration page.

At program end preservation:
At the end of the program the temperature and humidity settings of the last phase carried out are preserved.

At program end phases loop:
At the end of the last phase the program goes back to the initial phase 0, creating an infinite phase loop.

Notice (popup) at program end:
The user is informed of the end of the program by means of a notice Pop-up.
Press OK to acquire the message.

salami medium

At progr. end preservation

At progr. end phases loop

At progr. end stand-by

Notice (popup) at progr. end

Switch on relay at progr. end

salami medium   Recipe options   11/30/12   18:06:49
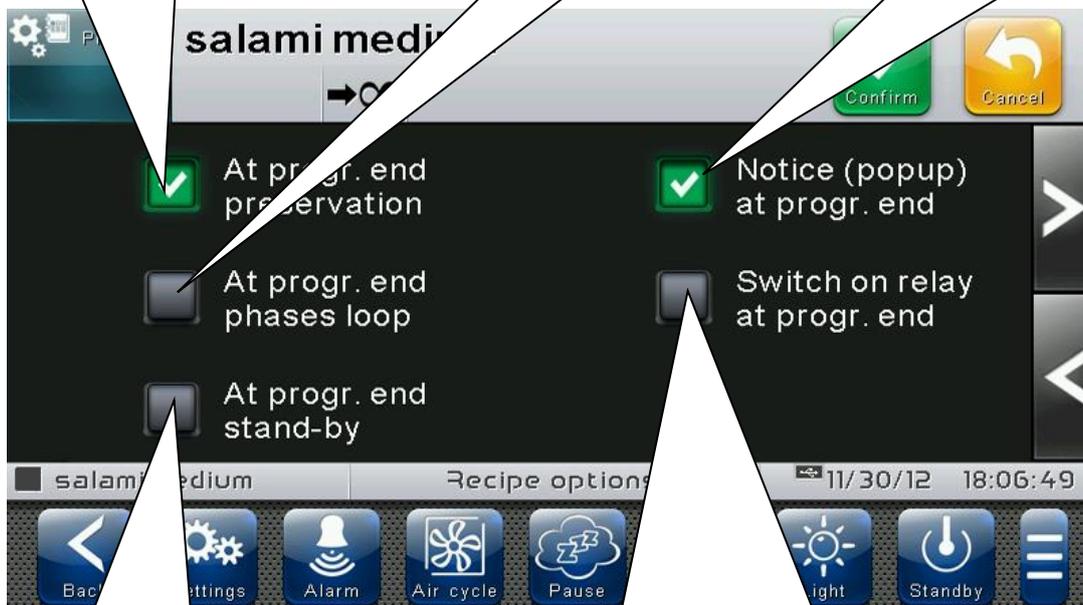
At program end standby:
At the end of the program the controller switches to standby.

Switch on relay at program end:
A specific relay is activated when the Pop-up notifying the end of the program is present. By pressing OK in the Pop-up, the relay de-energizes, and the Pop-up closes.

By pressing the button ✎ at the top left of each column of the phases, you enter a group of three options configuration pages relative to the selected phase.

Phase N°	
Change the settings of the phases of the loaded program.	

Phase configuration page 1/4:

Nr of the selected phase.	**Ventilation, Pause, dripping option lights.**	**Confirm and cancel modifications buttons.**

Phase period (hh:mm) Maximum value: 99h 59min	**Temperature Set point (°C)**	**Humidity Set point (%RH)**	**Buttons for moving between configuration pages.**
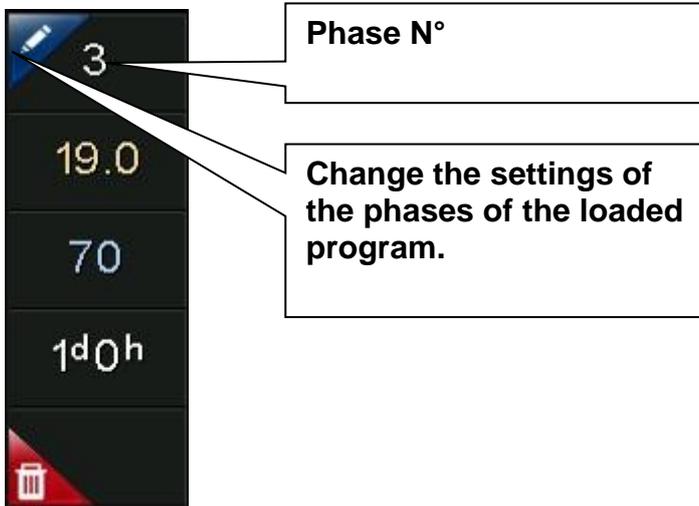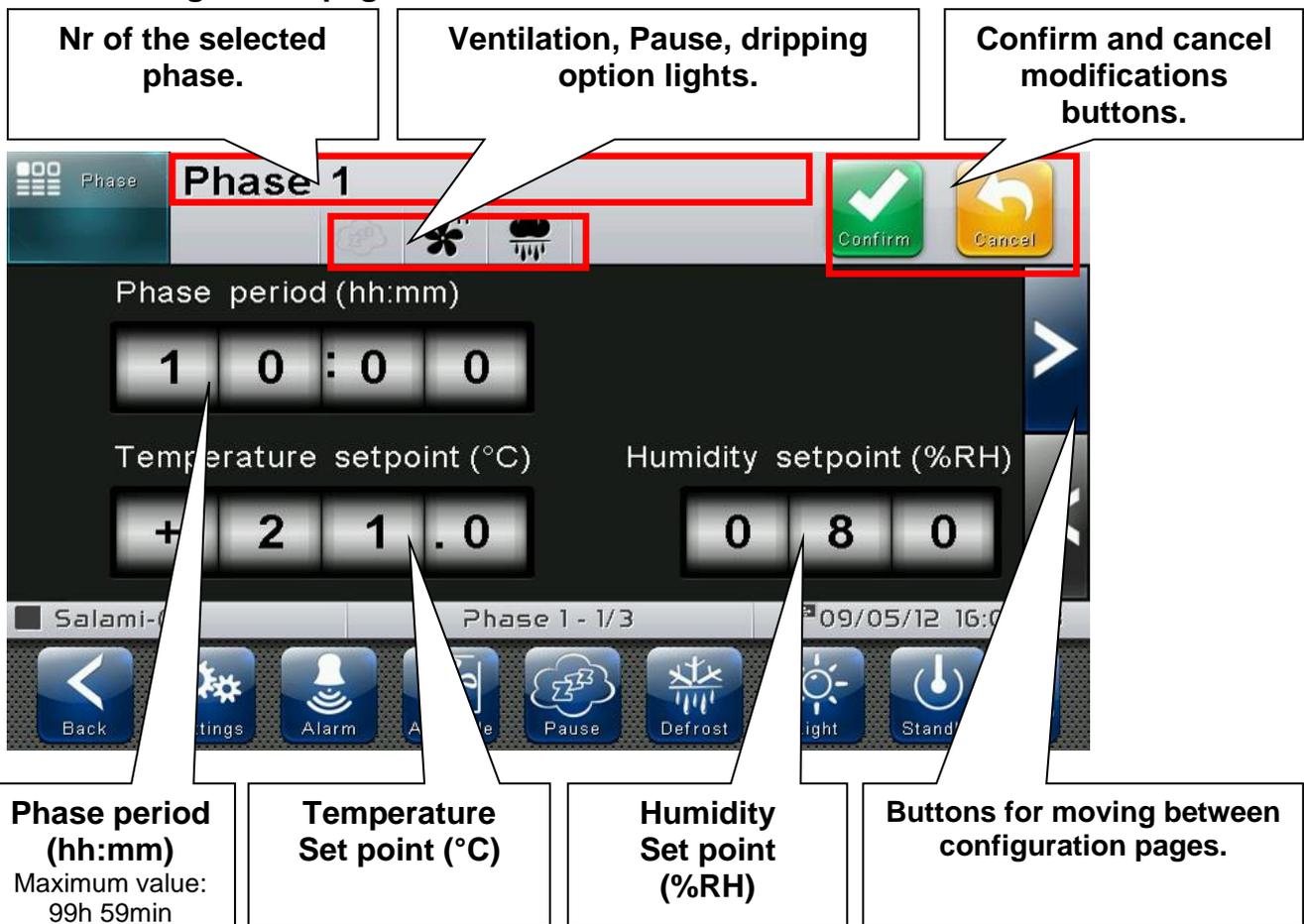
Phase configuration page 2/4:

Air change:
Enables the air change function (pause in temperature and humidity management of the selected phase).

Evaporator fan speed selection in selected phase (it modifies F8).
If the 0-10V output is selected for fan speed regulation (parameter EFa=1 in the Ventilation menu present in the parameters) there is a speed selection roll instead of these two flags (20-100%, it modifies Fs).

Fans speed (%)

1 0 0
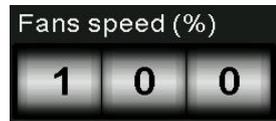
Dripping:
(Only in Phase 0)
Enables the dripping function in which humidity management is disabled. It is also possible to set the temperature management only on "hot", or on "hot and cold".

Phase configuration page 3/4:

Piercing probe:
Enables the piercing probe function. Determines the temperature set-point that makes the stage in progress end (it modifies StS).

Essence:
Determines the Essence input in the phase, if enabled.

Essence period:
Determines the duration of the Essence input in the phase (It must be less than the Phase period).

Phase configuration page 4/4:
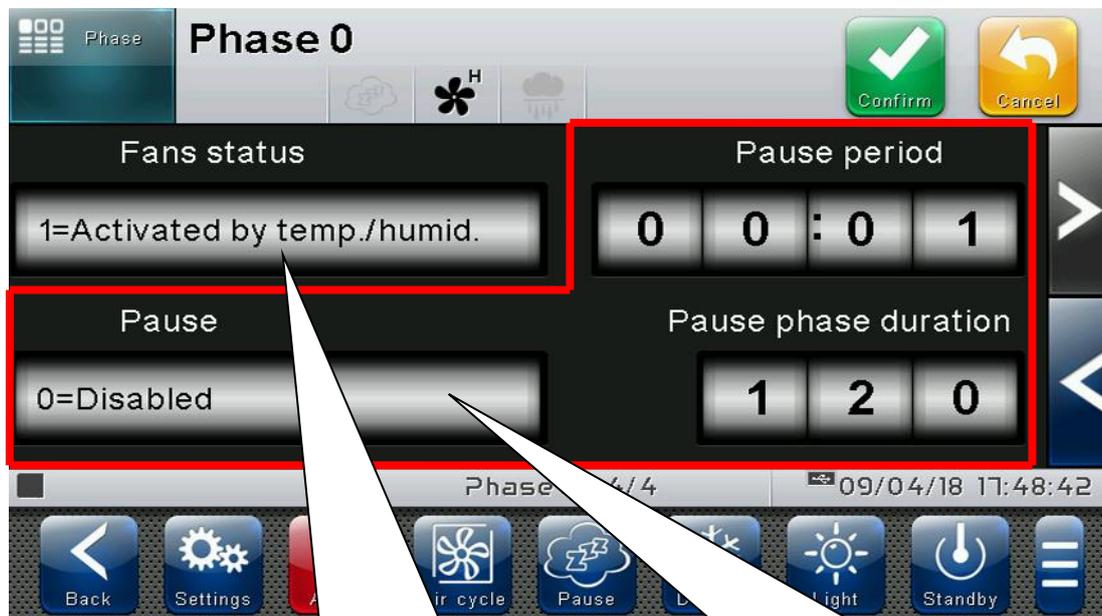
Fan status (it modifies F3):
For each phase you can change the operation mode of the fans.

Pause:
Enables the pause function (pause in temperature and humidity management of the selected phase). It is possible to select:

0 = Disabled. Pause function disabled.

1 = Cyclic. The pauses are managed with 'period' and 'duration' parameters on this page.
i.e. If Period = 02.00 and Duration = 15 then the temperature / humidity management is interrupted every 2 hours for 15 minutes, within this phase of the recipe. Phase starts with work time ever.

2 = The whole phase. The management of temperature and humidity is interrupted for the entire duration of the phase (the values of period and duration of the pause on this page are ignored).

HOME 2 – Home 2 Edit Mode with Program playing | 6.9

The following screen appears when the program is playing (running) and you have entered the edit mode in Home 2:

Views the generic settings of the program running

Skip phase:
Skips the currently running phase, passing on to the next one. When this key is pressed, standby is activated as well.

Stop program in progress.

Exit edit mode.

Views the settings of the phases of the program running.

HOME 2 – Stop program / Skip phase | 6.10

The following button appears when the program is playing (running), and you have entered the edit mode in Home 2:

Stop program:
Stops execution of the program running.
When pressed the button switches to Stop.

Skip phase:
Skips the currently running phase, passing on to the next one.
When this key is pressed, the controller also switches to standby.

CHAPTER 7: LEVELS OF ACCESS

7.1 LEVELS OF ACCESS TO PARAMETERS (USER / INSTALLER)

The controller has two levels of access to the parameters and to the functions: "**User**" and "**Installer**". The default setting is User that has a parameter menu that can be customized by the installer. The "Installer access" can be realized logging in from the « Parameters > Password > installer login » menu and inserting the assigned password.

PASSWORDS SET BY DEFAULT:
Installer Password   : 0100

Screen for entering access password

The user logged in as installer is indicated on the Status bar with an open lock. Logout is performed automatically after one minute of inactivity, or manually from the « Parameters > Password > Installer Logout» menu.

| ■ salami medium-a | Home 1/2 | 🔓💾 22/10/12 17:27:03 |

Opened lock icon: User logged in as installer.

7.2 LOCK SCREEN AND USER / INSTALLER LOGIN

If the « Lock screen with password » function is activated, access as an installer or as a user is based on the entered password while the screen unlocks.

PASSWORDS SET BY DEFAULT:
User Password   : 0200
Installer Password   : 0100

Locked screen display positioned in Button bar.

Unlock

Pressing the Unlock button, you reach the Password entry display to unlock the screen.
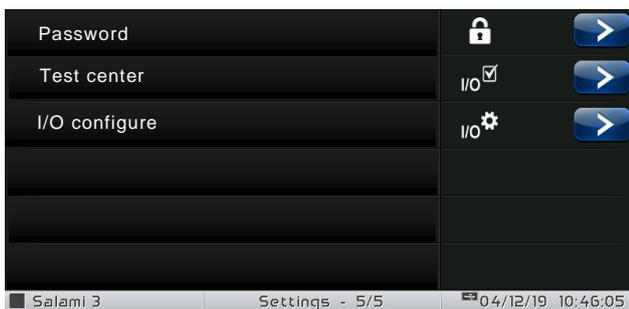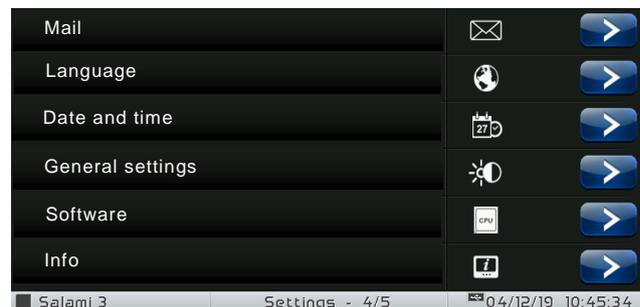
CHAPTER 8: PARAMETERS

ACCESS TO PARAMETERS MENU

8.1

Press the "Parameters" button in the Button Bar to access the control parameters setting menu.

Settings

PARAMETERS:
Enters the parameter setting menu

Process regulation	〰	>
Defrost	❄	>
Fans	✳	>
Air change	▦	>
Automatic air change	▦	>
Pause	☁	>

salami medium   Settings - 1/5   12/18/12 11:41:38

THR configure	THR	>
Machine protection	⚠	>
Alarms regulation	🔔	>
Cold water management	❄Cold	>
Hot water management	❄Hot	>
pH probe	◊pH	>

salami medium   Settings - 2/5   12/18/12 11:44:21

Piercing probe	🌡	>
Probes calibration	🌡	>
Essence	⚗	>
Datalogger	◒	>
Communication RS485	🖧	>
Web server	www	>

ungherese   Settings - 3/5   09/29/17 8:30:46

Mail	✉	>
Language	🌐	>
Date and time	27	>
General settings	☼	>
Software	CPU	>
Info	i	>

Salami 3   Settings - 4/5   04/12/19 10:45:34

Password	🔒	>
Test center	I/O ☑	>
I/O configure	I/O ⚙	>

Salami 3   Settings - 5/5   04/12/19 10:46:05

Each item of the parameters menu gathers a list of specific PARAMETERS for the function described in the menu, and, in some cases, a further submenu.
The items present in the main branch are all displayed if you are logged in as "Installer", while the items displayed under "User" depend on the configuration set in "parameters > configure user level menu" visible only if logged in as Installer.

| 8.2 | DESCRIPTION OF PARAMETER SETTING PAGE |

Press the "Parameters" button in the Button Bar to access the controller parameters setting menu. Each sub-menu contains the name of the PARAMETERS that can be set, a brief description in the selected language and the currently set value.

| PARAMETER name | PARAMETER description | Current value |

d4	Defrost interval	OFF	>
d5	Maximum defrost period	10 min	>
d6	Defrost end Set-point	15 °C	>
d7	Dripping period	0 min	>
dF1	Defrost time programming	OFF	>
dF2	Defrost time programming	OFF	>

Salami-(Cl)   Defrost - 1/3   09/05/12 16:17:01

Back | Settings | Alarm | Air cycle | Pause | Defrost | Light | Standby

Press the name of the PARAMETER to be set to access the relative modification page.

| PARAMETER name | Detailed description, indicating the range of values that the parameter can take on. | Editable parameter value. In the event of incorrect setting, the error is signaled. |

dtC

Range (0°C, dtn<=(dtF-0.2) dtn<=(dtC-0.2))

HOT temperature differential with reference to main SET-POINT. It is expressed in absolute value and it defines the temperature hysteresis for the HOT referred to temperature SET-POINT.

0 2.0

Cancel   Confirm

salami medium   Parameter dtC   12/07/12 9:25:14

Back | Settings | Alarm | Air cycle | Pause | Defrost | Light | Standby

LIST OF PARAMETER MENU ITEMS

The complete list of items displayed in the "Parameters" menu is reported below:

Name	Symbol	General description	Chapter
Process regulation		General process parameters (differential and neutral area settings)	8.3.1
Defrosts		Defrosting, dripping, evaporator presence settings	8.3.2
Fans		Fans activation and relative speed settings, 0-10V outlet setting	8.3.3
Air change		Air change time setting (up to 6)	8.3.4
Automatic air change		Energy saving setting (energy saving - outside environment use)	8.3.5
Pause		Pause period and duration setting	8.3.6
Configure THR		THR mode setting (Humidification/dehumidification management)	8.3.7
Machine protection		System protection parameters: compressor management, limits for set-points, dehumidification limit time	8.3.8
Alarm regulation		Temperature/humidity alarms adjustment	8.3.9
Cold water management		Cold water system valve management parameters (cold call)	8.3.10
Hot water management		Hot water system valve management parameters (hot call)	8.3.11
pH probe		pH probe enabling and management	8.3.12
Piercing probe		Piercing probe enabling and management	8.3.13
Probe calibration		Correction of temperature/humidity probes, hot/cold water temperature, etc. values	8.3.14
Essence		Configuration of manual essence	8.3.15

Data logger		Data logger Configuration	8.3.16
RS485 communication		Configuration of RS485 serial communication	8.3.17
Web server		Web server configuration	8.3.18
Mail		E-mail configuration	8.3.19
Language		Control unit language setting	8.3.20
Date and time		Date and time settings (not accessible while a program is running)	8.3.21
General settings		Contrast, brightness and audible warnings setting	8.3.22
Software		Management of control software reset and update, device parameters export/import from/to USB/SD	8.3.23
Info		VISION TOUCH THR device information (software version, memory occupied)	8.3.24
Password		Management of protection level: user/installer access, configuration menu	8.3.25
Test center		Digital/analogue inputs/outputs test, touchscreen interface operation test	8.3.26
Configure I/O		Configuration of functions associated to digital/analogue inputs/outputs	8.3.27

Process regulation | 8.3.1

"Process regulation" allows setting the differentials, and the temperature and humidity neutral area of the THR.

The "Process regulation" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Process regulation" item (installer login required).

