Only use the device in the way described in this document: do not use the same as a safety device.

EV3B21/EV3B31 Basic controllers for normal temperature bottle coolers, refrigerated cabinets, tables and pizza counters, with energy saving strategies

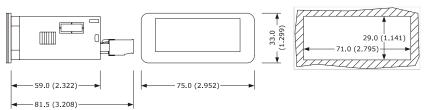
Read this document thoroughly before installation and before use of the device and follow all recommendations; keep this document with the device for future consultation.

The device must be disposed of in compliance with local standards regarding the collection of electric and electronic equipment.

DIMENSIONS AND INSTALLATION

Dimensions

Dimensions are expressed in mm (in)



59.0 (2.322) is the depth with fixed screw connection terminal blocks; 81.5 (3.208) is the depth with removable screw connection terminal blocks.

disconnect the device power supply before proceeding

position the power cables as far away as possible from

for repairs and information regarding the device, contact

"on" status (the device is powered and is on; utilities

stand-by" status (the device is powered but is switched

the "off" status: the device is not powered; utilities are

Hereafter, if the POF parameter is set to 0, with the word

"switch-on" means the passage from "off" status to "on"

status; the word "switch-off" means the passage from "on'

If the POF parameter is set to 1, with the word "switch-on'

means the passage from "stand-by" status to "on" status; the

word "switch-off" means the passage from "on" status to

When the power is switched back on, the device displays the

2. Make sure that the keyboard is not locked and that no

3. Touch the | (1) LED will flash, after

If the device is switched on, during normal operation, the

during defrost, when the device will show the temperature

If the device is switched off, the display will be switched off;

If the device is in "low consumption" mode, the display will be

3.4 Temperature display as detected by the probes

1. Make sure that the keyboard is not locked and that no

2. Touch the | V | key for 4 s: the display will show the

The following table shows the correspondence between the

Pb2 if the P4 parameter is set to 1, evaporator tempera-

5. Touch the aser | key or do not operate for 60 s.

if the P4 parameter is set to 2, condenser tempera-

3. Touch the | 〈常 | or | ∨ | key to select a label.

display will show the magnitude established with P5, except

status that it was in at the time it was disconnected.

1. Connect/disconnect the device power supply.

with any type of maintenance

the signal cables

the EVCO sales network.

3.1 Preliminary notes

Operating statuses:

may be on

status to "off" status

"stand-by" status.

3.2 Device switch-on/off

If the POF parameter is set to 0:

If the POF parameter is set to 1:

procedure is in progress

which it will turn off/on The display

established with d6 parameter.

procedure is in progress.

labels and the temperature displayed.

Label Displayed temperature

first label available

4. Touch the set key.

Pb1 room temperature

To exit the procedure:

6. Touch the (1) key.

switched off and the (LED shall be on.

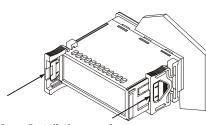
the (I) LED shall be on.

USER INTERFACE

off via software: utilities are off

Installation

Panel installation with snap-in brackets.

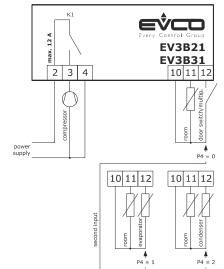


Installation warnings

- the thickness of the panel on which the devise is to be installed must be between 0.8 and 2.0 mm (0.031 and
- make sure that the device work conditions (temperature of use, humidity, etc.) lie within the limits indicated; see chapter 8
- do not install the device near to any heat sources (heating elements, hot air ducts etc.), equipment containing powerful magnets (large diffusers, etc.), areas affected by direct sunlight, rain, humidity, excessive dust, mechanical vibrations or shocks
- in compliance with safety standards, the device must be installed correctly and in a way to protect against any contact with electric parts; all parts that ensure protection must be fixed in a way that they cannot be removed without the use of tools.

ELECTRIC CONNECTION

Electric connection



Warnings for the electric connection

- do not use electric or pneumatic screwdrivers on the device terminal board
- if the device has been taken from a cold to hot place, humidity could condense inside; wait about 1 hour before powering it
- check that the power supply voltage, mains frequency and electric power fall within the set limits; see chap

displayed.

