



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

device terminal board if the device has been taken from a cold to hot place,

P4 = 1

humidity could condense inside; wait about 1 hour before powering it

Warnings for the electric connection

- check that the power supply voltage, mains frequency and electric power fall within the set limits; see chap
- - if the P4 parameter is set to 2, condenser tempera-
- do not use electric or pneumatic screwdrivers on the To exit the procedure:
 - 5. Touch the set | key or do not operate for 60 s.
 - 6. Touch the () key.
- To exit the procedure in advance:

When the cause of the alarm disappears, the device restores normal operation, except for the following alarms: compressor shut down alarm (code "CSd") which re-

Main consequences:

- quires the switching off of the device or the temporary suspension of the power supply
- IEC 60730-1 Power supply: 230 VAC (the device will continue to operate normally (±3 Hz), 2 VA. Control device grounding i Rated impulse voltage: 4 K\ Overvoltage category: III.

1.3

f because maximum time has	<u>Analog inputs PTC (990 Ω @ 25 °C, 77 °F)</u>
") which requires the touching	Type of sensor: KTY 81-121. Measurement field: from -50 to 150 °C (from -58
	to 302 °F).
	Resolution: 0,1 °C (1 °F).
	Analog inputs NTC (10 KΩ @ 25 °C, 77 °F)
	Type of sensor: B3435.
robe error	Measurement field: from -40 to 105 °C (from -40 to 221 °F).
probe is the PTC or NTC type; er	Resolution: 0,1 °C (1 °F). Others inputs: 1 input configurable via configuration participation
-probe connection perature	rameter for analog input (evaporator probe or condense probe) or digital input (door switch or multifunction).
vity will depend on C4 and C5	Digital inputs (free of voltage contact 5 VDC 1.5 mA) Displays: 3 digit custom display, with function icons.
.,	Digital outputs:
ot be activated	 1 output (SPST electromechanical relay with 16 A res
condenser probe error	@ 250 VAC) for compressor management in mode EV3B21
he previous example, but with porator probe or the condenser	 1 output (SPST electromechanical relay with 30 A res @ 250 VAC) for compressor management in mode
	EV3B31.
is set at 1, the defrost interval	The maximum allowable current on the load in 10 A. Classification of the command device according to
amount of time set with d3	protection against electric shock: class II, according to the EMC standard EN 60730-1 §2.7.5.
s set at 1 and d8 parameter is	Type 1 or Type 2 actions: type 1.
the device will operate as if d8 set at 0	Complementary features of Type 1 or Type 2 actions C.
s set at 2, the condenser over- ode " COH ") will never be acti-	
s set at 2, the compressor shut de " CSd ") will never be acti-	
isappears, the device restores	
device: operating command nd device: built-in electronic	
shing.	
ass: D.	
odel: .952 x 1.299 x 2.322 in; L x H	
nection terminal blocks	
.952 x 1.299 x 3.208 in; L x H	
v connection terminal blocks.	
command device: on panel,	
5 (the front one). ng to model:	
minal blocks for wires up to 2.5	
supply, analog inputs, digital	
on terminal blocks for wires up power supply, analog inputs,	
utputs.	
connection cables are:	
3 ft) 3 ft)	
ft)	
8 ft).	
m 0 to 55 °C (from 32 to 131	
-25 to 70 °C (from -13 to 158	
90 % relative humidity without	
situation: 2.	
1907/2006.	
+10 % -15%), 50 60 Hz	
, 10 /0 10/0), JU UU IIZ	
method: none.	
ν.	

Class and structure of software: A. Analog inputs: 1 input (room temperature) configurable via configuration parameter for PTC or NTC probes.

