1 DIMENSIONS AND INSTALLATION

1.1 Dimensions

Dimensions are expressed in mm (in).

- 39.0 (1.532) is the depth with fixed screw connection terminal blocks; 81.5 (3.208) is the depth with removable screw connection terminal blocks.

1.2 Installation

Panel installation with snap-in brackets.

1.3 Installation warnings

- The thickness of the panel on which the device is to be installed must be between 0.8 and 2.0 mm (0.031 and 0.078 in).
- 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 properly and in a way to protect against any contact with electrical parts; all parts that ensure protection must be fixed in a way that they cannot be removed without the use of tools.

2 ELECTRIC CONNECTION

2.1 Electric connection

- Disconnect the device power supply before proceeding with any type of maintenance.
- Position the power cables as far away as possible from the signal cables.
- For repairs and information regarding the device, contact the EVCO sales network.

3 USER INTERFACE

3.1 Preliminary notes

Operating statuses:

- “on” status (the device is powered and is on; utilities may be on).
- “stand-by” status (the device is powered but is switched off via software; utilities are off).
- “off” status: the device is not powered; utilities are off.

if the POF parameter is set to 0, the display will show the “off” status.

if the POF parameter is set to 1, the display will show the “stand-by” status.

if the POF parameter is set to 2, the display will show the “off” status.

if the POF parameter is set to 3, the display will show the “off” status.

if the POF parameter is set to 4, the display will show the “off” status.

if the POF parameter is set to 5, the display will show the “off” status.

if the POF parameter is set to 6, the display will show the “off” status.

if the POF parameter is set to 7, the display will show the “off” status.

if the POF parameter is set to 8, the display will show the “off” status.

if the POF parameter is set to 9, the display will show the “off” status.

if the POF parameter is set to 10, the display will show the “off” status.

if the POF parameter is set to 11, the display will show the “off” status.

if the POF parameter is set to 12, the display will show the “off” status.

if the POF parameter is set to 13, the display will show the “off” status.

if the POF parameter is set to 14, the display will show the “off” status.

if the POF parameter is set to 15, the display will show the “off” status.

if the POF parameter is set to 16, the display will show the “off” status.

if the POF parameter is set to 17, the display will show the “off” status.

if the POF parameter is set to 18, the display will show the “off” status.

if the POF parameter is set to 19, the display will show the “off” status.

if the POF parameter is set to 20, the display will show the “off” status.

if the POF parameter is set to 21, the display will show the “off” status.

if the POF parameter is set to 22, the display will show the “off” status.

if the POF parameter is set to 23, the display will show the “off” status.

if the POF parameter is set to 24, the display will show the “off” status.

if the POF parameter is set to 25, the display will show the “off” status.

if the POF parameter is set to 26, the display will show the “off” status.

if the POF parameter is set to 27, the display will show the “off” status.

if the POF parameter is set to 28, the display will show the “off” status.

if the POF parameter is set to 29, the display will show the “off” status.

if the POF parameter is set to 30, the display will show the “off” status.

if the POF parameter is set to 31, the display will show the “off” status.

if the POF parameter is set to 32, the display will show the “off” status.

if the POF parameter is set to 33, the display will show the “off” status.

if the POF parameter is set to 34, the display will show the “off” status.

if the POF parameter is set to 35, the display will show the “off” status.

if the POF parameter is set to 36, the display will show the “off” status.

if the POF parameter is set to 37, the display will show the “off” status.

if the POF parameter is set to 38, the display will show the “off” status.

if the POF parameter is set to 39, the display will show the “off” status.

if the POF parameter is set to 40, the display will show the “off” status.

if the POF parameter is set to 41, the display will show the “off” status.

if the POF parameter is set to 42, the display will show the “off” status.

if the POF parameter is set to 43, the display will show the “off” status.

if the POF parameter is set to 44, the display will show the “off” status.

if the POF parameter is set to 45, the display will show the “off” status.

