

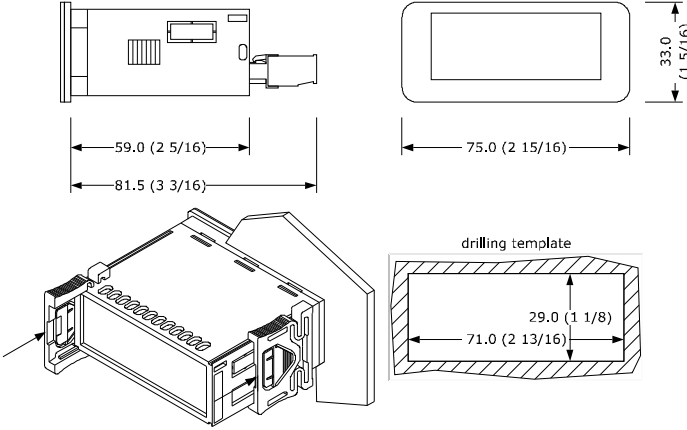


### E ENGLISH

- Controllers for low temperature units.
- Power supply 115... 230 VAC.
- Cabinet probe and evaporator probe (PTC/NTC/Pt 1000).
- Door switch input.
- Compressor relay 16 A res. @ 250 VAC.
- Alarm buzzer.
- TTL MODBUS slave port for EVconnect app, EPoCA remote monitoring system or BMS (according to the model).
- on-off/PID control.
- Cooling or heating operation.

### 1 MEASUREMENTS AND INSTALLATION

Measurements in mm (inches). To be fitted to a panel, snap-in brackets provided.



#### INSTALLATION PRECAUTIONS

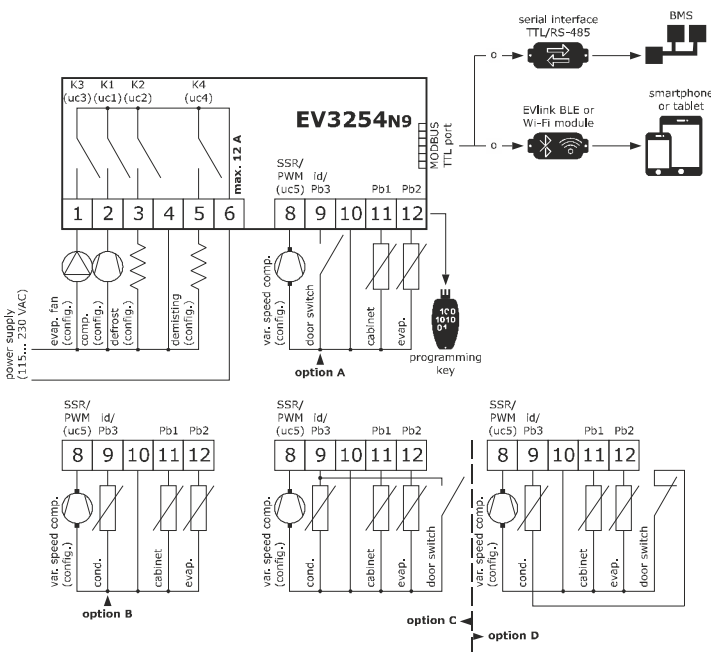
- The thickness of the panel must be between 0.8 and 2.0 mm (1/32 and 1/16 in)
- Ensure that the working conditions are within the limits stated in the **TECHNICAL SPECIFICATIONS** section.
- Do not install the device close to heat sources, equipment with a strong magnetic field, in places subject to direct sunlight, rain, damp, excessive dust, mechanical vibrations or shocks.
- 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.

### 2 ELECTRICAL CONNECTION

- N.B.
- Use cables of an adequate section for the current running through them.
- To reduce any electromagnetic interference connect the power cables as far away as possible from the signal cables.

- Option A:** electrical connection with cabinet probe, evaporator probe and door switch input (P4 = 0, default) active with contact closed (I1 = 0, default).
- Option B:** electrical connection with cabinet probe, evaporator probe and condenser probe (P4 = 1).
- Option C:** electrical connection with cabinet probe, evaporator probe, condenser probe + door switch input (P4 = 2) active with contact closed (I1 = 0, default).
- Option D:** electrical connection with cabinet probe, evaporator probe, condenser probe + door switch input (P4 = 2) active with contact open (I1 = 1).