		Setpoi			GURATION PARAMETERS						3 = <u>ADAPTIVE</u> - defrost will be activated at intervals, whose duration will each time depend on the duration of compressor switch-ons, the evapo-
		MAX.			WORKING SETPOINT						rator temperature and the door switch input activation; see also d18,
	r1	r2	°C/°F (1)	0,0	working setpoint; see also r0 and r12	d9	-99	99,0	°C/°F (1)	0,0	d19, d20, d22, i13 and i14 (10) evaporator temperature is higher than that at which the defrost interval counter
		ri di cor	-	one							is suspended (only if $d8 = 2$)
м.	MIN.	MAX.	U.M.	DEF.	WORKING SETPOINT	d11	0	1		0	defrost alarm switches off once maximum time limit has been reached (code
AM.	r1 MIN.	r2 MAX.	°C/°F (1) U.M.	0,0 DEF.	working setpoint; see also r0 and r12 ANALOG INPUTS						" dFd "; only if P4 = 1 and in absence of evaporator probe error (code " Pr2 ") 1 = YES
1	-25		°C/°F (1)		room probe offset	d18	0	999	min	40	defrost interval (defrost will be activated when the compressor has been on
2	-25		°C/°F (1)		if P4 = 1, evaporator probe offset						totally, with the evaporator temperature below that of d22, for time d18; only if
					if P4 = 2, condenser probe offset						d8 = 3)
0 1	0	1		1	probe type (0 = PTC; 1 = NTC) degree Celsius decimal point (during normal operation)		0,0	40,0	°C/°F (1)	3.0	0 = defrost will never be activated due to the effect of this condition evaporator temperature below which the defrost is activated (relative to the
1	0			1	1 = YES	uis	0,0	40,0		5,0	evaporator temperatures average, or "evaporator temperatures average - d19";
2	0	1		0	unit of measurement for temperature (2)						only if d8 = 3)
					0 = °C (Celsius degree; resolution depends on P1 parameter)	d20	0	999	min	180	minimum consecutive time the compressor must be switched on such as to
4	0	2		0	1 = °F (Fahrenheit degree; resolution is 1 °F) second input function						provoke the defrost activation 0 = defrost will never be activated due to the effect of this condition
.	0	-		Ũ	0 = digital input (door switch or multifunction)	d22	0,0	19,9	°C/°F (1)	2,0	evaporator temperature above which the defrost interval count shall be sus-
					1 = analog input (evaporator probe)						pended (relating to the average of evaporator temperatures, that is to say,
5	0	2		0	2 = analog input (condenser probe)	PARAM.	MTN	MAX.	U.M.	DEF.	"evaporator temperatures average + d22"; only if d8 = 3); see also d18 TEMPERATURE ALARMS (11) (12)
J	U			U	magnitude displayed during normal operation 0 = room temperature	A1	MIN. 0,0	MAX. 99,0	°C/°F (1)		room temperature below which the minimum temperature alarm is triggered
					1 = working setpoint		.,-			.,-	(code "AL"; it concerns the working setpoint, that is to say, "working setpoint -
					2 = if P4 = 0, ""						A1"); see also A11
					if $P4 = 1$, evaporator temperature if $P4 = 2$, condenser temperature	A4	0,0	99,0	°C/°F (1)	10.0	0 = alarm absent room temperature above which the maximum temperature alarm is triggered
;	0	250	0,1 s	5	delayed display of temperature changes as detected by the probes	H4	0,0	99,0		10,0	(code " AH "; it concerns the working setpoint, that is to say, "working setpoint +
м.	MIN.	MAX.	U.M.	DEF.	MAIN REGULATOR						A4"); see also A11
	0,1		°C/°F (1)		working setpoint differential; see also r12						0 = alarm absent
1 2	-99 r1	r2 250,0	°C/°F (1) °C/°F (1		minimum working setpoint maximum working setpoint	A6	0	99	10 min	12	delay in maximum temperature alarm (code " AH ") after the device is switched on (4)
2 1	0,0		°C/°F (1)		working setpoint increase during the "energy saving" function; see also i0, i10	A7	0	240	min	15	minimum temperature alarm delay (code "AL") and maximum temperature
				-	and HE2						alarm delay (code "AH")
5	0	1		0	cooling or heating operation (3)	A11	0,1	15,0	°C/°F (1)	2,0	differential of A1 and A4 parameters
					0 = cooling 1 = heating	PARAM.	MIN.	MAX.	U.M.	DEF.	DIGITAL INPUTS effect caused by the activation of the digital input
2	0	1		1	working setpoint differential type	10		-		1	0 = no effect
					0 = asymmetric						1 = DOOR SWITCH - DOOR SWITCH INPUT ALARM ACTIVATION (code "id")
					1 = symmetric						- the compressor will be switched off (at maximum for time i3 or until
AM. 0	MIN.	MAX. 240	U.M. min	DEF. 0	COMPRESSOR PROTECTION SYSTEM delay in switching on of compressor after the device switches on (4)						the input is deactivated); see also i2 (13) 2 = <u>MULTIFUNCTION - ACTIVATION OF "ENERGY SAVING" FUNCTION</u> - the
2	0	240	min	3	minimum compressor switch-off duration (5)						"energy saving" function will be activated (just with effect on the
3	0	240	S	0	minimum duration of compressor switch on time						compressor, until the input is deactivated); see also r4
:4	0	240	min	0	duration of compressor switch off time during a room temperature probe error						3 = <u>MULTIFUNCTION - ACTIVATION OF MULTIFUNCTION INPUT ALARM (code</u>
5	0	240	min	10	(code " Pr1 "); see also C5 duration of compressor switch on time during a room temperature probe error						 "iA") - the device will continue to operate normally; see also i2 MULTIFUNCTION - ACTIVATION OF THE MAXIMUM PRESSURE SWITCH
	0	240		10	(code " Pr1 "); see also C4						ALARM (code " iA ") - the compressor will be switched off (until the input
6	0,0	199	°C/°F (1)	80,0	condenser temperature is higher than that at which the condenser overheat-						is deactivated); see also i2
7	0.0	100		00.0	ing alarm is activated (code " COH ") (6)	i1	0	1		0	type of digital input contact
