### Temperature and Humidity controller for Seasoning, 2.8" display with touch keys





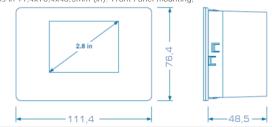


#### **ENGLISH**

- Temperature and humidity controller for Seasoning with 6 cycles (programs) made by three processes with configurable parameters. Humidity probe EVCO EVHTP500/EVHTP520 only; Cabinet and auxiliary probes.
- 12Vac/dc power supply
- Real time clock RTC and memory for data logging and BLE for communication with APP EVconnect (Android).
  - Door switch or configurable
- 6 relay configurable outputs, 30 A res. @ 250 VAC compressor relay
- Alarm Buzzer
  - TTL communication port for optional RS485/RTC external interface (Cap. First Handling) alternative to BLE/LOG

#### DIMENSION AND INSTALLING

Dimensions in 11,4x76,4x48,5mm (in); Front Panel mounting

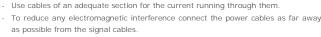


#### INSTALLATION PRECAUTIONS

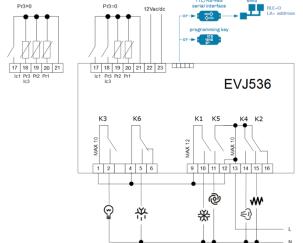
- The thickness of the panel must be between 0.8 and 2.0 mm (1/32 and 1/16 in)
- Ensure that the working conditions are within the limits stated in the TECHNICAL SPECIFI-CATIONS section.
- Do not install the device close to heat sources, equipment with a strong magnetic field, in places subject to direct sunlight, rain, damp, excessive dust, mechanical vibrations or
- In compliance with safety regulations, the device must be installed properly to ensure adequate protection from contact with electrical parts. All protective parts must be fixed in such a way as to need the aid of a tool to remove them.

#### ELECTRICAL CONNECTION

BE AWARE OF



The unit does no support 4..20mA o 0.10V humidity probes



Default values

- K1 = 30A= compresso k2 = 8A= Heating
- K3 = 16A= Light K4 = 8A= Humidify
- K5 = 5A= Evaporator Far K6 = 8A= Defrost

Humidity EVCO probe EVHTP500/EVHTP520

Pr3 / ic3 = Evaporator / Configurable / Digital input

Door switch or configurable

#### PRECAUTIONS FOR ELECTRICAL CONNECTION If using an electrical or pneumatic screwdriver, adjust the tightening torque

- Moving the device from cold to warm places, there may be internal condensing. Wait about an hour before switching on the power Make sure that the supply voltage, electrical fr
- limits. See the section TECHNICAL SPECIFICATIONS
- Disconnect the power supply before doing any type of maintenance.
- Do not use the device as safety device.
- For repairs and for further information, contact the EVCO sales network

### FIRST HANDLING

- Install following the instructions given in the section DIMENSION AND IN-STALLING. Power up the device as shown in the section ELECTRICAL CONNECTION.
- Check the value of parameter PO. Configure the device with configura-
- tion parameters: relay uc1..uc6, inputs Pr2 Pr3 e ic1 and uc3;
- Then check that the remaining settings are appropriate; Disconnect the device from the mains.
- Make the electrical connection as shown in the section FLECTRICAL
- CONNECTION without powering up the device. To connect the unit to an RS-485 network connect the interface
- EVIF22TSX or EVIF23TSX (With RTC). A network communication is al
  - ternative to local transmission and data recording, necessary set BLE=0. Power up the device.



### Device ON/OFF

Touch the ON-OFF key for 2", the device alternatively turns on or Off.



When the device is off, the display shows the off icon for some seconds and then turn to black for energy saving.

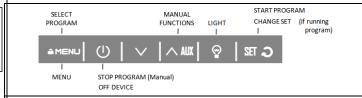
BE AWARE: after turning on the unit the regulation re-starts automatically if a cycle was running before the black-out.

# USER INTERFACE AND MAIN KEY FUNCTIONS

LED	ON	OFF	BLINKING
*	Cooling request  De-humidify request	compressor Off	- Protection delay time
*	defrost	-	- Defrost delay time - Dripping
@	Evaporator fans on	Evaporator fan off	Evaporator fan delay time De-humidify, Humidify cycles.
€}}	Humidify request Humidify relay		
$\bigcirc$	De-Humidify request de-Humidify relay		Delay when de-humidify with compressor.
₩	Heating request Heating relay		
HACCP	HACCP Alarm loggged	-	New alarm logged
(1)	Energy saving	-	-
×	Maintenance	-	Collegamento remoto
C/F/	Unit of measurement	-	
AUX	Auxiliary function Auxiliary relay	Auxiliary not active	
<u></u>	Light on by key	Light off	Light on by door open
$\triangle$			Active alarm
€	Over the sepoint Under the sepoint		
<u>-</u>	keyboard status		
	open Door	Door closed	
9	Running Cycle	No cycle running	Cycle in stand-by, another function is running.

#### KEY COMMANDS

Key commands can be direct (upper functions) or by 2 seconds time based ( lower functions MENU-STOP/OFF):





BACK or EXIT FROM A SUBMENU OR THE SETPOINT touch the key

### 7. AUX KEY FUNCTIONS

User commands are available touching the  ${\bf AUX}\ {\rm key}$ 



CONFIRM: Select an item with up and down keys, press SET to confirm or to abort:

> **Manual Defrost** Set to Confirm



Some functions can be disabled by repeating the same procedure (Energy Sav ing). Other functions will proceed following their process until the end (Defrost, Air Change)

Some functions may not be visible if the unit status is not running or the model

Manual defrost: Execute a defrost, if the evaporator probe is present "Pr3=5" and the evaporator condition allows it. With no evaporator probe configured the defrost is time based.

it executes a stop regulation interval with Air output enabled.

Next it jumps to next process/phase (dripping, drying, seasoning) of a program skipping the loaded countdown in that moment. Air Change: Run-Rest and Defrost do no skip, but follow their own regulation.

Energy Saving: Enable the energy saving function changing the "temperature set + r4 differential". Repeat the operation to disable the function. Aux: if the auxiliary output is configured as manual control.

OFF key to EXIT

### 8. LIGHT COMMAND KEY



Touch once the light command to turn ON or OFF the light.

The light output turns on by opening the door if ic1=7/8/9.

### 9. PROGRAMS

A program is made by 3 sequential processes

#### Drying Dripping Seasoning 6 Phases

Each process or phase is provided with its own temperature and humidity setpoints and timer. The regulation proceeds until all the processes are completed and after the seasoning (3) it must be manually stopped

# 10. START A PROGRAM

SELECT THE PROGRAM

Touch  $\mathbf{MENU}$  to list the programs, select an item with up or down arrows and push SET



CHANGE THE SETPOINTS AND TIMER BEFORE STARTING

To change temperature and humidity setpoints and/or the time duration of any process push MENU for 2" and enter the selected program (see the program configuration)

#### START A SELECTED CYCLE

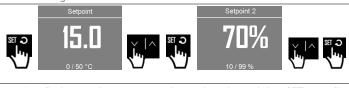


The lower part of the display shows the running program, the process and the phase with the countdown time.