Process regulation

PARAMETERS	MEANING	VALUES	DEFAULT
dtC	**HOT temperature differential** with reference to the main SET-POINT. It is expressed in absolute value and it defines the temperature hysteresis for HOT referred to the temperature SET-POINT.	(dtn+0,2) ÷ 10 °C	2 °C
dtF	**COLD temperature differential** with reference to the main SET-POINT. It is expressed in absolute value and it defines the temperature hysteresis for COLD referred to the temperature SET-POINT.	(dtn+0,2) ÷ 10 °C	2 °C
dtn	**NEUTRAL temperature zone** with reference to the main SET-POINT. Cold and hot are not activated in the neutral zone; it symmetrically includes both the upper part (hot) and the lower part (cold) respect to the temperature SET-POINT.	0 °C ÷ dtn ≤ (dtF-0.2) e dtn ≤ (dtC-0.2)	0 °C
dUU	**HUMIDIFICATION differential** with reference to humidity SET-POINT. It is expressed in absolute value and it defines the humidification hysteresis referred to the humidity SET-POINT.	(dUn+1) ÷ 10 RH%	5 rH%
dUd	**DEHUMIDIFICATION differential** with reference to humidity SET-POINT. It is expressed in absolute value and it defines the dehumidification hysteresis referred to the humidity SET-POINT.	(dUn+1) ÷ 10 RH%	5 rH%
dUn	**NEUTRAL humidity zone** with reference to the main SET-POINT. Humidification and dehumidification are not activated in the neutral zone; it symmetrically includes both the upper (humidification) and the lower (dehumidification) parts, respect to the humidity SET-POINT.	0 RH% ÷ dUn ≤ (dUU-1) e dUn ≤ (dUd-1)	0 rH%

Defrosts | 8.3.2

Defrosts are managed with the parameters d4, d5, d6, d7, F5 which define their intervals, the maximum duration, the "defrost ending" temperature, dripping and fan stopping. To switch defrost on manually, just press the "Defrost" button. Defrosting will not be activated if the "defrost ending" temperature (d6) is set lower than the temperature detected by the evaporator probe. Defrosting will end when the "defrost ending" temperature (d6) or the "maximum defrost period" (d5) is reached.

The "Defrost cycles" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Defrosting cycles" item (installer login required).

| Defrost | | ❄ | > |

PARAMETERS	MEANING	VALUES	DEFAULT
d4	**Defrost interval** (hours). If d4=ON one must set the cyclic defrosting interval.	OFF 1 ÷ 24 hours	OFF
d5	**Maximum defrost period** (minutes).	1 ÷ 60 min	10 min
d6	**Defrost end Set-point**. Defrosting is not carried out if the temperature detected by the defrost probe is higher than the value d6 (If the probe is faulty, the frosting is timed).	-35 ÷ 45 °C	15°C
d7	**Dripping period** (minutes). At the end of defrosting, the compressor and the fans remain stopped for the set time d7, the defrost icon flashes.	0 ÷ 10 min	0 min
dF1…dF6	**Defrost times programming.** It is possible to set up to 6 times for defrost.	OFF 00:00 ÷ 23:59	OFF
dE	**Evaporator probe exclusion**	0 = probe absent 1 = probe present	1
d1	**Type of defrost.** Cycle inversion (hot gas) or resistance. With hot gas the compressor output is also activated.	0 = electrical defrost 1 = hot gas (defrosting outlet off during dripping) 2 = hot gas (defrosting outlet on during dripping, to manage bowl resistances)	0
di	**Smart defrosts.**	0 = disabled 1 = enabled	0

Intelligent defrosting

"Intelligent defrosting" is a special defrosting activation technique aimed at energy savings. It is recommended to use this function in the event of defrosting cycles equally distributed throughout the day (for example cyclic defrosting).

Hot gas defrost

Set parameter d1 = 1 or 2 for managing cycle inversion defrosting.
The compressor relay and the defrosting relay are activated for the entire defrosting phase.
If d1=2, the defrosting outlet stays active during the dripping stage to manage the bowl resistances.
For the correct management of the plant, it will be the responsibility of the installer to use the defrost output, that must allow the opening of the cycle inversion electro valve and the closing of the liquid electro valve.
For the capillary plants (without thermostatic valve) it is sufficient to control the cycle inversion electro valve, using the defrosting relay control.

Ventilation 8.3.3

The parameters of the Ventilation menu allow setting the management of the fans in the various operating modes. The "Ventilation" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Ventilation" item (installer login required).

Fans

PARAMETERS	MEANING	VALUES	DEFAULT
F5	**Fan pause** after defrost (minutes). Allows keeping the fans stopped for a time F5 after dripping. This time starts counting from the end of dripping. If dripping is not set, at the end of defrost the fans pause immediately.	0 ÷ 10 min	0 min
F3	**Fan status when cold, hot, humidification and dehumidification are stopped.**	0 = Fans running constantly. 1 = Fans off if cold, hot, humidification and dehumidification off. 2 = off with cold active.	1
F4	**Fan pause during defrost.**	0 = Fans running during defrost. 1 = Fans not running during defrost.	1
F6	**Evaporator fans activation for air circulation.** The fans are activated for a time defined by F7 if they were not switched on for the time F6. If the time of activation coincides with the defrosting phase, it waits for the end of defrost. The fan speed (high/low) is the same selected for the phase in progress.	OFF 1 ÷ 240 min	OFF
F7	**Evaporator fans activation period for air circulation.** Time fans running for air circulation (F6).	0 ÷ 240 sec	10 sec
F8	**Fan speed in seasoning/preservation phase.** The value of this PARAMETER changes based on the setting made in the last phase of a program carried out.	0 = High speed 1 = Low speed	0
EFa	**Enables 0-10V output for fan speed control.** The digital outputs high and low fan speed becomes the enable. (Them Turned on if the 0-10V output higher than 0V)	0 = disabled 1 = enabled	0
Fs	**Fan speed (percentage) when EFa=1.** The value of this PARAMETER changes based on the setting made in the last phase of a program carried out.	20 ÷ 100 %	100%
Fst	**FAN blocking TEMPERATURE.** The fans do not switch on if the value of the temperature read by the evaporator probe is higher than the value of this parameter. The block is deactivated when the evaporator probe is disabled or presents an error.	-45 ÷ 99 °C	+99°C
Fd	**Differential for Fst.**	1 ÷ 10°C	2°C

8.3.4   Air change

The air changes can be enabled with parameter rA. Up to six daily execution times for air change can be set in parameters from rA1 up to rA6. The duration of the air change is defined by parameter drA. During air change, hot, cold, humidity and dehumidification do not activate. It is possible, at any time, to force an air change with the "Air cycle" button.
The "Air change" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Air change" item (installer login required).

Air change			

PARAMETERS	MEANING	VALUES	DEFAULT
drA	Air change period	1 ÷ 240 min	6
rA1 … rA6	**Air change time programming** It is possible to set up to 6 times for air change.	OFF 00:00 ÷ 23:59	OFF

8.3.5   Automatic air change

The "Automatic air change" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Automatic air change" item (installer login required).

Automatic air change			

PARAMETERS	MEANING	VALUES	DEFAULT
EEs	**Enable energy saving**	0 = disabled 1 = enabled	0
dEs	**Energy saving Sensitivity**	0 ÷ 200 %	0
tEs	**Maximum energy saving period**	00:01 ÷ 10:00	00:01

Energy saving

The "Energy saving" function allows considerable energy savings through the controlled activation of the air change in the event the external conditions are conducive to reaching the temperature or humidity set-point inside the cell. Setting "dEs>0" means increasing the temperature/humidity differential relating to the set-point: it allows to make the most of the Energy saving function, which in any case will stay active at maximum for a period equal to "tEs". The increase of this PARAMETER allows greater energy savings at the cost of a superior fluctuation of the controlled quantities.
"Energy saving" is a function that can only be activated if the external temperature and humidity probes are connected.

Pause 8.3.6

The pause is a phase in which temperature and humidity management is suspended. Pauses are managed with parameters Pr and dr. Pr defines the interval between one pause and the following one, dr defines the duration of the pause. It is possible, at any time, to force a pause with the "Pause" button. To interrupt a pause press and hold the "Pause" key. The "Pause" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Pause" item (installer login required).

Pause

PARAMETERS	MEANING	VALUES	DEFAULT
Pr	**Pause period**. Interval between one pause and the next. Pause is a work break in which cold, hot, humidification and dehumidification are disabled.	OFF 00:01 ÷ 24:00	OFF
dr	**Pause phase duration**	1 ÷ 480 min	120 min

Configure THR 8.3.7

"Configure THR" allows selecting which functions of the THR control unit are enabled; in particular, it allows you enabling / disabling the humidity management and heat.
The "Configure THR" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Configure THR" item (installer login required).

Configure THR

PARAMETERS	MEANING	VALUES	DEFAULT
dEU	**Dehumidification mode selection.** Separate dehumidification calls hot and cold only for temperature.	0 = cooling 1 = heating 2 = separate dehumidification 3 = separate dehumidification and active when cold output is off 4 = dehumidification with heat recovery battery	0
EnU	**Humidification enabling**	0 = disabled 1 = enabled	1
End	**Dehumidification enabling**	0 = disabled 1 = enabled	1
EnH	**Hot enabling**	0 = disabled 1 = enabled	1
Hr	**Humidity management**	Hr = 0 humidity management disabled. The humidity probe can be connected without error on the display. Hr = 1 humidity management enabled.	1
Enb	**T/Hr suspension.** It suspends the management of temperature/humidity when the relevant set point is set on its minimum value.	0 = disabled 1 = enabled	0
HmV	**Minimum value of the humidifier regulation analogue output.**	0 ÷ +99 RH%	20 RH%

8.3.8	Machine protection

"Machine protection" contains the safety parameters to manage the system. One can set the minimum interval between compressor activations, the dehumidification limit time and which action must be performed in the event the dehumidification limit time Timeout intervenes.

The "Machine protection" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Machine protection" item (installer login required).

Machine protection	⚠	>

PARAMETERS	MEANING	VALUES	DEFAULT
C1	**Minimum time between shutdown and subsequent switch-on of compressor**. It also stops the fans if they are not active for other functions.	0...15 min	0
LSt	**Minimum value that can be attributed to temperature set-point**	-45.0 ÷ HSt °C	-45.0°C
HSt	**Maximum value that can be attributed to temperature set-point**	LSt ÷ +99.0 °C	+99.0°C
btF	**Temperature differential** with reference to Set-point for **COLD BLOCK**. This is the SET-btF limit below which the cold and dehumidification call relays are disabled. The block function remains active until the set-point is reached.	OFF 1 ÷ 20 °C	OFF
btC	**Temperature differential** with reference to Set-point for **HOT BLOCK**. This is the SET-btF limit below which the hot, humidification and dehumidification call relays are disabled. The block function remains active until the set-point is reached.	OFF 1 ÷ 20 °C	OFF
btE	**Minimum evaporator temperature** Temperature value of the evaporator probe below which the cold call relay and the dehumidification relay are disabled. The lock function remains active with a differential of 2°C.	-45.0 ÷ +99.0 °C	-45.0 °C
dEt	**DEHUMIDIFICATION time limit**. If the dehumidification demand is not met (reaching humidity SET-POINT) within the time (dEt), the PARAMETER (dEO) is taken into consideration for the operation to be carried out. The count starts at each new dehumidification demand.	OFF 1 ÷ 240 min	OFF
dEo	**Operation to be performed for if the dehumidification time limit (dEt) Timeout intervenes.** dEO = 0 an alarm signal (Ed) + buzzer + alarm relay are triggered. The alarm remains displayed even when the humidity set-point is reached; it does not block normal operation and, once silenced, the dEt count starts back up. dEO = 1 a pause lasting (dr) is launched and the timer relative to the interval (Pr), if present, is reloaded. dEO = 2 An air change is performed	0 = alarm only 1 = a pause is carried out. 2 = An air change is performed	0
FdS	**Fan switch-off delay**	0 ÷ 600 sec	0 sec

PARAMETERS	MEANING	VALUES	DEFAULT
doC	**Compressor safety time for door switch.** When the door is opened the evaporator fans shut down and the compressor will continue working for time doC, after which it will shut down.	0 ÷ 5 min	0 min
Tdo	**Compressor restart time after door opening.** When the door is opened and after tdo time, it's setted back the normal functioning giving door open alarm (**Ed**). With tdo=0 the parameter is disabled.	0 ÷ 240 min	0 min
Tlo	**Cell light on alarm delay (E9)** If the light stays on for a longer time than Tlo, light cell alarm is signaled (E9). With Tlo=0 the parameter is disabled.	0 ÷ 240 min	0 min

Alarm regulation

8.3.9

"Alarms adjustment" allows setting the minimum and maximum temperature/humidity and the delay between the alarms signal and display.
The "Alarms adjustment" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Alarms adjustment" item (installer login required).

Alarm regulation

PARAMETERS	MEANING	VALUES	DEFAULT
At1	**Minimum temperature alarm (absolute or relative)** Allows defining the minimum ambient temperature value. Below the value At1, the alarm status EtL will be signaled and an internal buzzer indicates the existence of the fault. The alarm is signaled after the time Ald.	Absolute (°C) -45 ÷ (At2-1) Relative (°C) -40 ÷ 0	Absolute -45°C
At2	**Maximum temperature alarm (absolute or relative)** Allows defining the maximum ambient temperature value. Above the value At2, the alarm status EtH will be signaled and an internal buzzer indicates the existence of the fault. The alarm is signaled after the time Ald.	Absolute (°C) (At1+1) ÷ 99 Relative (°C) 0 ÷ 40	Absolute +99°C
AU1	**Minimum humidity alarm (absolute or relative)** Allows defining the minimum humidity value of the environment to be humidified. Below the value AU1, the alarm status EuL will be signaled with the buzzer active. The alarm is signaled after the time Ald.	Absolute (RH%) 0 ÷ (AU2-1) Relative (RH%) -40 ÷ 0	Absolute 0 RH%
AU2	**Maximum humidity alarm (absolute or relative)** Allows defining the maximum humidity value of the environment to be humidified. Above the value AU2, the alarm status EuH will be signaled with the buzzer active. The alarm is signaled after the time Ald.	Absolute (RH%) (AU1+1) ÷ 100 Relative (RH%) 0 ÷ 40	Absolute 100 RH%
Ald	**Delay time for Minimum or maximum temperature or humidity alarm signaling and display.**	0 ÷ 240 min	240 min
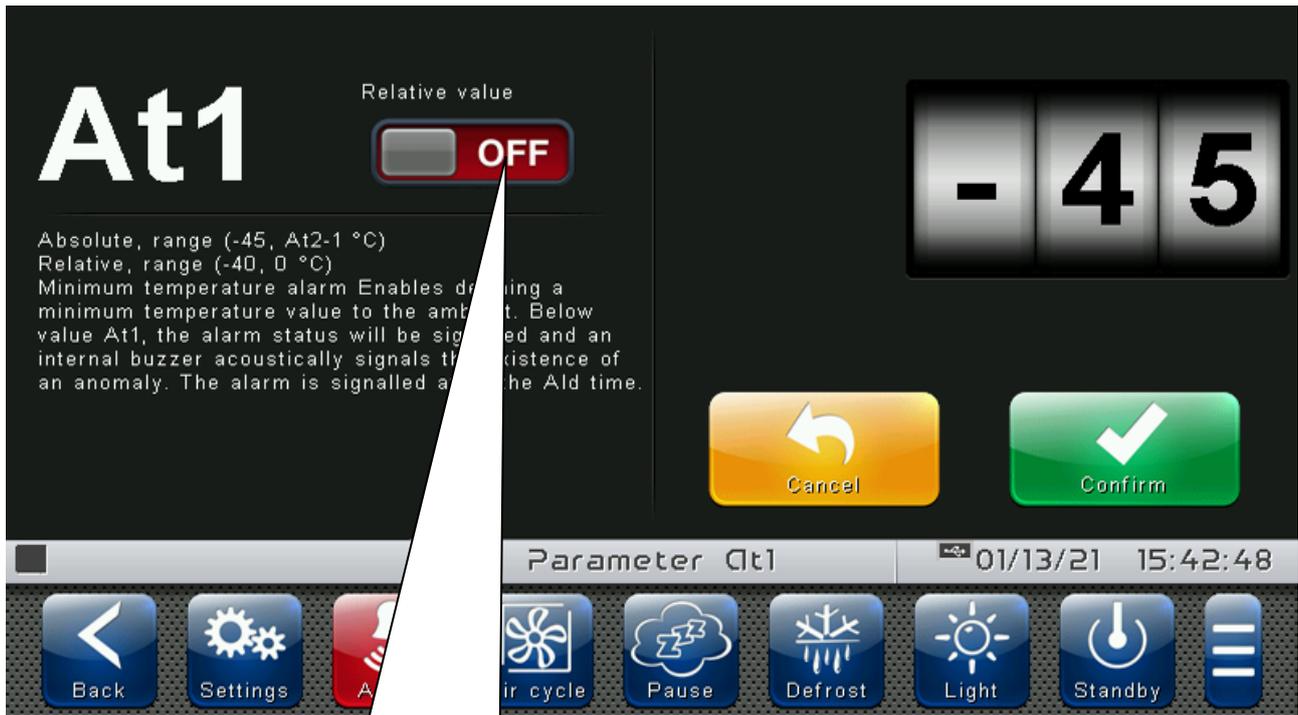
Set the alarm value as absolute or relative to the setpoint

8.3.10   Cold water management

"Cold water management" allows controlling a cooling system through proportional control (0-10 V analogue output). This function can only be activated if the cold-water temperature probe is connected. The "Cold water management" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Cold water management" item (installer login required).

Cold water management

PARAMETERS	MEANING	VALUES	DEFAULT
ECv	**Cold water management enabling**	0 = disabled 1 = enabled 2 = enabled (ref. ambient probe)	0
StC	**Cold water temperature set-point**	-45.0 ÷ +99.0 °C	0.0 °C
rOC	**Cold water temperature differential**	1 ÷ 20 °C	5 °C
tdC	**Delay at response.** It is the time that the analogue output takes to vary from 0V to 10V.	1 ÷ 10 min	10 min

Hot water management

"Hot water management" allows controlling a heating system through proportional control (0-10 V analogue output). This function can only be activated if the hot water temperature probe is connected.

The "Hot water management" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Hot water management" item (installer login required).

Hot water management			

PARAMETERS	MEANING	VALUES	DEFAULT
EHv	**Hot water management enabling**	0 = disabled 1 = enabled 2 = enabled (ref. ambient probe)	0
StH	**Hot water temperature set-point**	-45.0 ÷ +99.0 °C	0.0 °C
rOH	**Hot water temperature differential**	1 ÷ 20 °C	5 °C
tdH	**Delay at response.** It is the time that the analogue output takes to vary from 0V to 10V.	1 ÷ 10 min	10 min

pH probe

It allows attributing the maximum and minimum level measured by the pH probe (4-20 mA). Enabling this feature requires the connection of the pH probe.

The "pH probe" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "pH probe" item (installer login required).

pH probe			

PARAMETERS	MEANING	VALUES	DEFAULT
EpH	**pH reading enabling**	0 = disabled 1 = enabled	0
LpH	**Minimum pH value (4mA)**	-5.00 ÷ HpH pH	0
HpH	**Maximum pH value (20mA)**	LpH ÷ 20.00 pH	14.00

8.3.13 | Piercing probe

The "Piercing probe" allows managing the outputs and the moment in which the recipe in progress ends, according to the temperature measured by this probe. This function can only be activated if the piercing probe is connected.

The "Piercing probe" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Piercing probe" item (installer login required).

Piercing probe

PARAMETERS	MEANING	VALUES	DEFAULT
EnS	**Enabling the piercing probe** (please see chap. 12.3).	0 = disabled 1 = recipe (skip phase) + manual 2 = read only 3 = recipe (skip phase) 4 = recipe (pause) 5 = recipe (pause) + manual	0
StS	**Piercing probe temperature set-point.** The value of this PARAMETER changes based on the setting made in the last phase of a program.	-45.0 ÷ +99.0 °C	0.0 °C
dSm	**Temperature differential (manual).** This parameter intervenes only in the event of manual operation.	0.2 ÷ 10.0 °C	2,0 °C

Probe calibration | **8.3.14**

The "Probes calibration" menu allows correcting the value measured by the room/outside temperature and humidity probes and to correct the value measured by the cold/hot water probe. The menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Probes calibration" item (installer login required).

