

EVKB23 and EVKB33 Simple digital thermostats for ventilated refrigerating units

ENGLISH 1 GETTING STARTED

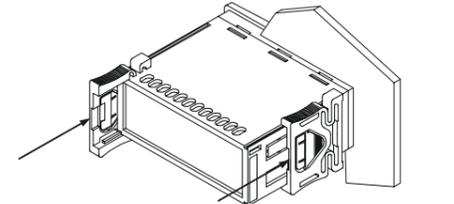
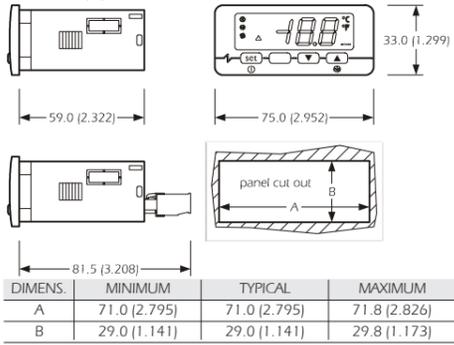
1.1 Important

Read these instructions carefully before installing and using the instrument and follow all additional information for installation and electrical connection; keep these instructions close to the instrument for future consultations.

The instrument must be disposed according to the local legislation about the collection for electrical and electronic equipment.

1.2 Installing the instrument

Panel mounting, with click brackets (supplied by the builder); dimensions in mm (in).

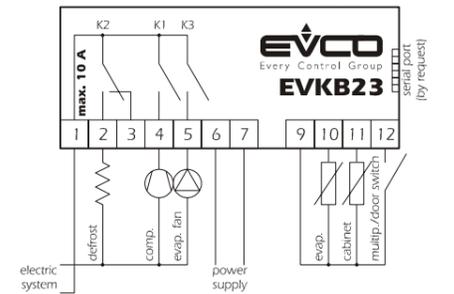


Additional information for installation:

- 59.0 (2.322) is the maximum depth with screw terminal blocks
- 81.5 (3.208) is the maximum depth with extractable terminal blocks
- the panel thickness must not be higher than 8.0 mm (0.314 in)
- working conditions (working temperature, humidity, etc.) must be between the limits indicated in the technical data
- do not install the instrument close to heating sources (heaters, hot air ducts, etc.), devices provided with big magnetos (big speakers, etc.), locations subject to direct sunlight, rain, humidity, dust, mechanical vibrations or bumps
- according to the safety legislation, the protection against electrical parts must be ensured by a correct installation of the instrument; the parts that ensure the protection must be installed so that you can not remove them if not by using a tool.

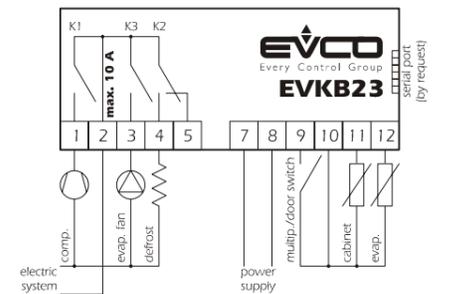
1.3 Wiring diagram

With reference to the wiring diagrams: the serial port (by request) is the port for the communication with the programming key.



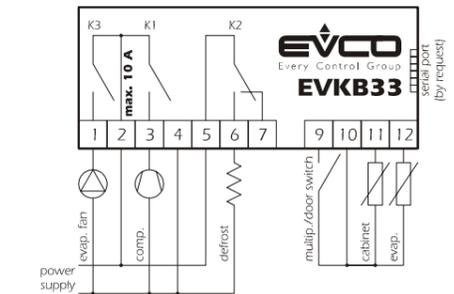
Models with power supply 230 VAC and 115 VAC.

Modelli con alimentazione 230 VCA e 115 VCA.