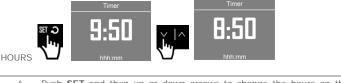
# 11. CHANGING THE SETTING OF A RUNTIME PRO-

If enabled in your unit, it is possible to change the setpoints and time duration as follow

Push SET key, the temperature setpoint appears with the available



- Push up or down arrows to change the value and then **SET** to confirm
- The humidity SET2 appears
- Push up or down arrows to change the value and then SET2 to con-
- The timer of the process appears



- Push  $\boldsymbol{\mathsf{SET}}$  and then up or down arrows to change the hours on the left, push SET to confirm
- Push SET and then up or down arrows to change the minutes on the right, push SET to confirm.

INTERMEDIATE EXIT: wait 5 seconds or push



# 12. END OF A PROGRAM

AUTOMATIC END After all the countdown timers of the 3 processes are expired, the cycle is finished and the "END" label appears on the bottom, the regulation proceed until the manual stop

MANUAL STOP available at any time, keep pushed the off key to stop the cycle,



The same cycle or another program can be selected to be restarted

# **ALARMS**

All the alarms events are displayed by rotation on the bottom line of the display

TEMPERATURE and HUMI DITY ALARMS are available during the final part of the program: the 3d process of Seasoning.

SILENCING TE BUZZER Alarm sounding can be reset touching MENU/SET



Faulty Sensor alarms: a faulty probe or wrong probe connection is showed by "--.-". The alarm icon and an alarm message is available on the



RTC alarm and Power failure With rtc and parameter "Hr0=1" it is recorded if longer than > A10. The alarm message is showed on the bottom line of the display, push a key to check the

Push a key to check the clock setting then message disappears.

### LIST OF THE ACTIVE ALARMS

All the active alarms are also listed into MENU\_SERVICE\_ALARMS

#### LIST OF HACCP ALARMS LOG All the Haccp alarm are listed into the MENU\_SERVICE\_HACCP log.

EVCO S.p.A. | EVJ536 | Instruction sheet ver. 1.0 | Code 104J536E103 | Page 2 of 5 | LCT 36/18 To reset the blinking alarm icon enter the MENU\_SERVICE: Reset data Parameters memory

#### 14. MENU - PROGRAM CONFIGURATION

Touch the MENU key for 2 seconds to enter the loaded program configuration, push SET and then select the item with up or down and the SET to confirm.

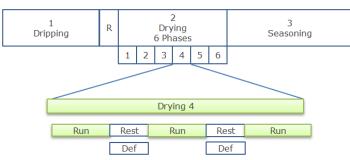








Program values can be changed by the user also during a running cycle. The new value will be loaded if the corresponding process/phase hasn't been executed yet or with next program restarts.



At the end of the Dripping process it is possible to activate a Rest period. The whole Drying process is made by 6 phases where the Run-Rest function is available.

It is also possible to activate a defrost during the Rest duration, both will follows their timers.

BY default the defrost is manual, to enable the automatic timer set "d0>0"

#### PROGRAM 1..6 STRUCTURE

1	-DRIPPING	(^)	
	DURATION		

Hours 0= skip process CORE SET °C/°F only display SET 1 temperature °C/°F cabinet regulation temperature SET 2 Humidiv 0=humidity not regulated % Low speed fan Y/N Low speed fan on (Evap fan stopped) execute a Rest at the end of the drip Y/N Run-Rest

#### 2- DRIYNG (\*) PHASE 1..6

DURATION	Hours	
SET 1 temperature	°C/°F	cabinet regulation temperature
SET 2 Humidiy	%	0=humidity not regulated
low speed fan	Y/N	Low speed fan relay
Run-Rest	Y/N	Enable Run-Rest function

#### 3- SEASONING (\*)

DURATION	Days	
SET 1 temperature	°C/°F	cabinet regulation temperature
SET 2 Humidiy	%	0=humidity not regulated
Low speed fan	Y/N	Low speed fan relay
Run-Rest	Y/N	Enable Run-Rest function

### MENU COMMON PROGRAM FUNCTIONS



Running interval time Resting duration time Select Air change in processes 1..3 (\*) Air Interval if >0. if 0 = only manual. Enable Air Change if >0

The Run-Rest is a common repetitive function available by selecting it at the end of the Dripping (1) and along the whole Dripng 1..6 phases (2) or in season-

The "Rest" function is repeated if the interval time is >0, during the "Rest" time no regulation is executed. It is possible to combine a defrost by enabling the parameter "d13=1". Configuration parameters are available under MENU.

### (\*) Air change

The Air Change is a common repetitive function that activates the Air relay after an interval time, while the regulation is turned off. If no relay is configured the function just stop the regulation control for the time duration.

Configuration parameters are available under the MENU. By default the function is manual

MANUAL FUNCTION (Default) with Air interval=0 and operating with AUX key.

### CYCLING FUNCTION

If "Air Interval > 0 hours" the function repeats after each interval with the folving Control Process

0= all the processes 1-2-3 (dripping-driyng-seasoning),

- 1= only  $1\ \&\ 2$  dripping-driyng processes,
- 2= only 2 & 3 driyng-seasoning processes, = only 1 & 3 dripping-seasoning processes.

### 15. OTHER MENU CONFIGURATION



Language Select language Service To show configuration Parameters, Alarms, REset alarms and Statistics. To set the Clock if ena-Real time Clock bled. Available only if the clock option is

availabe.

LANGUAGE To select the operative language. This version fully supports "I" and "E"

MENU\_SERVICE to configure the I/O, service and maintenance



Internal value **Alarms** 

Reset data memory Parameters Restore Re-load original parameter map. ! BE AWARE (\*\*) Show the HACCP Log from last Alarm Reset.

REAL TIME CLOCK

clock. Function related to Clock

Regulation functions related to the clock:

the Air Change at the selected times

ENTER: Push MENU key for 2 seconds

**Password** 

17. REGULATION

Temperature regulation

Temp

Set T

₩

Temp

+ r0

r11

r11

Set T

16. PARAMETERS AND PASSWORDS

daily **Energy Saving** H01..H02

To access and configure parameters To show I/O values of the I/O signals and variables To show the list of active alarms Alarm Reset (code 149)

(\*\*) custom configuration may be different from default values. By re-

Real time clock functions are available if provided on board or connected with external interfaces EVIF23TSX or EVIF25TBX (Evlink), Enter this menu to set the

Enter the Clock menu and:

EXIT the menu with

push SET and change year value YY; push SET and change month value MM

push SET and change day value DD:

push SET and change minutes value;

Enter the password using directly the up or down ar-

rows, the pass background color turns to green,

password value corresponding to "PS1=1" to enter

password value corresponding to "PAS=-19" to en-

(4

4

push SET to confirm:

level 1 parameters.

ter all the parameters

The temperature setpoint can be set between the limits min "r1" and max "r2"

Available by setting "r11<>0" the value is inserted between the SET and the dif-

Heating regulation "SET-r11-r12" = on (3) and "SET-r11" = OFF (2).

(2)

Cooling regulation "SET+r11+r0= on" (1) and "SET+r11=off" (2).

The temperature is regulated with the following outputs:

TEMPERATURE REGULATION WITH NEUTRAL ZONE

Cooling between "SET+r0= on" (1) and "SET=off" (2).