Probe calibration

PARAMETERS	MEANING	VALUES	DEFAULT
Cat	Ambient probe value correction	-10...+10 °C	0
CaU	Humidity probe value correction	-20...+20 RH%	0
CaE	Evaporator probe value correction	-10...+10 °C	0
CaC	Coldwater probe value correction	-10...+10 °C	0
CaH	Hot water probe value correction	-10...+10 °C	0
CaP	pH probe value correction	-1.00...+1.00 pH	0
Cet	Outside environment probe value correction	-10...+10 °C	0
CeU	Outside humidity probe value correction	-20...+20 RH%	0
CaS	Piercing probe value correction	-10,0...+10,0 °C	0

8.3.15   Essence

The "Essence" menu allows setting the manual essence configuration.

This feature, if enabled, allows you to activate the essence output for the programmed time through the pressure of the key "Manual Essence" in the Button Bar, and to view the countdown in the predisposed display quadrant.

The menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Essence" item (installer login required).

Essence

PARAMETERS	MEANING	VALUES	DEFAULT
dEz	**Manual essence duration (hours : min)**	00:01 ÷ 23:59	1

8.3.16   Datalogger

The "Data logger" menu allows the setting of the data logger function.

The menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Data logger" item (installer login required).

Data logger

PARAMETERS	MEANING	VALUES	DEFAULT
int	**Time interval between one registration and the next on.** **(0 = data logger disabled).** **To ensure one year data recording set int > 10 min.**	0 ÷ 60 min	0
ASr	**Asynchronous registration.** In case of activation/deactivation of a temperature/humidity alarm a data recording is forced.	0 ÷ 1	0
Mem	**Deletes the history of the registered data.** **(1 = starts deleting)**	0 ÷ 1	0

RS485 communication   8.3.17

The "RS485 communication" menu allows setting the serial communication configuration. The menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "RS485 communication" item (installer login required).

In the event of **Ser=0** (Telenet), the Vision Touch responds as a TWMT instrument (**room temperature probe measurement**) to address Ad and as a TWMUR instrument (**room humidity probe measurement**) to address Ad+1.

RS485 communication

PARAMETERS	MEANING	VALUES	DEFAULT
Ad	**Network address** for connection to TeleNET or Modbus supervision system.	0...31 (Ser=0) 1...247 (Ser=1)	1
Ser	**RS-485 communication protocol** 0 = TeleNET protocol 1 = Modbus-RTU protocol	0...1	0
Bdr	**Modbus baudrate** 0 = 300 baud 3 = 2400 baud 6 = 14400 baud 1 = 600 baud 4 = 4800 baud 7 = 19200 baud 2 = 1200 baud 5 = 9600 baud 8 = 38400 baud	0 ÷ 10	5
Prt	**Modbus parity control configuration** 0 = none parity 1 = even parity 2 = odd parity	0 ÷ 2	0

8.3.18   **Web server**

The "Web server" menu allows setting the Web server configuration. This menu is accessible from the Main Configuration page ("Parameters" Button). The visibility of this item can be set in the submenu "Password" => "Configure user level menu" and by selecting the "Web server" item (installer login required).

Basic configuration of Web server (IP, Netmask, Gateway, DHCP)

Setting up your username for login from the web

"Info" checks the current Web server setting (IP, MAC, etc.)

Enable the change of parameters / controls from web

−   Settings page

Enable / disable DHCP

Changes are applied when the "Confirm" button is pressed

Settings

Confirm   Cancel

ON   DHCP

80
Port

169.254.254.1
IP

255.255.0.0
Netmask

0.0.0.0
Gateway

S   gs   5/18 15:54

Configure IP address	**Configure Netmask**	**Configure Gateway**	**Configure Port**
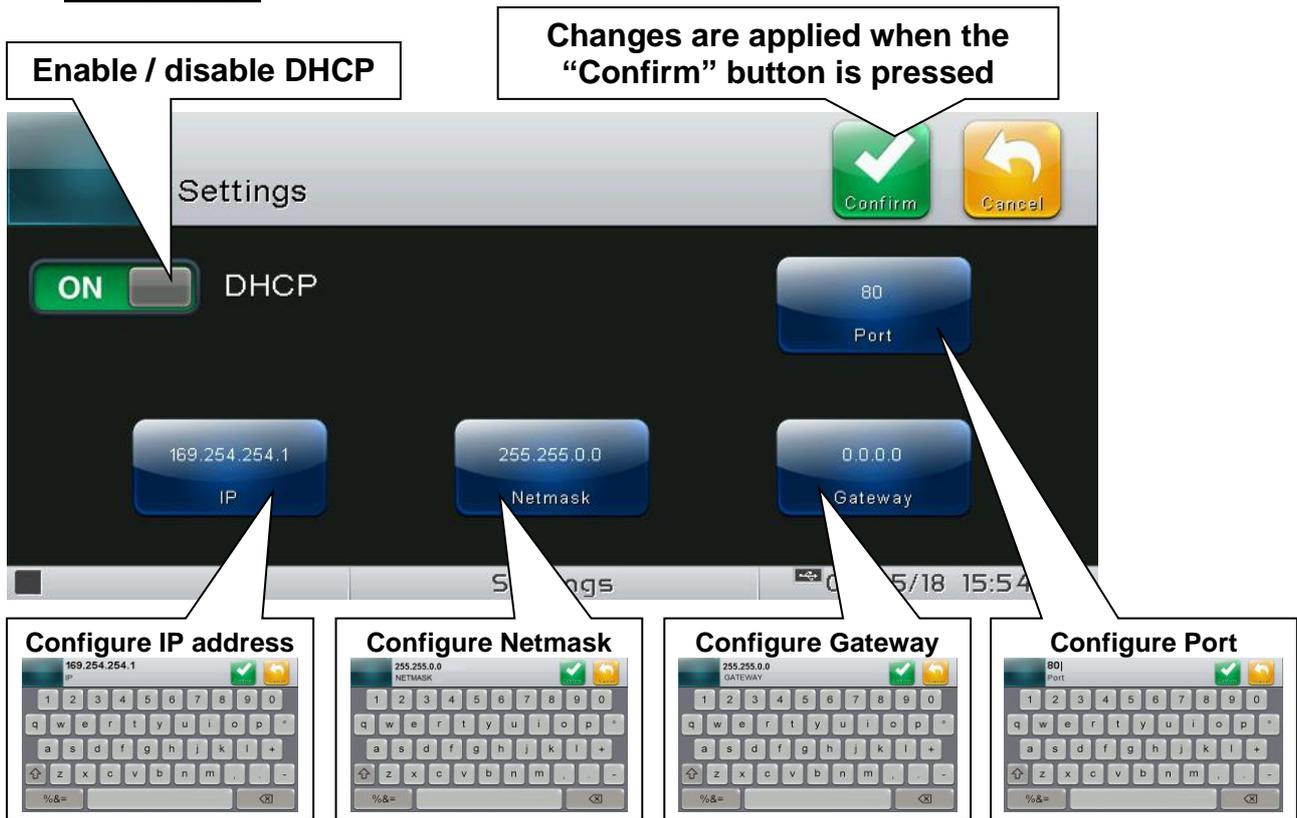
- DHCP: enable / disable configuration request to the DHCP server. If enabled, the IP address associated with Vision Touch is assigned by the DHCP server (if it is present on the local network). If no assignment is made, the touch maintains the default configuration:

IP: 169.254.254.1   Gateway: 0.0.0.0
Netmask: 255.255.0.0   Port: 80

To check the configuration assigned by DHCP, see the "Info" page in the "Web server" menu.

- Configure IP address / Netmask / Gateway: allow the setting of IP address / Netmask / Gateway if DHCP is not used (for example in static IP setting).

- Configure Port: allows you to change the access port of the Web Server. In case of connection of multiple Vision Touch on the same local network, set the NAT of the router by associating local IP/port with public IP/port.
Warning: changing the port requires restarting the Vision Touch.

Example:

WEB

ROUTER
(NAT)

request:
http://94.138.43.134**:8081**/

Vision Touch 1
192.168.0.10
Port 80

Vision Touch 2
192.168.0.11
Port **8081**
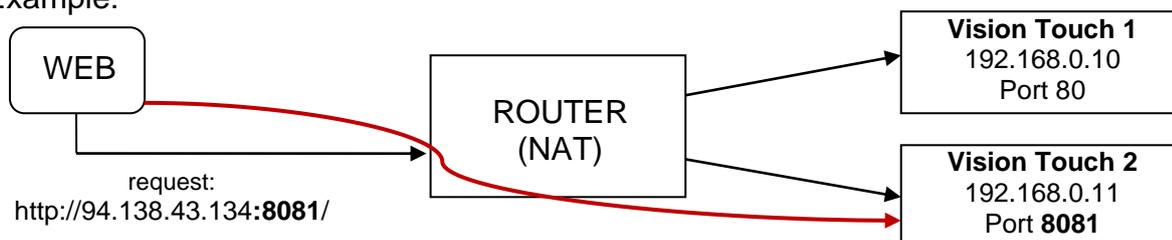
‒ User name page

The page "User name" allows configuring the Username to be used during login on the Vision touch Web page (the password coincides with the Vision Touch Installer password).

Browser Web

Username Web
(default: adminlogin)

Password
(default: 100)
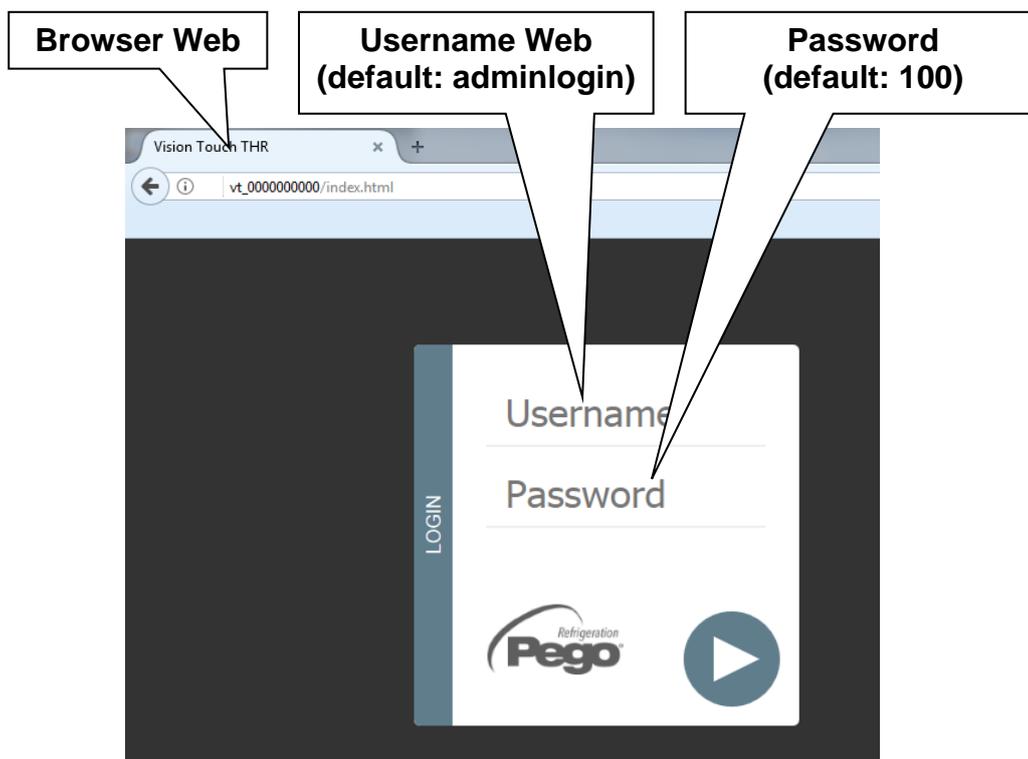
- Command enable page

The Wce parameter allows enabling or disabling commands and edits parameters from the Web page, regardless of the type of user (user or admin) that accesses the Web page.
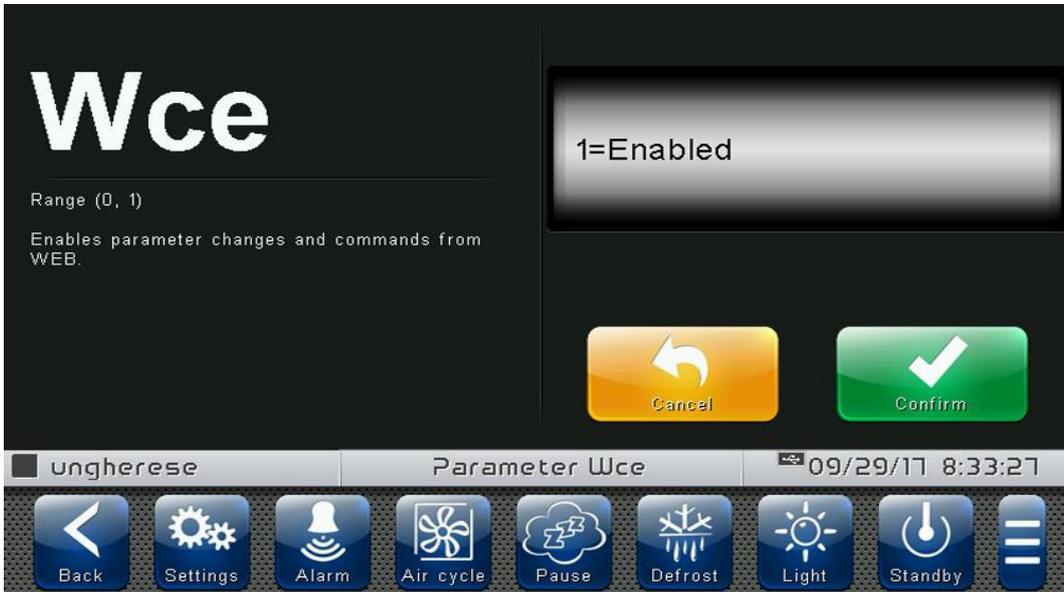
- Info page

The "Info Page" allows checking the current Web configuration of the Vision Touch THR.

DHCP: DHCP assignment status
Host: name used in the web browser address bar (linked to the serial number)
IP / Netmask / Gateway: current configuration (set either locally or by DHCP)
MAC: unique physical address associated with Vision Touch
User name: Web user name

8.3.19   **Mail**

The "Mail" menu allows setting the alarm mail configuration. The menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Mail" item (installer login required).
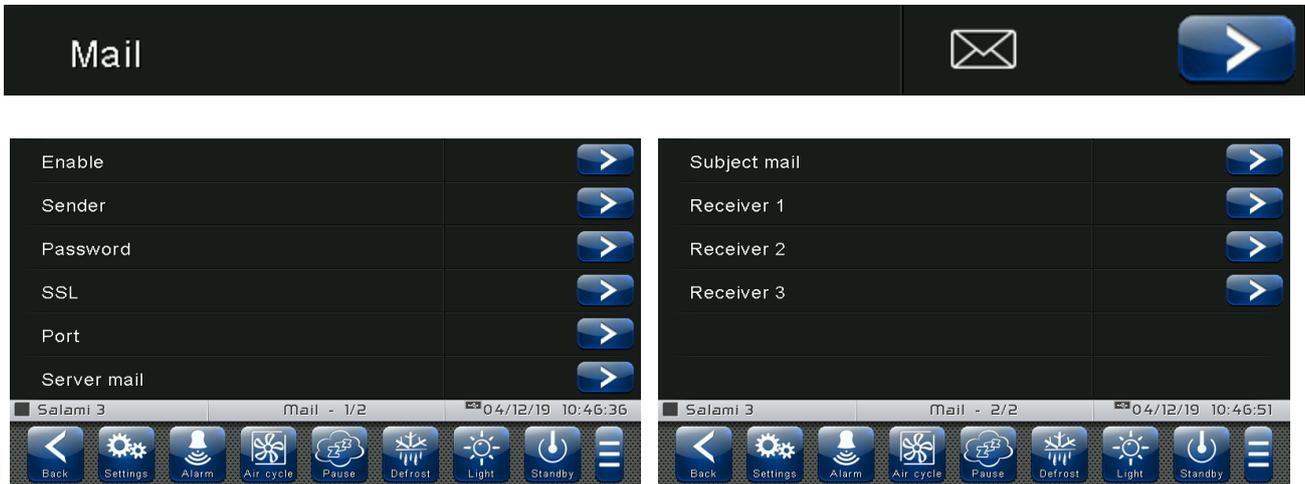
PARAMETERS	MEANING	VALUES	DEFAULT
Enable	Enable sending of mails in case of alarm. If configured as "Test Mail" it sends a test mail to all recipients.	0 = Disabled 1 = Enabled 2 = Test mail	0
Sender	Sender e-mail configuration (e.g. xxxxx@yyy.zz). Maximum length: 32 characters.	Text	
Password	Sender e-mail password configuration	Text	
SSL	Enable secure communication with the mail server	0 = Disabled 1 = Enabled	1
Port	Mail port number (e.g. port 465 for SSL connection, port 25 for non-SSL connection.)	0 … 999	465
Server mail	Outgoing mail server (e.g. smtp.xxx.zz)	Text	
Subject mail	Subject of mails (e.g. Cold room 1)	Text	
Receiver 1 **Receiver 2** **Receiver 3**	E-mail receivers (xxxxx@yyy.zz). Maximum length: 32 characters. The alarm e-mail will be sent to all receivers.	Text	

The Vision Touch sends an e-mail when an alarm occurs and when the alarm returns. The email contains the following information:
- Alarm code and description.
- Date and time when the alarm started.
- Duration of the alarm (in case of alarm end email).

Language

8.3.20

The "Language" menu allows changing the control unit language. The menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Language" item (installer login required).
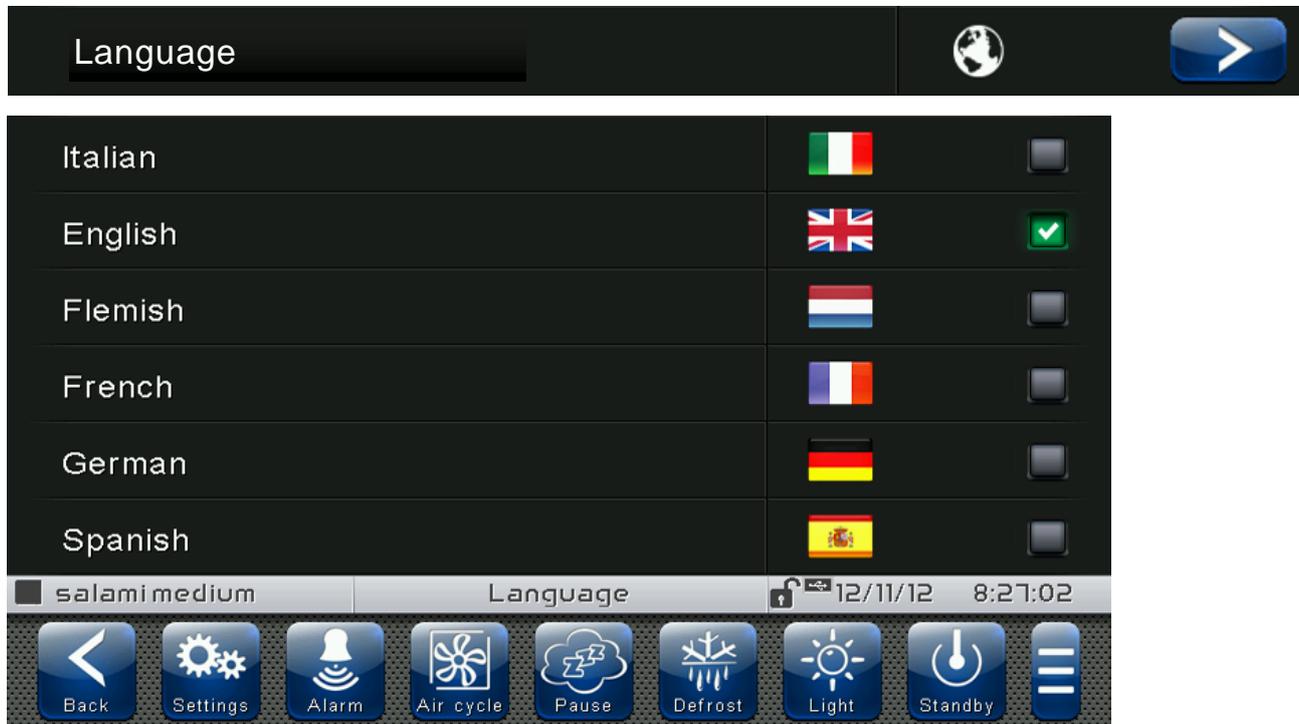
Date and time

8.3.21

The "Date and time" menu allows changing the clock settings. **One cannot access this page while a program is running**. The "Date and time" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Date and time" item (installer login required).
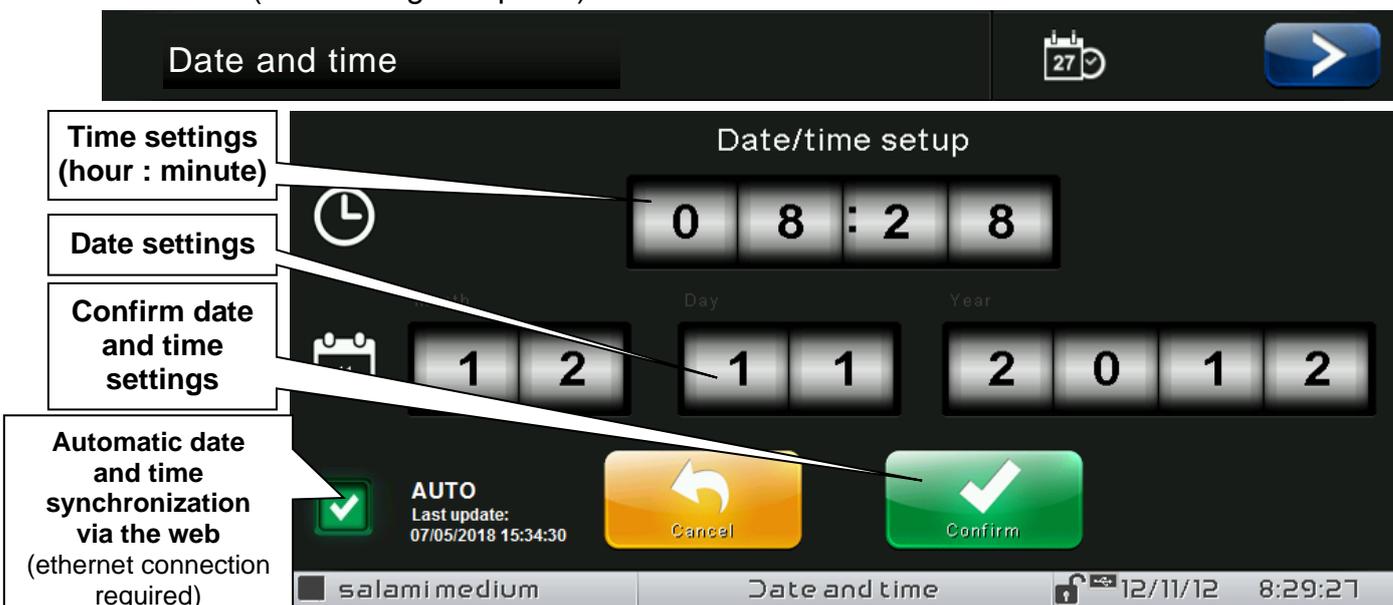
If automatic synchronization via the Web is active, the control connects to an external service that automatically determines the correct time zone and sets the date and time considering any summer/winter time. The status of the last synchronization attempt (referred to as "Last update") can be:
- **None:** no attempt to synchronize (for example at first power up);
- **Error:** the last synchronization attempt was not successful and therefore the control keeps the date and time settings previously set;
- **dd/mm/yyyy hh:mm:ss:** date and time of the last synchronization correctly performed.