7	0,0	199	°C/°F (1)	90,0	condenser temperature above which the compressor shut down alarm is activated (code "CSd")						0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact)
8	0	15	min	1	compressor shut down alarm delay (code " CSd ") (7)	i2	-1	120	min	30	if i0 = 1, delay in signalling of door switch input alarm (code "id")
AM.	MIN.	MAX.	U.M.	DEF.	DEFROST						-1 = the alarm will not be signalled
0	0	99	h	8	if d8 = 0, 1 or 2, defrost interval 0 = interval defrost will never be activated						if i0 = 3, delay in signalling of multifunction input alarm (code "iA") -1 = the alarm will not be signalled
					0 = 1 interval derrost will never be activated if d8 = 3, maximum defrost interval						-1 = the alarm will not be signalied if i0 = 4, delay in switching on of compressor after the deactivation of the
2	-99	99,0	°C/°F (1)	2,0	evaporator temperature at end of defrost; see also d3						maximum pressure switch alarm (code " iA'')
3	0	99	min	30	if P4 = 0 or 2, defrost duration						-1 = reserved
					if P4 = 1, maximum defrost duration; see also d2 0 = defrost will not be activated	i3	-1	120	min	15	maximum duration of the effect caused by the activation of the door switch input on the compressor
1	0	1		0	defrost when device is switched on (4)						-1 = the effect will last until the input is deactivated
					1 = YES	i10	0	999	min	0	time that must pass in absence of door switch input activations (after the room
5	0	99	min	0	if $d4 = 0$, minimum time between switching on of device and activation of						temperature has reached the working setpoint) for the "energy saving" function
					defrost (4) if $dA = 1$ delay in activation of defrost after device is switched on (4)						to be activated; see also r4 and HE2 0 = the function will never be activated due to the effect of this condition
6	0	2		1	if d4 = 1, delay in activation of defrost after device is switched on (4) temperature displayed during defrost (only if P5 = 0)		0	240		180	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 = room temperature		-				0 = defrost will never be activated due to the effect of this condition
					1 = if on activation of defrost, the room temperature is below the "work	i14	0	240	min	32	minimum duration of the door switch input activation such as to provoke the
					setpoint + + $\Delta t''$, at maximum " work setpoint + $\Delta t''$; if on activation of defrost, the room temperature is above "work setpoint + $\Delta t''$, at						defrost activation 0 = defrost will never be activated due to the effect of this condition
					maximum the room temperature is above work setpoint + Δt , at maximum the room temperature on activation of defrost (8) (9)	PARAM.	MIN.	MAX.	U.M.	DEF.	ENERGY SAVING
					2 = label "dEF"	HE2	0	999	min	0	maximum duration of the "energy saving" function activated due to the effect of
/	0	15	min	2	dripping duration (during dripping the compressor will remain switched off)						absence of door switch input activation; see also r4 and i10
3	0	3		0	defrost activation methods	452	0	240	mair		0 = the function will last until the input is activated
					0 = <u>AT INTERVALS - FOR TIME</u> - defrost will be activated once the device has altogether been running for time d0	HE3	0	240	min	2	time interval with no key strokes, after which the "low consumption" function is activated
					1 = <u>AT INTERVALS - FOR COMPRESSOR SWITCH-ON</u> - defrost will be						0 = the mode shall never be aactivated
					activated once the compressor has altogether been switched on for	PARAM.	MIN.	MAX.	U.M.	DEF.	VARIOUS
					time d0	POF	0	1		1	O key activation
					2 = <u>AT INTERVALS - FOR EVAPORATOR TEMPERATURE</u> - defrost will be activated when the evaporator temperature has remained below	PAS	-99	999	min	-19	1 = YES access password for the configuration parameters
		1			the temperature d9 for a total time of d0 (10)	FAS		222		-13	0 = the password need not be set



the differential of parameter is 2.0°C/4°F then C8 parameter will not have effect

during defrost and dripping, the maximum temperature alarm is absent, provided that it was triggered after defrost activation. during activation of the door switch input, the maximum temperature alarm is absent, provided the alarm was

signaled after the activation of the input

the unit of measurement depends on P2

properly set the parameters corresponding to the regulators after setting P2 parameter

if r5 parameter is set at 1, the "energy saving" function and the defrost management will be switched off

the parameter has effect even after an interruption in the power supply that occurs while the device is switched on the time set by paramenter C2 is counted also when the device is off

if when the device is switched on, the condenser temperature is already above that established in C7 parameter,

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

the compressor is switched off 10 s after the activation of the input.

This document is exclusive property of EVCO. EVCO does not assume any liability regarding possible errors stated. The customer (manufacturer, installer or final user) assumes all liability regarding configuration of the device. EVCO does not take any responsibility for damages coming by the non-observance of additional information. EVCO reserves the right to make any change without prejudice the basic safety and operating features.