Heating between "SET-r12= on" (3) and "SET=Off" (4).

push SET and change hour value;

loading the original values the loads can be damaged if not corresponding.

### OPEN DOOR

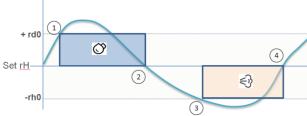
The regulation can be suspended depending on "ic1" digital input function. Regulation can be restarted by forcing the timer setting "i3"

#### **Humidity regulation SEt2**

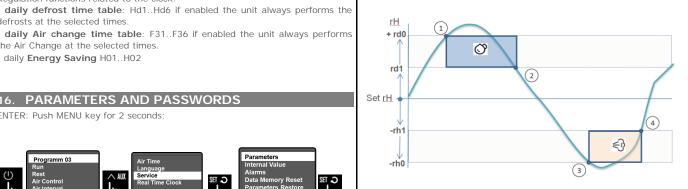
The Humidity is basically controlled by the following algorithms:

de-humidify is controlled between "SET2+rd0=On" (1) and "SET2=Off"

€3 humidify is controlled between "SET2-rh0=On" (3) and "SET2=Off" (4).



A NEUTRAL ZONE is available by setting "rh1" for the humidify process and "rd1" for the de-humidify process.



OPEN DOOR regulation is suspended depending on "ic1" digital input function. Cooling regulation can be restarted by forcing the time parameter "i3".

#### DE-HUMIDFY WITH COMPRESSOR

set rd4=1 to use the compressor de-humidify function.

set rd4=2 to use the compressor de-humidify function together with heating re-

### 18. EVAPORATING FAN



### **FAN STATUS**

Parameter "FO" allows the following fan behaviour 0= Fans on with regulation on (\*\*\*)

1= Always ON, (default)

2= ON with compressor ON, 3= Temperature threshold F1, if the evaporator probe is enabled "Pr3=5".

4= ON with compressor ON, if the evaporator probe is enabled "Pr3=5"

For safety reason the fan stop temperature "F1" must be set very high to avoid stopping the fan during the heating.

# OTHER SETTINGS

FAN TEMPERATURE THRESOLD "F1" to lock for high temperature if "Pr3=5" Working with heating elements F1 must be set at high values to avoid turning it

**DEFROST** with "F2" to determine the fan status.

DRIPPING with "F3" to determine the fan stop time after the defrost.

By setting uc()=14 as "evaporator fan 2": if the "low speed fan selection" is enabled, the "evaporator fan 2" runs while the main Evaporator fan is stopped.

### FAN CYCLES F0=0

(\*\*\*) By using "F0=0" the evaporators fans can follow on-off cycle: 1) when there are no temperature or humidity request: F11, F12

2) when there is a **de-humidity request** with compressor: rd2-rd3

3) when there is a humidity request and there is no humidity relay: rh2-rh3

**DEFAULT VALUES**: these values allows to operate normal function, Fan\_on values F11, rd2 and rh2 =60" 0 while the Fan\_Off values F12, rd3 and

rh3 are equal to 0": When there is a request the fans turns on TO ACTIVATE A CYCLE: By setting F12, rd3 and rh3>0 the fan cycling function s activated when requested.

TO STOP THE FUN DURING A FUNCTION: setting F11 & F12=0, rd2 or rd3=0 or rh2 & rh3=0 the fan output is disabled even the functions request is to

### OTHER REGULATION

COMPRESSOR PROTECTION (default value: C2= 3 minutes)

Power on: the first compressor start can be delayed with "CO" minutes. PROTECTION: during normal regulation "C2" keeps the compressor off for the time set in minutes, while "C3" keeps the compressor on for a minimum value in

PROBE SAFETY: if a faulty or wrong probe connection events happen, the display shows "--.-". The compressor follows the "C4" (off) & "C5" (on) time in

# CONDENSING and CONDENSING FAN (default: to configured)

Condensing fan follow the compressor on cycles if no condensing probe is configured. By enabling the condensing probe Pr3=1 the following controls are available:

 $\mbox{\bf "Fc1+Fc2"}$  Temperature threshold to turn on the fan "Fc1" condenser fan off Off temperature threshold "

"Fc3" fan off time after compressor off

"C6" threshold for high condensing dangerous for the compressor.

"C7" threshold for high condensing alarm that stop the compressor after "C8" time delay in minutes. A manual reset is requested to restart the controls.

### **DEFROST**

BY default the defrost is manual, to enable the automatic timer set "d0>0"

#### TEMPERATURE REGULATION and DE-HUMIDIFY WITH COMPRESSOR By setting "rd4=1" the de-humidify function with compressor is enabled, while setting "rd4=2" the same function is performed by turning on also the Heating

if "r11<0" the neutral zone is available only for heating side 3-4.

TEMPERATURE PRIORITY OVER DE-HUMIDIFY with compressor if "rd4>0"

The "r14" parameter can be configured as the following priority: 0 = Temperature and humidity are independent and follow their requests.

1 = Heat: if the temperature drifts up, the de-humidify is suspended 2 = Heat-Cool: if the temperature drifts up or down, the de-humidify is sus-

pended. 3 = Cool: if the temperature drifts-down, the de-humidify is suspended

# HEATING MODULATION

avoid stopping the fan during the heating.

output on with the Compressor

The heating output can be modulated with "r13" by setting a duty cycle interva between 10 and 60". The "r13=60" value (default) means that the heating relay is always on when the request of heating is active.

Be aware that increasing the switching frequency of the relay may introduce long term contact duration concerning. For  $\boldsymbol{safety\ reasons}$  the fan stop temperature "F1" must be set very high to

The defrost control is performed after the "d0" interval if>0 and can be selected among the following mode "d1": 0=electric heater, 1= hot gas, 2=stop

TEMPERATURE THRESOLD is determined by "d2" and is available only if the evaporator probe is enabled "Pr3=5"

MAXIMUM DURATION determined by the time interval "d3" in minutes. **DEFROST AT POWER ON** determined by the parameter "d4": 0 = no , 1

post overcooling(\*), 2=power-on & post-overcooling(\*). (\*) if available. DEFROST DELAY: "d5" in minutes following the "d4" selection.

DISPLAY LOCKED in DERFOST using the "d11": 0=not locked, 1= locked to SET+2, 3= label

COMPRESSOR STATUS PRE DEFROST time to keep the compressor on before hot gas defrost: 0=no enabled, d15>0 enabled.

**DEFROST SYNCHRONISED** with REST using the parameter "d13"=1 if a Rest function is performed also the defrost is activated.

RTC DEFROST When the clock function is available, the user can set 6 daily defrosts that starts at "hd1..hd6 > 0" parameters. The function is independent from any other timer based functions of the unit

DEFROST OUTPUT AS HEATER/DE-HUMIDIFIER

Setting "rd5=1" it is possible to use the defrost output also as heating element

#### AUXILIARY RELAY (default value: to configured)

When configured with "uc ()=15" the auxiliary relay works as:

- on-off relay based on the cabinet probe reading if no auxiliary probe configured;
- on-off relay based on the the **auxiliary probe reading** if Pr3=4;
- Manual On-Off via AUX key.

After setting the device output relay, configure the regulation as follow: "u6" Heating regulation (0), cooling regulation (1), manual via AUX key (2).

"u7" Setpoint temperature to turn off the output.

"u8" Temperature differential of "u7" to turn on the output

For probe error the relay is open.

#### AUX OUTPUT VIA MANUAL FUNCTION

By setting "u6=2" the auxiliary relay can be turned on or off entering the  ${\hbox{\bf AUX}}$ menu and selecting AUX function.

#### 20. DIGITAL INPUT 1 CONFIGURATION

The digital input 1 can be configured in "ic1" parameter, default door switch (7):

0= Disabled,

1= Energy Saving;

2= Alarm Multifunction; Only signaling

3= Reserved;

4= Remote Onoff Turns Off and on the unit, a running cycle ends

5= Thermal switch: i8 events , interval i7. i8=0 autoreset

6= Reserved;

7= Door open 1: Compressor and Fan off, Light on:

8= Door open 2: Compressor off, Fan and Light on;

9= Door open 3 : Light on;

Input polarity is determined by "iP1":

0= active with closed contact; 1= active with open contact

**OPEN DOOR** (default value: ic1=7)

Regulation is suspended while the compressor can follow "i3" settings: "i3=-1" the compressor follows its regulation, "i3=0" compressor goes off,

"i3>0" the compressor restarts after this delay

### 21. CONFIGURATION INPUT 3

By selecting the parameter "Pr3" the following functions are available

0 = digital input 1 = condenser probe (configuration via ic3) (controls Condenser fan and alarms)

2 = Core probe

(only display)

3 = External air probe

(only display)

4 = Auxiliary probe

(regulation u6,u7,u8.)

5= defrost probe 2

(defrost control)

#### PRESSURE SWITCH CONFIGURATION By selecting the parameter "Pr3=0" it is possible to configure also the function

of the digital input via iC3": 0 disabled e 1=pressure switch (see alarms)

### 22. RELAY OUTPUT CONFIGURATION

Expert users only

Relay functions are configurable through uc1...6 parameters that corresponds to

the K1..K6 outputs. The default configuration:

(the function is performed by the compressor)

0 = Unused

1 = Umidify (rh)

2 = De-Umidify (drh)3 = Alarm

4 = Compressor

5 = Heating

6 = Condenser fan

8 = Air change

9 = Light10 = Compressor 211 = Evaporator fan K5

12 = Defrost 13 = Reserved

14 = Evaporator fan 2 (Low speed fan)

15 = AUX

(Auxiliary u6,7,8)

Κ6

Be aware to accurately verify the functions related to the relay outputs, configuration errors may activate unwanted loads. The reloading procedure of a default map is available in "MENU\_SERVICE\_ Parameters Restore" and it must be done disconnecting the loads.

### 23. ALARMS

Alarms are displayed on the bottom line of the display

PROBE FAILURE: typical problems: open or short circuited sensor, wrong sensor type or bad connection. "Probe 1 failure" Regulation probe failure, heating regulation is suspended

cooling regulation follow the on-off cycle C4-C5 in minutes. "Probe 2 failure" Humidity probe failure, humidity and de-humidity regula-

tions are suspended.

TEMPERATURE ALARMS

"Probe 3 failure" 3d probe failure. If working as evaporator defrost is performed by time "d3", if working as condenser probe the condenser fan follows the compressor, if working as auxiliary the auxiliary relay turns off

Temperature alarms are enabled during the Seasoning:

"LOW TEMPERATURE" setting the "A1" threshold. To configure the alarm: "A2" 0= disable, 1=relative to SET, 3=absolute value.

"HIGH TEMPERATURE" setting the "A4" threshold. To configure the alarm: "A5" 0= disable, 1=relative to SET, 3=absolute value.

#### TEMPERATURE ALARM DELAY

After a power-on with "A6" minutes?

During normal regulation with A7 in minutes.

After a defrost with "A8" in minutes

After closing the door with "A9" in minutes.

#### HUMIDITY ALARMS

Humidity alarms are enabled during the Seasoning:

"LOW HUMIDITY ALARM" setting the AH1 relative to SET2. "HIGH HUMIDIY ALARM" setting the AH1 relative to SET2.

Humidity alarm delay "AH7" in minutes.

#### POWER FAILURE - rtc Clock failure

It is signaled after a power failure longer than "A10" in minutes.

### DOOR OPEN ALARM

It occurs when the digital input is set as "ic1=7/8/9" is active after the "i2" delay in minutes. With "iP1=0" active when contact closed, "iP1=1" active when contact is open. Setting "i2=-1" the alarm is disabled, and "i2=0" the alarm starts when the door is open

#### MULTIFUNCTION ALARM

It occurs when the digital input is set as "iC1=2" is active. With "iP1=0" active when contact closed, "iP1=1" active when contact is open.

Regulation is not modified THERMAL SWITCH 1 ALARM

It occurs when the digital input is set as "iC1=5" is active. With "iP1=0" active when contact closed, "iP1=1" active when contact is open. The regulation is suspended and restarts when the alarm disappears. Starting from the very first event, the unit counts the alarm events "i8" during the "i7" interval. When the number of event is reached the alarm must be manually reset. With "i8=0 the alarm is always automatic, with "i8=1" the alarm is always manual

#### PRESSURE SWITCH ALARM

It occurs when the digital input is set as "iC3=1" is active. With "iP3=0" active when contact closed, "iP1=3" active when contact is open. The regulation is sus pended and restarts when the alarm disappears. Starting from the very first event, the unit counts the alarm events "i8" during the "i6" interval. When the number of event is reached the alarm must be manually reset. With "i8=0 the alarm is always automatic, with "i8=1" the alarm is always manual.

#### CONDENSER OVERHEATED

Setting the condenser probe "Pr3=1" and the temperature threshold C6 the unit shows the condenser alarm as soon as the temperature rises above "C6"

### COMPRESSOR BLOCKED (for high condensing)

Setting the condenser probe "Pr3=1" and the temperature threshold "C7" th unit shows the condenser alarm when the temperature rises above "C7" for the time "C8". Compressor regulation is locked. Manual reset is necessary by turning off and the on the unit. Be aware that by using the Off\_key a running cycle is stopped.

### 24. EVCONNECT EVLIN

Communication functions cannot work tougher: the presence of embedded or remote EVLINK (eg EVIF25TBX) prevents the user to connect a RS485 serial interface EVIF22TSX o EVIF23TSX and vice versa. Parameters involved:

Hr0 enables the rtc 0=no 1=Yes. Connecting an EVLINK "Hr0=1" is automatically enabled and the "rtc" alarm appears if the EVLINK is removed. Inserting EVIF23TSX the Hr0 parameter must be manually set.

BLE= EVLINK presence. The serial interface EVIF22/23TSX modules operates i BLE=0 but the BLE and the data logging are suspended.

rEt = Local or remote transmission. With EVIF25TBX its value is always rEt=0.

PA1 = 824 service password access from EVCONNECT APP. PA2= 642 user password access from EVCONNECT APP.

## 25. LOCAL PARAMETER PASSWORD

To access the parameters with local password via keyboard:

PAS=-19 service password for all the parameter; PS1= 1 password to access level 1 parameter.

Purpose of the control device Construction of the controller device:

Construction of the controller of	icvicc.	ball ill electionic acvice:		
Case:		Plastic Self estinguish or Open frame.		
Category of heat and fire resist	tance:	D.		
Dimensions:				
Plasti 111,4 x 76,4 x 48,0 mm 1 15/16in)	n (4 3/8 x 3 x	open frame 101.0 x 67.0x47mm ( 4 x 2 5/8 x1 7/8)		
Mounting methods:		panel with elastic mounting flaps or backpanel with double stick tape		
Front Panel degree of protection	n:	IP65		
Connections:				
screw connector for wires up to 2,5 mm <sup>2</sup> .	Removable to quest 2,5 mm	erminals by re-	TTL Picoblade.	
Maximum lenght for connection	n cable:			
power supply: 10 m (32,8 ft)		analog inputs: 1	0 m (32,8 ft)	
digita inputs: 10 m (32,8 ft)		digital outputs:	10 m (32,8 ft).	
Operating temperature:		-5 55 °C (da 3	32 a 131 °F).	
Storage temperature:		from -10 to 70	°C (da -13 a 158 °F).	
Operating humidity:		from 10 to 90 %	6 not condensing.	

function controller

buil-in electronic device

				9		
	Pollution status of the control device:			2.		
	Conformity:					
	RoHS 2011/65/CE WEEE 2012/1			9/EU	REACH n. 1907/2006	(CE)
1	EN 60730-1			IEC 60730-1		
ı	Power supply:	12vac/d	dc (±10%), 5	50/60Hz(±3 Hz), 10 VA max		
	Earthing methos for the control device			None.		
	rated impulse-withstand voltage:			4 KV.		
	Over-voltage category	:		III		
	Sftware class structure	e:		A.		
	Real time clock:			Incorporated se	condary lithium battery	

Clock drift:		≤ 60 s/month a 25 °C (77 °F).		
Clock battery autonomy in blac	kout:	> 6 months 25 °C (77 °F).		
Clock battery charging time:		24 h (supplied from the device).		
Analogue inputs:		2 for PTC or NTC sensor (cabinet and auxiliary probe*). 1 humidity Evco probe EVHTP500/EVHTP520		
Digital inputs:		1 configurable		
Other inputs: * configurable		e auxiliary probe or pressure switch.		
Digital output:	6 a relè elettr	omeccanico configurati per default:		
(K1) Compressor:		SPST 30 A res. @ 250 VAC		
(K2) Heating:		SPDT 8 A res. @ 250 VAC;		
(K3) Light:		SPST 16A res. @ 250 VAC		
(K4) Huidify:		SPST 8 A res. @ 250 VAC;		
(K5) Evaporator fan		SPST 5 A res. @ 250 VAC;		
(K6) defrost		SPDT 8 A res. @ 250 VAC;		
Type1 or type 2 action		Type 1.		
Additiona fetures for Type1 or	type 2 action	c.		
Display:		TFT 2,8 inches, 16 colours, 320 x 240 pixel.		
Buzzer:		on board.		
Communication port:		TTL picoblade for parameter key or RS485 MODBUS converter (alternative to BLE)		

### 27. PARAMETERS KEY

Using the EVJKEY key follow these step:

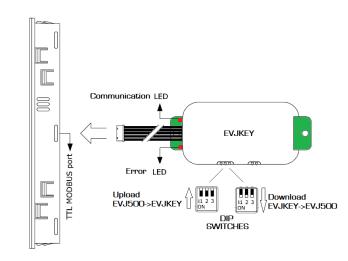
UPLOAD from REGULATOR to EVJKEY: insert the cable to TTL and the EVJKEY dip-switches 1-2-3 set to OFI

DOWNLOAD from EVJKEY to REGULATOR: insert the cable to TTL and the EVIKEY dip-switches 1-2-3 set to ON

Insert the EEVJKEY into the Picoblade connector, fore some secondes the two leds blink together, the during the data transfer the "communication led" is blinking:

DATA TRANSFER OK "communication led" is on.

DATA TRANSFER OK "error led" is on



### 28. **SEASONING MAPS**

Entering the MENU (2"), all the 6 programs are preloaded with the same parameters eters as shown in the following table

				Dry	ing			
	Drip- ping	Dry 1	Dry 2	Dry 3	Dry 4	Dry 5	Dry 6	Sea so- nin g
Duration	10 ore	15 ore	24 ore	24 ore	24 ore	24 ore	24 ore	1 gior no
Set 1	20 C	19 C	19 C	18 C	17 C	16 C	15 C	14 C
Set 2	0 %	75%	68%	65%	68%	72%	76%	82 %
Low speed fan	no	no	no	no	no	no	no	no
Rest	no	yes	yes	yes	yes	yes	yes	no
Defrost	man	man	man	man	man	man	man	man
Air change	man	man	man	man	man	man	man	man

anual by the AUX key

0%= the humidity is not controlled

**RUN - REST and AIR CHANGE DEFAULT VALURE** Rest: 30 minuti

3 hours Run: Air control: all the processes

Air interval 0 hours Air change: 10 minuti

## Function management

To disable a phase/process set the duration to 0.

Core temperature SFT is only for display

By default it is enabled the setpoint and timer change function during the cycle with P31=1. With P31=0 the SET and the timer can just be viewed

A setpoint value changed during the active cycle can be saved into the active program phase/process if P32=1. Default disabled P32=0.

### 29. PARAMETERS

AIR CHANGE AND RUN-REST PARAMETERS Run: 5 Hours Rest: 10 minutes Air Control: All processes

0 hours

Air interval:

LEVEL 1 PARAMETERS password PS1				
CA1	0.0	Probe 1 calibration		
CAI	0.0	Probe i Calibration		
CA2	0.0	Probe 2 calibration		
r0	2.0	Heating differential		
r12	-2.0	Cooling differential		
rd0	3.0	De-humidify differential		
rh0	-3.0	Humidify differential		
d0	0 hours	defrost interval		
d2	8	End defrost temperature		
d3	30 min	Defrost duration		
PLi	1	Light key configuration in stand-by		
Pbu	2	Buzzer enabled for alarm and keys		

Air change: 10 minutes

®≣	N.	PAR.	DEF.	SETPOINT	MIN MAX. (°c)
●_		SET	*	temperarure setpoint	r1r2
		SET2	*	umidity setpoint	h1h2

		LIST (FI	ROM KEY	BOARD)	
	N.	PAR.	DEF.	SETPOINT	MIN MAX. (°c)
_		SET SET2	*	temperarure setpoint umidity setpoint	r1r2 h1h2
it ch	ange	es accordin	ng to the p	program and to the phase (I	ook at chapter 29)
ARAI	VIET	ER LIST			
	N.	PAR.	DEF.	ANALOG INPUTS	MIN MAX.
	1	CA1	0	Ambient probe offset	-25+25 ° C/F
	2	CA2	0	Humidity Probe Offset	-25+25 %rH
	3	CA3	0	Auxiliary Probe Offset	-25+25 °C/F 0= ptc+ EVHTP500
	4	PO	3	Probe Type  EVHTP500 T+Rh probe.  EVHTP520 T+Rh new probe.	1= ntc + EVHTP500 3= ptc+ EVHTP520
	5	P1	1	Enable °C Decimal Point	4= ntc + EVHTP520 0=no 1=yes
	6	P2	0	Temperature Unit Of Measu- rement	0 = Celsius 1 = Fahrenheit
Q,	7	Pr3	0	Probe 3 configuration	0 = Digital input 1 = Condenser Probe 2 = Core Probe 3 = External Air 4 = Auxiliary Probe 5 = Defrost 2 Probe
	8	P5	1	Value Displayed (left side) Setting to 0 the display is off.	0 = None 1 = Input 1 2 = Input 2
	9	P6	2	Value Displayed 2 (right side). Setting to 0 the display is off	3 = Input 3 4 = Setpoint 1 5 = Setpoint 2
	10	P8	5	Display Refresh Time to increase/decrease a digit.	0255 s
	11	P9	5	Display 2 Refresh Time to in-	0255 1/10 sec s
	12	P31	1	crease/decrease a digit.  Enable Runtime Set Change	0=no 1=YES
	13	P32	o	Enable P31 Change Memory. Available only for tempera- ture and humidity setpoints	0=no 1=YES
	N.	PAR.	DEF.	TEMPERATURE Setpoint cooling Differential.	MIN MAX.
	14	r0	2	(SET+r0) (SET+r11+r0 if neutral zone)	0,115 °C/F
	15	r1	0.0	Minimum Setpoint Temp	-30 r2 °C/F
	16	r2	50.0	Maximum Setpoint Temp Setpoint Offset in Energy	r1 +99 °C/F
	17	r11	0.0	Saving  Neutral Zone Value. With r11>0 the value is active for heating or cooling.  With r11<0 the value is ac-	010 ° C/F
	19	r12	-2.0	tive only for heating function.  Setpoint Heating Differential (SET-r12) (SET-r11-r12 if neutral zone).	-250,1 ° C/F
	20	r13	60	Heating Duty Cycle. "r13=60" = always on, 0= Off.	060" s
	21	r14	2	Temperature Priority control: if >0 the unit stops de- humidify (with compressor)	0 = Disabled 1 = Heating 2 = Heat/Cool
	N.	PAR.	DEF.	to adjust temperature first.  HUMIDITY	3 = Cooling MIN MAX.
*	22	h1	10	Minimum setpoint 2	0h2 %rH
	23	h2	95	Maximum setpoint 2	h1100 %rH
	N.	PAR.	DEF.	HUMIDIFY	MIN MAX.
	24	rd0	3	De-Humidity differential. (SET2+rd0) (SET2+rd1+rd0 if neutral Zone)	125 %rH
	25	rd1	0	De-Humidify Neutral Zone Fan On Time in De_humidify.	010 %rH
	26	rd2	60	0= fan off.	0240 " s
	27	rd3	0	Fan Off Time In De-Humidify. 0=normal function.	0240 " s
	28	rd4	1	De-Humidify with Compressor or compressor and heater. 0= temperature and de- humidity outputs are inde- pendent.	0 = Disabled 1 = Compressor 1 2 = Compressor and Heat
	29	rd5	0	Heating and de-Humidify functions executed with Defrost output if no heating output is available.	0=no 1=Yes
	N.	PAR.	DEF.	DE HUMI DI FY	MIN MAX.
	30	rh0	-3	Humidify Differential (SET2-rh0) (SET2-rh1-rh0 if neutral zone)	-251 %rH
	31	rh1	0	Humidify Neutral Zone Humidify Output On Time (or	010 % %rH
	32	rh2	60	Fan if no rH output configured). 0= Humidify output off.	0240 " s
	33	rh3	o	Humidify Output Off Time (or Fan if no rH output configured).  0= Humidify output normal.	0240 " s
		545	DEF.	COMPRESSOR	MIN MAX.
	N.	PAR.	1		
	<b>N</b> .	CO	0	Compressor ON Delay After Power-on	0240 min
			0	Power-on Compressor OFF Minimum Time	0240 min 0240 min
	34	со		Power-on Compressor OFF Minimum	

	Н			Cabinet Probe Alarm Compressor ON Time during	
	38	C5	10	Cabinet Probe Alarm  Threshold for High Condensa-	0240 min
	39	C6	80	tion Warning	0199 ° C/F
	40	C7	90	Threshold for High Condensa- tion Alarm	0199 ° C/F
	41	C8	0	Compressor Shutdown Alarm Delay for high condensing.	015 min
	42	C10	0	Compressor run time for Ser- vice	gg
	43	C11	10	Compressor 2 On Delay after Compressor 1	0240 "
	<b>N</b> .	PAR.	DEF.	DEFROST  Defrost interval time	MI N MAX.
					0 = Electric
	45	d1	0	Type of Defrost	1 = Hot gas 2 = Compressor Stop
	46 47	d2 d3	8 15	Threshold for Defrost End  Defrost Duration	-99+99 ° C/F 099 min
	47	us	13	Deli Ost Buration	0=no 1=poweron
	48	d4	0	Enable Defrost at Power-on	2= post overcooling 3= poweron and post
٥,					overcooling
•	49	d5	0	Defrost Delay after Power-on	099 min 0 = Regulation Value
	50	d6	0	Value Displayed during De- frost	1 = Display Locked
	51	d7	0	Dripping Time	2 = reserved 015 min
	52	d11	0	Enable Defrost Time-Out	0=NO 1=YES
	$\vdash$			Alarm  Defrost and Rest Synchroni-	
	53	d13	0	zed  Compressor ON Consecutive	0=NO 1=YES
	54 N	d15	0	Time for Hot Gas Defrost	099 min
	<b>N</b> .	PAR.	DEF.	ALARMS  Threshold for Low Tempera-	MIN MAX.
	၁၁	AI	0.0	ture Alarm	0 = Disabled
	56	A2	2	Low Temperature Alarm Type	1 = Relative to Setpoint 2 = Absolute
	57	A4	50.0	Threshold for High Tempera-	2 = Absolute -99+99 ° C/F
			+	ture Alarm	0 = Disabled
	58	<b>A</b> 5	2	HighTemperature Alarm Type	1 = Relative to Setpoint 2 = Absolute
	59	A6	120	High Temperature Alarm De-	0240 min
	60	A7	15	lay after Power-on Temperature alarm delay	0240 min
-7	61	A8	15	High Temperature Alarm De- lay After Defrost	0240 min
	62	А9	15	High Temperature Alarm De- lay after Door Closing	0240 min
	63	A10	15	Power Failure Duration for PF Alarm Recording	0240 min
	64	A11	1.0	High/Low Temperature Alarm	0,115 ° C/F
	65	AH1	50	Reset Differential  Low Humidity Alarm relative	0100 %rH
		AH4		to SET2 High Humidity Alarm relative	0100 %rH
	66		50	to SET2 Humidity Alarm Delay and	
	67	AH7	30	sensor error.	0240 min
	N.	PAR.	DEF.	EVAPORATOR FAN	MIN MAX.  0 = ON+Fan Cycling
				Evaporator Fan Mode during Normal Operation.	1 = ON (default) 2 = ON if Compressor
				With F0=0 parameters F11- F12, rd2-rd3, rh2-rh3 can	ON 3 = Thermoregulated
	68	FO	1	enable a fan cycling regula-	(with F1 relative to Regulation Temper-
				tion. For safety reason (use of	ature) 4 = Thermoregulated if
				heating elements and cycles) check the fan control chapter.	Compressor ON (with F1 relative to
					Regulation Temper- ature)
	69			Threshold for Evaporator Fan Operation with F0=3 or 4.	
		F1	99.0	The fan starts under F1 and stops at "F1+F8".	-99+99 °C/F
				Evaporator Fan Mode during	0 = OFF
	70	F2	0	Defrost	1 = ON 2 = According to FO
	71	F3	0	Evaporator Fan OFF Maxi- mum Time after Dripping	015 min
6	72	F7	99.0	Threshold for Evaporator Fan ON after Dripping (relative to	-99+99 ° C/F
			-	Setpoint)  Evaporator Setpoint Differen-	
	73	F8	2.0	tial	0,115 ° C/F
	74	F9	5	Evaporator Fan OFF Delay after Compressor OFF	0240 " s
	75	F11	60	Fan On Time with no regulation. To be used with F0=0.	0240 " s
	76	F12	0	Fan Off Time with no Regulation. To be used with F0=0.	0240 " s
	N.	PAR.	DEF.	AIR CHANGE FAN	MIN MAX.
		F30	0	Evap Fan For Air Change  Air Change Hour	0=no 1=yes 024 h h
	77 78	F31		All Charige rious	
	78 79	F32		Air Change Hour	024 h
	78		1	Air Change Hour Air Change Hour	
	78 79 80 81 82	F32 F33 F34 F35		Air Change Hour Air Change Hour Air Change Hour Air Change Hour	024 h 024 h 024 h 024 h
	78 79 80 81	F32 F33 F34		Air Change Hour Air Change Hour Air Change Hour	024 h 024 h 024 h
	78 79 80 81 82 83	F32 F33 F34 F35 F36		Air Change Hour	024 h 024 h 024 h 024 h 024 h
	78 79 80 81 82 83 <b>N</b> . 84	F32 F33 F34 F35 F36 PAR. Fc1	DEF. 25	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential	024 h 094 h MIN MAX. 099 ° C/F 0,115 ° C/F
	78 79 80 81 82 83 <b>N</b> .	F32 F33 F34 F35 F36 PAR.	   DEF.	Air Change Hour CONDENSER FAN Threshold for Condenser Fan	024 h 099 ° C/F
	78 79 80 81 82 83 <b>N</b> . 84 85	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3	   DEF. 25 5.0	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door	024 h 024 h 024 h 024 h 024 h 024 h MIN MAX. 099 ° C/F 0,115 ° C/F 0240 " s
	78 79 80 81 82 83 N. 84 85 86 N.	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR.	DEF. 25 5.0 5 DEF.	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC	024 h 024 h 024 h 024 h 024 h 024 h MIN MAX. 099 ° C/F 0,115 ° C/F 0240 " s MIN MAX.
	78 79 80 81 82 83 N. 84 85 86 N.	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR. i1	DEF. 25 5.0 5 DEF. 0	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door Open Door Alarm Delay1 = disabled 0 = immediate	024 h 024 h 024 h 024 h 024 h 024 h MIN MAX. 099 ° C/F 0,115 ° C/F 0240 " s MIN MAX. 0240 min
	78 79 80 81 82 83 N. 84 85 86 N.	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR. i1	25 5.0 5 DEF. 0	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door Open Door Alarm Delay1 = disabled 0 = immediate Cooling Inhibition Max Time with Open Door	024 h 024 h 024 h 024 h 024 h 024 h MIN MAX. 099 ° C/F 0,115 ° C/F 0240 " s MIN MAX. 0240 min -1120 min
	78 79 80 81 82 83 N. 84 85 86 N.	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR. i1	DEF. 25 5.0 5 DEF. 0	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door Open Door Alarm Delay1 = disabled 0 = immediate Cooling Inhibition Max Time with Open Door -1 = disabled 0 = immediate without re-	024 h 024 h 024 h 024 h 024 h 024 h MIN MAX. 099 ° C/F 0,115 ° C/F 0240 " s MIN MAX. 0240 min
d	78 79 80 81 82 83 N. 84 85 86 N.	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR. i1	25 5.0 5 DEF. 0	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door Open Door Alarm Delay1 = disabled 0 = immediate Cooling Inhibition Max Time with Open Door -1 = disabled 0 = immediate without restarting. Multi-purpose Input Alarm	024 h 024 h 024 h 024 h 024 h 024 h MIN MAX. 099 ° C/F 0,115 ° C/F 0240 " s MIN MAX. 0240 min -1120 min
ld	78 79 80 81 82 83 N. 84 85 86 N. 87 88	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR. i1 i2	DEF. 25 5.0 5 DEF. 0 15	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door Open Door Alarm Delay1 = disabled 0 = immediate Cooling Inhibition Max Time with Open Door -1 = disabled 0 = immediate without restarting. Multi-purpose Input Alarm Delay High Pressure Events Count-	024 h 024 h 024 h 024 h 024 h 024 h MIN MAX. 099 ° C/F 0,115 ° C/F 0240 " s MIN MAX. 0240 min -1120 min 0120 min
Id	78 79 80 81 82 83 N. 84 85 86 N. 87 88  90	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR. i1 i2	DEF. 25 5.0 5 DEF. 0 15	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door Open Door Alarm Delay1 = disabled 0 = immediate Cooling Inhibition Max Time with Open Door -1 = disabled 0 = immediate without restarting. Multi-purpose Input Alarm Delay High Pressure Events Counting Interval	024 h MIN MAX. 099 ° C/F 0.115 ° C/F 0240 " s MIN MAX. 0240 min -1120 min -1120 min 0120 min
Id	78 79 80 81 82 83 N. 84 85 86 N. 87 88	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR. i1 i2	DEF. 25 5.0 5 DEF. 0 15	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door Open Door Alarm Delay1 = disabled 0 = immediate Cooling Inhibition Max Time with Open Door -1 = disabled 0 = immediate without restarting. Multi-purpose Input Alarm Delay High Pressure Events Counting Interval Multi-purpose Input Alarm Delay	024 h 024 h 024 h 024 h 024 h 024 h MIN MAX. 099 ° C/F 0,115 ° C/F 0240 " s MIN MAX. 0240 min -1120 min -1120 min
ld	78 79 80 81 82 83 N. 84 85 86 N. 87 88  89 90 91	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR. i1 i2 i3 i5 i6	DEF. 25 5.0 5 DEF. 0 15	Air Change Hour CONDENSER FAN Threshold for Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door Open Door Alarm Delay1 = disabled 0 = immediate Cooling Inhibition Max Time with Open Door -1 = disabled 0 = immediate without restarting. Multi-purpose Input Alarm Delay High Pressure Events Counting Interval Multi-purpose Input Alarm	024 h MIN MAX. 099 ° C/F 0.115 ° C/F 0240 "s MIN MAX. 0240 min -1120 min -1120 min 0120 min 0120 min
Id	78 79 80 81 82 83 N. 84 85 86 N. 87 88  90	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR. i1 i2	DEF. 25 5.0 5 DEF. 0 15	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door Open Door Alarm Delay1 = disabled 0 = immediate Cooling Inhibition Max Time with Open Door -1 = disabled 0 = immediate without restarting. Multi-purpose Input Alarm Delay High Pressure Events Counting Interval Multi-purpose Input Alarm Delay Digital Input Event Counting For Pressure or Thermal Alarm. 0 = always automatic,	024 h MIN MAX. 099 ° C/F 0.115 ° C/F 0240 " s MIN MAX. 0240 min -1120 min -1120 min 0120 min
Id	78 79 80 81 82 83 N. 84 85 86 N. 87 88  89 90 91	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR. i1 i2 i3 i5 i6	DEF. 25 5.0 5 DEF. 0 15	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door Open Door Alarm Delay1 = disabled 0 = immediate Cooling Inhibition Max Time with Open Door -1 = disabled 0 = immediate without restarting. Multi-purpose Input Alarm Delay High Pressure Events Counting Interval Multi-purpose Input Alarm Delay Digital Input Event Counting For Pressure or Thermal Alarm.	024 h MIN MAX. 099 ° C/F 0.115 ° C/F 0240 "s MIN MAX. 0240 min -1120 min -1120 min 0120 min 0120 min
	78 79 80 81 82 83 <b>N.</b> 84 85 86 <b>N.</b> 87 88 90 91	F32 F33 F34 F35 F36 PAR. Fc1 Fc2 Fc3 PAR. i1 i2 i3 i5 i6 i7	DEF. 25 5.0 5 DEF. 0 15	Air Change Hour CONDENSER FAN Threshold for Condenser Fan ON Condenser Fan Differential Condenser Fan Off delay DIGITAL INPUTS FUNC Lock Display with Open Door Open Door Alarm Delay1 = disabled 0 = immediate Cooling Inhibition Max Time with Open Door -1 = disabled 0 = immediate without restarting. Multi-purpose Input Alarm Delay High Pressure Events Counting Interval Multi-purpose Input Alarm Delay Digital Input Event Counting For Pressure or Thermal Alarm. 0 = always automatic, 1 = always manual.	024 h MIN MAX. 099 ° C/F 0.115 ° C/F 0240 " s MIN MAX. 0240 min -1120 min -1120 min 0120 min 0120 min 0120 min

	95	u7	0.0	Auxiliary Setpoint if "u6=1 or 2".	-99+99 ° C/F
	96	u8	1.0	Auxiliary differential for "u7" if "u6=1 or 2"	0,115 ° C/F
	N.	PAR.	DEF.	DIG IN CONFIGURATION	MIN MAX.
Id	97	IC1	7	Multi-purpose Input Function, Door switch: 7,8 or 9.	0 = Disabled 1 = Energy saving 2 = Multipurpose 3 = Reserved 4 = Stand-by 5 = Thermal Switch 1 5 = Thermal Switch 2 7 = Compressor + Evaporator Fan Official Light ON 8 = Evaporator Fan Official Constant Constan
*	98	iP1	0	Multi-purpose Input 1 Activation. 0= function active for contact closed.	0=closed 1=open
	99	iC3	0	Digital Input 3 configuration Pr3=0.	0= disabled 1= high pressure swit
	100	iP3	0	Multi-purpose Input 3 Activa- tion. 0= function active for contact closed.	0=closed 1=open
	N.	PAR.	DEF.	USCITE DIGITALI	MIN MAX.
	101	uc1	4	K1 Output Configuration (C)	0 = Disabled 1 = Humidity 2 = de-Humidfy
	102	uc2	5	K2 Output Configuration (Ht)	3 = Alarm 4 = Compressor 1 5 = Heating
	103	uc3	9	K3 Output Configuration (L)	6 = Condenser Fans 7 = ON / STAND-BY 8 = Air Change
	104	uc4	1	K4 Output Configuration (rH)	9 = Light 10 = Compressor 2 11 = Evaporator Fans
	105	uc5	11	K5 Output Configuration (EF)  K6 Output Configuration	12 = Defrost 13 = Reserved 14 = Evaporator Fan 2
	106	uc6	12	(Def)	15 = Auxiliary Relay
	N.	PAR.	DEF.	TOUCH KEYS	MIN MAX.
	107	POF	1	Enable ON/Stand-by Key	0 = no $1 = ye$
<b>N</b> .	108	PLi PSr	1	Light button in stand-by  Disable Alarm Output by Si-	0 = no 1 = yes
	110	PSr	2	lencing the Buzzer  Enable key and Buzzer Func-	0 = no 1 = yes 0 = no 1 = only alarm, no ke
	NI.	DAD	DEF.	tion	2 = alarm and keys
	<b>N</b> .	PAR. PAS	-19	Password all parameters	MIN MAX. -99 999
~	112	PS1	1	Level 1 service	-99 999
<b>⊗</b>	113	PA1	426	Evlink user password	-99 999
	114	PS2	824	Evlink service password	-99 999
	N.	PAR.	DEF.	OROLOGIO	MIN MAX.
<b>(</b>	115	Hr0	0 / 1	Enable clock function.  1= for models provided with rtc or EVLINK on board.	0 = no 1 = yo
	N.	PAR.	DEF.	DATALOGGER	MIN MAX.
	116	BLE	1	"1"= EVLINK presence leaving LA, Lb and LP to default. To enable modbus communication via EVIF22/23TSX modules set to "0".	0 = no 1 = si
	117	rEO	15	Recording interval	0240 min 0=none
	118	rE1	4	Select Probes for Data-logger Recording	1=probe 1; 2= prob 2 3= probe 3; 4= prob 1 e probe 2; 5= 3 probes
	N.	PAR.	DEF.	REAL TIME DEFROST Hr0=1	MIN MAX.
	119	Hd1		1st Daily Defrost Time	024 h
<b>♠</b> ,©	120	Hd2		2nd Daily Defrost Time	024 h
	121 122	Hd3 Hd4		3d Daily Defrost Time 4th Daily Defrost Time	024 h 024 h
	123	Hd4 Hd5		5th Daily Defrost Time	024 h
	124	Hd6		6th Daily Defrost Time	024 h
	N.	PAR.	DEF.	MODBUS	MIN MAX.
		LA	247	MODBUS address if BLE=0  MODBUS Baud Rate if BLE=0.	1 247 0= 2400; 1= 4800
DSAOF	129 126	Lb	3		
RS485	126				2= 9600; 3= 19200 0= None; 1= Odd;
RS485	126 127	LP	2	Modbus Parity if BLE=0.	0= None; 1= Odd; Even
RS485	126 127 <b>N</b> .	LP PAR.	2 DEF.		O= None; 1= Odd; Even MIN MAX.
RS485	126 127 <b>N</b> .	LP	2	Modbus Parity if BLE=0.  ENERGY SAVING  Energy Saving Max Duration in manual mode	0= None; 1= Odd; Even
RS485	126 127 <b>N</b> .	LP PAR.	2 DEF.	Modbus Parity if BLE=0.  ENERGY SAVING Energy Saving Max Duration	O= None; 1= Odd; Even MIN MAX.

ATTENZIONE

Il dispositivo deve essere smaltito secondo le normative locali in merito alla raccolta  $\ \, \text{delle apparecchiature elettriche ed elettroniche}.$ 

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