Defrost manual activation

1. Make sure that the keyboard is not locked and that no procedure is in progress.

If the second input functions as digital input (that is to say, if

the P4 parameter is set to 0), the "Pb2" label shall not be

If the second input functions as evaporator probe (that is to say, if the P4 parameter is set to 1) and when the defrost starts the evaporator temperature exceeds the value set with the d2 parameter, the defrost shall not be activated.

Keyboard locking/unlocking

To lock the keyboard proceed as follows:

- Make sure no procedure is in progress.
- 2. Do not operate for 30 s: the display will show the message "Loc" for 1 s and the keybord shall lock automati-

To unlock the keyboard

3. Touch a key for 1 s: the display will show the message "UnL" for 1 s.

Setting the working setpoint

- Make sure that the keyboard is not locked and that no procedure is in progress.
- Touch the | ase | key: the LED ※ will flash.
- Touch the or within 15 s; see also r1 and r2 parameters
- * will switch off after which, the device will exit the procedure.

To exit the procedure before the operation is complete:

5. Touch the (any changes will not be saved).

The working setpoint can also be set via SP parameter.

4.2 Setting the configuration parameters To access the procedure:

- Make sure no procedure is in progress.
- Touch the | aset | key for 4 s: the display will show "PA".
- Touch the aser key.
- Touch the ∧₩ or I key within 15 s to set the value determined with the "PAS" parameter (the parameter is set at "-19" by default).
- Touch the or do not operate for 15 s: the display will show "SP

To select a parameter

6. Touch the | 八祭 | or | 🗸 | key.

To set a parameter

- Touch the aser key.
- Touch the \nearrow or \searrow key within 15 s.
- Touch the ASET key or do not operate for 15 s.

To exit the procedur

10. Touch the aser | key for 4 s or do not operate for 60 s (any changes will be saved).

After setting the parameters, suspend power supply flow to the device.

Manufacturer's settings

To access the procedure:

- Make sure no procedure is in progress.
- Touch the | aset | key for 4 s: the display will show "PA".
- 3. Touch the aser key.

To restore the manufacturer's settings:

- 4. Touch the $| \land \P |$ or $| \lor |$ key within 15 s to set
- Touch the | aser | key or do not operate for 15 s: the display will show "dEF".
- Touch the | ASET | key.
- Touch the aset | key or do not operate for 15 s: the

display will show a flashing "- - -" for 4 s, after which the

device will exit the procedure.

Cut the device power supply off. Make sure that the manufacturer's settings are appropriate;

see chanter 9.

To store customized settings as manufacturer's: 10. Set the configuration parameters (with the procedure

described in paragraph 4.2). 11. From step 4. touch the or or or key within 15

s to set "161". 12. Touch the | aser | key or do not operate for 15 s: the

display will show "MAP". 13. Repeat steps 6. 7. 8. and 9

To exit the procedure in advance:

14. Touch the | aser | key for 4 s during the procedure (i.e. before setting "4": Restore will not be performed).

WARNING LIGHTS AND DIRECTIONS

Signals

LED Meaning Compressor LED

5.1

If the LED is on, the compressor is on If the LED is flashing:

- the working setpoint is in the process of being set (via the procedure described in paragraph 4.1)
- a compressor protection will be in progress
- Defrost LED
- If the LED is on, defrost is in progress If the LED is flashing, dripping will be in progress
- Energy saving LED
- If the LED is on and the display is switched on, the "energy saving" function is in progress If the LED is on and the display is switched off, the
- "low consumption" function is in progress; touch a key to restore normal display
- °C Celsius degrees LED If the LED is on, the unit of measurement for tem-
- perature is Celsius degrees Fahrenheit degrees LED
- If the LED is on, the unit of measurement for temperature is Fahrenheit degrees LED on/stand-by
- If the LED is on, the device is switched off

Signals

| | Meaning |
|-----|--|
| Loc | the keyboard is blocked; see paragraph 3.6 |
| | the operation requested is not available |

ALARMS

6.1 Alarms Code Meaning Minimum temperature alarm Solutions: check the room temperature; see A1 parameter Main consequences: the device will continue to operate normally AH Maximum temperature alarm