A door opening can be interpreted as a condenser probe alarm.



#### PRECAUTIONS FOR ELECTRICAL CONNECTION

- If using an electrical or pneumatic screwdriver, adjust the tightening torque.
- If the device has been moved from a cold to a warm place, the humidity may have caused condensation to form inside. Wait about an hour before switching on the power.
- Make sure that the supply voltage, electrical frequency and power are within the set 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.

### 3 FIRST-TIME

1. Install following the instructions given in the section **MEASUREMENTS AND INSTALLATION**.
2. Power up the device as shown in the section **ELECTRICAL CONNECTION** and an internal test will be run. The test normally takes a few seconds, when it is finished the display will switch off.
3. Configure the device as shown in the section **Setting configuration parameters**.

Recommended configuration parameters for first-time use.

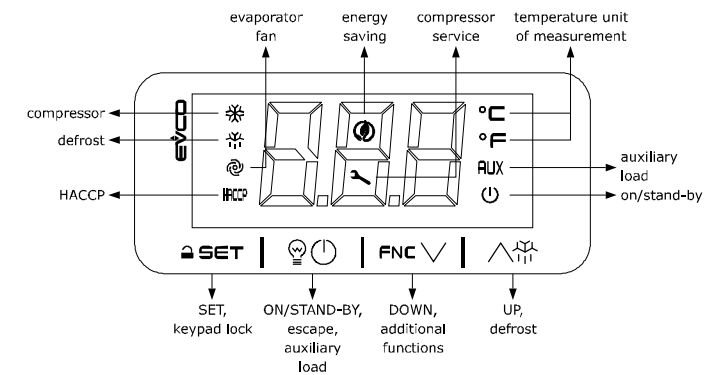
PAR.	DEF.	PARAMETER	MIN... MAX.
SP	0.0	setpoint	r1... r2
P0	1	probe type	0 = PTC 1 = NTC 2 = Pt 1000
P2	0	temperature unit of measurement	0 = °C 1 = °F
d1	0	defrost type	0 = electric 1 = hot gas 2 = compressor stopped

r15	1	compressor type	1 = Embraco VEM 2 = Embraco VEG 3 = Embraco VNEK e VNEU 4 = Secop VNL 50... 150 Hz (40 Hz in off) 5 = Secop 33... 133 Hz 6 = Tecumseh 85... 150 Hz 7 = Embraco VES 8 = Embraco FMX 9 = Embraco VESF
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Then check that the remaining settings are appropriate; see the section **CONFIGURATION PARAMETERS**.

4. Disconnect the device from the mains.
5. Make the electrical connection as shown in the section **ELECTRICAL CONNECTION** without powering up the device.
6. For the connection in an RS-485 network connect the interface EVIF22TSX or EVIF23TSX. To use the device with the APP EVconnect connect the interface EVIF25TBX. To use the device with the EPoCA remote monitoring system, connect the EVIF25TWX module; see the relevant instruction sheets. **If EVIF22TSX is used, set parameter bLE to 0**
7. Power up the device.

### 4 USER INTERFACE AND MAIN FUNCTIONS



#### 4.1 Switching the device on/off

1. If POF = 1 (default), touch the ON/STAND-BY key for 4 s.

If the device is switched on, the display will show the P5 value ("cabinet temperature" default); if the display shows an alarm code, see the section **ALARMS**.

LED	ON	OFF	FLASHING
	compressor on	compressor off	- compressor protection active - setpoint setting active
	defrost or pre-dripping active	-	- defrost delay active - dripping active
	evaporator fan on	evaporator fan off	evaporator fan stop active
<b>HACCP</b>	saved HACCP alarm in EVlink	-	-
	energy saving active	-	-
	request for compressor service	-	- settings active - access to additional functions active - operation with EVconnect APP active
°C/°F	view temperature	-	overcooling or overheating active
<b>AUX</b>	auxiliary load on	auxiliary load off	- auxiliary load on by digital input - auxiliary load delay active
	device off	device on	device on/off active

If Loc = 1 (default) and 30 s have elapsed without the keys being pressed, the display will show the "Loc" label and the keypad will lock automatically.