if the POF parameter is set to 46, the display will show the “off” status.

if the POF parameter is set to 47, the display will show the “off” status.

if the POF parameter is set to 48, the display will show the “off” status.

if the POF parameter is set to 49, the display will show the “off” status.
4 SETTINGS

4.1 Setting the working setpoint

1. Make sure that the keyboard is not locked and that no procedure is in progress.
2. Touch the key: the LED will flash.
3. Touch the or key within 15 s; see also r1 and r2 parameters.
4. Touch the or key or do not operate for 15 s: the LED 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 be saved).
6. Touch a key within 15 s.
7. Touch the key for 4 s during the procedure (i.e.
8. Touch the key or do not operate for 15 s: the display will show "PAS" parameter (the parameter is set at "19" by default).
9. Touch the or key within 15 s to set the value determined with the "PAS" parameter.
10. Touch the or key or do not operate for 15 s: the display will show "SP".

To select a parameter:
1. Touch the key for 4 s: the display will show "PAS".
2. Touch the key.
3. Touch the key.
4. Touch the or key.
5. Touch the or key.
6. Touch the or key.
7. Touch the or key.
8. Touch the or key.
9. Touch the or key.
10. Touch the or 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.

4.2 Setting the configuration parameters

To access the procedure:
1. Make sure no procedure is in progress.
2. Touch the key for 4 s: the display will show "PA".
3. Touch the or key.

To restore the manufacturer’s settings:
4. Touch the or key within 15 s to set "149".
5. Touch the or key or do not operate for 15 s: the display will show "DEF".
6. Touch the or key.
7. Touch the or key within 15 s to set "4".
8. Touch the or 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.
9. Cut the device power supply off.

Make sure that the manufacturer’s settings are appropriate; see chapter 5.

4.3 Manufacturer’s settings

To access the procedure:
1. Make sure no procedure is in progress.
2. Touch the or key for 4 s: the display will show "PA".
3. Touch the or key.

To restore the manufacturer’s settings:
4. Touch the or key within 15 s to set "149".
5. Touch the or key or do not operate for 15 s: the display will show "DEF".
6. Touch the or key.
7. Touch the or key within 15 s to set "4".
8. Touch the or 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.
9. Cut the device power supply off.

Make sure that the manufacturer’s settings are appropriate; see chapter 5.

10. Set the configuration parameters (with the procedure described in paragraph 4.2).
11. From step 4, touch the solutions:
12. Touch the or key or do not operate for 15 s: the display will show "MAP".
13. Repeat steps 6, 7, 8 and 9.
14. Exit the procedure in advance:
15. Touch the or key for 4 s during the procedure (i.e. before setting "4": Restore will not be performed).

5 WARNING LIGHTS AND DIRECTIONS

5.1 Signals

LED | Meaning
--- | ---
Compressor LED | If the LED is on, the compressor is on.
Condenser overheated alarm | If the LED is flashing:
- the auxiliary output will have been turned on in manual mode
- the alarm output will be active
- the door heating elements will be on
- the neutral area operation heating elements will be on
- the condenser fan will be on
- the condenser will work in parallel with the compressor
- the alarm output will be switched off
- the alarm output will be switched on

Cth Compressor thermal protection alarm
- check the causes of the activation of the multifunction input; see i5 and i6 parameters
- the compressor will be switched off
- the alarm output will be switched on

Th Global thermal protection alarm
- check the causes of the activation of the multifunction input; see i5 and i6 parameters
- check that the cause that triggered the alarm has been eliminated and switch the device off and back on again or sdisconnect the power supply
- all utilities will be switched off
- the alarm output will be switched on

dFd Defrost alarm switch off because maximum time has been reached
- check the integrity of the evaporator probe; see i6 and i7 parameters
- touch a key to restore normal display
- the device will continue to operate normally

When the cause of the alarm disappears, the device restores normal operation, except for the following alarms:
- the compressor blocked alarm (code "Csd") and the global thermal protection alarm (code "th"), which both need to be reset by turning the device off or switching off the power supply.
- defrost alarm switch off because maximum time has been reached (code "dfd") which requires the touching of a key.