Solutions check the room temperature; see A4 parameter Main consequences:

the device will continue to operate normally Door switch input alarm

Solutions

check the causes of the activation of the input; see i0 and i1 parameters

Main consequences: the effect established with the i0 parameter

Multifunction input alarm or pressure switch alarm Solutions check the causes of the activation of the input;

see i0 and i1 parameters Main consequences:

the effect established with the iO parameter COH Condenser overheated alarm Solutions:

check the condenser temperature; see C6 pa-

Main consequences: the device will continue to operate normally

CSd Compressor shut down alarm Solutions

check the condenser temperature; see C7 parameter

switch the device off and back on again; if when the device is switched back on, the temperature of the condenser is still higher than that established in C7 parameter, disconnect the power supply and clean the condenser

Main consequences: the compressor will be switched off dEd Defrost alarm switched off because maximum time

> has been reached Solutions check the integrity of the evaporator probe; see d2, d3 and d11 parameters

touch a key to restore normal display Main consequences: the device will continue to operate normally

When the cause of the alarm disappears, the device restores normal operation, except for the following alarms:

compressor shut down alarm (code "CSd") which requires the switching off of the device or the temporary suspension of the power supply

defrost alarm switched off because maximum time has been reached (code "dFd") which requires the touching of a key.

Code Meaning Pr1 Room temperature probe error

Frrors

Solutions:

- check that the probe is the PTC or NTC type;
- see P0 paramete
- check the device-probe connection
- check room temperature Main consequences
 - compressor activity will depend on C4 and C5
- the defrost will not be activated
- Pr2 Evaporator probe or condenser probe error Solutions
 - the same as in the previous example, but with regard to the evaporator probe or the condenser probe

Main consequences

- if P4 parameter is set at 1, the defrost interval will last for the amount of time set with d3 parameter
- if P4 parameter is set at 1 and d8 parameter is set at 2 or to 3, the device will operate as if d8 parameter were set at 0
- if P4 parameter is set at 2, the condenser overheated alarm (code "COH") will never be acti-
- if P4 parameter is set at 2, the compressor shut down alarm (code "CSd") will never be acti-

When the cause of the error disappears, the device restores normal operation

TECHNICAL DATA

8.1 Technical data

Purpose of the command device: operating command

Construction of the command device: built-in electronic

Container: grey self-extinguishing.

Heat and fire protection class: D.

Dimensions: according to model

- 75.0 x 33.0 x 59.0 mm (2.952 x 1.299 x 2.322 in; L x H x P) with fixed screw connection terminal blocks
- 75.0 x 33.0 x 81.5 mm (2.952 x 1.299 x 3.208 in; L x H x P) with removable screw connection terminal blocks.

Method of mounting the command device: on panel, with snap-in brackets

Shell protection rating: IP65 (the front one).

- Connection method: according to model fixed screw connection terminal blocks for wires up to 2.5 mm² (0.0038 in²): power supply, analog inputs, digital inputs and digital outputs
- removable screw connection terminal blocks for wires up to 2.5 mm² (0.0038 in²): power supply, analog inputs, digital inputs and digital outputs.

The maximum lengths of the connection cables are:

- power supply: 10 m (32.8 ft)
- analog inputs: 10 m (32.8 ft)
- digital inputs: 10 m (32.8 ft) digital outputs: 10 m (32.8 ft).

Operating temperature: from 0 to 55 °C (from 32 to 131 Storage temperature: from -25 to 70 °C (from -13 to 158

Humidity for use: from 10 to 90 % relative humidity without condensate.

Command device pollution situation: 2.

Environmental standards: RoHS 2011/65/CE

WFFF 2012/19/FU REACH (CE) regulation n. 1907/2006.

EMC standards:

EN 60730-1

IEC 60730-1 Power supply: 230 VAC (+10 % -15%), 50... 60 Hz

(±3 Hz), 2 VA Control device grounding method: none.

Rated impulse voltage: 4 KV.

Overvoltage category: III.

Class and structure of software: A. Analog inputs: 1 input (room temperature) configurable via

configuration parameter for PTC or NTC probes.

Measurement field: **ERRORS** Resolution

> Type of sensor: ß3435. from -40 to 105 °C (from -40 Measurement field:

to 221 °F) Resolution 0.1 °C (1 °F).

Analog inputs NTC (10 KΩ @ 25 °C, 77 °F)

Analog inputs PTC (990 Ω @ 25 °C, 77 °F)

Others inputs: 1 input configurable via configuration parameter for analog input (evaporator probe or condenser probe) or digital input (door switch or multifunction).

KTY 81-121.

to 302 °F).

0.1 °C (1 °F)

from -50 to 150 °C (from -58

Digital inputs (free of voltage contact 5 VDC 1.5 mA) Displays: 3 digit custom display, with function icons

Digital outputs:

Type of sensor:

- 1 output (SPST electromechanical relay with 16 A res. @ 250 VAC) for compressor management in model EV3B21
- 1 output (SPST electromechanical relay with 30 A res. @ 250 VAC) for compressor management in mode

The maximum allowable current on the load in 10 A.

Classification of the command device according to protection against electric shock: class II, according to the EMC standard EN 60730-1 §2.7.5.

Complementary features of Type 1 or Type 2 actions:

Type 1 or Type 2 actions: type 1.

| 0.1 | WORKIN | | | CONFIG | GURATION PARAMETERS |
|--------|---------|-----------|----------------------|--------|--|
| ,. I | MIN. | MAX. | π τ U.M. | DEF. | WORKING SETPOINT |
| | r1 | r2 | °C/°F (1) | 0,0 | working setpoint; see also r0 and r12 |
| | | | -/ . (-/ | -,- | · · · · · · · · · · · · · · · · · · · |
| 0.2 | Paramet | ri di cor | nfigurazio | ne | |
| PARAM. | MIN. | MAX. | U.M. | DEF. | WORKING SETPOINT |
| SP | r1 | r2 | °C/°F (1) | 0,0 | working setpoint; see also r0 and r12 |
| PARAM. | MIN. | MAX. | U.M. | DEF. | ANALOG INPUTS |
| CA1 | -25 | 25,0 | °C/°F (1) | 0,0 | room probe offset |
| CA2 | -25 | 25,0 | °C/°F (1) | 0,0 | if P4 = 1, evaporator probe offset |
| P0 | 0 | 1 | | 1 | if P4 = 2, condenser probe offset probe type (0 = PTC; 1 = NTC) |
| P1 | 0 | 1 | | 1 | degree Celsius decimal point (during normal operation) |
| | | _ | | • | 1 = YES |
| P2 | 0 | 1 | | 0 | unit of measurement for temperature (2) |
| | | | | | 0 = °C (Celsius degree; resolution depends on P1 parameter) |
| | | | | | 1 = °F (Fahrenheit degree; resolution is 1 °F) |
| P4 | 0 | 2 | | 0 | second input function |
| | | | | | 0 = digital input (door switch or multifunction) |
| | | | | | 1 = analog input (evaporator probe) |
| | | | | | 2 = analog input (condenser probe) |
| P5 | 0 | 2 | | 0 | magnitude displayed during normal operation |
| | | | | | 0 = room temperature 1 = working setpoint |
| | | | | | 1 = working setpoint 2 = if P4 = 0, "" |
| | | | | | if P4 = 0, if P4 = 1, evaporator temperature |
| | | | | | if P4 = 2, condenser temperature |
| P8 | 0 | 250 | 0,1 s | 5 | delayed display of temperature changes as detected by the probes |
| PARAM. | MIN. | MAX. | U.M. | DEF. | MAIN REGULATOR |
| r0 | 0,1 | 15,0 | °C/°F (1) | 2,0 | working setpoint differential; see also r12 |
| r1 | -99 | r2 | °C/°F (1) | -40 | minimum working setpoint |
| r2 | r1 | 199,0 | °C/°F (1 | | maximum working setpoint |
| r4 | 0,0 | 99,0 | °C/°F (1) | 0,0 | working setpoint increase during the "energy saving" function; see also i0, i10 |
| | | | 1 | | and HE2 |
| r5 | 0 | 1 | | 0 | cooling or heating operation (3) |
| | | | | | 0 = cooling |
| | | | | | 1 = heating |
| r12 | 0 | 1 | | 1 | working setpoint differential type |
| | | | | | 0 = asymmetric |
| | | | | | 1 = symmetric |
| PARAM. | MIN. | MAX. | U.M. | DEF. | COMPRESSOR PROTECTION SYSTEM |
| C0 | 0 | 240 | min | 0 | delay in switching on of compressor after the device switches on (4) |
| C2 | 0 | 240 | min | 3 | minimum compressor switch-off duration (5) |
| C3 | 0 | 240 | S . | 0 | minimum duration of compressor switch on time |
| C4 | 0 | 240 | min | 0 | duration of compressor switch off time during a room temperature probe error |
| C5 | 0 | 240 | min | 10 | (code " Pr1 "); see also C5 duration of compressor switch on time during a room temperature probe error |
| CJ | 0 | 240 | ''''' | 10 | (code " Pr1 "); see also C4 |
| C6 | 0,0 | 199 | °C/°F (1) | 80,0 | condenser temperature is higher than that at which the condenser overheat- |
| CO | 0,0 | 155 | C/ (1) | 00,0 | ing alarm is activated (code " COH ") (6) |
| C7 | 0,0 | 199 | °C/°F (1) | 90,0 | condenser temperature above which the compressor shut down alarm is |
| | -,- | | -, . (-) | /- | activated (code "CSd") |
| C8 | 0 | 15 | min | 1 | compressor shut down alarm delay (code "CSd") (7) |
| PARAM. | MIN. | MAX. | U.M. | DEF. | DEFROST |
| d0 | 0 | 99 | h | 8 | if d8 = 0, 1 or 2, defrost interval |
| | | | | | 0 = interval defrost will never be activated |
| | | | | | if d8 = 3, maximum defrost interval |
| d2 | -99 | 99,0 | °C/°F (1) | 2,0 | evaporator temperature at end of defrost; see also d3 |
| d3 | 0 | 99 | min | 30 | if P4 = 0 or 2, defrost duration |
| | | | | | if P4 = 1, maximum defrost duration; see also d2 |
| ۸ لم | _ | 4 | | | 0 = defrost will not be activated |
| d4 | 0 | 1 | | 0 | defrost when device is switched on (4) |
| dr | | 00 | | 0 | 1 = YES |
| d5 | 0 | 99 | min | 0 | if $d4 = 0$, minimum time between switching on of device and activation of defrect (4) |
| | | | | | defrost (4) if $d4 = 1$, delay in activation of defrost after device is switched on (4) |
| d6 | 0 | 2 | | 1 | temperature displayed during defrost (only if P5 = 0) |
| uo | | | | 1 | 0 = room temperature |
| | | | | | 1 = if on activation of defrost, the room temperature is below the "work |
| | | | | | setpoint + Δ t", at maximum " work setpoint + Δ t"; if on activation |
| | | | | | of defrost, the room temperature is above "work setpoint $+ \Delta t$ ", at |
| | | | | | maximum the room temperature on activation of defrost (8) (9) |
| | | | | | 2 = label "dEF" |
| d7 | 0 | 15 | min | 2 | dripping duration (during dripping the compressor will remain switched off) |
| d8 | 0 | 3 | | 0 | defrost activation methods |
| | | | | - | 0 = AT INTERVALS - FOR TIME - defrost will be activated once the device |
| | | | | | has altogether been running for time d0 |
| | | | | | 1 = AT INTERVALS - FOR COMPRESSOR SWITCH-ON - defrost will be |
| | | | | | activated once the compressor has altogether been switched on for |
| | | | | | time d0 |
| | | | | | 2 = <u>AT INTERVALS - FOR EVAPORATOR TEMPERATURE</u> - defrost will be |
| | | | | | |
| | | | | | activated when the evaporator temperature has remained below |
| | | | | | the temperature d9 for a total time of d0 (10) |
| | | | | | |

| | | | | | 3 = <u>ADAPTIVE</u> - defrost will be activated at intervals, whose duration wi each time depend on the duration of compressor switch-ons, the evapo |
|--|---------------------------|---|------------------------|---|--|
| | | | | | rator temperature and the door switch input activation; see also d18 |
| | | | | | d19, d20, d22, i13 and i14 (10) |
| d9 | -99 | 99,0 | °C/°F (1) | 0,0 | evaporator temperature is higher than that at which the defrost interval counter |
| | | | | | is suspended (only if d8 = 2) |
| d11 | 0 | 1 | | 0 | defrost alarm switches off once maximum time limit has been reached (cod |
| | | | | | "dFd"; only if P4 = 1 and in absence of evaporator probe error (code "Pr2") |
| 410 | 0 | 999 | min | 40 | 1 = YES |
| d18 | U | 999 | min | 40 | defrost interval (defrost will be activated when the compressor has been o totally, with the evaporator temperature below that of d22, for time d18; only |
| | | | | | d8 = 3) |
| | | | | | 0 = defrost will never be activated due to the effect of this condition |
| d19 | 0,0 | 40,0 | °C/°F (1) | 3,0 | evaporator temperature below which the defrost is activated (relative to the |
| | | | | | evaporator temperatures average, or "evaporator temperatures average - d19 |
| 10.0 | | | | 100 | only if d8 = 3) |
| d20 | 0 | 999 | min | 180 | minimum consecutive time the compressor must be switched on such as t provoke the defrost activation |
| | | | | | 0 = defrost will never be activated due to the effect of this condition |
| d22 | 0,0 | 19,9 | °C/°F (1) | 2,0 | evaporator temperature above which the defrost interval count shall be sus |
| | -,- | | -, . (-) | _,- | pended (relating to the average of evaporator temperatures, that is to say |
| | | | | | "evaporator temperatures average + $d22$ "; only if $d8 = 3$); see also $d18$ |
| PARAM. | MIN. | MAX. | U.M. | DEF. | TEMPERATURE ALARMS (11) (12) |
| A1 | 0,0 | 99,0 | °C/°F (1) | 10,0 | room temperature below which the minimum temperature alarm is triggere |
| | | | | | (code "AL"; it concerns the working setpoint, that is to say, "working setpoint |
| | | | | | A1"); see also A11 0 = alarm absent |
| A4 | 0,0 | 99,0 | °C/°F (1) | 10,0 | room temperature above which the maximum temperature alarm is triggere |
| ^- | 0,0 | 33,0 | (1) | 10,0 | (code "AH"; it concerns the working setpoint, that is to say, "working setpoint |
| | | | | | A4"); see also A11 |
| | | | | | 0 = alarm absent |
| A6 | 0 | 99 | 10 min | 12 | delay in maximum temperature alarm (code "AH") after the device is switched |
| | | | | | on (4) |
| A7 | 0 | 240 | min | 15 | minimum temperature alarm delay (code "AL") and maximum temperatur |
| | 0.4 | 45.0 | 00(05 (4) | 2.0 | alarm delay (code "AH") |
| A11 | 0,1 MIN. | 15,0 MAX. | °C/°F (1) | 2,0 DEF. | differential of A1 and A4 parameters |
| PARAM. | 0 | 4 | U.M. | 1 | DIGITAL INPUTS effect caused by the activation of the digital input |
| 10 | U | 4 | | 1 | 0 = no effect |
| | | | | | 1 = DOOR SWITCH - DOOR SWITCH INPUT ALARM ACTIVATION (code "id" |
| | | | | | - the compressor will be switched off (at maximum for time i3 or unt |
| | | | | | the input is deactivated); see also i2 (13) |
| | | | | | 2 = MULTIFUNCTION - ACTIVATION OF "ENERGY SAVING" FUNCTION - th |
| | | | | | "energy saving" function will be activated (just with effect on the |
| | | | | | compressor, until the input is deactivated); see also r4 |
| | | | | | 3 = <u>MULTIFUNCTION - ACTIVATION OF MULTIFUNCTION INPUT ALARM (cod</u> |
| | | | | | "iA") - the device will continue to operate normally; see also i2 |
| | | | | | 4 = MULTIFUNCTION - ACTIVATION OF THE MAXIMUM PRESSURE SWITC |
| | | | | | |
| | | | | | ALARM (code "iA") - the compressor will be switched off (until the input |
| :1 | 0 | 1 | | 0 | ALARM (code "iA") - the compressor will be switched off (until the inputs is deactivated); see also i2 |
| i1 | 0 | 1 | | 0 | ALARM (code "iA") - the compressor will be switched off (until the inputs deactivated); see also i2 type of digital input contact |
| i1 | 0 | 1 | | 0 | ALARM (code "iA") - the compressor will be switched off (until the input is deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) |
| i1 | 0 -1 | 1 120 | min | 0 | ALARM (code "iA") - the compressor will be switched off (until the input is deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) |
| | | 1 120 | | | ALARM (code "iA") - the compressor will be switched off (until the input is deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) |
| | | 1 120 | min | | ALARM (code "iA") - the compressor will be switched off (until the inputs deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") |
| | | 1 120 | | | ALARM (code "iA") - the compressor will be switched off (until the inputs deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled |
| | | 1 120 | | | ALARM (code "iA") - the compressor will be switched off (until the inputs deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the |
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| i2 | -1 | | | 30 | ALARM (code "iA") - the compressor will be switched off (until the inputis deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved |
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| i2 | -1 | | | 30 | ALARM (code "iA") - the compressor will be switched off (until the inputs is deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved |
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| i2 i3 i10 | -1 -1 0 | 120 999 | min | 15 | ALARM (code "iA") - the compressor will be switched off (until the inputis deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) iif i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled iif i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled iif i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved maximum duration of the effect caused by the activation of the door switch input on the compressor -1 = the effect will last until the input is deactivated time that must pass in absence of door switch input activations (after the root temperature has reached the working setpoint) for the "energy saving" function to be activated; see also r4 and HE2 0 = the function will never be activated due to the effect of this condition |
| i2 | -1 | 120 | min | 30 | ALARM (code "iA") - the compressor will be switched off (until the inputis deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved maximum duration of the effect caused by the activation of the door switch input on the compressor -1 = the effect will last until the input is deactivated time that must pass in absence of door switch input activations (after the roor temperature has reached the working setpoint) for the "energy saving" function to be activated; see also r4 and HE2 0 = the function will never be activated due to the effect of this conditionumber of door switch input activations such as to provoke the defrost activation |
| i2 i3 i10 | -1 -1 0 | 999 | min min | 30 15 0 | ALARM (code "iA") - the compressor will be switched off (until the inputis deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved maximum duration of the effect caused by the activation of the door switch input on the compressor -1 = the effect will last until the input is deactivated time that must pass in absence of door switch input activations (after the roor temperature has reached the working setpoint) for the "energy saving" function to be activated; see also r4 and HE2 0 = the function will never be activated due to the effect of this condition number of door switch input activations such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition |
| i2 i3 i10 | -1 -1 0 | 120 999 | min | 15 | ALARM (code "iA") - the compressor will be switched off (until the inputis deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved maximum duration of the effect caused by the activation of the door switch input on the compressor -1 = the effect will last until the input is deactivated time that must pass in absence of door switch input activations (after the roof temperature has reached the working setpoint) for the "energy saving" function to be activated; see also r4 and HE2 0 = the function will never be activated due to the effect of this condition number of door switch input activated due to the effect of this condition minimum duration of the door switch input activation such as to provoke the |
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| i2 i3 i10 i13 i14 | -1 -1 0 | 999 | min min | 30 15 0 | ALARM (code "iA") - the compressor will be switched off (until the inputis deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved maximum duration of the effect caused by the activation of the door switch input on the compressor -1 = the effect will last until the input is deactivated time that must pass in absence of door switch input activations (after the roor temperature has reached the working setpoint) for the "energy saving" function be activated; see also r4 and HE2 0 = the function will never be activated due to the effect of this condition number of door switch input activations such as to provoke the defrost activation of the door switch input activated due to the effect of this condition minimum duration of the door switch input activation such as to provoke the defrost activation |
| i2 i3 i10 i13 i14 | -1 -1 0 0 | 999 240 240 | min min | 30 15 0 180 32 | ALARM (code "iA") - the compressor will be switched off (until the inputis deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved maximum duration of the effect caused by the activation of the door switch input on the compressor -1 = the effect will last until the input is deactivated time that must pass in absence of door switch input activations (after the roor temperature has reached the working setpoint) for the "energy saving" function to be activated; see also r4 and HE2 0 = the function will never be activated due to the effect of this condition number of door switch input activations such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition minimum duration of the door switch input activation such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition minimum duration of the door switch input activation such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition ENERGY SAVING maximum duration of the "energy saving" function activated due to the effect of the effect o |
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| i2 i3 i10 i13 i14 PARAM. | -1 -1 0 0 0 MIN. 0 | 120 999 240 240 MAX. 999 | min min min U.M. min | 30 15 0 180 32 DEF. 0 | ALARM (code "iA") - the compressor will be switched off (until the inpution is deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved maximum duration of the effect caused by the activation of the door switch input on the compressor -1 = the effect will last until the input is deactivated time that must pass in absence of door switch input activations (after the roor temperature has reached the working setpoint) for the "energy saving" function to be activated; see also r4 and HE2 0 = the function will never be activated due to the effect of this condition number of door switch input activations such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition minimum duration of the door switch input activation such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition ENERGY SAVING maximum duration of the "energy saving" function activated due to the effect absence of door switch input activation; see also r4 and i10 0 = the function will last until the input is activated |
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| i2 i3 i10 i13 i14 PARAM. HE2 | -1 -1 0 0 0 MIN. 0 | 120 999 240 240 MAX. 999 | min min min U.M. min | 30 15 0 180 32 DEF. 0 | ALARM (code "iA") - the compressor will be switched off (until the inputis deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved maximum duration of the effect caused by the activation of the door switch input on the compressor -1 = the effect will last until the input is deactivated time that must pass in absence of door switch input activations (after the root temperature has reached the working setpoint) for the "energy saving" function to be activated; see also r4 and HE2 0 = the function will never be activated due to the effect of this condition number of door switch input activations such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition minimum duration of the door switch input activation such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition ENERGY SAVING maximum duration of the "energy saving" function activated due to the effect of this condition ENERGY SAVING maximum duration of the "energy saving" function activated due to the effect of this condition absence of door switch input activation; see also r4 and i10 0 = the function will last until the input is activated time interval with no key strokes, after which the "low consumption" function activated |
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| i2 i3 i10 i13 i14 PARAM. HE2 | -1 -1 0 0 0 MIN. 0 | 120 999 240 240 MAX. 999 | min min min U.M. min | 30 15 0 180 32 DEF. 0 | ALARM (code "iA") - the compressor will be switched off (until the inputis deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved maximum duration of the effect caused by the activation of the door switch input on the compressor -1 = the effect will last until the input is deactivated time that must pass in absence of door switch input activations (after the roor temperature has reached the working setpoint) for the "energy saving" function be activated; see also r4 and HE2 0 = the function will never be activated due to the effect of this condition number of door switch input activations such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition minimum duration of the door switch input activation such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition minimum duration of the "energy saving" function activated due to the effect of this condition ENERGY SAVING maximum duration of the "energy saving" function activated due to the effect of this condition etheroactivated 0 = the function will last until the input is activated 10 = the function will last until the input is activated 10 = the mode shall never be aactivated |
| i2 i3 i10 i13 i14 PARAM. HE2 HE3 | -1 -1 0 0 0 MIN. 0 0 MIN. | 120 999 240 240 MAX. 999 | min min U.M. min U.M. | 30 15 0 180 32 DEF. 0 | ALARM (code "iA") - the compressor will be switched off (until the inputis deactivated); see also i2 type of digital input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact) if i0 = 1, delay in signalling of door switch input alarm (code "id") -1 = the alarm will not be signalled if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled if i0 = 4, delay in switching on of compressor after the deactivation of the maximum pressure switch alarm (code "iA") -1 = reserved maximum duration of the effect caused by the activation of the door switch input on the compressor -1 = the effect will last until the input is deactivated time that must pass in absence of door switch input activations (after the room temperature has reached the working setpoint) for the "energy saving" function to be activated; see also r4 and HE2 0 = the function will never be activated due to the effect of this condition number of door switch input activations such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition minimum duration of the door switch input activation such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition minimum duration of the door switch input activation such as to provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition ENERGY SAVING maximum duration of the "energy saving" function activated due to the effect of this condition absence of door switch input activation; see also r4 and i10 0 = the function will last until the input is activated time interval with no key strokes, after which the "low consumption" function activated 0 = the mode shall never be activated |

Notes:

- the unit of measurement depends on P2
- properly set the parameters corresponding to the regulators after setting P2 parameter
- (3) if r5 parameter is set at 1, the "energy saving" function and the defrost management will be switched off
- (4) the parameter has effect even after an interruption in the power supply that occurs while the device is switched on (5) the time set by paramenter C2 is counted also when the device is off
- (6) the differential of parameter is 2.0°C/4°F
- (7) if when the device is switched on, the condenser temperature is already above that established in C7 parameter, then C8 parameter will not have effect
- the value Δt depends on r12 parameter (r0 if r12 = 0, r0/2 if r12 = 1)
- the display restores normal operation when, at the end of the dripping phase, room temperature falls below the value that locked the display (or if a temperature alarm is triggered)
- if P4 parameter is set at 0 or 2, the device will function as if d8 parameter were set at 0
- during defrost and dripping, the maximum temperature alarm is absent, provided that it was triggered after defrost
- during activation of the door switch input, the maximum temperature alarm is absent, provided the alarm was signaled after the activation of the input
- (13) the compressor is switched off 10 s after the activation of the input.