8.3.22	General settings

The "General settings" menu allows changing the screen contrast, the brightness when the screen is locked, the activation of the audible warnings and the activation of the screensaver. "General settings" can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "General settings" item (installer login required).

We recommend setting the brightness to the minimum in order to maximize the display's lifetime.

Software	8.3.23

The "Software" menu allows performing maintenance on the device software. The menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Software" item (installer login required).

Software   CPU   >

Restore all default settings.
The execution of the program in progress is interrupted but the stored programs are not deleted.

Software update	>
Reload factory values	>
Clone machine configuration	>
Repair EEPROM	>

salam...um   Software -   12/11/12   8:31:31

Back ...gs   Alarm   Air cycle   Pause   ...ht   Standby
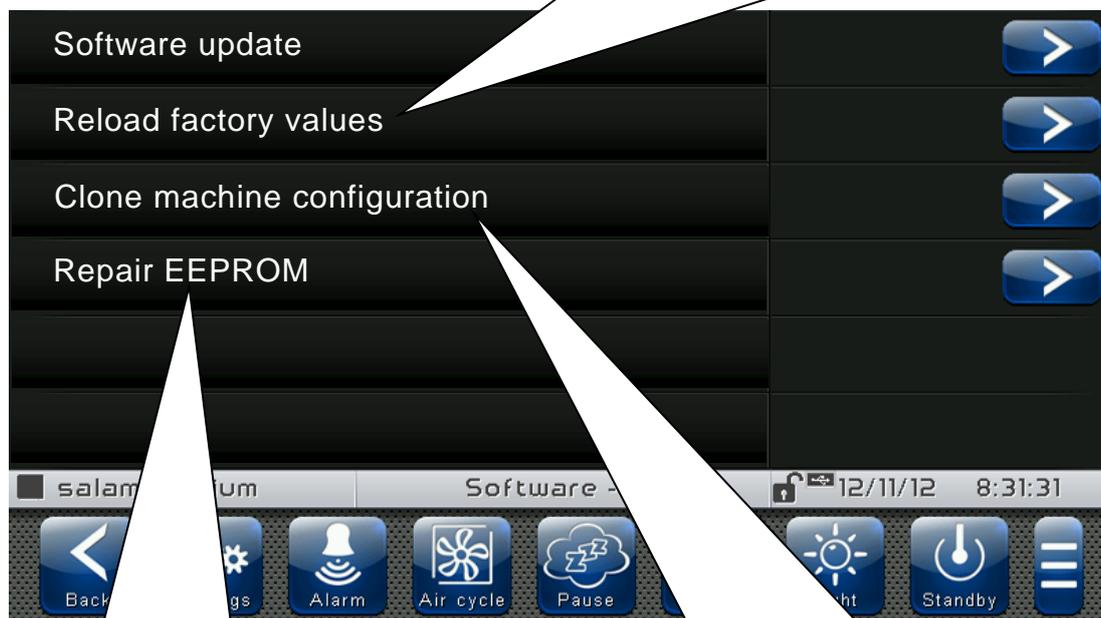
Repairing errors in the internal memory of the control unit

Exporting/importing the parameters configuration from USB / SD

**Software update causes the loss of data registered by the data logger.
It is advised to export the data history before proceeding with the update.**

Software updating procedure:
- Copy the update file "**VT_THR_#_#_#_#.pego**" (the symbols # represent the progress of the version) to an empty USB pen drive. Only the update file must be present in the pen drive.
- Insert the USB pen drive in the USB1 port of the controller (the symbol 🔌 of USB inserted and acknowledged appears on the status bar).
- Press the "Update software" button.
- The device proceeds to update autonomously, performing the following steps (the operation requires a few minutes): it exports the programs and configurations (if applicable) > it deletes the internal memory and installs new software > it restores the programs and configurations (if applicable) > it restarts the VISION TOUCH THR.

ATTENTION: during the entire installation phase the controller **must be kept powered and the USB key must be left inserted**. Failure to comply with this requirement could entail PEGO S.r.l. having to restore the software.

The update finishes as soon as the controller goes back to the "HOME 1" screen; at this point you can remove the USB key and resume normal use.

The new Software version can be checked in the "Parameters" > "Info" menu under "Application Version".

8.3.24 Info

The "Info" menu contains information relating to the software version installed and other information about the device. The menu can be accessed from the main Configuration page ("Parameters" Button).

Password	8.3.25

The "Password" menu allows managing the device protection level, giving the user permission to access only to certain functions and parameters. The menu can be accessed from the main Configuration page ("Parameters" Button).
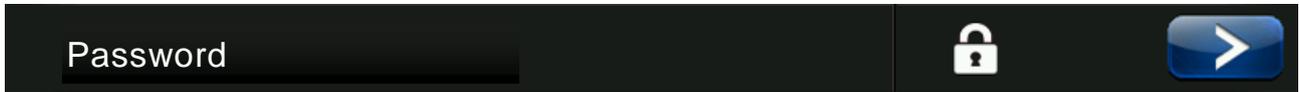
Password	🔒	>

The "Password" menu has a different appearance for the user and for the installer: the installer can select which items of the parameters menu are displayed to the user and which actions can be performed by the latter.

- <u>User Password Page</u>

Display locked with password	>
Maintenance login	>

Password - 1/1   11/12/12   12:24:09
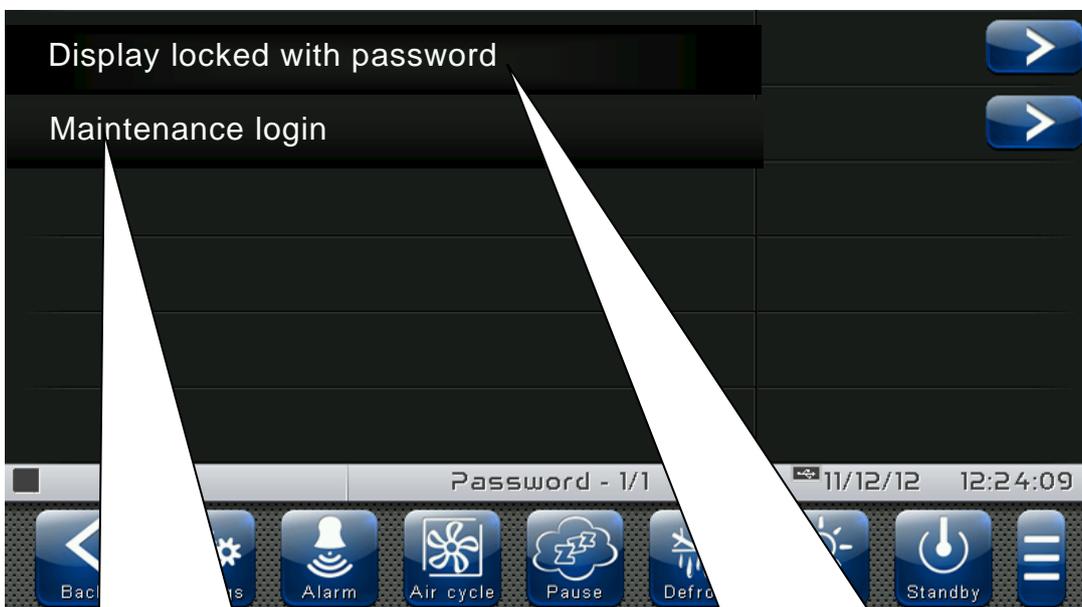
Password entry to access the installer level
(Default password: 0100)

User screen lock password setting

- Installer Password Page

| Exit from installer mode | Selection of configuration menu elements visible by the user |

Displ...cked with password

Maintenance login

Configure user level menu

Configure user functions

Change maintenance password

Password - 1/   11/12/12   12:22:23

Back   ...   Alarm   Air cycle   Pause   Defr...   Standby

| Installer password setting | Selection of actions that can be performed by the user |

Test center | 8.3.26

The "Test centre" allows verifying the proper operation of the inputs/outputs of the 100N MASTER3 connected to the VISION TOUCH THR. One can also verify the operation of the touchscreen sensors.

**The "Test center" function is reserved to expert users.**
Pego S.r.l. disclaims any liability for damage to the system
due to the improper use of this function.

The "Test centre" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Test centre" item (installer login required).

Test center | I/O ☑ | >

Test digital outputs	>
Test digital inputs	>
Test analogue outputs	>
Test analogue inputs	>
Touch coordinates	>
Verify touch sensors	>

salami medium | Test center - 1/2 | 12/18/12 11:54:08

Back | Settings | Alarm | Air cycle | Pause | Defrost | Light | Standby

- Digital outputs test

The "Digital outputs test" allows manually forcing the digital outputs of the connected 100N MASTER3. Access to this menu put the control unit in "Stand by": the time progress of an ongoing program is not altered but all output functions are disabled. The function associated to each digital output can be set in "Parameters" => "Configure I/O" => "Digital outputs".
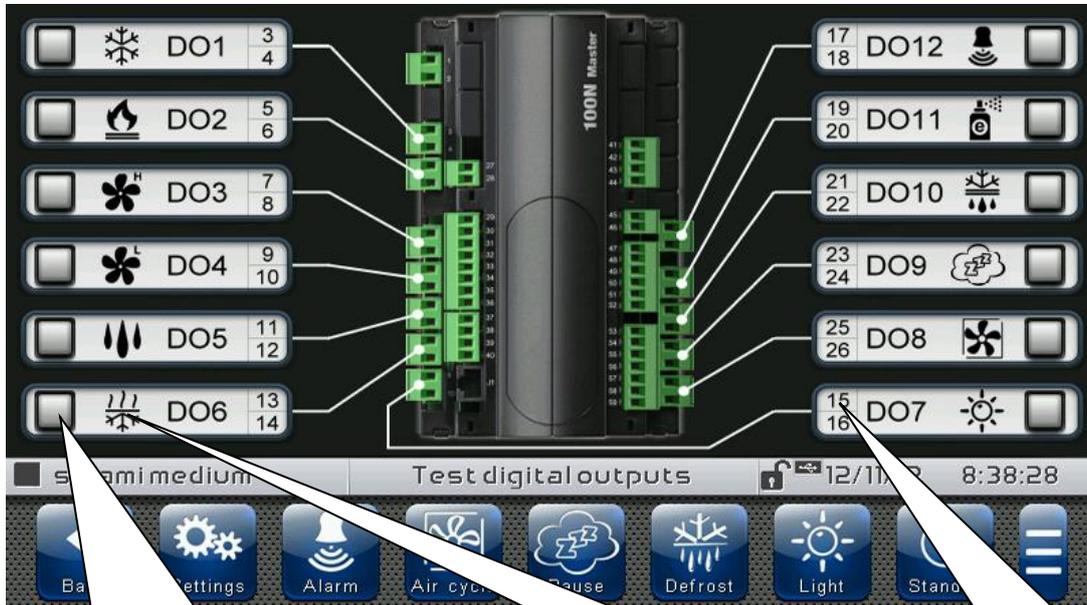
Press to enable / disable a digital output

Output function (can be set)

Connection terminals

- Digital inputs test

The "Digital inputs test" allows to verify the correct acquisition of the digital inputs of the connected 100N MASTER3. The function associated to each digital input can be set in "Parameters" => "Configure I/O" => "Digital inputs".
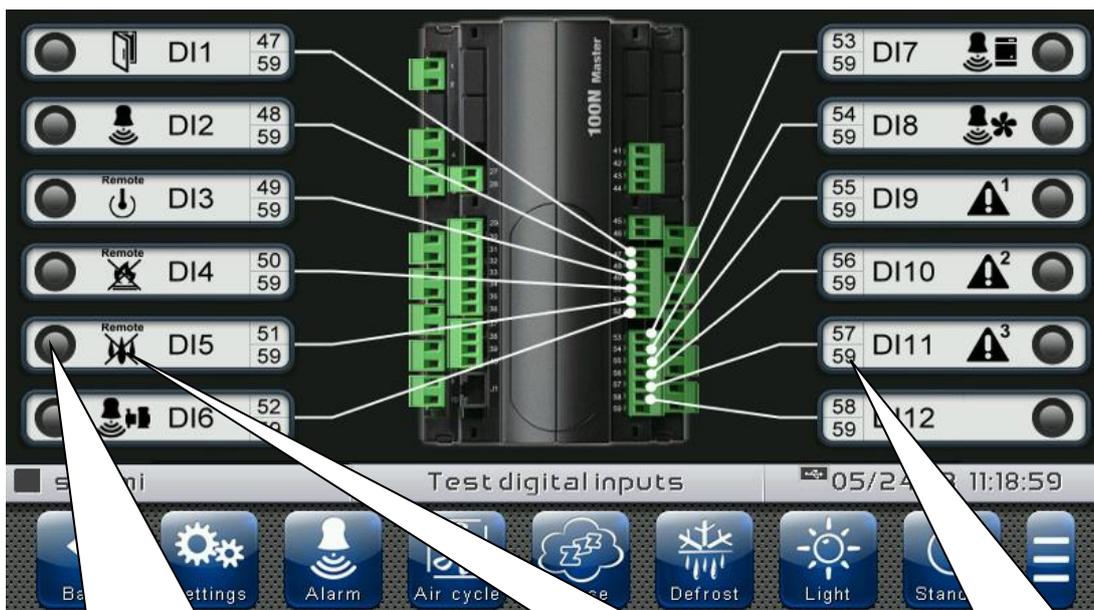
In presence of an active digital input the indicator light turns green

Input function (can be set)

Connection terminals

- <u>Analogue outputs test</u>

The "Analogue outputs test" allows manually forcing the analogue outputs of the connected 100N MASTER3, by setting the values manually between 0 and 10V. Access to this menu put the control unit in "Stand by": the time progress of an ongoing program is not altered but all output functions are disabled. The function associated to each digital output can be set in "Parameters" => "Configure I/O" => "Analogue outputs".
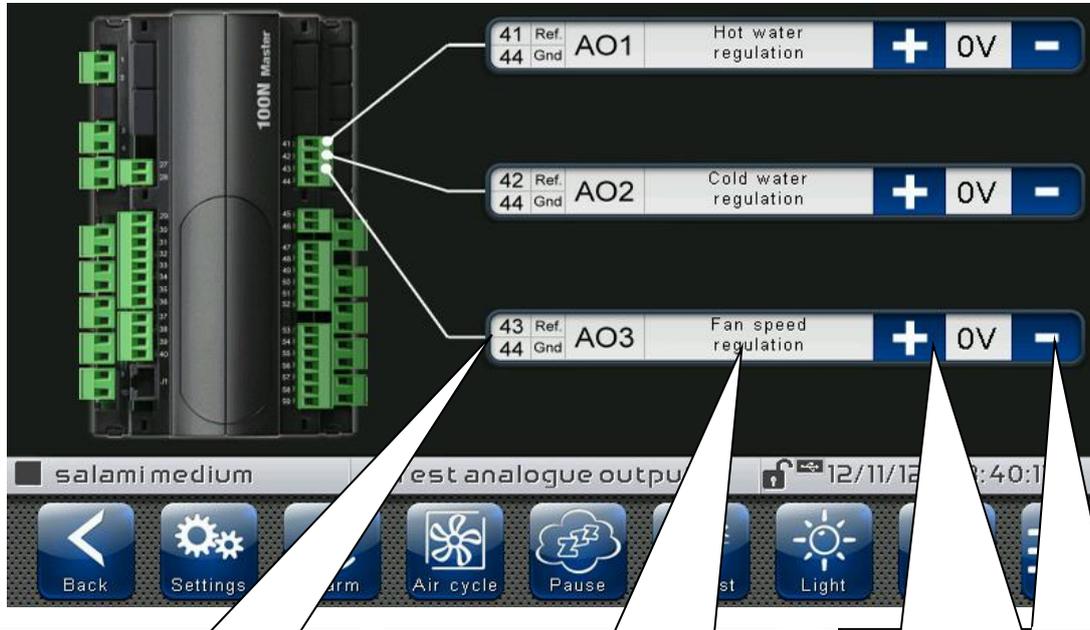
| **Connection terminals** | **Output description** | **Increase (+) / Decrease (-) the value of an analogue output** |

- Analogue inputs test

The "Analogue inputs test" allows verifying the correct acquisition of the analogue inputs (probes) of the connected 100N MASTER3. The function associated to each digital output can be set in "Parameters" => "Configure I/O" => "Analogue inputs".
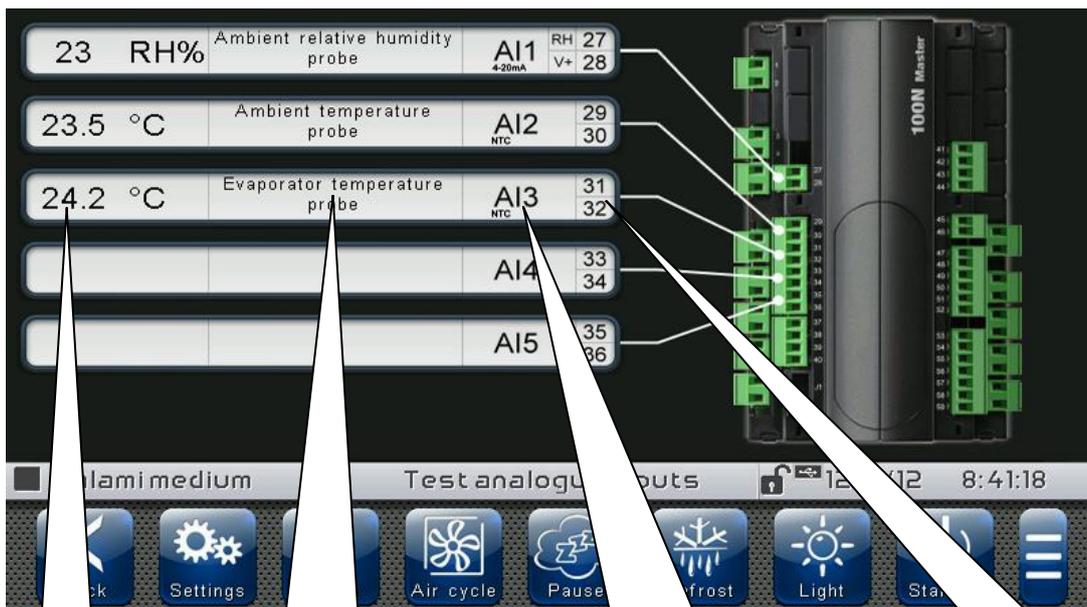
| **Acquired value** | **Input description** | **Input name and probe type** | **Connection terminals** |

Configure I/O

8.3.27

"Configure I/O" allows setting the function associated to each input/output of the connected 100N MASTER3.