#### 4.2 Unlock keypad

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

#### 4.3 Set the setpoint

Check that the keypad is not locked.

1. Touch the SET key.
2. Touch the UP or DOWN key within 15 s to set the value within the limits r1 and r2 (default "-40... 50°")
3. Touch the SET key (or do not operate for 15 s).

#### 4.4 Activate manual defrost (if r5 = 0, default)

Check that the keypad is not locked and that overcooling is not active.

1. Touch the UP key for 2 s.

If P3 = 1 (default), defrost is activated provided that the evaporator temperature is lower than the d2 threshold.

#### 4.5 Cabinet light on/off (if uc1... uc4 = 3)

1. Touch the ON/STAND-BY key.
- if uc1... uc4 = 4, the **demisting** also switches on for the u6 duration
  - if uc1... uc4 = 5 and the keypad is not locked, the **button-operated load** also switches on/off.

#### 4.6 Silence buzzer

Touch a key.  
If uc1... uc4 = 6 and u4 = 1, the alarm output switches off.

### 5 ADDITIONAL FUNCTIONS

#### 5.1 Activate/deactivate overcooling, overheating and manual energy saving

Check that the keypad is not locked.

1. Touch the DOWN key.

FUNCTION	CONDITION	CONSEQUENCE
overcooling	r5 = 0, r8 = 1 and defrost not active	the setpoint becomes "setpoint - r6", for the r7 duration
overheating	r5 and r8 = 1	the setpoint becomes "setpoint + r6", for the r7 duration
energy saving	r5 = 0 and r8 = 2	the setpoint becomes "setpoint + r4", at maximum for HE2 duration

#### 5.2 View/delete compressor functioning hours and view comp. start-up number

Check that the keypad is not locked.

1. Touch the DOWN key for 4 s.
  2. Touch the UP or DOWN key within 15 s to select a label.
- | LAB.       | DESCRIPTION                                  |
|------------|--|
| <b>CH</b>  | view compressor functioning hours (hundreds) |
| <b>rCH</b> | delete compressor functioning hours          |
| <b>nS1</b> | compressor start-up number (thousands)       |
3. Touch the SET key.

4. Touch the UP or DOWN key to set "149" (when label "rCH" is selected).
5. Touch the SET key.
6. Touch the ON/STAND-BY key (or do not operate for 60 s) to exit the procedure.

#### 5.3 View the temperature detected by the probes

Check that the keypad is not locked.

1. Touch the DOWN key for 4 s.
2. Touch the UP or DOWN key within 15 s to select a label.

LAB.	DESCRIPTION
<b>Pb1</b>	cabinet temperature
<b>Pb2</b>	evaporator temperature (if P3 = 1 or 2)
<b>Pb3</b>	condenser temperature (if P4 = 1 or 2)

3. Touch the SET key.
4. Touch the ON/STAND-BY key (or do not operate for 60 s) to exit the procedure.

#### 5.4 Outputs test

1. Touch the SET key for 4 s: the display will show the label "PA".
2. Touch the SET key.
3. Touch the UP or DOWN key within 15 s to set the PAS value (default "19").
4. Touch the SET key (or do not operate for 15 s): the display will show the label "- - -".
5. Touch the UP key to select a label.

LAB.	DESCRIPTION
<b>U1</b>	activating relay K1
<b>U2</b>	activating relay K2
<b>U3</b>	activating relay K3
<b>U4</b>	activating relay K4
<b>U5</b>	activating output SSR/PWM at 150 Hz

6. Touch the SET key for 4 s (or do not operate for 120 s) to exit the procedure.

### 6 SETTINGS

#### 6.1 Preliminary notes

Through the setup software system Parameters Manager it is possible to modify the accessibility level of the configuration parameters:

- level 0 (hidden)
- level 1 (not protected by access password)
- level 2 (default, protected by access password that can be changed)
- level 3 (protected by access password that can not be changed).

For further information please consult the user manual of Parameters Manager.

#### 6.2 Setting configuration parameters

1. Touch the SET key for 4 s: the display will show the label "PA".
2. Touch the SET key.
3. Touch the UP or DOWN key within 15 s to set the PAS value (default "19").
4. Touch the SET key (or do not operate for 15 s): the display will show the label "SP".
5. Touch the UP or DOWN key to select a parameter.
6. Touch the SET key.
7. Touch the UP or DOWN key within 15 s to set the value.
8. Touch the SET key (or do not operate for 15 s).
9. Touch the SET key for 4 s (or do not operate for 60 s) to exit the procedure.

#### 6.2 Set the date, time and day of the week (available EVIF25TWX module or interface EVIF25TBX is connected)

- N.B.
- Do not disconnect the device from the mains within two minutes since the setting of the time and day of the week.
- if the device communicates with the EVconnect app, the date, time and day of the week will be automatically set by the smartphone or tablet.

Check that the keypad is not locked.

1. Touch the DOWN key for 4 s.
2. Touch the UP or DOWN key within 15 s to select the label "rtc".
3. Touch the SET key: the display will show the label "yy" followed by the last two figures of the year.
4. Touch the UP or DOWN key within 15 s to set the year.

Repeat actions 3. and 4. to set the next labels.

LAB.	DESCRIPTION OF THE NUMBERS FOLLOWING THE LABEL
<b>n</b>	month (01... 12)
<b>d</b>	day (01... 31)
<b>h</b>	time (00... 23)
<b>n</b>	minute (00... 59)

6. Touch the SET key: the display will show the label for the day of the week.
7. Touch the UP or DOWN key within 15 s to set the day of the week.

LAB.	DESCRIPTION
<b>Mon</b>	Monday
<b>tuE</b>	Tuesday
<b>UEd</b>	Wednesday
<b>thu</b>	Thursday
<b>Fri</b>	Friday
<b>Sat</b>	Saturday
<b>Sun</b>	Sunday

8. Touch the SET key: the device will exit the procedure.
9. Touch the ON/STAND-BY key to exit the procedure beforehand.

### 7 CONFIGURATION PARAMETERS

N.	PAR.	DEF.	SETPOINT	MIN... MAX.
1	SP	0.0	setpoint	r1... r2
<b>ANALOGUE INPUTS</b>				
2	CA1	0.0	cabinet probe offset	-25... 25 °C/°F
3	CA2	0.0	evaporator probe offset	-25... 25 °C/°F
4	CA3	0.0	auxiliary probe offset	-25... 25 °C/°F
5	P0	1	probe type	0 = PTC 1 = NTC 2 = Pt 1000
6	P1	1	enable °C decimal point	0 = no 1 = yes
7	P2	0	temperature unit of measurement	0 = °C 1 = °F

N.	PAR.	DEF.	REGULATION	MIN... MAX.
8	P3	1	evaporator probe function	0 = disabled 1 = defrost + fan 2 = fan
9	P4	0	configurable input function	0 = door switch input 1 = condenser probe 2 = condenser probe + door switch input
10	P5	0	value displayed	0 = regulation temperature 1 = setpoint 2 = evaporator temperature 3 = condenser temperature
11	P8	5	display refresh minimum time of 1/10 °C	0... 250 s : 10
N.	PAR.	DEF.	REGULATION	MIN... MAX.
12	r0	2.0	setpoint differential	0.1... 25 °C/°F
13	r1	-40	minimum setpoint	-99 °C/°F... r2
14	r2	50.0	maximum setpoint	r1... 300 °C/°F
15	r4	0.0	setpoint offset in energy saving	0... 99 °C/°F
16	r5	0	cooling or heating operation	0 = cooling 1 = heating
17	r6	0.0	setpoint offset in overcooling/overheating	0... 99 °C/°F
18	r7	30	overcooling/overheating duration	0... 240 min
19	r8	0	DOWN key additional function	0 = disabled 1 = overcooling/overheating 2 = energy saving
20	r13	0.0	proportional band (relative to setpoint)	0... 99 °C/°F setpoint + r13 0 = operation with on-off compressor, SP and r0
21	r14	10	integral action time	0... 99 min
22	r15	3	tipo di compressore	1 = Embraco VEM 2 = Embraco VEG 3 = Embraco VNEK e VNEU 4 = Secop VNL 50... 150 Hz (40 Hz in off) 5 = Secop 33... 133 Hz 6 = Tecumseh 85... 150 Hz 7 = Embraco VES 8 = Embraco FMX 9 = Embraco VESF
N.	PAR.	DEF.	COMPRESSOR	MIN... MAX.
23	CP0	0	time compressor at 85 Hz after power-on	0... 100 s x 10
24	C0	0	compressor on delay after power-on	0... 240 min
25	C2	3	compressor off minimum time	0... 240 min
26	C3	0	compressor on minimum time	0... 240 s
27	C4	10	compressor off time during cabinet probe alarm	0... 240 min
28	C5	10	compressor on time during cabinet probe alarm	0... 240 min
29	C9	5	consecutive time cabinet temperature in proportional band for compressor at maximum speed	0... 99 h 0 = disabled until cabinet temperature < setpoint
30	C10	1	compressor hours for service	0... 999 h x 100 0 = disabled
N.	PAR.	DEF.	DEFROST (if r5 = 0)	MIN... MAX.
31	d0	8	automatic defrost interval	0... 99 h 0 = only manual if d8 = 3, maximum interval
32	d1	0	defrost type	0 = electric 1 = hot gas 2 = compressor stopped
33	d2	2.0	threshold for defrost end	-99... 99 °C/°F
34	d3	30	defrost duration	0... 99 min se P3 = 1, maximum duration
35	d4	0	enable defrost at power-on	0 = no 1 = yes
36	d5	0	defrost delay after power-on	0... 99 min
37	d6	1	value displayed during defrost	0 = cabinet temperature 1 = display locked 2 = dEF label
38	d7	2	dripping time	0... 15 min
39	d8	3	defrost interval counting mode	0 = device on hours 1 = compressor on hours 2 = hours evaporator temperature < d9 3 = adaptive
40	d9	0.0	evaporation threshold for automatic defrost interval counting	-99... 99 °C/°F
41	d11	0	enable defrost timeout alarm	0 = no 1 = yes
42	d15	0	compressor on consecutive time for hot gas defrost	0... 99 min
43	d16	0	pre-dripping time for hot gas defrost	0... 99 min
44	d18	40	adaptive defrost interval	0... 999 min if compressor on + evaporator temperature < d22 0 = only manual
45	d19	3.0	threshold for adaptive defrost (relative to optimal evaporation temperature)	0... 40 °C/°F optimal evaporation temperature - d19
46	d20	180	compressor on consecutive time for defrost	0... 999 min 0 = disabled
47	d21	200	compressor on consecutive time for defrost after power-on and overcooling	0... 500 min if (cabinet temperature - setpoint) > 10 °C/20 °F 0 = disabled
48	d22	-2.0	evaporation threshold for adaptive defrost interval counting (relative to optimal evaporation temperature)	-99... 99 °C/°F optimal evaporation temperature + d22
N.	PAR.	DEF.	ALARMS	MIN... MAX.
49	AA	0	select value for high/low temperature alarms	0 = cabinet temperature 1 = condenser temperature (always absolute alarm)
50	A1	-10.0	threshold for low temperature	-99... 99 °C/°F 0 = disabled if A11 < 0, absolute (A1) if A11 > 0, relative to setpoint (setpoint - A1)
51	A4	10.0	threshold for high temperature	-99... 99 °C/°F 0 = disabled if A11 < 0, absolute (A4) if A11 > 0, relative to setpoint (setpoint + A4)
52	A6	12	high temperature alarm delay after power-on	0... 99 min x 10
53	A7	15	high/low temperature alarms delay	0... 240 min
54	A8	15	high temperature alarm delay after defrost	0... 240 min
55	A9	15	high temperature alarm delay after door closing	0... 240 min
56	A10	10	power failure duration for alarm recording	0... 240 min
57	A11	-2.0	high/low temperature alarms reset differential	-25... 25 °C/°F

N.	PAR.	DEF.	FANS	MIN... MAX.
58	F0	3	evaporator fan mode during normal operation	0 = off 1 = on 2 = according to F15 and F16 if compressor off, on if compressor on 3 = thermoregulated (with F1) 4 = thermoregulated (with F1) if compressor on
59	F1	-1.0	threshold for evaporator fan operation	-99... 99 °C/°F differential = 1 °C/2 °F
60	F2	0	evaporator fan mode during defrost and dripping	0 = off 1 = on 2 = according to F0
61	F3	2	evaporator fan off maximum time	0... 15 min
62	F4	30	evaporator fan off time during energy saving	0... 240 s x 10
63	F5	30	evaporator fan on time during energy saving	0... 240 s x 10
64	F7	5.0	threshold for evaporator fan on after dripping (relative to setpoint)	-99... 99 °C/°F setpoint + F7
65	F9	0	evaporator fan off delay after compressor off	0... 240 s if F0 = 2
66	F11	15.0	threshold for condenser fan on	0... 99 °C/°F differential = 2 °C/4 °F
67	F12	30	condenser fan off delay after compressor off	0... 240 s
68	F15	60	evaporator fan off time with compressor off	0... 240 s if F0 = 2
69	F16	0	evaporator fan on time with compressor off	0... 240 s if F0 = 2
N.	PAR.	DEF.	DIGITAL INPUTS	MIN... MAX.
70	i0	2	door switch input function	0 = disabled 1 = compressor + evaporator fan off 2 = evaporator fan off 3 = cabinet light on 4 = compressor + evaporator fan off, cabinet light on 5 = evaporator fan off + cabinet light on
71	i1	0	door switch input activation	0 = with contact closed 1 = with contact open
72	i2	30	open door alarm delay	-1... 120 min -1 = disabled
73	i3	15	regulation inhibition maximum time with door open	-1... 120 min -1 = until the closing
74	i10	0	door closed consecutive time for energy saving	0... 999 min after cabinet temperature < SP 0 = disabled
75	i13	180	number of door openings for defrost	0... 240 0 = disabled
76	i14	32	door open consecutive time for defrost	0... 240 min 0 = disabled
N.	PAR.	DEF.	DIGITAL OUTPUTS	MIN... MAX.
77	u1c	0	relay K1 configuration	0 = compressor 1 = defrost 2 = evaporator fan 3 = cabinet light 4 = demisting 5 = button-operated load 6 = alarm 7 = door heaters 8 = heater for neutral zone 9 = condenser fan 10 = on/stand-by
78	uc2	1	relay K2 configuration	like uc1
79	uc3	2	relay K3 configuration	like uc1
80	uc4	4	relay K4 configuration	like uc1
81	uc5	11	output SSR/PWM configuration	0 = compressor 1 = defrost 2 = evaporator fan 3 = cabinet light 4 = demisting 5 = button-operated load 6 = alarm 7 = door heaters 8 = heater for neutral zone 9 = condenser fan 10 = on/stand-by 11 = variable speed compressor
82	u2	0	enable cabinet light and button-operated load in stand-by	0 = no 1 = yes manual
83	u4	1	enable alarm output off silencing the buzzer	0 = no 1 = yes
84	u5	-1.0	threshold for door heaters on (u5 - 2 °C/4 °F)	-99... 99 °C/°F if u11 = 1, threshold for door heaters off differential = 2 °C/4 °F
85	u6	8	demisting on duration	0... 120 min
86	u7	-5.0	neutral zone threshold for heating (relative to setpoint)	-99... 99 °C/°F differential = 2 °C/4 °F setpoint + u7
87	u11	0	select value for door heaters	0 = cabinet temperature 1 = condenser temperature
N.	PAR.	DEF.	ENERGY SAVING (if r5 = 0)	MIN... MAX.
88	HE2	0	energy saving maximum duration	0... 999 min
N.	PAR.	DEF.	SAFETIES	MIN... MAX.
89	POF	1	enable ON/STAND-BY key	0 = no 1 = yes
90	PAS	-19	password	-99... 999
91	PA1	426	level 1 password	-99... 999
92	PA2	824	level 2 password	-99... 999
N.	PAR.	DEF.	REAL TIME CLOCK	MIN... MAX.
93	Hr0	0	enable clock	0 = no 1 = yes
N.	PAR.	DEF.	DATA-LOGGING EVLINK	MIN... MAX.
94	bLE	1	serial port configuration for connectivity	0 = free 1 = forced for EVconnect or EPoCA 2-99 = EPoCA local network address
95	rE0	15	data-logger sampling interval	0... 240 min
96	rE1	1	recorded temperature	0 = none 1 = cabinet 2 = evaporator 3 = condensatore 4 = cabinet and evaporator 5 = all
N.	PAR.	DEF.	MODBUS	MIN... MAX.
97	LA	247	MODBUS address	1... 247
98	Lb	2	MODBUS baud rate	0 = 2,400 baud 1 = 4,800 baud 2 = 9,600 baud 3 = 19,200 baud parity even

8 ALARMS			
COD.	DESCRIPTION	RESET	REMEDIES
Pr1	cabinet probe alarm	automatic	- check P0
Pr2	evaporator probe alarm	automatic	- check probe integrity
Pr3	condenser probe alarm	automatic	- check electrical connection
rtc	clock alarm	manual	set date, time and day of the week
AL	low temperature alarm	automatic	check AA and A1
AH	high temperature alarm	automatic	check AA and A4
id	open door alarm	automatic	check i0 e i1
PF	power failure alarm	manual	- touch a key - check electrical connection
dFd	defrost timeout alarm	manual	- touch a key - check d2, d3 and d11

9 TECHNICAL SPECIFICATIONS		
Purpose of the control device	Function controller	
Construction of the control device	Built-in electronic device	
Container	Black, self-extinguishing	
Category of heat and fire resistance	D	
Measurements		
75.0 x 33.0 x 59.0 mm (2 15/16 x 1 5/16 x 2 5/16 in) with fixed screw terminal blocks	75.0 x 33.0 x 81.5 mm (2 15/16 x 1 5/16 x 3 3/16 in) with removable screw terminal blocks	
Mounting methods for the control device		
To be fitted to a panel, snap-in brackets provided		
Degree of protection provided by the covering		
IP65 (front)		
Connection method		
Fixed screw terminal blocks for wires up to 2,5 mm²	Removable screw terminal blocks for wires up to 2,5 mm²; by request	Micro-MaTch connector
Maximum permitted length for connection cables		
Power supply: 10 m (32.8 ft)	Analogue 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 °F)		
Storage temperature		
From -25 to 70 °C (from -13 to 158 °F)		
Operating humidity		
Relative humidity without condensate from 10 to 90%		
Pollution status of the control device		
2		
Conformity		
RoHS 2011/65/CE	WEEE 2012/19/EU	REACH (EC) Regulation 1907/2006
EMC 2014/30/UE		
LVD 2014/35/UE		
Power supply		
115... 230 VAC (+10% -15%), 50/60 Hz (±3 Hz), max. 3.2 VA insulated		
Earthing methods for the control device		
None		
Rated impulse-withstand voltage		
2,5 KV		
Over-voltage category		
II		
Software class and structure		
A		
Analogue inputs		
2 for PTC, NTC or Pt 1000 probes (cabinet probe and evaporator probe)		
PTC probes	Sensor type	KTY 81-121 (990 Ω @ 25 °C, 77 °F)
	Measurement field	From -50 to 150 °C (from -58 to 302 °F)
NTC probes	Sensor type	B3435 (10 KΩ @ 25 °C, 77 °F)
	Measurement field	From -40 to 105 °C (from -40 to 221 °F)
Pt 1000 probes	Sensor type	B3435 (1 KΩ @ 0 °C, 32 °F)
	Measurement field	From -50 to 150 °C (from -58 to 302 °F)
Other inputs	Input configurable for analogue input (condenser probe) or digital input (door switch input)	
	Dry contact:	Kind of contact: 5 VDC, 1,5 mA Power supply: none Protection: none
Other outputs:		
1 SSR/PWM		
PWM signal:	Power supply:	12 VDC (+16 % -25 %), 20 mA max.
	Frequency:	0... 150 Hz
	Protection:	none
Digital outputs		
4 electro-mechanical relays		
Relay K1	SPST, 16 A res. @ 250 VAC	
Relay K2	SPST, 8 A res. @ 250 VAC	
Relay K3	SPST, 5 A res. @ 250 VAC	
Relay K4	SPST, 5 A res. @ 250 VAC	
Type 1 or Type 2 Actions	Type 1	
Additional features of Type 1 or Type 2 actions		
C		
Displays		
3 digits custom display, with function icons		
Alarm buzzer		
Incorporated		
Communication ports:		
1 TTL MODBUS slave port for EVconnect app, EPoCA remote monitoring system or for BMS		

N.B.	The device must be disposed of according to local regulations governing the collection of electrical and electronic waste.
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