5.2 Signals

Code | Meaning
--- | ---
Loc | The keyboard is blocked; see paragraph 3.13
- - - | the operation requested is not available
DEF | defrost is in progress
6 | ALARMS
6.1 Alarms

Code | Meaning
--- | ---
AL | Minimum temperature alarm
- check the room temperature or CPT temperature
- see A1 parameter
Main consequences:
- the alarm output will be switched on

AM | Maximum temperature alarm
Solutions:
- check the room temperature or CPT temperature
- see A1 parameter
Main consequences:
- the alarm output will be switched on

ID | Door switch input alarm
Solutions:
- check the causes of the activation of the input
- see i0 and i1 parameters
Main consequences:
- the alarm output will be switched on

IA | Multifunction input alarm
Solutions:
- check the causes of the activation of the input
- see i5 and i6 parameters
Main consequences:
- the alarm output will be switched on
- the condenser fan will be switched on

Csd | Compressor thermal protection alarm
Solutions:
- check the causes of the activation of the multifunction input; see i5 and i6 parameters
- the compressor will be switched off
- the alarm output will be switched on

Pr1 Room temperature probe or inlet air probe error
Solutions:
- check that the probe is the PTC or NTC type;
- see P0 parameter
- check the device-probe connection
- check room temperature/CPT temperature
Main consequences:
- compressor activity will depend on C4 and C5 parameters
- if P4 parameter is set at 3, the temperature associated with the temperature alarms shall be the outgoing air temperature
- the defrost will not be activated
- the alarm output will be switched on
- the door heating elements shall be turned off
- the neutral area operation heating elements will be turned off

Pr2 Evaporator probe error
Solutions:
- the same as in the previous example, but with regard to the evaporator probe
Main consequences:
- if P3 parameter is set at 1, the defrost interval will last for the amount of time set with d3 parameter
- if P3 parameter is set at 1 and d8 parameter is set to 2 or 3, the device will operate as if d8 parameter were set at 0
- if P3 parameter is set at 1 or 2 and P0 parameter is set at 3 to 4, the device will operate as if parameter were set at 2
- the alarm output will be switched on

Pr3 Condenser probe error, critical temperature probe or outflowing air probe
Solutions:
- the same as in the previous example, but with regard to the condenser probe, the critical temperature probe or the outflowing air probe
Main consequences:
- if P4 parameter is set at 1, the compressor shutdown alarm (code "Csd") will never be activated
- if P4 parameter is set at 1, the compressor shutdown alarm (code "Csd") will never be activated
- if P4 parameter is set at 1, the compressor shutdown alarm (code "Csd") will never be activated
- if P4 parameter is set at 1, the condenser fan shall work in parallel with the compressor
- the alarm output will be switched on
### 8 TECHNICAL DATA

#### 8.1 Technical data

**Purpose of the command device:** operating command device for electronic devices.

**Construction of the command device:** built-in electronic device.

- **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 removable 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 fixed 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 °F).

**Storage temperature:** from -25 to 70 °C (from -13 to 158 °F).

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

**Command device pollution situation:** 2.

**Environmental standards:**
- RoHS 2011/65/CE
- WEEE 2012/19/EU

**EMC standards:**
- EN 60730-1
- IEC 60730-1
- IEC 60745-1
- IEC 60745-17-1

**Power supply:** 115... 230 VAC (+10 % -15 %), 50... 60 Hz (±3 Hz), 3.2 VA max.

**Overvoltage category:** II.

**Control device grounding method:** none.

**Rated impulse voltage:** 2.5 KV.

**Digital inputs:**
- 1 output (SPST electromechanical relay with 16 A res. @ 250 VAC) for compressor management.
- 1 output (SPST electromechanical relay with 8 A res. @ 250 VAC) for defrost management.
- 1 output (SPST electromechanical relay with 5 A res. @ 250 VAC) for evaporator fan management.
- 1 output (SPST electromechanical relay with 5 A res. @ 250 VAC) for the management of room lighting, demister heating elements, auxiliary output, alarm output, door heating elements, neutral area operation heating elements, condenser fan or the on/stand-by output.