> **The "Configure I/O" function is reserved to expert users.**
> **Pego S.r.l. disclaims any liability for damage to the system**
> **due to the improper use of this function.**

The "Configure I/O" menu can be accessed from the main Configuration page ("Parameters" Button). The display of this item can be set in the "Password" sub-menu => "Configure user level menu" and by selecting the "Configure I/O" item (installer login required).

| Configure I/O | I/O ⚙ | > |

Digital outputs	>
Digital inputs	>
Analogue outputs	>
Analogue inputs	>

salami medium   I/O configure - 1/1   🔓 📧 12/18/12   11:55:39

Back   Settings   Alarm   Air cycle   Pause   Defrost   Light   Standby   ≡

- Digital outputs

"Digital outputs" allows changing the function associated to each digital output of the connected 100N MASTER3. The modification of an output puts the control unit in "Stand by". In the event a function is not associated to at least one output, the eventual call from the control unit will not activate any digital output (only the status icon will be activated to indicate a call).

Digital output identification

Connection terminals

Modification of the function associated to the digital output

Associated function icon
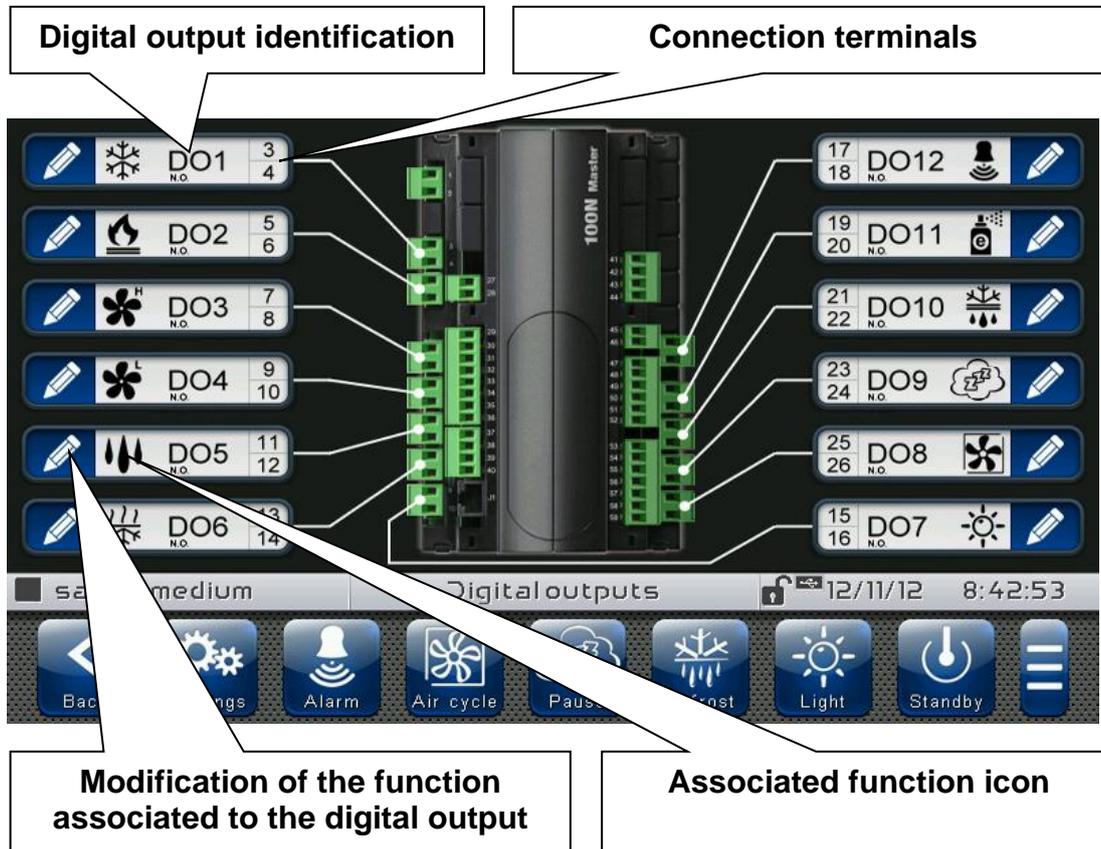
- Digital inputs

"Digital inputs" allows modifying the function associated to each digital input of the connected 100N MASTER3. The modification of an input puts the control unit in "Stand by".

Digital input identification

Connection terminals

Modification of the function associated to the digital input

Associated function icon
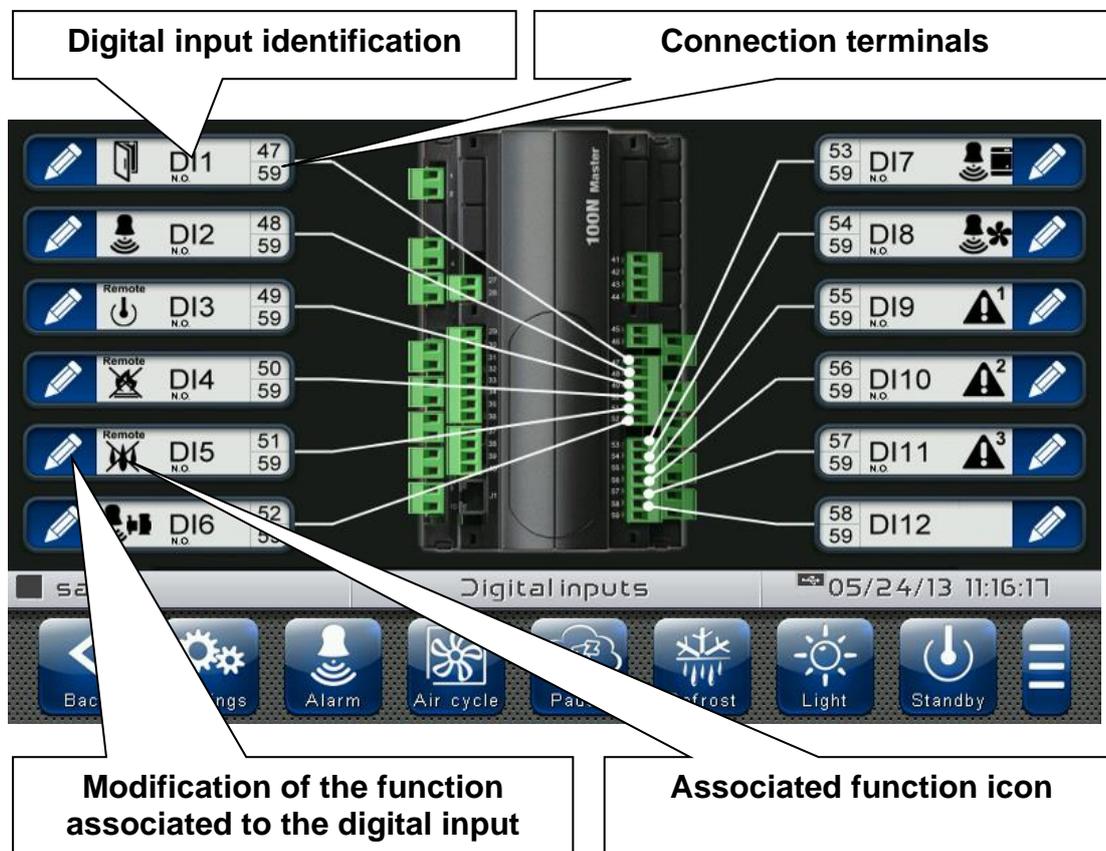
- <u>Analogue outputs</u>

"Analogue outputs" allows changing the function associated to each analogue output of the connected 100N MASTER3. The modification of an output puts the control unit in "Stand by". In the event a function is not associated to at least one output, the eventual call from the control unit will not activate any analogue output (only the status icon will be activated to indicate a call).
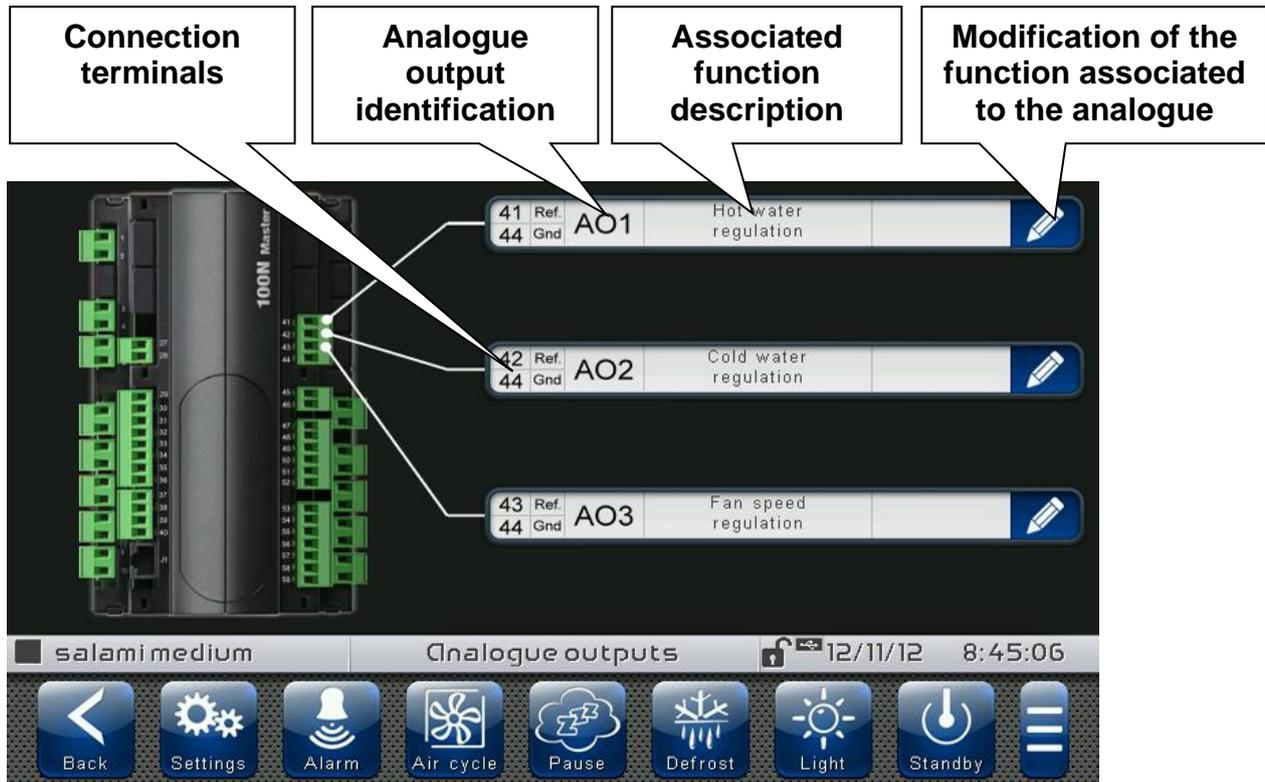
- Analogue inputs

"Analogue inputs" allows modifying the function associated to each analogue input of the connected 100N MASTER3. The modification of an input puts the control unit in "Stand by". In the event of an incorrect association between a probe and a function, the alarm is signalled (Ec1 ÷ Ec9).

CHAPTER 9: DIAGNOSTICS

| 9.1 | DIAGNOSTICS |

If any fault occurs, the **200VTOUCHTHR** controller informs the operator, by means of alarm codes visualized on the display (via pop-up or on the 'Alarms' page) and an acoustic signal emitted by a buzzer inside the operating Console. One of the following messages appears on the screen when an alarm condition occurs:

ALARM CODE	POSSIBLE CAUSE	OPERATION TO BE EXECUTED
E0	**EEPROM Vision Touch alarm.**	• Switch the appliance off and back on. • Select 'Repair EEPROM' in the 'Software' menu. • If the problem persists, contact the technical assistance service.
E0m	**EEPROM 100N MASTER alarm.**	• Switch the appliance off and back on. • If the problem persists, contact the technical assistance service.
EFd	**Read / Write Error on Data logger Memory**. The alarm stops the Data logger recording and sets the parameter int = 0.	• Delete the memory of the Data logger by setting the parameter Mem = 1. • Turn off and on again the Vision Touch. • When the alarm is called off, reset the Data logger records by resetting the int parameter to the desired value. • If the problem persists, contact the technical assistance service.
E1	**Probe connected to channel 1 functional fault.**	• Check the probe status. • If the problem persists, replace the probe.
E2	**Probe connected to channel 2 functional fault.**	• Check the probe status. • If the problem persists, replace the probe.
E3	**Probe connected to channel 3 functional fault.**	• Check the probe status. • If the problem persists, replace the probe.
E4	**Probe connected to channel 4 functional fault.**	• Check the probe status. • If the problem persists, replace the probe.
E5	**Probe connected to channel 5 functional fault.**	• Check the probe status. • If the problem persists, replace the probe.
Eg	**General alarm** (e.g. Thermal protection or max pressure switch). The outputs are all deactivated except for the alarm output, if configured.	• Check compressor absorption. • If the problem persists, contact the technical assistance service.
Ec	**Compressor protection alarm.** The compressor output is disabled.	• Check compressor absorption. • If the problem persists, contact the technical assistance service.
EU	**Humidifier alarm.** The humidifier output is disabled.	• Check the humidifier status. • If the problem persists, contact the technical assistance service.
EF	**Fans protection.** The fans output is disabled.	• Check the fans status. • If the problem persists, contact the technical assistance service.
En	**No connection between Console and MASTER board.**	• Check the connection between the two units. • If the problem persists, contact the technical assistance service.

EnI	**MASTER board initialization error.**	• Check the connection between the two units. • Switch the Vision Touch off and on again. • If the problem persists, contact the technical assistance service.
EuH	**Maximum humidity alarm**. The environment has reached a humidity level higher than that set for the maximum humidity alarm (see PARAMETERS AU2, 'Alarms regulation' menu).	• Check the humidity management. • The probe does not detect humidity correctly.
EuL	**Minimum humidity alarm.** The environment has reached a humidity level lower than that set for the minimum humidity alarm (see PARAMETERS AU1, 'Alarms regulation' menu).	• Check the humidity management. • The probe does not detect humidity correctly.
EtH	**Maximum temperature alarm.** The environment has reached a temperature level higher than that set for the maximum temperature alarm (see PARAMETERS At2, 'Alarms regulation' menu).	• Check the compressor status. • The probe does not detect the temperature correctly or the compressor on/off control does not work.
EtL	**Minimum temperature alarm.** The environment has reached a temperature level lower than that set for the minimum temperature alarm (see PARAMETERS At1, 'Alarms regulation' menu).	• Check the compressor status. • The probe does not detect the temperature correctly or the compressor on/off control does not work.
Edt	**Dehumidification timeout.** The dehumidification output has remained active for a longer time than the PARAMETER dEt.	• Check the dehumidifier status. • Increase the set time limit in the parameter dEt ('Machine protection' menu).
Ec1	**Configuration Error of Room Temperature probe.**	• Check the configuration of the analogue inputs.
Ec2	**Configuration Error of Evaporator Temperature probe.**	• Check the configuration of the analogue inputs. • Check enabling of the evaporator probe.
Ec3	**Configuration Error of Room Humidity probe.**	• Check the configuration of the analogue inputs. • Check enabling of humidity management.
Ec4	**Configuration Error of Hot-water Temperature probe.**	• Check the configuration of the analogue inputs. • Check enabling of hot-water management.
Ec5	**Configuration Error of Cold-water Temperature probe.**	• Check the configuration of the analogue inputs. • Check enabling of cold-water management.
Ec6	**Configuration Error of Outside Temperature probe.**	• Check the configuration of the analogue inputs. • Check enabling of automatic air change cycles.
Ec7	**Configuration Error of Outside Humidity probe.**	• Check the configuration of the analogue inputs. • Check enabling of automatic air change cycles.
Ec8	**Configuration Error of pH probe.**	• Check the configuration of the analogue inputs. • Check enabling of the pH probe.
Ec9	**Configuration Error of Piercing probe.**	• Check the configuration of the analogue inputs. • Check enabling of the piercing probe.

Edi	**Digital input configuration error during an import or update configuration.**	• Check the configuration of the digital input. • Reconfigure the input disabled.
Edo	**Digital output configuration error during an import or update configuration.**	• Check the configuration of the digital output. • Reconfigure the output disabled.
Eai	**Analogue input configuration error during an import or update configuration.**	• Check the configuration of the analogue input. • Reconfigure the input disabled.
Eao	**Analogue output configuration error during an import or update configuration.**	• Check the configuration of the analogue output. • Reconfigure the output disabled.
EPH	**High pressure general alarm.** The outputs are all disabled apart from the alarm output, if present.	• Check the refrigerant circuit. • If the problem persists, contact the technical assistance service.
EPL	**Low pressure general alarm.** The outputs are all disabled apart from the alarm output, if present.	• Check the refrigerant circuit. • If the problem persists, contact the technical assistance service.
Ag1	**General alarm 1 from digital input.**	• Check the digital input configured as 'Generic warning 1' (see page 15).
Ag2	**General alarm 1 from digital input.**	• Check the digital input configured as 'Generic warning 2' (see page 15).
Ag3	**General alarm 1 from digital input.**	• Check the digital input configured as 'Generic warning 3' (see page 15).
Ed	**"Door open" alarm.** When the door switch is opened and the Tdo time has elapsed, normal operation of the control is restored by giving the "door open" alarm signal (Ed).	• Check the status of the door switch. • Close the door.
E9	**Cold room light alarm.** When the light is switched on with the key and the Tdo time has elapsed, alarm E9 is activated. If the alarm is silenced and the light is not turned off, at the new expiration of the time Tdo the alarm returns.	• Turn off the light.

ALARMS MANAGEMENT

9.2

By pressing the "Alarms" button one accesses the relative management page that contains the log relating to the last 30 alarms detected. The alarms can take on different colours:

- RED ALARM: indicates an alarm in progress, not solved.

- ORANGE ALARM: when a red alarm is cleared because the cause is solved, it turns orange and becomes an alarm to be acquired. If all alarms are cleared the "Alarm" button turns orange.

- SOLVED ALARM: the acquired alarm is no longer coloured and it stays stored in alarms management.

RED ALARM
Solve the cause.

ORANGE ALARM
Alarm returned. Press on the alarm to acquire it.

ALARM SOLVED
Alarm returned and acquired by the user.

Alarm code (see Diagnostics)

Alarm description

Alarm situation duration

Alarm status (in progress - cleared - solved)

E-MAIL SENT
If emails are enabled, it indicates the attempt to send an email related to the alarm.

Alarms list deletion
(Button present only if all alarms have been solved)

Start date and time of the alarm situation.

9.3 POP-UP MANAGEMENT

Pop-ups are elements that appear on the screen to call the user's attention to particular situations that may occur during the normal use of the VISION TOUCH THR control unit.

RED POP-UP

It may indicate:
- activated alarm warning
- the action that one is about to perform is critical and irreversible. Pay particular care when confirming the operation.

YELLOW POP-UP

The operation one is about to perform is critical.
A confirmation is required.

GREEN POP-UP

Device warnings.
It may indicate the completion of a program in progress.

BLUE POP-UP

Device start-up
(Date and time are stored in alarms management).

CHAPTER 10: DATALOGGER

DATALOGGER
10.1

The datalogger function is activated by setting the value of the 'int' parameter ("Datalogger" menu) greater than 0; if registrations are active, the symbol 🕒 appears on the status bar.

DATA EXPORT IN CSV FORMAT:
(Included in Extended Button bar)
Exports registered data in a CSV file on USB or SD support.