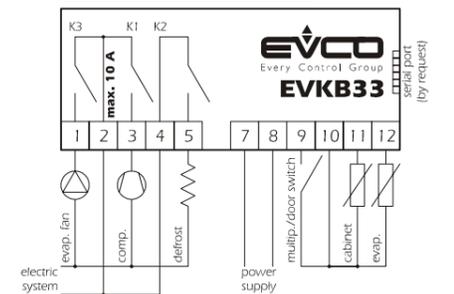
Models with power supply 12 VAC/DC.

Modelli con alimentazione 12 VCA/CC.



Models with power supply 230 VAC and 115 VAC.

Modelli con alimentazione 230 VCA e 115 VCA.



Models with power supply 12 VAC/DC.

Modelli con alimentazione 12 VCA/CC.

Additional information for electrical connection:

- do not operate on the terminal blocks with electrical or pneumatic screwers
- if the instrument has been moved from a cold location to a warm one, the humidity could condense on the inside; wait about an hour before supplying it
- test the working power supply voltage, working electrical frequency and working electrical power of the instrument; they must correspond with the local power supply
- disconnect the local power supply before servicing the instrument
- do not use the instrument as safety device
- for repairs and information on the instrument please contact Evco sales network.

2 USER INTERFACE

2.1 Preliminary information

There are the following operation status:

- status "on" (the instrument is supplied and is turned on: the regulators can be turned on)
- status "stand-by" (the instrument is supplied but it is turned off via software: the regulators are turned off)
- status "off" (the instrument is not supplied).

"Turning on" means moving from status stand-by to status on; "turning off" means moving from status on to status stand-by.

After an interruption of power supply the instrument moves to the status it was before the interruption.

2.2 Turning on/off the instrument

- make sure the keyboard is not locked and no procedure is running
- press **set** 4 s.

2.3 The display

If the instrument is turned on, during the normal operation the display will show the cabinet temperature.

If the instrument is turned off, the display will be switched off.

2.4 Showing the evaporator temperature

- make sure the keyboard is not locked and no procedure is running
- press **set** 2 s: the display will show "P2"
- press **set**

To quit the procedure:

- press **set** or do not operate 60 s
- press **set** or **Lo** as long as the display shows the cabinet temperature or do not operate 60 s.

If the evaporator probe is not enabled (parameter P3 = 0), the label "P2" will not be shown.

2.5 Activating the defrost by hand

- make sure the keyboard is not locked and no procedure is running
- press **set** 4 s.

If the function of the evaporator probe is the one of defrost probe (parameter P3 = 1) and to the defrost activation the evaporator temperature is above the one you have set with parameter d2, the defrost will not be activated.

2.6 Locking/unlocking the keyboard

To lock the keyboard:

- make sure no procedure is running
- press **set** and **Lo** 1 s: the display will show "Lo" 1 s.

If the keyboard is locked, you will not be allowed to:

- turn on/off the instrument through button **set**
- show the evaporator temperature
- activate the defrost by hand
- modify the working setpoint with the procedure related in paragraph 3.1 (you also can modify the working setpoint through parameter SP).

These operations provoke the visualization of the label "Lo" 1 s.

To unlock the keyboard:

- press **set** and **Lo** 1 s: the display will show "Un" 1 s.

3 SETTINGS

3.1 Setting the working setpoint

- make sure the keyboard is not locked and no procedure is running
- press **set**: LED will flash
- press **set** or **Lo** in 15 s; also look at parameters r1 and r2
- press **set** or do not operate 15 s.

You also can modify the working setpoint through parameter SP.

3.2 Setting configuration parameters

To gain access the procedure (for the models without access password):

- make sure the keyboard is not locked and no procedure is running
- press **set** and **Lo** 4 s: the display will show "SP".

To gain access the procedure (for the models with access password):

- make sure no procedure is running
- press **set** and **Lo** 4 s: the display will show "PA"

- press **set** or **Lo** in 15 s to set "-19"
- press **set** or do not operate 15 s

- press **set** and **Lo** 4 s: the display will show "SP".

To select a parameter:

- press **set** or **Lo**

To modify a parameter:

- press **set**
- press **set** or **Lo** in 15
- press **set** or do not operate 15 s.

To quit the procedure:

- press **set** and **Lo** 4 s or do not operate 60 s.

Switch off/on the power supply of the instrument after the modification of the parameters.

4 SIGNALS

4.1 Signals

LED	MEANING
	LED compressor if it is lit, the compressor will be turned on if it flashes: <ul style="list-style-type: none"> the modification of the working setpoint will be running a compressor protection will be running (parameters C0 and C2)
	LED defrost if it is lit, the defrost will be running if it flashes: <ul style="list-style-type: none"> the defrost will be required but a compressor protection will be running (parameters C0 and C2) the dripping will be running (parameter d7) the heating of the freezing fluid will be running (parameter d4)
	LED evaporator fan if it is lit, the evaporator fan will be turned on if it flashes, the after dripping evaporator fan delay will be running (parameter F3)
	LED alarm if it is lit, an alarm or an error will be running
°C	LED Celsius degree if it is lit, the unit of measure of the temperatures will be Celsius degree (parameter P2)
°F	LED Fahrenheit degree if it is lit, the unit of measure of the temperatures will be Fahrenheit degree (parameter P2)

CODE	MEANING
Lo	the keyboard is locked; look at paragraph 2.6

5 ALARMS

5.1 Alarms

CODE	MEANING
AL	Lower temperature alarm Remedies: <ul style="list-style-type: none"> check the cabinet temperature look at parameter A1 Effects: <ul style="list-style-type: none"> no effect
AH	Upper temperature alarm Remedies: <ul style="list-style-type: none"> check the cabinet temperature look at parameter A4 Effects: <ul style="list-style-type: none"> no effect
IA	Multipurpose input alarm (only if parameter i5 has value 1 or 2) Remedies: <ul style="list-style-type: none"> check the reasons that have provoked the activation of the input look at parameters i1 and i5 Effects: <ul style="list-style-type: none"> if parameter i5 has value 1, there will be no effect if parameter i5 has value 2, the compressor will be turned off

id	Door switch input alarm (only if parameter i5 has value 3 or 4) Remedies: <ul style="list-style-type: none"> check the reasons that have provoked the activation of the input look at parameters i1 and i5 Effects: <ul style="list-style-type: none"> if parameter i5 has value 3, the compressor and the evaporator fan will be turned off if parameter i5 has value 4, the evaporator fan will be turned off
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When the cause that has provoked the alarm disappears, the instrument restores the normal operation.

6 INTERNAL DIAGNOSTICS

6.1 Internal diagnostics

CODE	MEANING
P1	Cabinet probe error Remedies: <ul style="list-style-type: none"> check the kind of probe check the integrity of the probe check the connection instrument-probe check the cabinet temperature Effects: <ul style="list-style-type: none"> in EVKB23 the compressor will be turned on cyclically, 10 min turned on and 10 min turned off; in EVKB33 the compressor will be turned on
P2	Evaporator probe error Remedies: <ul style="list-style-type: none"> the same you saw in the previous case but related to the evaporator probe Effects: <ul style="list-style-type: none"> if parameter P3 has value 1, the defrost will last the time you will have set with parameter d3 if parameter F0 has value 1 or 2, the instrument will work as if the parameter had value 0

When the cause that has provoked the alarm disappears, the instrument restores the normal operation.

7 TECHNICAL DATA

7.1 Technical data

Box: self-extinguishing grey.

Frontal protection: IP 65.

Connections (use copper conductors only): screw terminal blocks (power supply, inputs and outputs), 6 poles connector (serial port; by request); extractable terminal blocks (power supply, inputs and outputs) by request.

Working temperature: from 0 to 55 °C (32 to 131 °F; 10 ... 90% of relative humidity without condensate).

Power supply: 230 VAC, 50/60 Hz, 3 VA (approximate); 115 VAC or 12 VAC/DC by request.

Insulation class: 2.

Measure inputs: 2 (cabinet probe and evaporator probe) for PTC or NTC probes (according to the model).

Digital inputs: 1 (multipurpose/door switch) for NO/NC contact (free of voltage, 5 V 1 mA).

Working range: from -50 to 150 °C (-50 to 199 °F) for PTC probe, from -40 to 105 °C (-40 to 199 °F) for NTC probe.

Resolution: 0.1 °C (between -19.9 and 19.9 °C)/1 °C/1 °F.

Digital outputs: 3 relays:

- compressor relay:** 30 res. A @ 250 VAC, 12 FLA, 72 LRA in EVKB33; 16 res. A @ 250 VAC, 5 FLA, 30 LRA in EVKB23 with power supply 12 VAC/DC; 8 res. A @ 250 VAC, 2 FLA, 12 LRA otherwise (NO contact)
- defrost relay:** 8 res. A @ 250 VAC, 2 FLA, 12 LRA (NO contact in EVKB33 with power supply 12 VAC/DC; change-over contact otherwise)
- evaporator fan relay:** 8 res. A @ 250 VAC, 2 FLA, 12 LRA in EVKB23 with power supply 12 VAC/DC; 5 res. A @ 250 VAC otherwise (NO contact).

The maximum current allowed on the loads is 10 A.

Serial port: port for the communication with the programming key; by request.

ITALIANO

1 PREPARATIVI

1.1 Importante

Leggere attentamente queste istruzioni prima dell'installazione e prima dell'uso e seguire tutte le avvertenze per l'installazione e per il collegamento elettrico; conservare queste istruzioni con lo strumento per consultazioni future.

Lo strumento deve essere smaltito secondo le normative locali in merito alla raccolta delle apparecchiature elettriche ed elettroniche.

1.2 Installazione

A pannello, con le staffe a scatto in dotazione (si vedano i disegni del paragrafo 1.2 della sezione in Inglese).

Avvertenze per l'installazione:

- 59,0 è la profondità massima con morsettiere a vite
- 81,5 è la profondità massima con morsettiere estraibili
- lo spessore del pannello non deve essere superiore a 8,0 mm

- accertarsi che le condizioni di lavoro (temperatura di impiego, umidità, ecc.) rientrino nei limiti indicati nei dati tecnici
- non installare lo strumento in prossimità di fonti di calore (resistenze, condotti dell'aria calda, ecc.), di apparecchi con forti magneti (grossi diffusori, ecc.), di luoghi soggetti alla luce solare diretta, pioggia, umidità, polvere eccessiva, vibrazioni meccaniche o scosse
- in conformità alle normative sulla sicurezza, la protezione contro eventuali contatti con le parti elettriche deve essere assicurata mediante una corretta installazione dello strumento; tutte le parti che assicurano la protezione devono essere fissate in modo tale da non poter essere rimosse senza l'aiuto di un utensile.

1.3 Collegamento elettrico

Si vedano i disegni del paragrafo 1.3 della sezione in Inglese.

Con riferimento agli schemi elettrici: la porta seriale (su richiesta) è la porta per la comunicazione con la chiave di programmazione.

Avvertenze per il collegamento elettrico:

- non operare sulle morsettiere utilizzando avvitatori elettrici o pneumatici
- se lo strumento è stato portato da un luogo freddo a uno caldo, l'umidità potrebbe condensare all'interno; attendere circa un'ora prima di alimentarlo
- accertarsi che la tensione di alimentazione, la frequenza e la potenza elettrica operativa dello strumento corrispondano a quelle dell'alimentazione locale
- disconnettere l'alimentazione prima di procedere con qualunque tipo di manutenzione
- non utilizzare lo strumento come dispositivo di sicurezza
- per le riparazioni e per informazioni riguardanti lo strumento rivolgersi alla rete di vendita Evco.

2 INTERFACCIA UTENTE

2.1 Cenni preliminari

Esistono i seguenti stati di funzionamento:

- lo stato "on" (lo strumento è alimentato ed è acceso: i regolatori possono essere accessi)
 - lo stato "stand-by" (lo strumento è alimentato ma è spento via software: i regolatori sono spenti)
 - lo stato "off" (lo strumento non è alimentato).
- Con il termine "accensione" si intende il passaggio dallo stato stand-by allo stato on; con il termine "spegnimento" si intende il passaggio dallo stato on allo stato stand-by.

Dopo un'interruzione dell'alimentazione lo strumento passa allo stato in cui si trovava prima dell'interruzione.

2.2 Accensione/spegnimento dello strumento

assicurarsi che la tastiera non sia bloccata e che non sia in corso alcuna procedura

- premere **set** per 4 s.

2.3 Il display

Se lo strumento è acceso, durante il normale funzionamento il display visualizzerà la temperatura della cella.

Se lo strumento è spento, il display sarà spento.

2.4 Visualizzazione della temperatura dell'evaporatore

assicurarsi che la tastiera non sia bloccata e che non sia in corso alcuna procedura

- premere **Lo** per 2 s: il display visualizzerà "P2"
- premere **set**

Per uscire dalla procedura:

- premere **set** o non operare per 60 s
- premere **set** o **Lo** fino a quando il display visualizza la temperatura della cella o non operare per 60 s.

Se la sonda evaporatore è assente (parametro P3 = 0), la label "P2" non verrà visualizzata.

2.5 Attivazione dello sbrinamento in modo manuale

assicurarsi che la tastiera non sia bloccata e che non sia in corso alcuna procedura

- premere **set** per 4 s.

Se la funzione della sonda evaporatore è quella di sonda di sbrinamento (parametro P3 = 1) e all'attivazione dello sbrinamento la temperatura dell'evaporatore è al di sopra di quella stabilita con il parametro d2, lo sbrinamento non verrà attivato.

2.6 Blocco/sblocco della tastiera

Per bloccare la tastiera:

- assicurarsi che non sia in corso alcuna procedura
- premere **set** e **Lo** per 1 s: il display visualizzerà "Lo" per 1 s.

Se la tastiera è bloccata, non sarà consentito:

- accendere/spegnere lo strumento attraverso il tasto **set**
- visualizzare la temperatura dell'evaporatore
- attivare lo sbrinamento in modo manuale
- modificare il setpoint di lavoro con la procedura indicata nel paragrafo 3.1 (il setpoint di lavoro è impostabile anche attraverso il parametro SP).

Queste operazioni provocano la visualizzazione della label "Lo" per 1 s.

Per sbloccare la tastiera:

- premere **set** e **Lo** per 1 s: il display visualizzerà "Un" per 1 s.

3 IMPOSTAZIONI

3.1 Impostazione del setpoint di lavoro

assicurarsi che la tastiera non sia bloccata e che non sia in corso alcuna procedura

- premere **set**: il LED lampeggerà
- premere **set** o **Lo** entro 15 s; si vedano anche i parametri r1 e r2
- premere **set** o non operare per 15 s.

È inoltre possibile impostare il setpoint di lavoro attraverso il param. SP.

3.2 Impostazione dei parametri di configurazione

Per accedere alla procedura (per i modelli senza password di accesso):

- assicurarsi che la tastiera non sia bloccata e che non sia in corso alcuna procedura

premere **set** e **Lo** per 4 s: il display visualizzerà "SP".

Per accedere alla procedura (per i modelli con password di accesso):

- assicurarsi che non sia in corso alcuna procedura
- premere **set** o non operare per 15 s
- premere **set** e **Lo** per 4 s: il display visualizzerà "PA"

- premere **set** o **Lo** entro 15 s per impostare "-19"
- premere **set** o non operare per 15 s
- premere **set** e **Lo** per 4 s: il display visualizzerà "SP".

Per selezionare un parametro:

- premere **set** o **Lo**

Per modificare un parametro:

- premere **set** o **Lo** entro 15 s
- premere **set** o non operare per 15 s.

Per uscire dalla procedura:

6 DIAGNOSTICA INTERNA

6.1 Diagnostica interna

CODICE	SIGNIFICATO
P1	Errore sonda cella Rimedi: <ul style="list-style-type: none">• verificare il tipo di sonda• verificare l'integrità della sonda• verificare il collegamento strumento-sonda• verificare la temperatura della cella Conseguenze: <ul style="list-style-type: none">• nell'EVB23 il compressore verrà acceso in modo ciclico, 10 min acceso e 10 min spento; nell'EVB33 il compressore verrà acceso
P2	Errore sonda evaporatore Rimedi: <ul style="list-style-type: none">• gli stessi del caso precedente ma relativamente alla sonda evaporatore Conseguenze: <ul style="list-style-type: none">• se il parametro P3 è impostato a 1, lo sbrinamento durerà il tempo stabilito con il parametro d3• se il parametro F0 è impostato a 1 o 2, lo strumento funzionerà come se il parametro fosse impostato a 0

Quando la causa che ha provocato l'allarme scompare, lo strumento ripristina il normale funzionamento.

7 DATI TECNICI

7.1 Dati tecnici

Contentitore: autoestinguente grigio.

Grado di protezione del frontale: IP 65.

Connessioni (usare solo conduttori in rame): morsettiere a vite (alimentazione, ingressi e uscite), connettore a 6 poli (porta seriale; su richiesta); morsettiere estraibili (alimentazione, ingressi e uscite) su rich.

Temperatura di impiego: da 0 a 55 °C (10 ... 90% di umidità relativa senza condensazione).

Alimentazione: 230 VCA, 50/60 Hz, 3 VA (approssimativi); 115 VCA o 12 VCA/CC su richiesta.

Classe di isolamento: 2.

Ingressi di misura: 2 (sonda cella e sonda evaporatore) per sonde PTC o NTC (a seconda del modello).

Ingressi digitali: 1 (multifunzione/micro porta) per contatto NA/NC (contatto pulito, 5 V 1 mA).

Campo di misura: da -50 a 150 °C per sonda PTC, da -40 a 105 °C per sonda NTC.

Risoluzione: 0,1 °C (tra -19,9 e 19,9 °C)/1 °C/1 °F

Uscite digitali: 3 relè:

• **relè compressore:** 30 A res. @ 250 VCA, 12 FLA, 72 LRA nell'EVB33; 16 A res. @ 250 VCA, 5 FLA, 30 LRA nell'EVB23 con alimentazione 12 VCA/CC; 8 A res. @ 250 VCA, 2 FLA, 12 LRA altrimenti (contatto NA)

• **relè sbrinamento:** 8 A res. @ 250 VCA, 2 FLA, 12 LRA (contatto NA nell'EVB33 con alimentazione 12 VCA/CC; contatto in scambio altrimenti)

• **relè ventilatore dell'evaporatore:** 8 A res. @ 250 VCA, 2 FLA, 12 LRA nell'EVB23 con alimentazione 12 VCA/CC; 5 A res. @ 250 VCA altrimenti (contatto NA).

La corrente massima consentita sui carichi è di 10 A.

Porta seriale: porta per la comunicazione con la chiave di programmazione; su richiesta.

ENGLISH					ITALIANO				
8 WORKING SETPOINTS AND CONFIGURATION PARAMETERS									
8.1 Working setpoints									
	MIN.	MAX.	U.M.	DEF.	WORKING SETPOINTS				
r1	r2		°C/°F (1)	0.0	working setpoint				
8.2 Configuration parameters									
PARAM.	MIN.	MAX.	U.M.	DEF.	WORKING SETPOINTS				
SP	r1	r2	°C/°F (1)	0.0	working setpoint				
PARAM.	MIN.	MAX.	U.M.	DEF.	MEASUREMENT INPUTS				
o1	-25	25	°C/°F (1)	0.0	cabinet probe offset				
o2	-25	25	°C/°F (1)	0.0	evaporator probe offset				
P1	0	1	---	1	decimal point Celsius degree (for the quantity to show during the normal operation, between -9.9 and 19.9 °C) 1 = YES				
P2	0	1	---	0	unit of measure temperature (2) 0 = °C 1 = °F				
P3	0	2	---	1	evaporator probe function 0 = probe not enabled 1 = defrost probe and thermostat probe for the evaporator fan 2 = thermostat probe for the evaporator fan				
PARAM.	MIN.	MAX.	U.M.	DEF.	MAIN REGULATOR				
r0	0.1	15.0	°C/°F (1)	2.0	working setpoint differential				
r1	-99	r2	°C/°F (1)	(3)	minimum working setpoint				
r2	r1	199	°C/°F (1)	50	maximum working setpoint				
PARAM.	MIN.	MAX.	U.M.	DEF.	COMPRESSOR PROTECTIONS				
C0	0	199	min	0	compressor delay since you turn on the instrument				
C2	0	199	min	3	minimum time the compressor remains turned off				
C3	0	199	s	0	minimum time the compressor remains turned on				
PARAM.	MIN.	MAX.	U.M.	DEF.	DEFROST				
d0	0	99	h	8	defrost interval 0 = the defrost at intervals will never be activated				
d1	0	1	---	0	kind of defrost 0 = electric defrost 1 = hot gas defrost				
d2	-99	99	°C/°F (1)	2.0	defrost cutoff temperature (only if P3 = 1)				
d3	0	99	min	30	if P3 = 0 or 2, defrost duration if P3 = 1, defrost maximum duration 0 = the defrost will never be activated				
d4	0	1	---	0	defrost when you turn on the instrument 1 = YES				
d5	0	199	min	0	defrost delay when you turn on the instrument (only if d4 = 1)				
d6	0	1	---	1	temperature shown during the defrost 0 = cabinet temperature 1 = if to the defrost activation the cabinet temperature is below "working setpoint + r0", at most "working setpoint + r0"; if to the defrost activation the cabinet temperature is above "working setpoint + r0", at most the cabinet temperature to the defrost activation (4)				
d7	0	15	min	2	dripping duration				
dA	0	99	min	0	minimum time the compressor must be remained turned on (to the defrost activation) in order that the defrost can be activated (only if d1 = 1) (5)				

PARAM.	MIN.	MAX.	U.M.	DEF.	TEMPERATURE ALARMS (6) (7)				
A1	0.0	199	°C/°F (1)	10.0	temperature below which the lower temperature alarm is activated (relative to the working setpoint or "working setpoint - A1") (8) 0.0 = alarm not enabled				
A4	0.0	199	°C/°F (1)	10.0	temperature above which the upper temperature alarm is activated (relative to the working setpoint or "working setpoint + A4") (8) 0.0 = alarm not enabled				
A6	0	199	min	120	upper temperature alarm delay since you turn on the instrument				
A7	0	199	min	15	temperature alarm delay				
PARAM.	MIN.	MAX.	U.M.	DEF.	EVAPORATOR FAN				
F0	0	2	---	2	evaporator fan activity during the normal operation 0 = according to the compressor 1 = according to F1 (9) 2 = turned off if the compressor is turned off, according to F1 if the compressor is turned on (9)				
F1	-99	99	°C/°F (1)	-1.0	evaporator temperature above which the evaporator fan is turned off (only if F0 = 1 or 2) (8)				
F2	0	1	---	0	evaporator fan activity during the defrost and the dripping 0 = turned off 1 = turned on				
F3	0	15	min	2	duration of the after dripping evaporator fan delay				
PARAM.	MIN.	MAX.	U.M.	DEF.	DIGITAL INPUTS				
i1	0	1	---	0	kind of contact digital input 0 = NO (the input will be active if you close the contact) 1 = NC (the input will be active if you open the contact)				
i3	-1	120	min	15	maximum duration of the effect provoked by the activation of the door switch input on the loads (only if i5 = 3 or 4) -1 = the effect will last as long as the input will be deactivated				
i5	0	4	---	4	kind of digital input (effect provoked by the activation of the digital input) 0 = no effect 1 = MULTIPURPOSE (activation external alarm) - spent the time i7 the display will show the code "IA" flashing (as long as the input will be deactivated) 2 = MULTIPURPOSE (activation manostat) - the compressor will be turned off and the display will show the code "IA" flashing (as long as the input will be deactivated); also look at i7 3 = DOOR SWITCH INPUT (compressor and evaporator fan turned off) - the compressor and the evaporator fan will be turned off (at most for the time i3 or as long as the input will be deactivated) and spent the time i7 the display will show the code "id" flashing (as long as the input will be deactivated) (10) 4 = DOOR SWITCH INPUT (evaporator fan turned off) - the evaporator fan will be turned off (at most for the time i3 or as long as the input will be deactivated) and spent the time i7 the display will show the code "id" flashing (as long as the input will be deactivated)				
i7	-1	120	min	30	if i5 = 1, delay to signal the multipurpose input alarm -1 = no signal if i5 = 2, compressor delay since the deactivation of the multipurpose input (11) if i5 = 3, delay to signal the door switch input alarm -1 = no signal				

PARAM.	MIN.	MAX.	U.M.	DEF.	TEMPERATURE ALARMS (6) (7)				
A1	0.0	199	°C/°F (1)	10.0	temperature below which the lower temperature alarm is activated (relative to the working setpoint or "working setpoint - A1") (8) 0.0 = alarm not enabled				
A4	0.0	199	°C/°F (1)	10.0	temperature above which the upper temperature alarm is activated (relative to the working setpoint or "working setpoint + A4") (8) 0.0 = alarm not enabled				
A6	0	199	min	120	upper temperature alarm delay since you turn on the instrument				
A7	0	199	min	15	temperature alarm delay				
PARAM.	MIN.	MAX.	U.M.	DEF.	EVAPORATOR FAN				
F0	0	2	---	2	evaporator fan activity during the normal operation 0 = according to the compressor 1 = according to F1 (9) 2 = turned off if the compressor is turned off, according to F1 if the compressor is turned on (9)				
F1	-99	99	°C/°F (1)	-1.0	evaporator temperature above which the evaporator fan is turned off (only if F0 = 1 or 2) (8)				
F2	0	1	---	0	evaporator fan activity during the defrost and the dripping 0 = turned off 1 = turned on				
F3	0	15	min	2	duration of the after dripping evaporator fan delay				
PARAM.	MIN.	MAX.	U.M.	DEF.	DIGITAL INPUTS				
i1	0	1	---	0	kind of contact digital input 0 = NO (the input will be active if you close the contact) 1 = NC (the input will be active if you open the contact)				
i3	-1	120	min	15	maximum duration of the effect provoked by the activation of the door switch input on the loads (only if i5 = 3 or 4) -1 = the effect will last as long as the input will be deactivated				
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A6	0	199	min	120	upper temperature alarm delay since you turn on the instrument				
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(1)	the unit of measure depends on parameter P2
(2)	set the parameters related to the regulators appropriately after the modification of the parameter P2
(3)	the value depends on the kind of model (-50 for the models for PTC probe, -40 for the models for NTC probe)
(4)	the display restores the normal operation as soon as the after dripping evaporator fan delay ends and the cabinet temperature falls below the one that has locked the display (or if a temperature alarm arises)
(5)	if (to the defrost activation) the duration of the activation of the compressor is shorter than the time you have set with parameter dA, the compressor will further remain turned on the fraction of time required to complete it
(6)	during the defrost, the dripping and the evaporator fan delay the temperature alarms are not enabled, on condition that they have arisen after the activation of the defrost
(7)	during the activation of the door switch input the upper temperature alarm is not enabled, on condition that it has arisen after the activation of the input

PARAM.	MIN.	MAX.	U.M.	DEF.	TEMPERATURE ALARMS (6) (7)				
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PARAM.	MIN.	MAX.	U.M.	DEF.	EVAPORATOR FAN				
F0	0	2	---	2	evaporator fan activity during the normal operation 0 = according to the compressor 1 = according to F				