**Digital outputs:**
- 1 output (SPST electromechanical relay with 8 A res. @ 250 VAC) for evaporator fan management.
- 1 output (SPST electromechanical relay with 5 A res. @ 250 VAC) for compressor management.
- 1 output (SPST electromechanical relay with 16 A res. @ 250 VAC) for the management of room lighting, demister heating elements, auxiliary output, alarm output, door heating elements, neutral area operation heating elements, condenser fan or the on/stand-by output.

**Maximum allowable current on the loads:** 10 A.

**The device guarantees double insulation between each connector of the digital outputs and the other parts of the device.**

**Type 1 or Type 2 actions:** type 1.

**Complementary features of Type 1 or Type 2 actions:** C.

### 9 WORKING SETPOINT AND CONFIGURATION PARAMETERS

#### 9.1 Working Setpoint

<table>
<thead>
<tr>
<th>PARAM</th>
<th>MIN.</th>
<th>MAX.</th>
<th>U.M.</th>
<th>DEF</th>
<th>WORKING SETPOINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>r1</td>
<td></td>
<td></td>
<td></td>
<td>0,0</td>
<td>working setpoint; see also r0 and r12</td>
</tr>
<tr>
<td>r2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 9.2 Configuration parameters

<table>
<thead>
<tr>
<th>PARAM</th>
<th>MIN.</th>
<th>MAX.</th>
<th>U.M.</th>
<th>DEF</th>
<th>ANALOG INPUTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF</td>
<td></td>
<td></td>
<td></td>
<td>0,0</td>
<td>working setpoint; see also r0 and r12</td>
</tr>
<tr>
<td>r1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PARAM</th>
<th>MIN.</th>
<th>MAX.</th>
<th>U.M.</th>
<th>DEF</th>
<th>ANALOG INPUTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA1</td>
<td>-25</td>
<td>25,0</td>
<td>°C/°F (1)</td>
<td>0,0</td>
<td>if P4 = 0, 1 or 2, room probe offset</td>
</tr>
<tr>
<td>CA2</td>
<td>-25</td>
<td>25,0</td>
<td>°C/°F (1)</td>
<td>0,0</td>
<td>evaporator probe offset</td>
</tr>
<tr>
<td>CA3</td>
<td>-25</td>
<td>25,0</td>
<td>°C/°F (1)</td>
<td>0,0</td>
<td>if P4 = 0, 1 or 2, room probe offset</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PARAM</th>
<th>MIN.</th>
<th>MAX.</th>
<th>U.M.</th>
<th>DEF</th>
<th>WORKING SETPOINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>P0</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>probe type</td>
</tr>
<tr>
<td>P1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>degree Celsius decimal point (during normal operation)</td>
</tr>
<tr>
<td>P2</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>unit of measurement for temperature (2)</td>
</tr>
<tr>
<td>P3</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>evaporator probe function</td>
</tr>
<tr>
<td>P4</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>fourth inlet function</td>
</tr>
<tr>
<td>P5</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>magnitude displayed during normal operation</td>
</tr>
</tbody>
</table>

**ANALOG INPUTS (990 @ 25 °C, 77 °F)**

<table>
<thead>
<tr>
<th>PARAM</th>
<th>MIN.</th>
<th>MAX.</th>
<th>U.M.</th>
<th>DEF</th>
<th>WORKING SETPOINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of sensor:</td>
<td>KTY 81-121.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measurement field:</td>
<td>from -50 to 150 °C (from -58 to 302 °F).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolution:</td>
<td>0,1 °C (1 °F).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of sensor:</td>
<td>03435.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measurement field:</td>
<td>from -40 to 105 °C (from -40 to 221 °F).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolution:</td>
<td>0,1 °C (1 °F).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital inputs:</td>
<td>1 input (door switch input).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital inputs (free of voltage contact 5 VDC 2 mA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHER INPUTS</td>
<td>1 input settable by way of a configuration parameter for analog (condenser probe, critical temperature probe or outflowing air probe) or digital (multifunction input) outputs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DISPLAYS</td>
<td>3 digit custom display, with function icons.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital outputs:</td>
<td>- 1 output (SPST electromechanical relay with 16 A res. @ 250 VAC) for compressor management.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- 1 output (SPST electromechanical relay with 8 A res. @ 250 VAC) for defrost management.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- 1 output (SPST electromechanical relay with 5 A res. @ 250 VAC) for evaporator fan management.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- 1 output (SPST electromechanical relay with 5 A res. @ 250 VAC) for the management of room lighting, demister heating elements, auxiliary output, alarm output, door heating elements, neutral area operation heating elements, condenser fan or the on/stand-by output.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The maximum allowable current on the loads is 10 A.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The device guarantees double insulation between each connector of the digital outputs and the other parts of the device.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Type 1 or Type 2 actions:</strong> type 1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Complementary features of Type 1 or Type 2 actions:</strong> C.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
During defrost, the compressor will remain off and the defrost output will be activated. Evaporator fan activity will depend on F2 parameter. If d16 = 0, the evaporator fan shall remain off.

If P4 = 0, "=" - "=
If P4 = 1, condenser temperature
delayed display of temperature changes detected by the probes

If P6 = 0, 250 0,1 s 5

Defrost activation methods
- AT INTERVALS - FOR TIME - defrost will be activated once the device has altogether been running for a total time of d0 (11)
- AT INTERVALS - FOR EVAPORATOR TEMPERATURE - defrost will be activated when the evaporator temperature has remained below the temperature d9 for a total time of d0 (11)
- ADAPTIVE - defrost will be activated at intervals, whose duration will each time depend on the duration of compressor switch-ons, with the evaporator temperature below that of d22, for a total time of d18; if d8 = 3, this function can be enabled/disabled with the key P6.

If d8 = 1, delay in activation of defrost after device is switched on (5)

If d6 = 0, minimum time between switching on of device and activation of defrost (5)

If d6 = 1, delay in activation of defrost after device is switched on (5)

If d1 = 0, 1 or 2, defrost interval
0 = interval defrost will never be activated
0 = defrost shall never be activated due to the effect of this condition
0 = defrost when device is switched on (5)
0 = defrost when device is switched on (5)
0 = defrost alarm switches off once maximum time limit has been reached (code "FGd"; only if P3 = 1 and in absence of evaporator probe error (code "PR2"))

If d4 = 1, delay in activation of defrost after device is switched on (5)

If d18 = 0, "=" - "=
If d18 = 1, "=" - "=
If d18 = 2, "=" - "=
If d18 = 3, "=" - "=
If d18 = 4, "=" - "=
If d18 = 5, "=" - "=
If d18 = 6, "=" - "=
If d18 = 7, "=" - "=
If d18 = 8, "=" - "=
If d18 = 9, "=" - "=
If d18 = 10, "=" - "="
**EVAPORATOR FAN SWITCH-OFF** - the evaporator fan shall be switched off (for the duration of the i3 time max. or until the input is deactivated; in the latter case the evaporator fan shall be turned on 5 s after input deactivation)

**ROOM LIGHTING SWITCH-ON** - the room lighting shall be switched on (until 10 s after input deactivation) (22)

**GLOBAL THERMAL PROTECTION ALARM ACTIVATION** (code "AL") from the conclusion of evaporator fan standstill (13)

**DEVICE SWITCH-OFF** - the device shall be switched off ("stand-by" mode, until the input is deactivated)

**ROOM LIGHTING** - see parameters i0 and u2

**DEMISTER HEATING ELEMENTS** - see parameter u6

**AUXILIARY OUTPUT SWITCH-ON** - the auxiliary output shall be switched on (until the input is deactivated)

**ALARM OUTPUT**
<table>
<thead>
<tr>
<th>PARAM.</th>
<th>MIN.</th>
<th>MAX.</th>
<th>U.M.</th>
<th>DEF.</th>
<th>ENERGY SAVING</th>
</tr>
</thead>
<tbody>
<tr>
<td>NE2</td>
<td>0</td>
<td>999</td>
<td>min</td>
<td>0</td>
<td>maximum duration of the &quot;energy saving&quot; function activated in manual mode due to the effect of absence of door micro switch input activation; see also r4, F4, F5 and i10</td>
</tr>
<tr>
<td>NE3</td>
<td>0</td>
<td>240</td>
<td>min</td>
<td>2</td>
<td>time interval with no key strokes, after which the &quot;low consumption&quot; function is activated</td>
</tr>
</tbody>
</table>

- **PARAM.** | **MIN.** | **MAX.** | **U.M.** | **DEF.** | **VARIOUS** |
- **POF**    | 0     | 1    | -     | -     | key activation |
- **PAS**    | -99   | 999  | min  | -19   | access password for the configuration parameters |

**Notes:**

1. the unit of measurement depends on P2
2. properly set the parameters corresponding to the regulators after setting P2 parameter
3. the temperature associated with regulation and the temperature alarms is the CPT temperature; the formula to calculate the CPT temperature is as follows: 
   
   

   \[
   \text{CPT temperature} = \frac{\left(\text{parameter P7} \times \text{inflowing air temperature}\right) + \left(100 - \text{parameter P7}\right) \times \text{outflowing air temperature}}{100}
   \]

4. if r5 parameter is set at 1, the "energy saving" function and the defrost management will be switched off; see also F1 parameter
5. the parameter has effect even after an interruption in the power supply that occurs while the device is switched on
6. the time set by parameter C2 is counted also when the device is off ("stand-by" status)
7. the differential of parameter is 2.0°C/4°F
8. 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
9. the value \( \Delta t \) depends on r12 parameter (r0 if r12 = 0, r0/2 if r12 = 1)
10. the display restores normal operation when, at the end of the dripping phase, room temperature or CPT temperature falls below the value that locked the display (or if a temperature alarm is triggered)
11. if P3 parameter is set at 0 or 2, the device will function as if d8 parameter were set at 0
12. if when defrost is activated, the operating duration of the compressor is less than the time established with d15 parameter, the compressor will remain on for the amount of time necessary to complete defrost, then the defrost shall be activated
13. during defrost, dripping and evaporator fan standstill, the maximum temperature alarm is absent, provided that it was triggered after defrost activation.
14. during activation of the door switch input, the maximum temperature alarm is absent, provided the alarm was signalled after the activation of the input
15. F4 and F5 parameters have effect when the compressor is off
16. F4 and F5 parameters have effect when the compressor is on
17. if P3 parameter is set at 0, the device will function as if F0 parameter were set at 2
18. F4 and F5 parameters have effect when the evaporator temperature is less than the temperature established with F1 parameter
19. F4 and F5 parameters have effect when the compressor is on and the temperature of the evaporator is below the temperature established with F1 parameter
20. if the P4 parameter is set at 0, 2 or 3, the condenser fan shall work in parallel with the compressor
21. the condenser fan is switched on provided that the compressor temperature falls below the value set with parameter F11 and provided that the compressor is switched off
22. the compressor is switched off 10 s after the activation of the input; if the input is activated during defrost or when the evaporator fan is deactivated, the activation will not have any effect on the compressor
23. to avoid damaging the connected load, set the parameter when the device is switched off ("stand-by" status).