CSV file sample:

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	ADDRESS	DATE	TIME	TEMP (0.1°C)	SET TEMP (0.1°C)	EL1	EH1	HUMID (1%RH)	SET HUMID (1%RH)	EL2	EH2	STANDBY	POWER ON
2													
3	16	18/06/2014	15:11:00	296	220	0	0	42	40	0	0	0	0
4	15	18/06/2014	14:56:00	295	220	0	0	41	40	0	0	0	0
5	14	18/06/2014	14:41:00	293	220	0	0	41	40	0	0	0	0
6	13	18/06/2014	14:40:00	292	220	0	0	41	40	0	0	0	0
7	12	18/06/2014	14:39:00	291	220	0	0	41	40	0	0	0	0
8	11	18/06/2014	14:38:00	291	220	0	0	41	40	0	0	0	0
9	10	18/06/2014	14:37:00	293	220	0	0	41	40	0	0	0	0
10	9	18/06/2014	14:36:00	293	220	0	0	41	40	0	0	0	0
11	8	18/06/2014	14:35:00	292	220	0	0	42	40	0	0	0	0
12	7	18/06/2014	14:34:00	290	220	0	0	41	40	0	0	0	0
13	6	18/06/2014	14:33:08	288	220	0	0	42	40	0	0	0	1
14	5	18/06/2014	14:32:00	289	220	0	0	41	40	0	0	0	0
15	4	18/06/2014	14:31:00	289	220	0	0	41	40	0	0	0	0
16	3	18/06/2014	14:30:00	289	220	0	0	41	40	0	0	0	0
17	2	18/06/2014	14:29:00	289	220	0	0	41	40	0	0	0	0
18	1	18/06/2014	14:28:47	289	220	0	0	41	40	0	0	0	1

Each registration contains the following information:

- Date and time;
- Measured temperature,
- Temperature set point;
- Minimum or maximum temperature alarm presence;
- Measured humidity,
- Humidity set point;
- Minimum or maximum humidity alarm presence;
- Standby status;
- Registration carried out based on instrument start-up.

Note: The recordings are saved internally: when the memory is full, the oldest data is overwritten. For ensure one year data recording set int > 10 min.

REGISTRATIONS HISTORY:
(Included in Extended Button bar)
Once pressed, the day selection screen opens for which the registered data are shown.

Graph options:
- Show temperature.
- Show humidity.
- Auto scale.
- Data table.

Upon confirming the date, the registration graph appears:

| **Temperature values range** | **Humidity values range** |
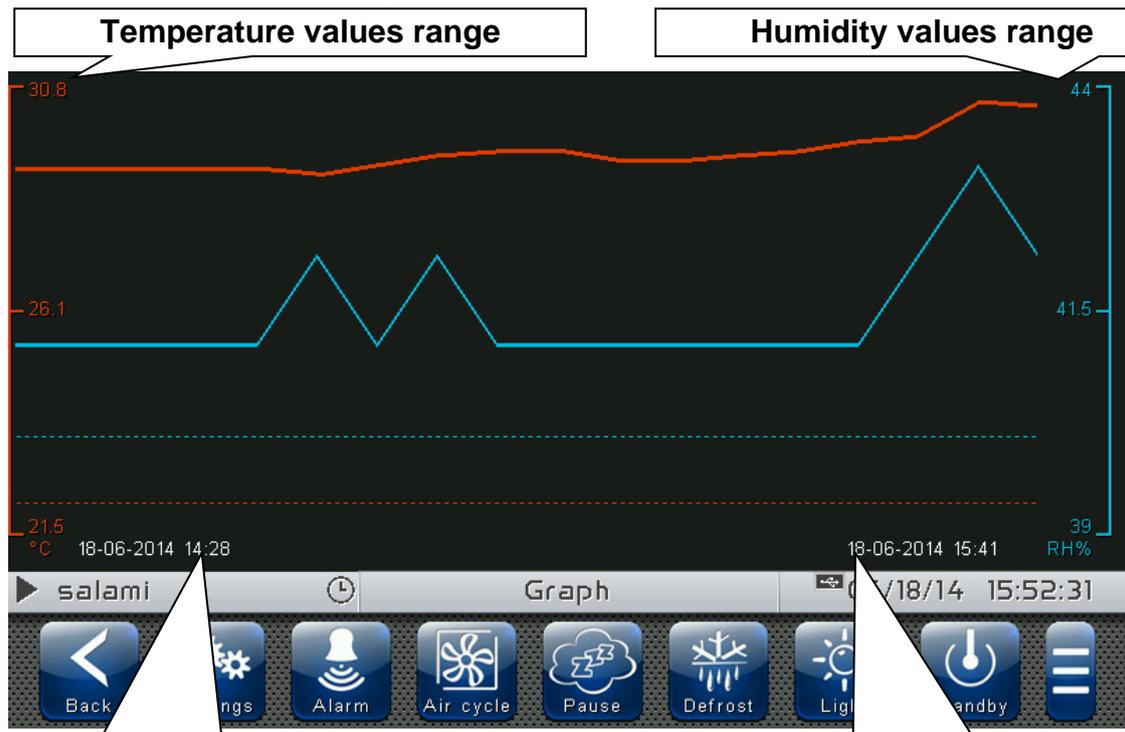
Date and time of first registration represented in the graph

Date and time of last registration represented in the graph

———————	Measured temperature	———————	Measured humidity
- - - - - -	Temperature set point	- - - - - -	Humidity set point
◆	Minimum or maximum temperature/humidity alarm presence		

Slide a finger towards left or right to go to next or previous data.

If the 'Data table' option is selected, the list of records appears:

Date and time		Temperature	Set Temp.	Rel. Humidity	Set RH%	Info	
25-06-2015	08:08:29	25.4	22.0	69	40	S	**EuH**
25-06-2015	08:08:38	25.4	22.0	62	40	S	
25-06-2015	08:09:09	30.5	22.0	41	40	S	**EtH**
25-06-2015	08:09:51	30.0	22.0	40	40	S	
25-06-2015	08:10:23	28.6	22.0	26	40	S	**EuL**
25-06-2015	08:10:36	18.3	22.0	26	40	S	**EtL**
25-06-2015	08:10:49	18.0	22.0	41	40	S	**Standby**
25-06-2015	08:10:56	27.8	22.0	41	40	S	
25-06-2015	08:24:24	25.7	22.0	41	40	P	**Power on**
25-06-2015	08:24:25	25.7	22.0	44	40		

▶ salami   🕐   Datalog   🔌 06/25/15 8:26:32

Back | Settings | Alarm | Air cycle | Pause | Defrost | Light | Standby

Move your finger up or down to pass to the next or previous data page.

CHAPTER 11: WEB SERVER

11.1	INSTALLATION

The Web configuration of the Vision Touch THR depends on the type of connection.

- Direct connection to the PC
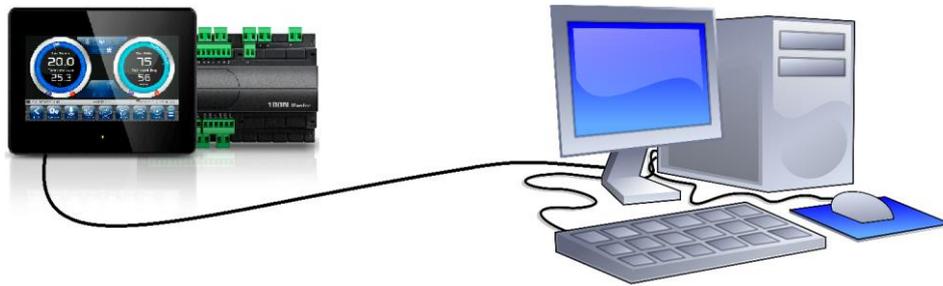
The network card of the computer must be configured to have the assignment of the DHCP address activated. In this case, the Vision Touch THR and the computer, finding no DHCP server, will take the default IP addresses previewed for the class of addressing **169.254.xxx.xxx**. To connect to the device, it will be necessary to open a browser page and digit in the address bar the following order:

http://hostname/ where hostname = unique identifier linked to the serial number present in the info page (Take look at "Info Page", chap. 8.3.18).

Or

http://169.254.254.1/ (IP default address of the Vision Touch)

VISION TOUCH **THR**
DHCP: ✔ (10)
Host: vt_0000000000
IP: 192.168.0.238
Netmask: 255.255.255.0
Gateway: ...
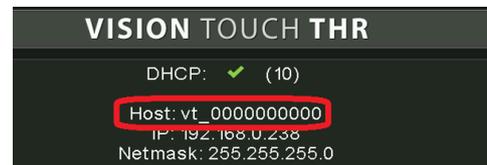
- LAN Connection
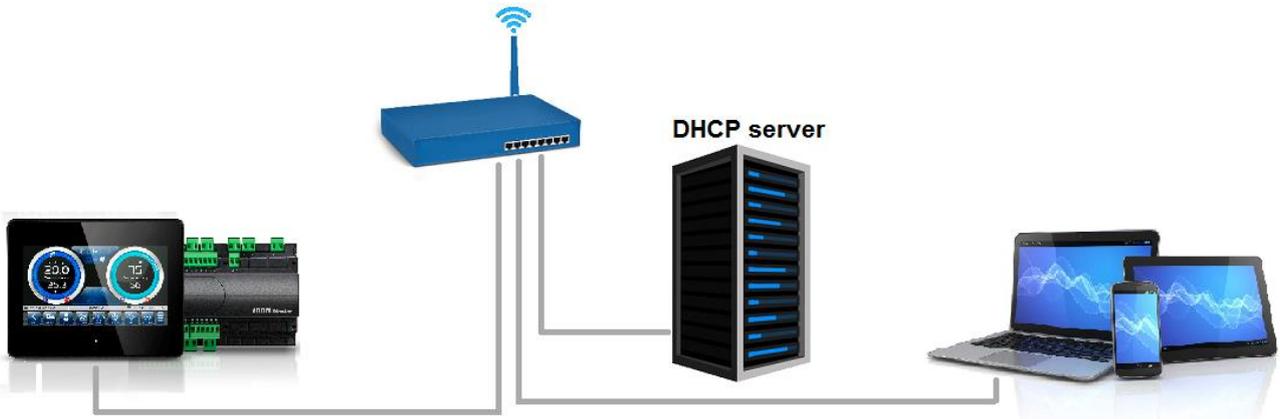
If connected to a LAN where a DHCP server is present (and the DHCP solicitude is enabled on the Vision Touch, look at chap. 8.3.18), the Vision Touch will acquire a free IP address. In this case it is possible to consult the IP address acquired through the "Info Page" that you find in the "Web server" menu of the Vision Touch.
If the DHCP is not present, Vision Touch maintains the IP address set in the configuration of the parameters.
Pay attention: in this case, IP conflicts with other devices connected to the LAN could be possible.

To connect to the Vision Touch, it will be necessary to connect your own device to the same net, in DHCP mode, or with compatible static IP, open up a browser and digit in the address bar the following order:

http://hostname/ where hostname = unique identifier linked to the serial number present in the info page (look at "Info Page", chap. 8.3.18).

or

http://XXX.XXX.XXX.XXX/ (Vision Touch IP address, look at "Info Page", chap. 8.3.18)
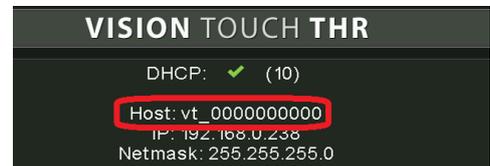
NOTE: The Host name of the Vision Touch is a unique reference linked to the serial number. So that it is possible to connect different Vision Touch devices using the same LAN net, setting distinct IP addresses in case that a DHCP server is not available.
For if you desire to join the Vision Touch from the web browser, it is sufficient to write in the address bar:

http://vt_xxxxxxxxxx/
Where xxxxxxxxxx = serial number of the device

11.2	**WEB INTERFACE: USER ACCESS**

Access to the Vision Touch web page is subject to access control using Username and password.
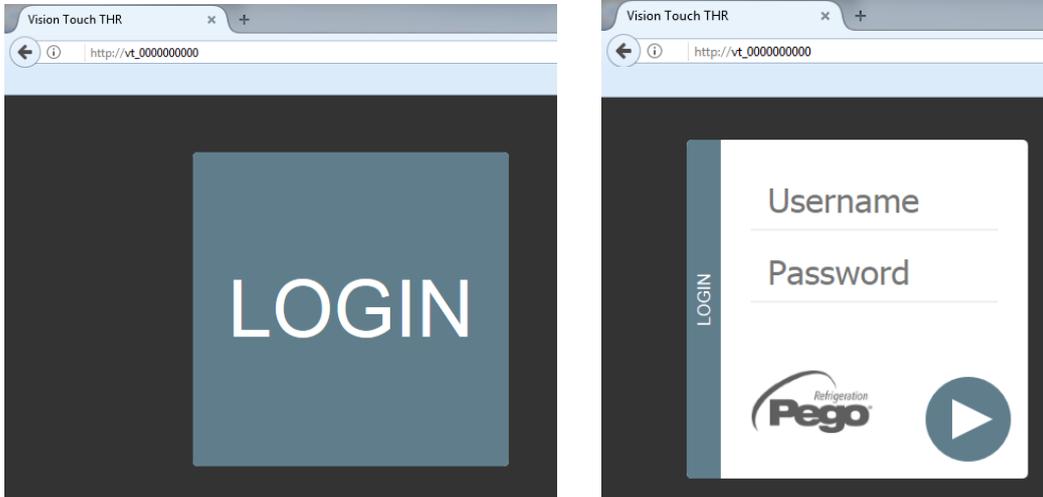
It is possible to access to the Web pages of the Vision Touch in other two modes:

- Basic user: inserting in the "Username" field the user Name set in the "Web server" menu of the Vision Touch (page "Username"), you log in with the same permits that the basic user has on the Vision Touch. The installer, inhibiting the functions or the access to the parameters to the local user, also blocks the access to such features to the basic user who logs in through the Web page.

- Admin user: inserting in the "Username" field the user Name set in the "Web server" menu of the Vision Touch (page "Username"), and in the "Password" field, the installer password of the Vision Touch (the one used in the Password menu to access as installer) you log in with the same permits that the installer has on the Vision Touch. So, it is possible to edit the parameters and access to all the functions (if the Wce parameter supports the remote command, look at chap. 8.3.18).

Installer login (admin)

User login (basic user)

WEB INTERFACE: PAGES

11.3
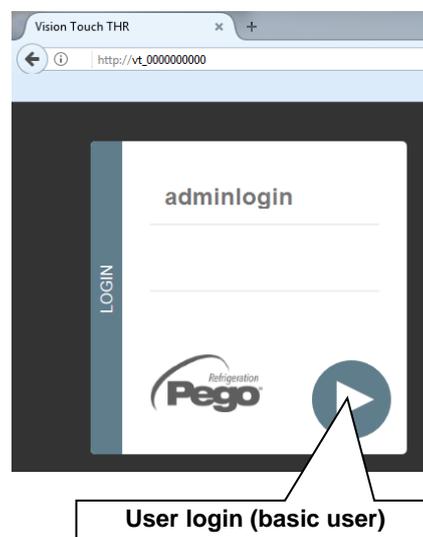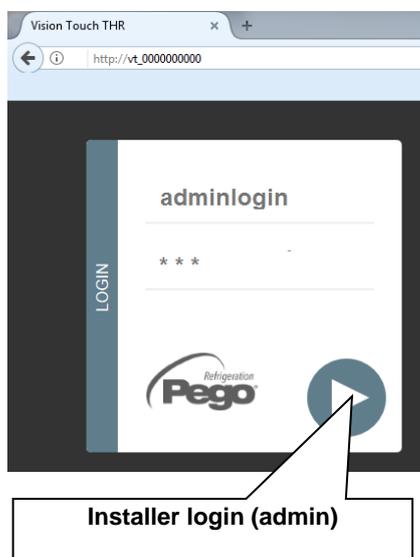
The web interface counts with some fixed sections:
- ➢ On the left: browsing menu of the pages.
- ➢ At the top: name of the page, serial number and kind of connected user.
- ➢ On the right: content of the page.

- <u>Homepage</u>

Browsing menu of the pages

Actual page

Actual temperature (and temperature set point)

Actual humidity (and humidity set point)

Kind of access (admin or basic user)

Logout
Logs the user out and brings him back to the login page

Warning signal
- red: red flag alarm
- grey: no alarm

Buttons
- green background: active function.
- blue background: inactive function.
- grey background: inactive and not activable function (basic user).

Loaded program
■ stopped program
▶ running program

- I/O (Inputs / Outputs)

Vision Touch THR

vt_0000000000/inoutput.html?ID=560248144

Vision Touch THR

I/O   s/n: 0000000000 - admin

Live
I/O
Alarms
History ▼
Command ▼
Info
Logout

Analogue inputs		
27-28	Humidity probe [%RH]	46
29-30	Ambient temperature [°C]	24.2
31-32	Evaporator temperature [°C]	24.1
33-34	Disabled	
35-36	Disabled	

Digital outputs		
3-4	Cold (N.O.)	🟢
5-6	Hot (N.O.)	⚪
7-8	Fans high speed (N.O.)	🟢
9-10	Fans low speed (N.O.)	⚪
11-12	Humidify (N.O.)	⚪
13-14	Dehumidify (N.O.)	🟢
15-16	Light (N.O.)	⚪
25-26	Air change (N.O.)	⚪
23-24	Pause (N.O.)	⚪
21-22	Defros (N.O.)	⚪
19-20	Es (N.O.)	⚪

Copyright © Pego S.r.l.

Input / Output Clamp PIN on the 100N MASTER

Input / Output description (digital or analogical)

Input / Output status
If digital:
- green: active input / output
- grey: inactive input / output

If analogical:
You visualize the analogical input / output value

- Alarms

In the "Alarms" page are visualized all the red flag alarms and those which have intervened, such as they are memorized in the Alarms page of the Vision Touch (look at chap. 9.2, Alarm Gesture).
The background color is indicative for the type of alarm:

- Red background: red flag alarm (the starting instant is indicated).

- Yellow background: annulled alarm (the starting instant and the duration are indicated).

- White background: alarm annulled and acquired on the Vision Touch.

NOTE: one cannot proceed to the acquisition of the alarms using the Web page.

Alarm code

Description and duration of the alarm

- History => Table

In the "History => Table" page you can visualize and print memorized daily data, recollected in the memory of the Vision Touch. To view the records, select a date from the calendar (click on the "Select a date" field) and press the "Load" button.
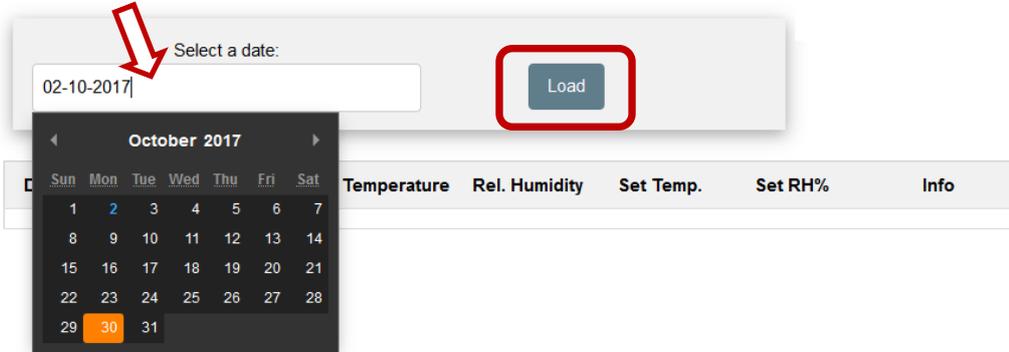
Print table
(by printer or PDF)

Alarm of low
Temperature or humidity value highlighted in blue

Alarm of high
Temperature or humidity value highlighted in red

Switching on of the Vision Touch
"P"

Stand-by active status
"S"

- History => Graph

In the "History => Graph" page you can visualize and print the graph of daily data recollected in the memory of the Vision Touch. To view the graph, select a date from the calendar (click on the "Select a date" field) and press the "Load" button.
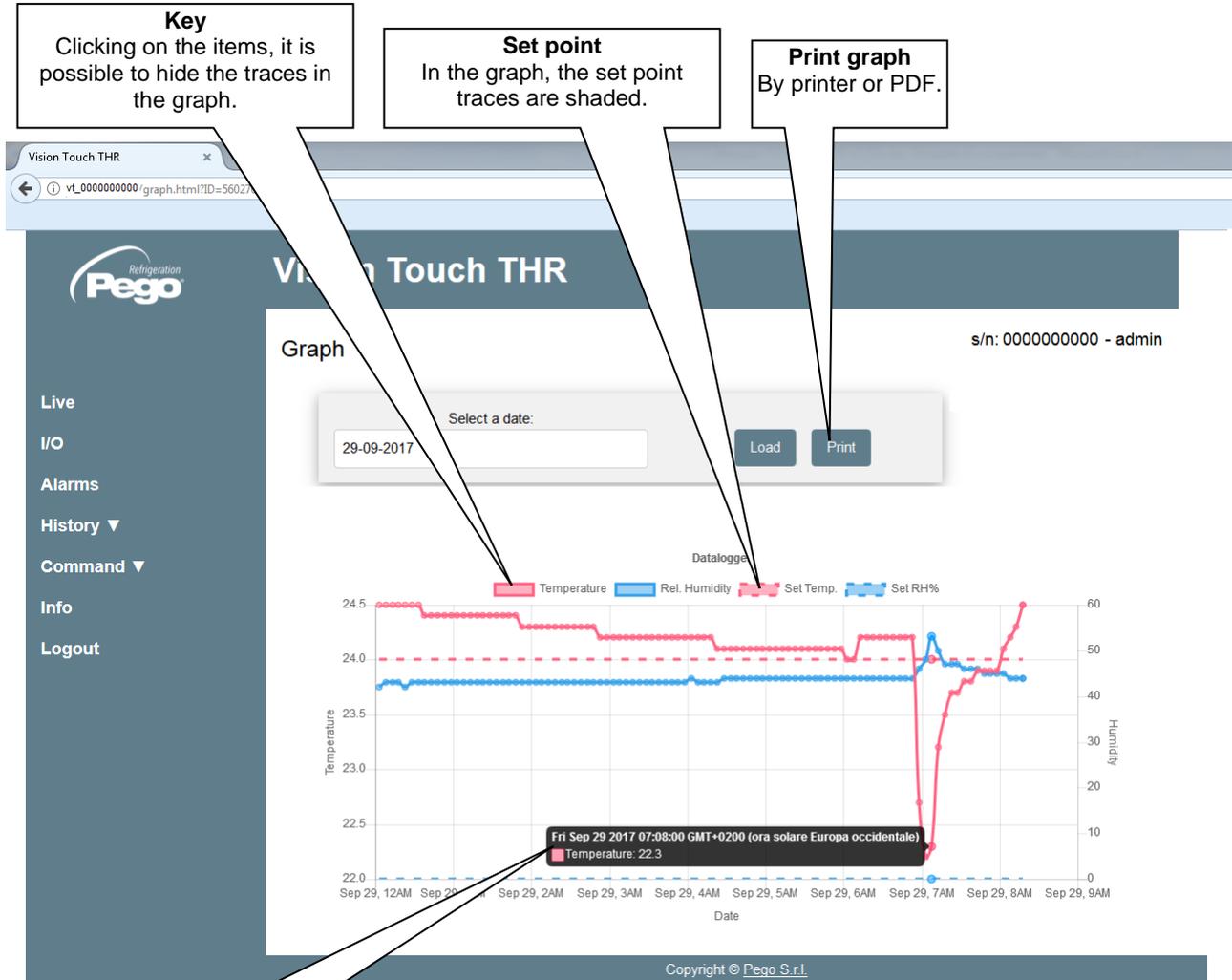
Key
Clicking on the items, it is possible to hide the traces in the graph.

Set point
In the graph, the set point traces are shaded.

Print graph
By printer or PDF.

Value
If you select a point from the graph, you can see its relevant.

- <u>Controls => Program</u>

In the "Program" page it is possible to manage the program currently loaded in the Vision Touch memory. The "Switch on", "Stop" and "Skip the phase" buttons can be disabled basing on the value of the Wce parameter.

Switch on of the program

Stop the program

Skip the phase

Temperature and humidity set points in the phase

Duration of the phase

Remaining time to the end of the phase

- Controls => Parameters

Parameters menu hidden to the basic user
(configuration in the Password menu on the Vision Touch)
Note: the admin user always has access to the complete list of the menu.

Parameters menu
Click on the arrow to display the parameter list.
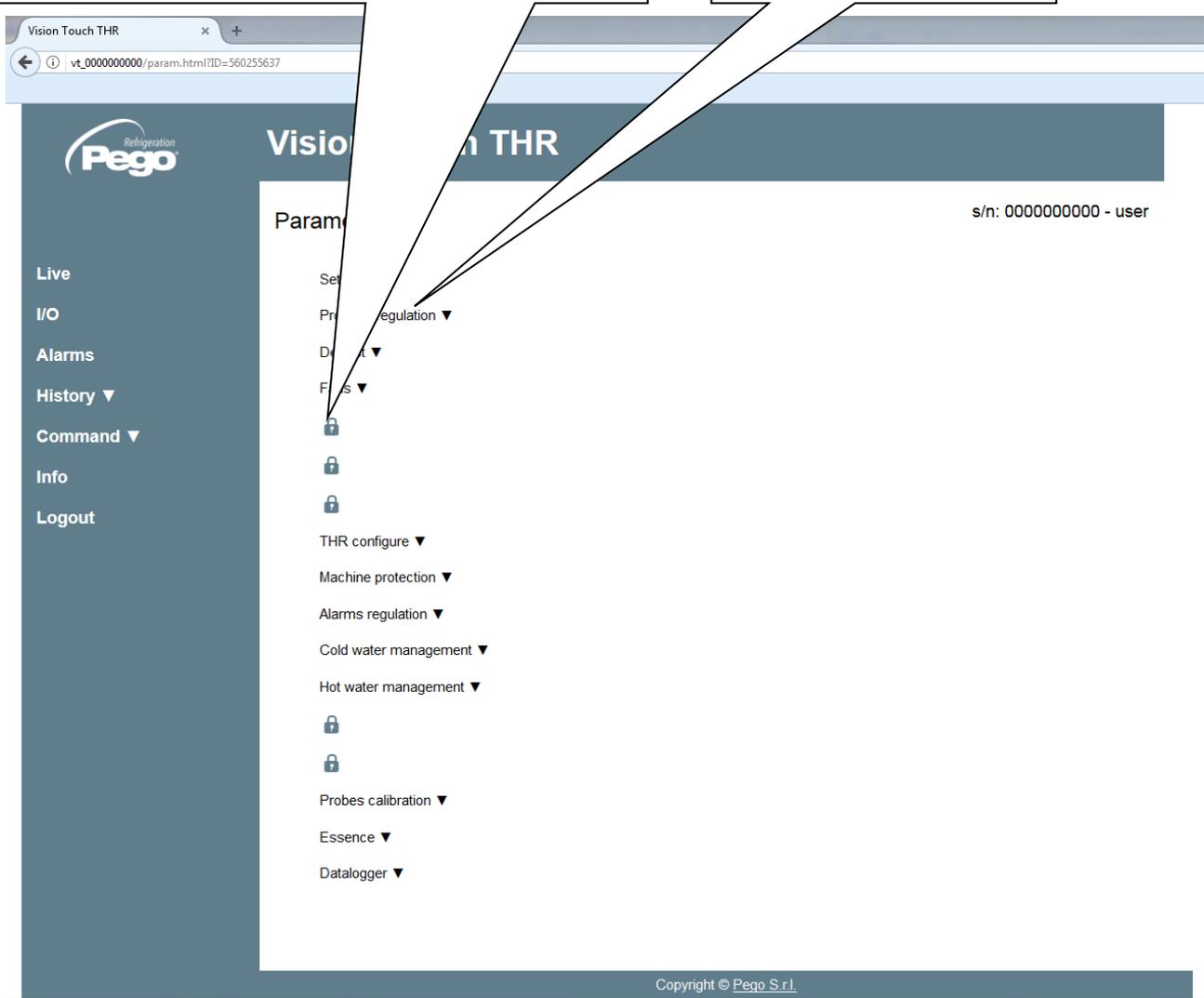
Parameter code

Parameter description

Actual value

Enhance or decrease the value

Process regulation ▼			
dtC	Hot temperature differential	2.0 °C	+ −
dtF	Cold temperature differential	2.0 °C	+ −
dtn	Temperature neutral zone	0.0 °C	+ −

- Info
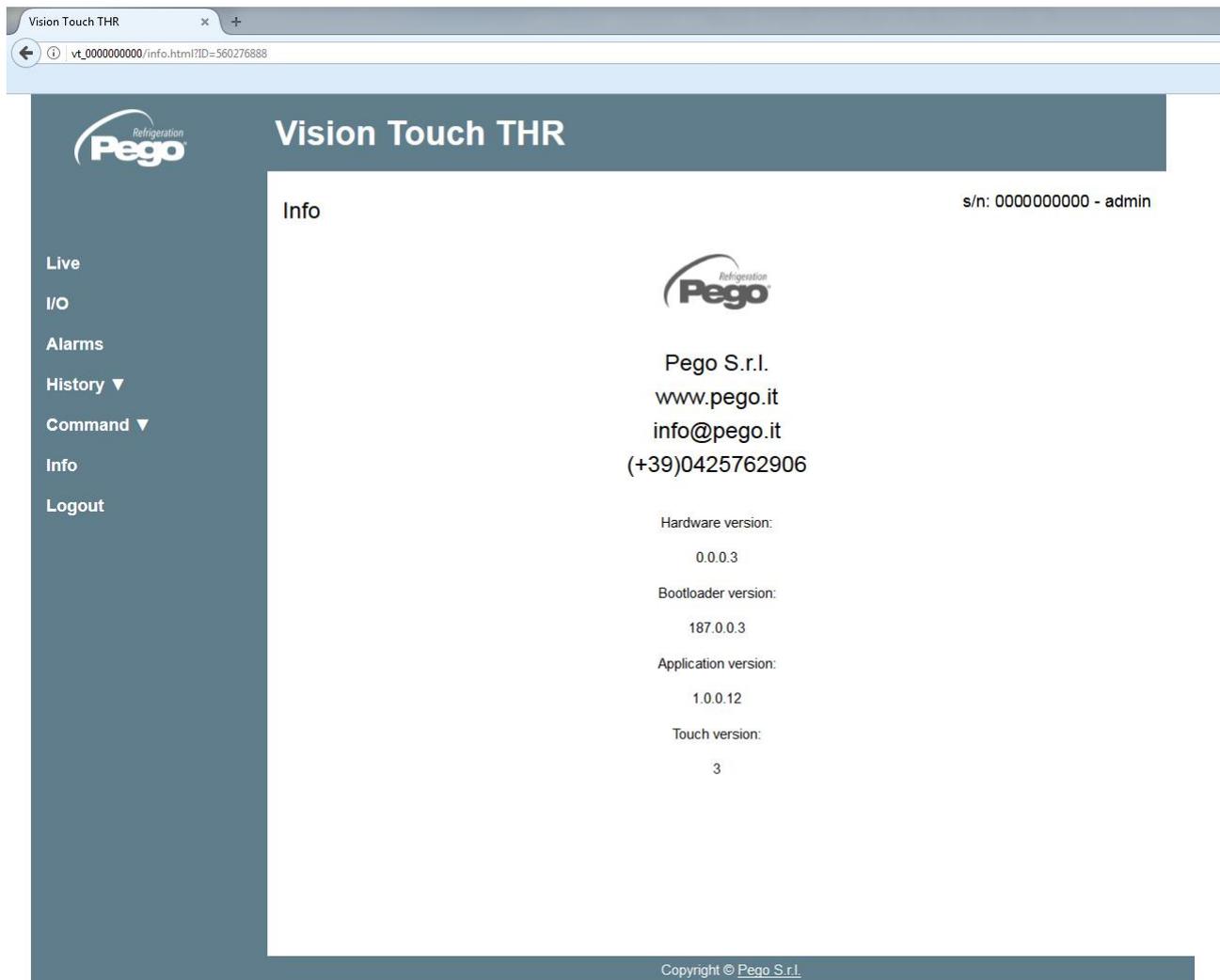
Vision Touch THR

Info

s/n: 0000000000 - admin

Live

I/O

Alarms

History ▼

Command ▼

Info

Logout

Pego S.r.l.
www.pego.it
info@pego.it
(+39)0425762906

Hardware version:

0.0.0.3

Bootloader version:

187.0.0.3

Application version:

1.0.0.12

Touch version:

3

Copyright © Pego S.r.l.

CHAPTER 12: OPERATION

COLD / HOT: PRESERVATION OF AMBIENT TEMPERATURE | 12.1

The cold and hot call is managed in neutral area depending on the temperature set point configured ("Set Temp" label in "Home 1") and to the temperature differentials (parameters dtC and dtF in "Parameters > Process regulation"). The cold is activated upon exceeding of set + dtF and remains active until set is achieved (with dtn=0). The hot is activated below set - dtC and remains active until set is achieved (with dtn=0). It is possible to set a "dead area" with parameters dtn that deactivates hot and cold when the temperature is between SET-dtn and SET+dtn.
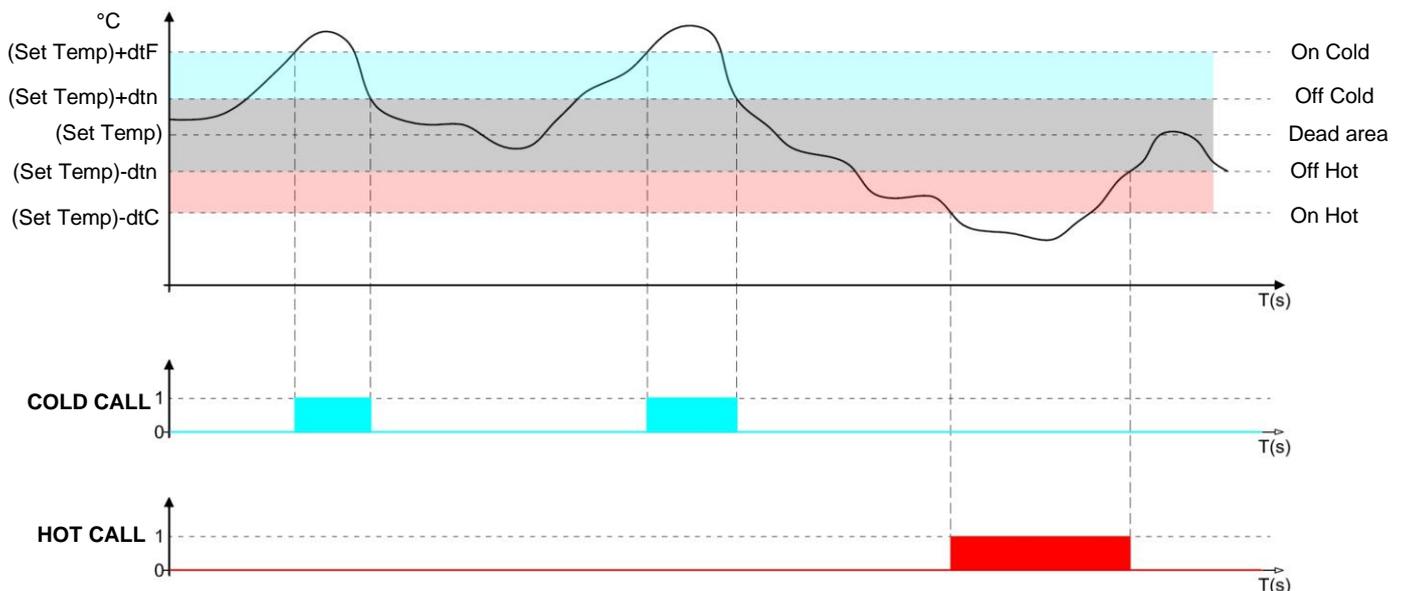
Parameter C1 (in "Parameters > Machine protection introduces a delay between a switch-off and the subsequent re-activation of the cold. Hot can be deactivated with parameter EnH in "Parameters > Configure THR" (EnH=0 disables the hot relay in all conditions).

HUMIDIFY / DEHUMIDIFY: PRESERVATION OF AMBIENT HUMIDITY | 12.2

The humidifying and dehumidifying calls are managed in neutral area depending on the humidity set point configured ("Set RH%" label in "Home 1") and on the humidity differentials (parameters dUU and dUd in "Parameters > Process regulation"). Dehumidification is activated upon exceeding of set + dUd and remains active until set is achieved (with dUn=0). Humidification is activated below set - dUU and remains active until set is achieved (with dUn=0).
It is possible to set a "dead area" with parameters dUn that deactivates humidification and dehumidification when humidity is between SET-dUn and SET+dUn.
The humidity management can be excluded with parameter Hr.in "Parameters > Configure THR".
Dehumidification only can be excluded with parameter End.
Humidification only can be excluded with parameter EnU.

There are three methods of dehumidification (parameter dEU in "Parameters > Configure THR"):
0. Dehumidifies with the cold (the cold is called to dehumidify, the hot is added only to maintain ambient temperature).
1. Dehumidifies with the hot (the hot is called to dehumidify, the cold is added only to maintain ambient temperature).
**2. Separate dehumidification** (only the dehumidification output activates but hot and cold are not called).

3. **Separate dehumidification working with cold off** (separate dehumidification that is activated only if a cold call is not in progress).
4. **Dehumidifies with heat recovery battery** (the cold is called to maintain the temperature; the dehumidifying output, connected to the solenoid heat recovery battery, is called to dehumidify only when the temperature is inside the working differential).

It's possible to give a maximum time for the dehumidification phase (parameter dEt in "Parameters > Machine protection") by signaling an alarm or forcing a pause (parameter dEo in "Parameters > Machine protection").
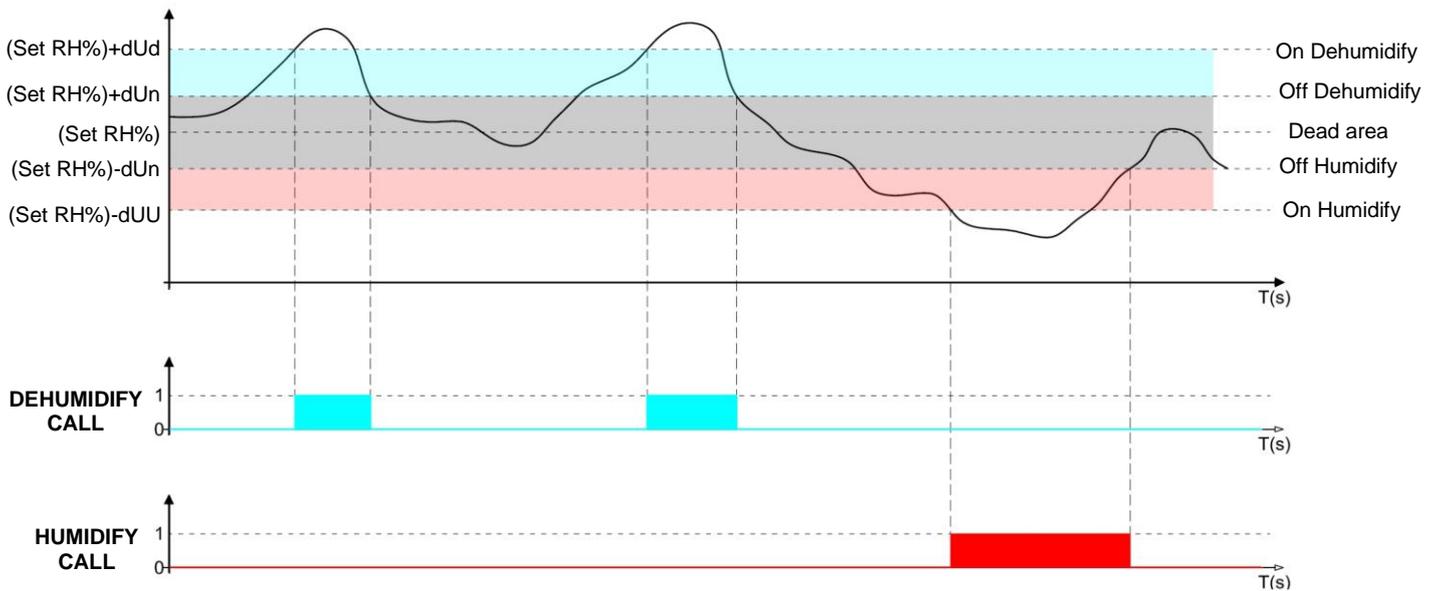
DEHUMIDIFIES WITH HEAT RECOVERY BATTERY:
Hypothesis: ambient humidity is always greater than the dUd differential

PIERCING PROBE: PRODUCT'S TEMPERATURE CONTROL 12.3
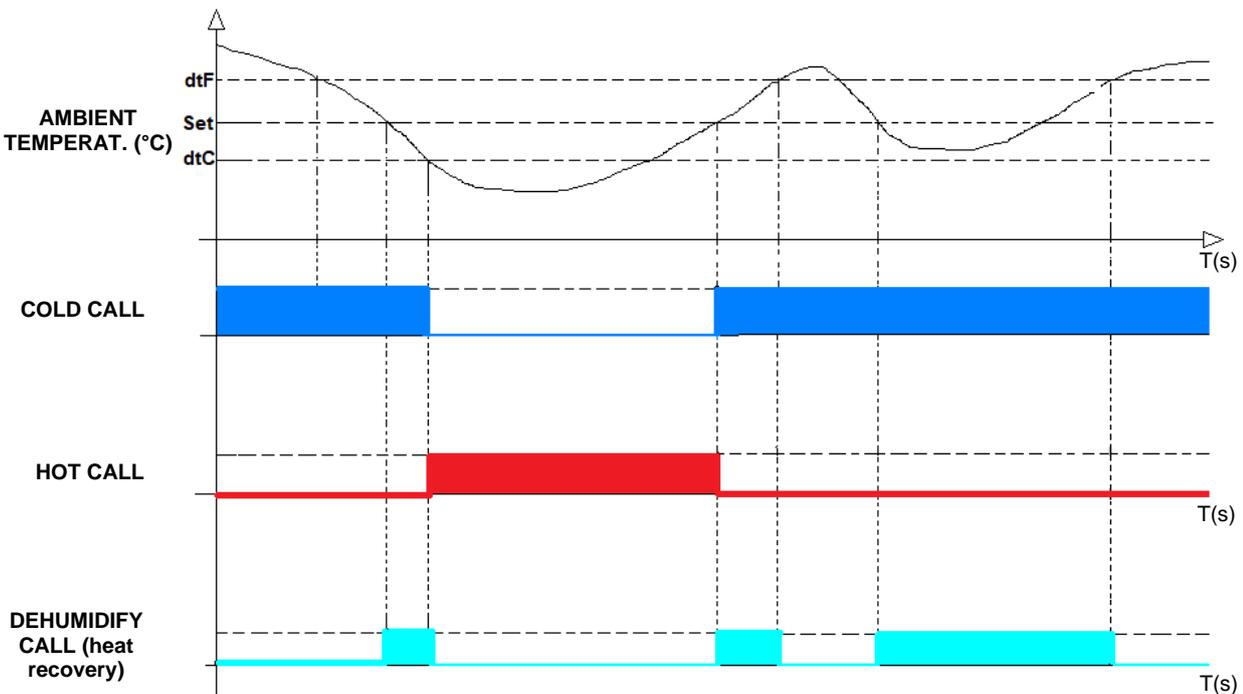
The activation of the piercing probe (parameter EnS) can:
Function A: block heating, cooling, humidification and dehumidification calls when the product temperature reaches the set point (parameter STS).
Function B: automatically switch to the next phase when the setpoint is reached, when a recipe is active and the piercing probe management is enabled at the current phase.
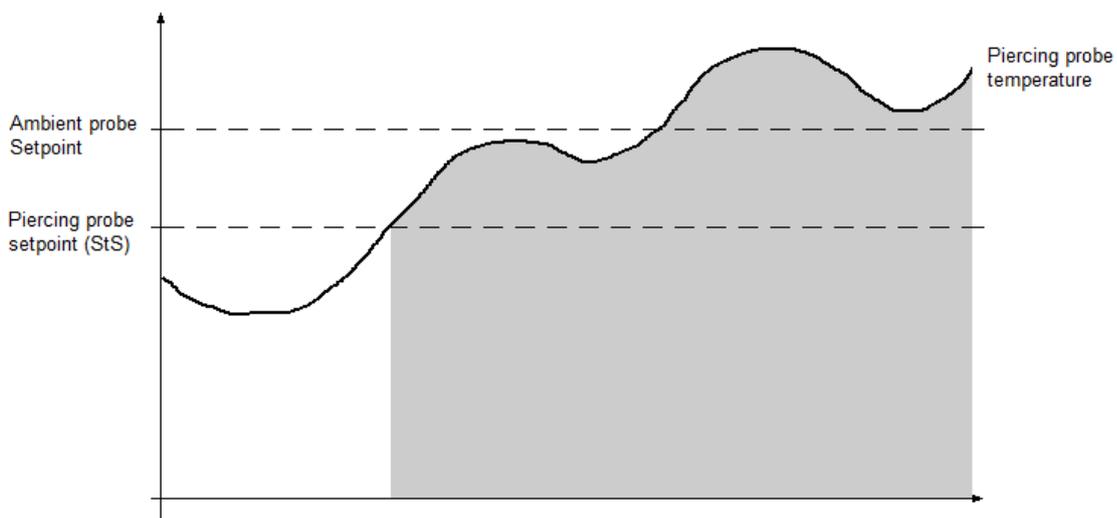
EnS	Manual	Recipe in progress
0 = disabled	-	-
1 = recipe (skip phase) + manual	A	B
2 = read only	-	-
3 = recipe (skip phase)	-	B
4 = recipe (pause)	-	A
5 = recipe (pause) + manual	A	A

The graphs show a grey area in which the actions described above are activated:

Product cooling:

Product heating:
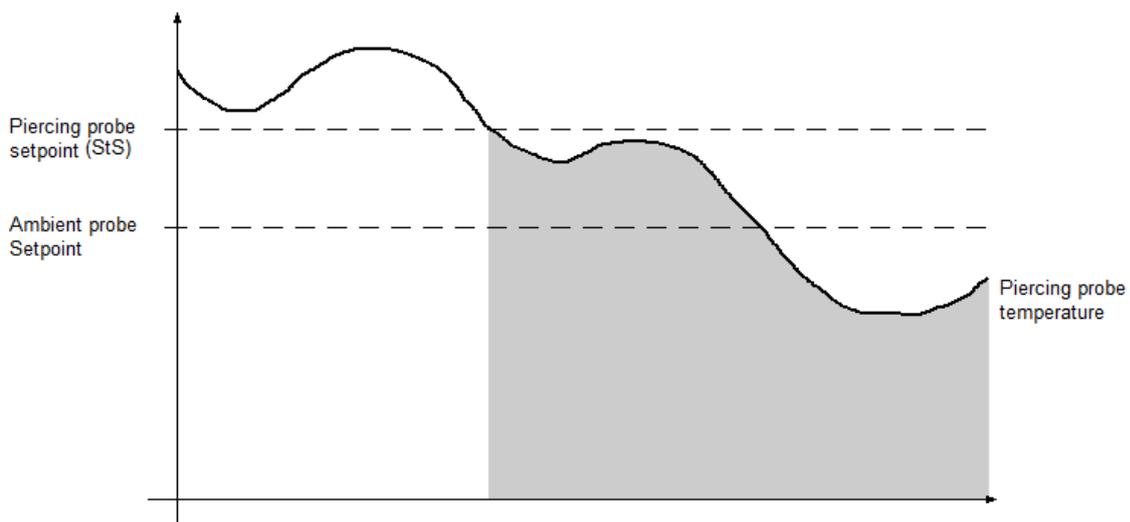
| 12.4 | COLD / HOT WATER MANAGEMENT |

Hot and cold-water management can be enabled independently using the EHv, ECv parameters in the menus. Based on the value of EHv, ECv changes the reference probes and the parameters involved:

|	Cold water management		Hot water management	
	ECv = 1	ECv = 2	EHv = 1	EHv = 2
Reference setpoint	StC	Ambient set + dtn (neutral zone)	StH	Ambient set - dtn (neutral zone)
Differential	r0C	Differential dtF	r0H	Differential dtC
Response delay	tdC	tdC	tdH	tdH

Set EHv / ECv = 1 if the system directly adjusts the hot / cold water temperature (with probe on the pipe) to control the temperature of the air leaving the exchanger. In this case connect the mixing valve that regulates the flow of hot / cold water to the 0-10V output and set and connect the water temperature probes, in addition to the room probe.

Set EHv / ECv = 2 if the system regulates the ambient air temperature while the hot / cold water temperature is managed by external units (chillers, heat pumps). In this case, only the room temperature probe is used for the regulation.

The response delay (tdC or tdH) slows down the variations of the 0-10V control output with respect to the temperature variations of the control probe.

Cold water management

Hot water management

DOOR SWITCH MANAGEMENT 12.5
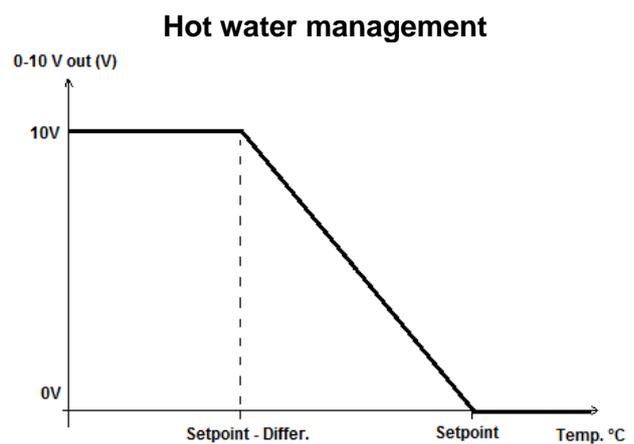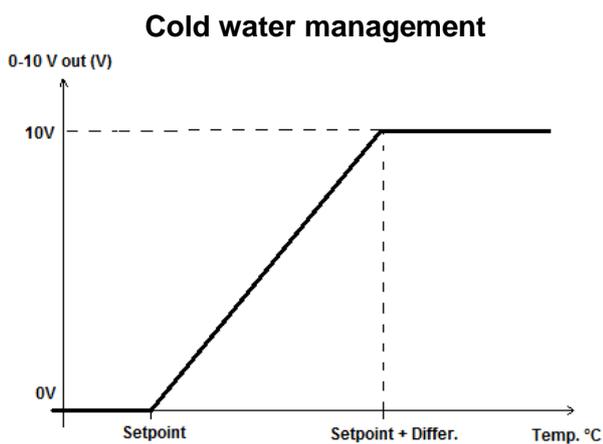
When the door is opened the humidify, dehumidify, hot, evaporator fans (high and low speed) shut down and the compressor will continue working for time doC, after which it will shut down. When the door is opened and after Tdo time, it's setted back the normal functioning giving door open alarm (Ed).

OUT * = 🌀ᴴ 🌀ᴸ 〗〗〗 ❄〗〗〗 🔥

## 0-10V PROPORTIONAL HUMIDIFIER MANAGEMENT 12.6
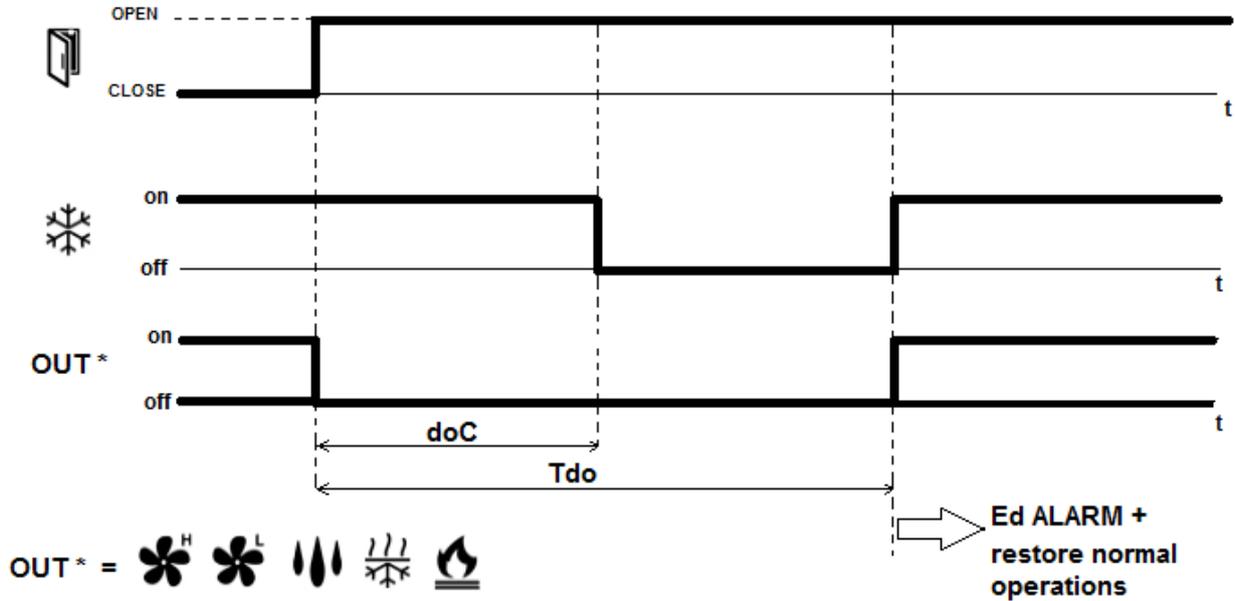
Configure an analogue output (AO1, AO2 or AO3) as "Humidifier control" to activate the proportional 0-10V management of the humidifier. In this case the analogue output 0-10V varies proportionally to the ambient humidity as shown in the following graph, where:

Setpoint = Ambient humidity Set – dUn parameter

Differential = dUU parameter

HmV = minimum value of 0-10V humidifier output

12.7   **NEW SOFTWARE FEATURES**
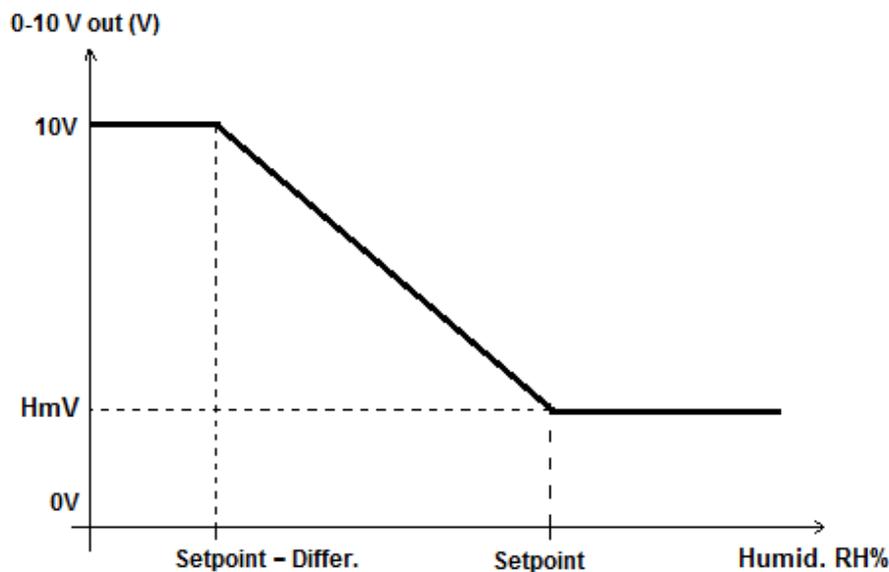
Rel. 1.0.0.10

- pH probe calibration.
- Screensaver function.
- Pause duration and pause period can be configured in each recipe's phase.

Rel. 1.0.0.11

- Data logger (temperature, humidity and relevant set point registration); graph and registered data export in CSV format.
- int, Asr e Mem parameters.
- Enb parameter.

Rel. 1.0.6.11

- You can inhibit the piercing probe's function when the recipe is not in progress, setting EnS=3.

Rel. 1.0.0.12

- Functionality of the Web Server, only for predisposed hardware.
- Edited creation of phases for a quicker creation of the program.
- Enhance of the range of the drA parameter, up to 60 minutes.
- High Pressure Alarm Digital Input and Low Pressure Alarm Digital Input.
- Option ECv and EHv = 2, management of hot / cold water referred to the ambient probe.

Rel. 1.0.2.12

- Minimum evaporator temperature function (btE).
- Operation to be performed for dehumidification time limit (dEt). An air change is performed (dEO=2).

Rel. 1.0.4.12

- Added Webserver port management for public IP sharing on the local network.

Rel. 1.0.5.12

- Added piercing probe enable options (EnS = 4 and 5):
  - 4 = pause of temperature/humidity management, only when recipe is in progress.
  - 5 = pause of temperature/humidity management, both in manual and when recipe is in progress.

Rel. 1.0.6.12

- Added compressor management with open door (doC and Tdo parameters).
- Added E9 and Ed alarms.
- Humidifier regulation with 0-10V output and HmV parameter added.
- Added automatic time synchronization via the Web.

Rel. 1.0.7.12

- New pause modes within the phases of a recipe.
- Enhance of the range of the drA parameter, up to 240 minutes.

Rel. 1.0.0.13

- Automatic sending of e-mails in case of alarm.

Rel. 1.0.11.14

- Dehumidification functionality with heat recovery battery.
- Independent cell light alarm (Tlo parameter).

APPENDICES

EU DECLARATION OF CONFORMITY

A.1

LA PRESENTE DICHIARAZIONE DI CONFORMITA' E' RILASCIATA SOTTO LA RESPONSABILITA' ESCLUSIVA DEL FABBRICANTE:
THIS DECLARATION OF CONFORMITY IS ISSUED UNDER THE EXCLUSIVE RESPONSIBILITY OF THE MANUFACTURER:

PEGO S.r.l. Via Piacentina 6/b, 45030 Occhiobello (RO) – Italy –
Società soggetta all'attività di direzione e coordinamento di Castel S.r.l.

DENOMINAZIONE DEL PRODOTTO IN OGGETTO / *DENOMINATION OF THE PRODUCT IN OBJECT*

MOD.: **VISION TOUCH THR**

IL PRODOTTO DI CUI SOPRA E' CONFORME ALLA PERTINENTE NORMATIVA DI ARMONIZZAZIONE DELL'UNIONE EUROPEA:
THE PRODUCT IS IN CONFORMITY WITH THE RELEVANT EUROPEAN HARMONIZATION LEGISLATION:

Direttiva Bassa Tensione (LVD):	**2014/35/UE**
Low voltage directive (LVD):	*2014/35/EU*
Direttiva EMC:	**2014/30/UE**
Electromagnetic compatibility (EMC):	*2014/30/EU*

LA CONFORMITA' PRESCRITTA DALLA DIRETTIVA E' GARANTITA DALL'ADEMPIMENTO A TUTTI GLI EFFETTI DELLE SEGUENTI NORME:
THE CONFORMITY REQUIRED BY THE DIRECTIVE IS GUARANTEED BY THE FULFILLMENT TO THE FOLLOWING STANDARDS:

Norme armonizzate:	**EN 61010-1:2010, EN 61326-1:2013**
European standards:	*EN 61010-1:2010, EN 61326-1:2013*

Firmato per nome e per conto di:
Signed for and on behalf of:

Luogo e Data del rilascio:
Place and Date of Release:

Occhiobello (RO), 01/01/2022

Pego S.r.l.
Martino Villa
Presidente

A.2   **WARRANTY TERMS**

The VISION TOUCH THR electronic controllers are covered by a 24-months warranty against all manufacturing defects as from the date indicated on the product ID code.

In case of defect the product must be appropriately packaged and sent to our production plant or to any authorized Service Center <u>with the prior request of the Return Authorization Number</u>.

Customers are entitled to have defective products repaired, spare parts and labor included. The costs and the risks of transport are at the total charge of the Customer.
Any warranty action does not extend or renew its expiration.

The Warranty does not cover:
• Damages resulting from tampering, impact or improper installation of the product and its accessories.
• Installation, use or maintenance that does not comply with the instructions provided with the product.
• Repair work carried out by unauthorized personnel.
• Damage due to natural phenomena such as lightning, natural disasters, etc…

In all these cases the costs for repair will be charged to the customer.

The intervention service in warranty can be refused when the equipment is modified or transformed.

Under no circumstances **Pego S.r.l.** will be liable for any loss of data and information, costs of goods or substitute services, damage to property, people or animals, loss of sales or earnings, business interruption, any direct, indirect, incidental, consequential, damaging, punitive, special or consequential damages, in any way whatsoever caused, whether they are contractual, extra contractual or due to negligence or other liability arising from the use of the product or its installation.

Malfunction caused by tampering, bumps, inadequate installation automatically declines the warranty. It is compulsory to observe all the instructions in this manual and the operating conditions of the product.

Pego S.r.l. disclaims any liability for possible inaccuracies contained in this manual if due to errors in printing or transcription.

Pego S.r.l. reserves the right to make changes to its products which it deems necessary or useful without affecting its essential characteristics.

Each new release of the Pego product user manual replaces all the previous ones.

As far as not expressly indicated, is applicable the Law and in particular the art. 1512 C.C. (Italian Civil Code).

For any controversy is elected and recognized by the parties the jurisdiction of the Court of Rovigo.

Distributor: