EV9376 6 output digital controller for combi electric ovens, with RTC functions, programmed switch-on and programs management

version 3.00

(E) ENGLISH

MAIN INDEX

1 IMPORTANT

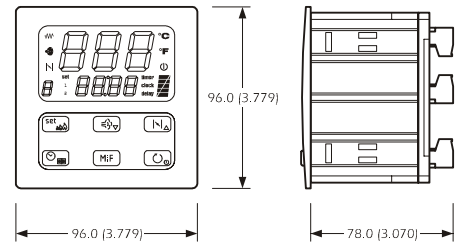
1.1 Important

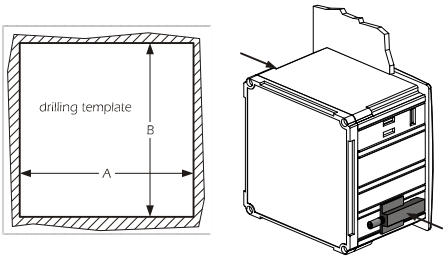
Read these instructions carefully before installation and before use and follow all recommendations for installation and for the electric connection. Keep the instructions for future consultation.

The instrument must be disposed of according to the local Standards regarding the collection of electric and electronic appliances.

1.2 Dimensions and installation

Panel, using the supplied screw brackets; dimensions in mm (in).





DIMENS.	MINIMUM	TYPICAL	MAXIMUM
A	92.0 (3.622)	92.0 (3.622)	92.8 (3.653)
B	92.0 (3.622)	92.0 (3.622)	92,8 (3.653)

Warnings regarding installation:

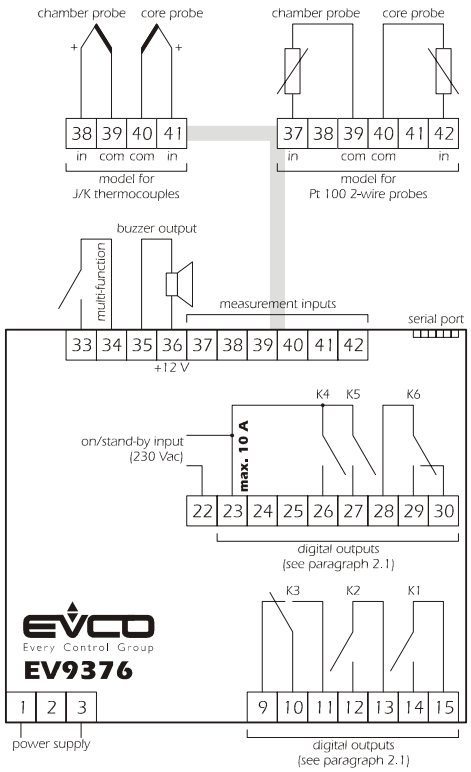
- the thickness of the panel must not exceed 4.0 mm (0.157 in)
- position the brackets as indicated in the drawing in this paragraph, moderate the coupling torque
- make sure that the working conditions (temperature of use, humidity, etc.) lie within the limits indicated in the technical data
- do not install the instrument in proximity of heat sources (heaters, hot air pipes etc.) appliances with strong magnets (large diffusers etc.), places subject to direct sunlight, rain, humidity, excessive dust, mechanical vibrations or shocks
- in compliance with Safety Standards, the protection against any contact with the electric parts must be ensured via correct installation of the instrument. All parts that ensure protection must be fixed in a way such that they cannot be removed without the aid of a tool.

1.3 Electric connection

With reference to the wiring diagram: the serial port is the port for communication with the supervision system (via a serial interface, via TTL, with MODBUS communication protocol) or using the programming key. The port must not be used at the same time for two purposes.

Recommendations for the electric connection:

- do not operate on the terminal boards using electric or pneumatic screwdrivers
- if the instrument has been taken from a cold place to a hot one, the humidity could condense inside. Wait about one hour before applying power.
- make sure that the power supply voltage, frequency and operational electric power correspond to those of the local power supply
- disconnect the power supply before performing any type of maintenance
- equip the probes with a protection able to insulate them against any contact with metal parts or use isolated probes
- do not use the instrument as a safety device
- for repairs and information regarding the instrument, contact the Evco sales network.



2 PRELIMINARY CONSIDERATIONS

2.1 Preliminary considerations

The following types of cooking can be managed (successively also called cooking phases):

- timed (see paragraph 4.3)
- core (see paragraph 4.4)
- steam (see paragraph 4.5)
- grill (see paragraph 4.6)
- continuous (see paragraph 4.7).

If the parameter r11 is set at 1, every cooking phase is preceded by a pre-heating phase (see paragraph 4.2).

It is also possible to combine several cooking phases (i.e. plan that at the conclusion of one cooking phase another different type is automatically started) and memorise these combinations in the programs (see chapter 11).

The utilities managed by the digital outputs (i.e. the K1 relays... K6) are the following:

RELAY	UTILTYMANAGED
K1	temperature regulation
K2	grill
K3	can be set (airhole default)
K4	steam injection
K5	fan
K6	can be set (default reversal of the direction of the fan)

To set the utility managed by the relay K3 and relay K6, see paragraph 5.1.

2.2 Management of the utilities

Temperature regulation.

The output activity will mainly depend on the temperature of the chamber (chamber probe), the work set-point of the phase in progress and the parameter r0.

The output can be on during the pre-heating phase and during any cooking phase.

Grill.

The output is switched-on in a cyclical way (the parameter c1 establishes the cycle time; the parameter c11 establishes the duration of switch-on of the grill, intended as a percentage of the time established with parameter c1).

The output can also be switched-on in manual mode.

The output can only be switched-on during the grill cooking phase.

Airhole.

The output is switched-on in the following conditions:

- before the conclusion of the steam cooking phase (the time established with parameter c5), for the time established with parameter c6
- in manual mode, for the time established with parameter c7 (both during the pre-heating phases and during any cooking phase).

Steam injection.

The output is switched-on in the following conditions:

- during the steam cooking phase, according to the method established with parameter t0
- in manual mode, for the time established with parameter t2 or for the entire duration of the manual action (both during the pre-heating phase and during any cooking phase).

Via the multifunction input it is also possible to switch the output on in remote mode.

Fan.

The output can be on during the continuous mode during the pre-heating phase and during any cooking phase.

If the parameter F2 is set at 1, the fan output and the inversion output of the direction of fan movement will be switched-on in cyclical mode (the parameter F4 establishes the duration of every direction of movement. The parameter F3 establishes the time between switch-off of one output and the switch-on of another).

It is also possible to reverse the direction of movement of the fan in manual mode.

Chamber light.

The output is switched-on in manual mode.

Via the multifunction input it is also possible to switch the output on in remote mode.

The output can be on during the pre-heating phase and during any cooking phase.

Steam generator.

The output is switched-on in manual mode.

The output can be on during the pre-heating phase and during any cooking phase.

Alarm.

The output is switched-on during a temperature alarm.

The output can be on during the pre-heating phase and during any cooking phase.

Acoustics.

The output is switched-on in the following conditions:

- at the conclusion of the pre-heating phase and at the conclusion of the core cooking phase for the time established with parameter c4
- before conclusion of the timed cooking phase, the steam cooking phase and the grill cooking phase (with time established using parameter c9), for the time established with parameter c4
- during an alarm or an error, with continuous contribution (during the heating phase or during any cooking phase).

On/Stand by.

The output is switched-on during the "on" status (see paragraph 3.1).

The output can be on during the pre-heating phase and during any cooking phase.

In spite of the fact that the instrument can manage the 10 utilities stated in this paragraph, there are 6 digital outputs available. Make sure that the utility desired is managed by the instrument (see paragraph 2.1).

3 USER INTERFACE

3.1 Preliminary considerations

The following functioning states exist:

- the "on" status (the instrument is powered and on: the outputs can be switched on)
- the "programmed switch-on" status (the instrument is powered but is switched-off via software: the outputs are off and programmed switch-on of the instrument is envisioned)
- the "stand-by" status (the instrument is powered but is switched-off via software: the outputs are off and programmed switch-on of the instrument is not envisioned)
- the "off" status (the instrument is not powered).

Successively, the term "switch-on" means that the passage from the stand-by status to the on status; the term "switch-off" means the passage from the on status to the stand-by status.

When the instrument is powered it re-proposes the status in which it found itself at the time when the power supply was disconnected.

3.2 Selecting the functioning state

To pass from the stand-by status to the on status (and vice versa):

- make sure no procedure is in progress
- press (⏻) for 1 s:

To pass from the programmed switch-on status to the on status:

- make sure no procedure is in progress
- press (⏻) for 1 s:

To pass from the on status to the programmed switch-on status:

- make sure no procedure is in progress
- press (⏻) and (⏲) for 1 s:

To pass from the stand-by status to the programmed switch-on status (and vice versa):

- make sure no procedure is in progress
- press (⏻) and (⏲) for 1 s:

Via the on/stand-by input it is also possible to pass from the on status (or from the programmed switch-on status) to the stand-by status in remote mode.

To pass from the on status (or the programmed switch-on status) to the stand-by status in remote mode:

- activate the on/stand-by input (the instrument remains in the stand-by status for the entire duration of the input activation).

The successive deactivation always causes passage to the on status. If the on/stand-by status is active, it will not be allowed to pass from the stand-by status to the on status (or to the programmed switch-on status) by pressing the keys.

3.3 The display

If the instrument is on:

- the upper part of the display will show the quantity established with parameter P5:
  - if P5 = 0, the display will show the chamber temperature
  - if P5 = 1, the display will show the work set-point of the phase in progress

- if P5 = 2, the display will show the core temperature
- if P5 = 3, the display will show the core set-point

▪ the lower part of the display will show the quantity established with parameter P6:

- if P6 = 0, the display will show the chamber temperature
- if P6 = 1, the display will show the work set-point of the phase in progress (in this case the "**set**" LED and the "**1**" LED will be on)
- if P6 = 2, the display the count of the duration of the cooking phase in progress (in this case the "**timer**" LED will be on). The count is displayed in the hours:minutes format (residual time)
- if P6 = 3, the display shows the day and the real time (in this case the "**clock**" LED will be on). The day will be displayed in the 1 ... 7 format (number 1 corresponds to Monday), the real time in the 24 h format
- if P6 = 4, the display will show the core temperature
- if P6 = 5, the display will show the core set-point (in this case the "**set**" LED and the "**2**" LED will be on)
- if P6 = 6, the display will show the significant quantity for the event in progress:
  - "**PrEH**" during the pre-heating phase
  - "**rdY**" flashing on conclusion of the pre-heating phase
  - "**End**" flashing on conclusion of the cooking phase
  - "**EndP**" flashing on conclusion of the program
  - "**PAUS**" flashes during the suspension of the cooking phase
  - count of the duration of the cooking phase, during the timed cooking phase, during the steam cooking phase and during the grill cooking phase
  - core temperature during the core cooking phase
  - "**- - - -**" during the continuous cooking phase.

If parameter P6 is set at values different to 6, these will have no effect in the following conditions:

▪ during the pre-heating phase (the lower part of the display will show "**PrEH**")
▪ on the conclusion of the pre-heating phase, in stand-by for start-up of the cooking phase (the lower part of the display shows flashing "**rdY**")
▪ during the pre-heating phase (the lower part of the display will show flashing "**PAUS**")
▪ on conclusion of the cooking phase (the lower part of the display will show flashing "**End**")
▪ on conclusion of the program (the lower part of the display will show flashing "**EndP**")
▪ during the core cooking phase (if P6 = 2) and during the continuous cooking phase (the lower part of the display will show "**- - - -**").

See also paragraphs 3.5 and 3.7.

<u>If the instrument is in the programmed switch-on status:</u>

▪ the upper part of the display will show the program label which will be started on programmed switch-on of the instrument (if the start-up of any program is not envisioned, the upper part of the display will show "**P -**")
▪ the lower part of the display will show the day of the time of the next switch-on; the day is visualised in 1 ... 7 format (number 1 corresponds to Monday), the real time in the 24 h format (if no switch-on is programmed, the lower part of the display will show "**- - : - -**")
▪ the "**delay**" LED will be on
▪ the ⏻ LED will be on.

<u>If the instrument is in the stand-by status:</u>

▪ the upper part of the display will be off
▪ the lower part of the display:
- will be off if parameter c8 is set at 0
- it will display the real time if parameter c8 is set at 1 (in this case the "**clock**" LED will be on); the real time is displayed in the 24 h format

▪ the ⏻ LED will be on.

3.4 Temporary setting of the quantity shown by the upper part of the display during the on status

▪ make sure no procedure is in progress
▪ press [▲] and [⏻] for 1 s several times: the highest display will show one of the labels stated in the table in paragraph 3.5 for 2 s, after which it will show the corresponding value.

A power cut causes the restore of the display of the quantity established with parameter P5.

3.5 Learning of the quantity shown by the upper part of the display during the on status

▪ make sure no procedure is in progress
▪ press [▲] and [⏻] : the upper part of the display will show one of the labels given in the following table for 2 secs:

LABEL	MEANING
Pbr	chamber temperature
SPr	work set-point of the phase in progress
PbC	core temperature
SPC	core set-point

If the core probe is not enabled (parameter P4 = 0), the "**PbC**" and "**SPC**" labels will not be displayed.

3.6 Temporary setting of the quantity shown by the lower part of the display during the on status

▪ make sure no procedure is in progress
▪ press [▼] and [⏻] for 1 s several times: the lowest display will show one of the labels stated in the table in paragraph 3.7 for 2 s, after which it will show the corresponding value.

A power cut causes the restore of the display of the quantity established with parameter P6.

3.7 Learning of the quantity shown by the lower part of the display during the on status

▪ make sure no procedure is in progress
▪ press [▼] and [⏻] : the lower part of the display will show one of the labels given in the following table for 2 secs:

LABEL	MEANING
Pbr	chamber temperature
SPr	work set-point of the phase in progress
tinE	count of the duration of the cooking phase in progress
rtc	day and real time
PbC	core temperature
SPC	core set-point

If the core probe is not enabled (parameter P4 = 0), the "**PbC**" and "**SPC**" labels will not be displayed.

3.8 Chamber light switch-on/off

▪ make sure no procedure is in progress
▪ press [MIF]

The chamber light can be on during the pre-heating phase and during any cooking phase.

Via the multifunction input it is also possible to cause the same effect by pressing the [MIF] key in remote mode.

If the chamber light is not managed by any digital output, pressing the [MIF] key will cause the "**no**" indication to be shown in the lower part of the display for 1 s.

3.9 Silencing the buzzer

▪ make sure no procedure is in progress
▪ press a key (the first time the key is pressed, the associated effect is not caused).

Pressing the key also causes the acoustic output and the buzzer output to switch off.

Via the multifunction input it is also possible to switch the buzzer, the acoustic output and the buzzer output off in remote mode.

4 FUNCTIONING

4.1 Preliminary considerations

The following types of cooking can be managed (successively also called cooking phases):

▪ timed
▪ core
▪ steam
▪ grill
▪ continuous.

If no cooking phase is selected, a continuous cooking phase will be started on instrument switch-on.

If the parameter r11 is set at 1, every cooking phase is preceded by a pre-heating phase.

4.2 Pre-heating phase

<u>To start the phase:</u>

▪ make sure that the instrument is in stand-by status and that no procedure is in progress
▪ press [⏻] for 1 s:

<u>During the phase:</u>

▪ the upper part of the display shows the established quantity with parameter P5 (for predefined setting of the chamber temperature)
▪ the lower part of the display will show the "**PrEH**" indication
▪ the work set-point is the "work set-point of the cooking phase successive to the pre-heating phase + temperature established using parameter r4" value (successively called work set-point of the pre-heating phase)
- press [MIF] and [⏻] for 1 s to pass to the cooking phase.

When the temperature of the chamber reaches the work set-point of the pre-heating phase, the phase is concluded.

<u>On conclusion of the phase:</u>

- the lower part of the display will show the flashing "**rdY**" indication
- the buzzer and the acoustic output are switched-on for the time established using parameter c4
- press a key to silence the buzzer and to switch the acoustic output off
- the activity of the output for continuous temperature regulation depends on the chamber temperature (chamber probe), the work set-point of the pre-heating phase and the parameter r0
- the fan remains on
- press [⏻] for 1 s to pass to the cooking phase.

Via the multifunction input it is also possible to pass from the conclusion of the pre-heating phase to the next cooking phase in remote mode.

If on start-up of the pre-heating phase, the chamber temperature is above the work set-point of the pre-heating phase, this will not be performed.

<u>To modify the work set-point of the pre-heating phase:</u>

▪ press [SET] during the phase or the conclusion of the phase: the upper part of the display will show the work set-point of the pre-heating phase and the ≋ LED will flash
▪ press [▲] or [▼] within 15 s; see also parameters r1 and r2
▪ press [SET] or do not operate for 15 s: the ≋ LED will switch-off, after which the instrument will exit the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

The modification of the work set-point of the pre-heating phase causes automatic adaptation of the work set-point of the next cooking phase at the pre-heating phase such to guarantee that the "work set-point of the next cooking phase at the pre-heating phase + temperature established using parameter r4" is always the work set-point of the pre-heating phase.

<u>To interrupt the phase and pass to the next one:</u>

▪ press [MIF] and [⏻] for 1 s:

<u>To interrupt the phase:</u>

▪ press [⏻] for 1 s:

4.3 Timed cooking phase

<u>To select the phase:</u>

▪ make sure that the instrument is in the stand-by status, that no procedure is in progress and the chamber probe error is not in progress
▪ press [SET] : the lower part of the display will show flashing "**tinE**".

To exit the procedure in advance:

▪ press [⏻] do not operate for 15 s.

<u>To start the phase:</u>

▪ press [⏻] for 1 s:

<u>To modify the work set-point:</u>

▪ press [SET] before starting the phase: the upper part of the display will show the work set-point and the ≋ LED will flash
▪ press [▲] or [▼] within 15 s; see also parameters r1 and r2
▪ press [SET] or do not operate for 15 s: the ≋ LED will switch-off, after which the instrument will exit the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

It is also possible to set the work set-point of the timed cooking phase via parameter SP1 (for predefined setting 150 °C/°F).

<u>To modify the duration of the phase:</u>

▪ press [SET] and [⏲] before starting the phase: the lower part of the display will show phase duration, the left part and the "**timer**" LED will flash.

The duration of the phase is visualised in the hours:minutes format.

To modify the hour:

▪ press [▲] or [▼] within 15 s
▪ press [SET] : the right part will flash.

To modify the minutes:

▪ press [▲] or [▼] within 15 s.

The duration of the phase can be set between 00:00 and 24:00 h:min.

▪ press [SET] : the "**timer**" LED will switch-off, after which the instrument will exit the procedure.

To go back to the previous level:

▪ press [⏲] during the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

It is also possible to set the duration of the timed cooking phase via parameter d1 (for pre-defined setting 00:30 h:min).

The work set-point and the duration of the phase can also be modified when the phase is in progress (these modifications are temporary, i.e., on the contrary to any power supply cut-off, the selection of a different type of cooking phase causes the reset of the same values set, however with the procedure indicated in paragraph 5.3).

If the duration of the phase is set at 00:00 h:min, the count will be interrupted, the "**timer**" LED will switch-off, the buzzer and the acoustic output will be on for 3 s.

<u>During the phase:</u>

▪ the upper part of the display shows the established quantity with parameter P5 (for predefined setting of the chamber temperature)
▪ the lower part of the display shows the quantity established using parameter P6 (for predefined setting of the count of the phase duration; the count is displayed in the hours:minutes format (residual time))
▪ press [MIF] and [⏻] to display the indication relative to the cooking phase in progress for 2 sec in the lower part of the display ("**tinE**").

When the count of the duration of the phase is completed, the phase is concluded.

<u>Before the conclusion of the phase (of the time established with parameter c9):</u>

- the buzzer and the acoustic output are switched-on for the time established using parameter c4.

<u>On conclusion of the phase:</u>

- the lower part of the display will show the flashing "**End**" indication
- press a key to silence the buzzer and to switch the acoustic output off; press it again to delete the "**End**" indication
- the temperature regulation output is switched-off
- the fan is switched-off.

<u>To interrupt the phase:</u>

▪ press [⏻] for 1 s:

<u>To memorise the phase and its settings in a program:</u>

▪ make sure the phase has ended
▪ press [MIF] and [⏲] for 4 s: the lower part of the display will show "**PrOG**" and a flashing label relative to the first program
▪ repeat the procedure stated in paragraph 11.2.

The instrument memorises the phase and its settings on condition that another phase is not selected on conclusion of the phase.

4.4 Core cooking phase

<u>To select the phase:</u>

▪ make sure that the instrument is in the stand-by status, that no procedure is in progress and the chamber probe error is not in progress
▪ press [SET] : the lower part of the display will show flashing "**tinE**"
▪ press [▲] or [▼] within 15 s to select "**COrE**".

To exit the procedure in advance:

▪ press [⏻] do not operate for 15 s.

<u>To start the phase:</u>

▪ press [⏻] for 1 s:

If the core probe is not enabled (parameter P4 = 0) or if a core probe error is in progress, the "**COrE**" label will not be displayed.

<u>To modify the work set-point:</u>

▪ press [SET] before starting the phase: the upper part of the display will show the work set-point, the ≋ LEDs and "**1**" will flash
▪ press [▲] or [▼] within 15 s; see also parameters r1 and r2

▪ press SEC twice or do not operate for 15 s: the LEDs and "**1**" will switch-off, after which the instrument will exit the procedure.

It is also possible to set the work set-point of the core cooking phase via parameter SP3 (for predefined setting 150 °C/°F).

To modify the core set-point:

▪ press SEC during modification of the work set-point: the upper part of the display will show the core set-point, the LEDs and "**2**" will flash
▪ press ▲ or ▼ within 15 s; see also parameters r7 and r8
▪ press SEC : the LEDs and "**2**" will switch-off, after which the instrument will exit the procedure.

It is also possible to set the core set-point via parameter SP2 (for predefined setting 150 °C/°F).

To go back to the previous level:

▪ press ⏲ during the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

The work set-point and the core set-point can also be modified when the phase is in progress (these modifications are temporary, i.e., on the contrary to any power supply cut-off, the selection of a different type of cooking phase causes the reset of the same values set, however with the procedure indicated in paragraph 5.3).

During the phase:

▪ the upper part of the display shows the established quantity with parameter P5 (for predefined setting of the chamber temperature)
▪ the lower part of the display shows the core temperature
▪ press MIF and ⏻ to display the indication relative to the cooking phase in progress for 2 sec in the lower part of the display ("**COrE**").

When the core temperature reaches the core set-point, the phase concludes.

On conclusion of the phase:

- the lower part of the display will show the flashing "**End**" indication
- the buzzer and the acoustic output are switched-on for the time established using parameter c4
- press a key to silence the buzzer and to switch the acoustic output off; press it again to delete the "**End**" indication
- the temperature regulation output is switched-off
- the fan is switched-off.

To interrupt the phase:

▪ press ⏻ for 1 s:

To memorise the phase and its settings in a program:

▪ make sure the phase has ended
▪ press MIF and ⏲ for 4 s: the lower part of the display will show "**PrOG**" and a flashing label relative to the first program
▪ repeat the procedure stated in paragraph 11.2.

The instrument memorises the phase and its settings on condition that another phase is not selected on conclusion of the phase.

4.5 Steam cooking phase

To select the phase:

▪ make sure that the instrument is in the stand-by status, that no procedure is in progress and the chamber probe error is not in progress
▪ press SEC : the lower part of the display will show flashing "**tinE**"
▪ press ▲ or ▼ within 15 s to select "**StEA**".

To exit the procedure in advance:

▪ press ⏻ do not operate for 15 s.

To start the phase:

▪ press ⏻ for 1 s:

To modify the work set-point:

▪ press SEC before starting the phase: the upper part of the display will show the work set-point and the LEDs will flash
▪ press ▲ or ▼ within 15 s; see also parameters r1 and r2
▪ press SEC or do not operate for 15 s: the LEDs will switch-off, after which the instrument will exit the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

It is also possible to set the work set-point of the steam cooking phase via parameter SP4 (for predefined setting 150 °C/°F).

To modify the duration of the phase:

▪ press SEC and ⏲ before starting the phase: the lower part of the display will show phase duration, the left part and the "**timer**" LED will flash.

The duration of the phase is visualised in the hours:minutes format.

To modify the hour:

▪ press ▲ or ▼ within 15 s
▪ press SEC : the right part will flash.

To modify the minutes:

▪ press ▲ or ▼ within 15 s.

The duration of the phase can be set between 00:00 and 24:00 h:min.

▪ press SEC : the "**timer**" LED will switch-off, after which the instrument will exit the procedure.

To go back to the previous level:

▪ press ⏲ during the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

It is also possible to set the duration of the steam cooking phase via parameter d4 (for pre-defined setting 00:30 h:min).

To modify the parameter t2 (if t0 = 0, minimum duration of steam injection; se t0 = 1, duration of steam injector switch-on):

▪ press SEC and ▼ before starting the phase: the lower part of the display will show the value of parameter t2 and the steam LED will flash
▪ press ▲ or ▼ within 15 s.

The parameter t2 can be set between 1 and 250 ds.

▪ press SEC : the steam LED will switch-off, after which the instrument will exit the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

To modify parameter c7 (switch-on duration of the airhole in manual mode):

▪ press SEC and ▲ before starting the phase: the lower part of the display will show the value of parameter c7, the left part and the LED will flash.

The value of the parameter c7 is displayed in the minutes:seconds format.

To modify the minutes:

▪ press ▲ or ▼ within 15 s
▪ press SEC : the right part will flash.

To modify the seconds:

▪ press ▲ or ▼ within 15 s.

The parameter c7 can be set between 00:00 and 60:00 min:s.

If the airhole is not managed by any digital output, the lower part of the display will show "**no**" for 1 s.

▪ press SEC : the LED will switch-off, after which the instrument will exit the procedure.

To go back to the previous level:

▪ press ⏲ during the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

The work set-point, the duration of the phase, parameter t2 and parameter t7 can also be modified when the phase is in progress (these modifications are temporary, i.e., on the contrary to any power supply cut-off, the selection of a different type of cooking phase causes the reset of the same values set, however with the procedure indicated in paragraph 5.3).

If the duration of the phase is set at 00:00 h:min, the count will be interrupted, the "**timer**" LED will switch-off, the buzzer and the acoustic output will be on for 3 s.

During the phase:

▪ the upper part of the display shows the established quantity with parameter P5 (for predefined setting of the chamber temperature)
▪ the lower part of the display shows the quantity established using parameter P6 (for predefined setting of the count of the phase duration; the count is displayed in the hours:minutes format (residual time))
▪ press MIF and ⏻ to display the indication relative to the cooking phase in progress for 2 sec in the lower part of the display ("**StEA**").

When the count of the duration of the phase is completed, the phase is concluded.

Before the conclusion of the phase (of the time established with parameter c9):

- the buzzer and the acoustic output are switched-on for the time established using parameter c4.

On conclusion of the phase:

- the lower part of the display will show the flashing "**End**" indication
- press a key to silence the buzzer and to switch the acoustic output off; press it again to delete the "**End**" indication
- the temperature regulation output is switched-off
- the fan is switched-off.

To interrupt the phase:

▪ press ⏻ for 1 s:

To memorise the phase and its settings in a program:

▪ make sure the phase has ended
▪ press MIF and ⏲ for 4 s: the lower part of the display will show "**PrOG**" and a flashing label relative to the first program
▪ repeat the procedure stated in paragraph 11.2.

The instrument memorises the phase and its settings on condition that another phase is not selected on conclusion of the phase.

4.6 Grill cooking phase

To select the phase:

▪ make sure that the instrument is in the stand-by status, that no procedure is in progress and the chamber probe error is not in progress
▪ press SEC : the lower part of the display will show flashing "**tinE**"
▪ press ▲ or ▼ within 15 s to select "**GriL**".

To exit the procedure in advance:

▪ press ⏻ do not operate for 15 s.

To start the phase:

▪ press ⏻ for 1 s:

If the pre-heating phase is not enabled (parameter r11 = 0), the "**GriL**" label will not be displayed.

To modify the work set-point:

▪ press SEC before starting the phase: the upper part of the display will show the work set-point and the LEDs will flash
▪ press ▲ or ▼ within 15 s; see also parameters r1 and r2
▪ press SEC or do not operate for 15 s: the LEDs will switch-off, after which the instrument will exit the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

It is also possible to set the work set-point of the grill cooking phase via parameter SP5 (for predefined setting 150 °C/°F).

To modify the duration of the phase:

▪ press SEC and ⏲ before starting the phase: the lower part of the display will show phase duration, the left part and the "**timer**" LED will flash.

The duration of the phase is visualised in the hours:minutes format.

To modify the hour:

▪ press ▲ or ▼ within 15 s
▪ press SEC : the right part will flash.

To modify the minutes:

▪ press ▲ or ▼ within 15 s.

The duration of the phase can be set between 00:00 and 24:00 h:min.

▪ press SEC : the "**timer**" LED will switch-off, after which the instrument will exit the procedure.

To go back to the previous level:

▪ press ⏲ during the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

It is also possible to set the duration of the grill cooking phase via parameter d5 (for pre-defined setting 00:30 h:min).

To modify the switch-on duration of the grill (intended as a percentage of the time established using parameter c11):

▪ press MIF before starting the phase: the lower part of the display will show the duration of switch-on of the grill and the LED will flash

The duration of the phase is visualised in the 0 .. format. 100%.

▪ press ▲ or ▼ within 15 s
▪ press SEC : the LED will switch-off, after which the instrument will exit the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

It is also possible to set the switch-on duration of the grill via parameter c11 (for predefined setting 25%).

The work set-point, the duration of the phase and the switch-on duration of the grill can also be modified when the phase is in progress (these modifications are temporary, i.e., on the contrary to any power supply cut-off, the selection of a different type of cooking phase causes the reset of the same values set, however with the procedure indicated in paragraph 5.3).

If the duration of the phase is set at 00:00 h:min, the count will be interrupted, the "**timer**" LED will switch-off, the buzzer and the acoustic output will be on for 3 s.

During the phase:

▪ the upper part of the display shows the established quantity with parameter P5 (for predefined setting of the chamber temperature)
▪ the lower part of the display shows the quantity established using parameter P6 (for predefined setting of the count of the phase duration; the count is displayed in the hours:minutes format (residual time))
▪ press MIF and ⏻ to display the indication relative to the cooking phase in progress for 2 sec in the lower part of the display ("**GriL**").

When the count of the duration of the phase is completed, the phase is concluded.

Before the conclusion of the phase (of the time established with parameter c9):

- the buzzer and the acoustic output are switched-on for the time established using parameter c4.

On conclusion of the phase:

- the lower part of the display will show the flashing "**End**" indication
- press a key to silence the buzzer and to switch the acoustic output off; press it again to delete the "**End**" indication
- the temperature regulation output is switched-off
- the fan is switched-off.

To interrupt the phase:

▪ press ⏻ for 1 s:

To memorise the phase and its settings in a program:

▪ make sure the phase has ended
▪ press MIF and ⏲ for 4 s: the lower part of the display will show "**PrOG**" and a flashing label relative to the first program
▪ repeat the procedure stated in paragraph 11.2.

The instrument memorises the phase and its settings on condition that another phase is not selected on conclusion of the phase.

4.7 Continuous cooking phase

To select the phase:

▪ make sure that the instrument is in the stand-by status, that no procedure is in progress and the chamber probe error is not in progress
▪ press SEC : the lower part of the display will show flashing "**tinE**"
▪ press ▲ or ▼ within 15 s to select "**COnt**".

To exit the procedure in advance:

▪ press ⏻ do not operate for 15 s.

To start the phase:

▪ press ⏻ for 1 s:

To modify the work set-point:

▪ press SEC before starting the phase: the upper part of the display will show the work set-point and the LEDs will flash
▪ press ▲ or ▼ within 15 s; see also parameters r1 and r2
▪ press SEC or do not operate for 15 s: the LEDs will switch-off, after which the instrument will exit the procedure.

To exit the procedure in advance:

▪ do not operate for 15 s (any modifications will be saved).

It is also possible to set the work set-point of the continuous cooking phase via parameter SP6 (for predefined setting 150 °C/°F).

The work set-point can also be modified when the phase is in progress (this modification is temporary, i.e., on the contrary to any power supply cut-off, the selection of a different type of cooking phase causes the reset of the same value set, however with the procedure indicated in paragraph 5.3).

During the phase:
- the upper part of the display shows the established quantity with parameter P5 (for predefined setting of the chamber temperature)
- the lower part of the display will show the "**- - - -**" indication
- press MIF and to display the indication relative to the cooking phase in progress for 2 sec in the lower part of the display ("**COnt**").

The phase remains active until it is interrupted.

To conclude/interrupt the phase:
- press for 1 s:

To memorise the phase and its settings in a program:
- make sure the phase has ended
- press MIF and for 4 s: the lower part of the display will show "**PrOG**" and a flashing label relative to the first program
- repeat the procedure stated in paragraph 11.2.

The instrument memorises the phase and its settings on condition that another phase is not selected on conclusion of the phase.

4.8 Additional functions

4.8.1 Suspension/re-start of a timed cooking phase, of a steam cooking phase and a grill cooking phase

- press

During the suspension:
- the lower part of the display will show flashing "**PAUS**"
- the temperature regulation output is switched-off
- the grill is switched-off.
- the airhole is switched-off
- the steam injector is switched-off
- the fan is switched-off
- the phase duration count is suspended.

4.8.2 Extension of a cooking phase on conclusion of the same

- press before interrupting the phase: the lower part of the display will show "**00**" and the "**timer**" LED will flash
- press or within 15 s.

The duration of the extension can be set between 1 and 59 min.
- press : the "**timer**" LED will stop flashing and will switch-on, after which the instrument will exit the procedure and the cooking phase will be re-started.

To exit the procedure in advance:
- do not operate for 15 s (any modifications will be saved).

To prolong the cooking phase further, repeat the procedure given in this paragraph.

5 SETTINGS

5.1 Setting the utility managed by relay K3 and relay K6

To access the procedure:
- make sure that the instrument is in stand-by status and that no procedure is in progress
- press and for 4 s: the upper part of the display will show "**PA**"
- press : the lower part of the display will show the corresponding value
- press or within 15 s to set "**743**"
- press
- press and for 4 s: the upper part of the display will show "**dEF**"
- press or to select "**do3**" or "**do6**".

The label meaning is the following:

LABEL	MEANING
do3	utility managed by the third digital output (relay K3)
do6	utility managed by the sixth digital output (relay K6)

To modify the utility managed by an output:
- press : the lower part of the display will show the corresponding value.

The meaning of the values is the following:

VALUE	MEANING
0	not used
1	vent
2	reversal of the direction of the fan
3	chamber light
4	steam generator
5	alarm
6	acoustics
7	on/stand-by

- press or within 15 s
- press

To exit the procedure:
- press and for 4 s:

5.2 Setting the day and the real time

- make sure that the instrument is in stand-by status and that no procedure is in progress
- press and : the lower part of the display will show the day of the week and the real time; the indication relative to the day and the "**clock**" LED will flash.

The day is displayed in the 1 ... 7 format (number 1 corresponds to Monday), the real time in the 24 hour format (hours:minutes)

To modify the day:
- press or within 15 s
- press : the left part of the indication relative to the real time will flash.

To modify the hour:
- press or within 15 s
- press : the right part of the indication relative to the real time will flash.

To modify the minutes:
- press or within 15 s
- press : the "**clock**" LED will switch-off, after which the instrument will exit the procedure.

To go back to the previous level:
- press during the procedure.

To exit the procedure in advance:
- do not operate for 15 s (any modifications will be saved).

5.3 Setting the configuration parameters

To access the procedure:
- make sure that the instrument is in stand-by status and that no procedure is in progress
- press and for 4 s: the upper part of the display will show "**PA**"
- press : the lower part of the display will show the corresponding value
- press or within 15 s to set "**-19**"
- press or do not operate for 15 s
- press and for 4 s: the upper part of the display will show "**SP1**"

To select a parameter:
- press or

To modify a parameter:
- press : the lower part of the display will show the corresponding value
- press or within 15 s
- press or do not operate for 15 s.

To exit the procedure:
- press and for 4 s or do not operate for 60 s (any modifications will be saved).

Cut off the power supply to the instrument after modification of the parameters.

5.4 Restoring the default values (configuration parameters and settings memorised in the programs)

- make sure that the instrument is in stand-by status and that no procedure is in progress
- press and for 4 s: the upper part of the display will show "**PA**"
- press : the lower part of the display will show the corresponding value
- press or within 15 s to set "**743**"
- press or do not operate for 15 s
- press and for 4 s: the upper part of the display will show "**dEF**"
- press : the lower part of the display will show the corresponding value
- press or within 15 s to set "**149**"
- press or do not operate for 15 s: the upper part of the display will show flashing "**dEF**" for 4 s, after which "**dEF**" will switch-on
- cut the instrument power supply off.

To exit the procedure in advance:
- press and for 4 s during the procedure (i.e. before setting "**149**": restore will not be carried out).

Make sure that the default values are appropriate.

6 GRILL

6.1 Preliminary considerations

The grill is switched-on in a cyclical way (the parameter c1 establishes the cycle time; the parameter c11 establishes the duration of switch-on of the grill, intended as a percentage of the time established with parameter c1).

If the parameter r17 is set at 1, the grill will only be switched on once before the conclusion of the grill cooking phase (for the time established with the parameter c1).

The grill can also be switched-on/off in manual mode.

The grill can only be switched-on during the grill cooking phase.

6.2 Activation/deactivation of grill switch-on in cyclical mode (only if parameter r17 is set at 0)

- make sure a grill cooking phase is in progress and that no procedure is in progress
- press for 4 s: the LED will switch-on and the grill will be on, both for the time established with parameter c11, intended as a percentage of the time established using parameter c1.

6.3 Grill switch-on in manual mode

- make sure a grill cooking phase is in progress and that no procedure is in progress
- press for 4 s: the LED will switch-on and the grill will be turned on, both for the time established with parameter c1.

6.4 Grill switch-off in manual mode

- make sure no procedure is in progress
- press for 4 s: the LED will switch-off.

7 AIRHOLE

7.1 Preliminary considerations

The airhole can be switched on in the following conditions:
- before the conclusion of the steam cooking phase (the time established with parameter c5), for the time established with parameter c6
- in manual mode, for the time established with parameter c7 (both during the pre-heating phases and during any cooking phase).

7.2 Airhole switch-on in manual mode

- make sure that the instrument is in on status and that no procedure is in progress
- press : the LED will switch-on and the airhole will be turned on, both for the time established with parameter c7.

If the airhole is not managed by any digital output, pressing the key will cause the "**no**" indication to be shown in the lower part of the display for 1 s.

7.3 Airhole switch-off in manual mode

- make sure no procedure is in progress
- press : the LED will switch-off.

8 STEAM INJECTION

8.1 Preliminary considerations

The steam injector can be switched-on in the following conditions:
- during the steam cooking phase, according to the method established with parameter t0:
  - if the parameter t0 is set at 0, pressing the key will cause the injection of the steam for the time established with parameter t2 or for the entire duration that the key is pressed; the parameter t1 establishes the minimum time that will pass between the two successive injections.
  - if the parameter t0 is set at 1, pressing the key will enable the automatic injection of the steam (in cyclical mode: the parameter t2 establishes the duration of injector switch-on and the parameter t1 establishes the duration of switch-off).
- in manual mode, for the time established with parameter t2 or for the entire duration of the manual action (both during the pre-heating phase and during any cooking phase).

Via the multifunction input it is also possible to cause the same effect by pressing the key in remote mode.

The steam injection is subordinate to the status of the fan and the steam generator (see chapters 9 and 10).

8.2 Switch-on of the injector in manual mode (only if the parameter t0 is set at 0)

- make sure that the instrument is in on status and that no procedure is in progress
- press : the LED switches on and the injector will be activated, both for the time established with parameter t2 or for the entire duration that the key is pressed.

The injector cannot be switched-off in manual mode.

8.3 Enabling of the automatic injection of the steam (only if the parameter t0 is set at 1)

- make sure the steam cooking phase is in progress and that no procedure is in progress
- press : the LED will switch-on and the injector will be switched-on in cyclical mode according to that established with the parameters t1 and t2 (until the key is pressed again).

9 FAN

9.1 Preliminary considerations

The fan can be on during the continuous mode during the pre-heating phase and during any cooking phase.

If the parameter F2 is set at 1, the fan output and the inversion output of the direction of fan movement will be switched-on in cyclical mode (the parameter F4 establishes the duration of every direction of movement. The parameter F3 establishes the time between switch-off of one output and the switch-on of another).

It is also possible to reverse the direction of movement of the fan in manual mode.

If parameter r16 is set at 1, during switch-off of the fan, the output for regulation of the temperature will remain off.

If parameter t5 is set at 0, the steam injection will be allowed on condition that the fan is on. If parameter t5 is set at 1,the steam injection will be allowed on condition that the fan is off (i.e. during switch-off of the fan; in this case the injector can only be switched-on in manual mode).

9.2 Inversion of the direction of fan movement in manual mode

- make sure that parameter F2 is set at 1 and that no procedure is in progress
- press MIF for 4 s: the fan will remain off for the time established with parameter F3, after which it will be switched back on.

If the fan movement direction reversal is not managed by any digital output, pressing the MIF key will cause the "**no**" indication to be shown in the lower part of the display for 1 s.

10 STEAM GENERATOR

10.1 Preliminary considerations

The steam generator allows to subject the injection of the steam at its own status.

Pressing the MIF and keys will cause the steam generator to switch-on and pressing again causes switch-off; the injection of steam is allowed on condition that the steam generator is on.

The steam generator can be on during the pre-heating phase and during any cooking phase.

If the steam generator is not managed by any digital output, pressing the MIF and key will cause the "**no**" indication to be shown in the lower part of the display for 1 s.

11 PROGRAMS MANAGEMENT

11.1 Preliminary considerations

The programs allow to memorise combinations of several cooking phases.

On program start-up the instrument will function with the settings it has memorised.

It is possible to combine up to 5 cooking phases (i.e. plan that on conclusion of a cooking phase a different type is started automatically) for every program. It is possible to memorise up to 10 programs.

If the parameter r11 is set at 1, the first cooking phase is preceded by a pre-heating phase (see paragraph 4.2).

The programs can be started in manual mode or on programmed switch-on of the instrument (see chapter 12).

The modification of the settings memorised in a program during the execution of the same is not re-proposed on the successive start-up of the same program.

11.2 Memorising a program

To access the procedure:
- make sure that the instrument is in stand-by status and that no procedure is in progress
- press MIF and ⏲ : the lower part of the display will show "**PrOG**" and "**0**" (it is the label of the zero program).

The label meaning is the following:

LABEL	MEANING
0	zero program
1	first program
2 ... 8	second ... eighth program
9	ninth program
-	no program used

To select a program:
- press ∧ or ∨ within 15 s (for example to select "**7**").

If the program is already used, the top part of the display will show "**bSY**".

To select the first cooking phase:
- press SET : the upper part of the display will show flashing "**F 1**" (it is the label of the first phase) and the lower part will show "**- - - -**"
- press SET : the upper part of the display will show "**F 1**" and the lower part will show flashing "**- - - -**"
- press ∧ or ∨ within 15 s (for example to select "**COrE**").

If the pre-heating phase is not enabled (parameter r11 = 0), the "**Gril**" label will not be displayed.

To modify the settings:
- operate as indicated in the respective procedure, i.e.:
- operate as indicated in the procedure stated in paragraph 4.3 for the timed cooking phase
- operate as indicated in the procedure stated in paragraph 4.4 for the core cooking phase
- operate as indicated in the procedure stated in paragraph 4.5 for the steam cooking phase
- operate as indicated in the procedure stated in paragraph 4.6 for the grill cooking phase
- operate as indicated in the procedure stated in paragraph 4.7 for the continuous cooking phase
- press ⏲ for 1 s: the upper part of the display will again show flashing "**F 1**" and the lower part the label of the cooking phase (in the example "**COrE**").

To select the successive cooking phases:
- repeat the procedure stated in this paragraph.

The upper part shows "**Ch**".

To memorise the program:
- press ⏲ for 1 s: the upper part of the display will show "**Ch**" for 1 s, after which it will show "**bSY**", the lower part will show flashing "**PrOG**" for 4 s and the program label (in the example "**7**"), after which "**PrOG**" it will switch-on.

To memorise another programmed, repeat the procedure given in this paragraph.

To exit the procedure:
- press MIF and ⏲ or do not operate for 15 s.

To exit the procedure in advance:
- press MIF and ⏲ or do not operate for 15 s during the procedure (i.e. before memorising the program: any modifications will not be saved).

11.3 Starting a program in manual mode

- press ⏻ after having memorised the program

11.4 Start-up of a program on programmed switch-on of the instrument

- press SET before exiting the procedures stated in chapter 12 (i.e. after having modified the minutes, for example, of the switch-off time "**H07**" of the combination of days "**1 - 5**"): the lower part of the display will show "**PrOG**" and "**1**" (it is the label of the first program).

To select a program:
- press ∧ or ∨ within 15 s (for example to select "**7**").

To display the information regarding the program:
- press MIF : the display and the LEDs will show the following information in succession (for example), after which the instrument will restore the normal display.

LED	DISPLAY
-	**7** (upper part) and **PrOG** (lower parts; continuous ...) the program selected
-	**CorE** (continuous ...) the cooking phase (core)
≈ and **1**	**150** (continuous ...) the work set-point value is 150 °C/°F
≈ and **2**	**100** (continuous ...) the core set-point value is 150 °C/°F
-	**Cont** (continuous ...) the cooking phase (continuous)
≈	**150** the work set-point value is 150 °C/°F

The display shows every setting for 1 s.

To exit the succession of settings:
- press MIF

To confirm the selection of the program:
- press SET the upper part of the display will again show the label of the flashing switch-on time (in the example "**H07**") and the lower part will show the combination of days again (in the example "**1 - 5**").

If "**-**" is selected, on programmed switch-on of the instrument a continuous cooking phase will be started.

To memorise another program, repeat the procedure given in this paragraph.

To exit the procedure:
- press SET and ⏻ or do not operate for 15 s: the "**delay**" LED will switch-off.

To exit the procedure in advance:
- press SET and ⏻ or do not operate for 15 s during the procedure (i.e. before confirming the selection of the program: any modifications will not be saved).

11.5 Exclusion of the cooking phase of a program for benefit of the successive one

- make sure no procedure is in progress
- press ⏲ for 4 s: the instrument passes to the successive cooking phase.

11.6 Learning the information regarding the program during the execution of the same

- make sure no procedure is in progress
- press ⏲ and ⏻ : the display and the LEDs will show the following information (for example), after which the instrument will restore the normal display. To pass from one piece of information to the next press ∧

LED	DISPLAY
-	**7** (upper part: program 7) and **PrOG** (lower part)
-	**P71** (upper part: program 7, phase 1) and **CorE** (lower part; the cooking phase)
≈ and **1**	**P71** (upper part: program 7, phase 1) and **150** (lower part; the value of the work set-point)
≈ and **2**	**P71** (upper part: program 7, phase 1) and **100** (lower part; the value of the core set-point)
-	**P72** (upper part: program 7, phase 2) and **COnt** (lower part; the cooking phase)
≈	**P72** (upper part: program 7, phase 2) and **150** (lower part; the value of the work set-point)
-	**End**

The display shows every setting for 1 s.

To exit the succession of settings:
- press ⏲ and ⏻

The instrument displays the information memorised in the program and not any modifications made during execution of the same.

12 PROGRAMMED SWITCH-ON

12.1 Preliminary considerations

The programmed switch-on allows to plan the automatic switch-on of the instrument.

On switch-on the instrument will function with the settings memorised in a program (see chapter 11).

It is possible to plan 14 switch-on times; there are 12 possible combinations of switch-on days.

If there is a power cut in progress at the switch-on time, the switch-on will be re-proposed when the power is restored.

12.2 Setting programmed switch-on

To access the procedure:
- make sure that the instrument is in on status and that no procedure is in progress
- press SET and ⏻ : the upper part of the display will show flashing "**H01**"(it is the label of the first switch-on time), the lower part will show a label relative to a combination of switch-on days and the "**delay**" LED will flash.

The following combinations of days for switch-on available are the following:

LABEL	COMBINATION OF DAYS
- - -	no day
- 1 -	Monday
- 2 -	Tuesday
- 3 -	Wednesday
- 4 -	Thursday
- 5 -	Friday
- 6 -	Saturday
- 7 -	Sunday
1 - 5	from Monday to Friday
1 - 6	from Monday to Saturday
1 - 7	from Monday to Sunday
6 - 7	Saturday and Sunday

To select an ignition time:
- press ∧ or ∨ within 15 s (for example to select "**H07**").

To select a combination of days to which the selected switch-on time will be applied (in the example, "**H07**"):
- press SET while the top part of the display is flashing: the lower part of the display will show a flashing label relative to a combination of days and the upper part will switch-on
- press ∧ or ∨ within 15 s (for example to select "**1 - 5**").

To set the selected switch-on time (in the example "**H07**"):
- press SET while the lower part of the display is flashing: the lower part of the display will show the switch-on time; the left part will flash.

The time is displayed in the 24 h format (hours:minutes)

To modify the hour:
- press ∧ or ∨ within 15 s
- press SET : the right part of the indication relative to the ignition time will flash.

To modify the minutes:
- press ∧ or ∨ within 15 s
- press SET : the upper part of the display will again show the label of the flashing switch-on time (in the example "**H07**") and the lower part will show the combination of days again (in the example "**1 - 5**").

To set another programmed switch-on, repeat the procedure given in this paragraph.

To go back to the previous level:
- press ⏲ during the procedure.

To exit the procedure:
- press SET and ⏻ or do not operate for 15 s: the "**delay**" LED will switch-off.

To exit the procedure in advance:
- press SET and ⏻ or do not operate for 15 s during the procedure (i.e. before modifying the minutes: any modifications will not be saved).

For the instrument to switch-on automatically on the day and time set, these must be in the programmed switch-on status.

To pass from the on status (or the stand-by status) to the programmed switch-on status:
- make sure no procedure is in progress
- press ⏲ and ⏻ 1 s:

If the instrument is in the programmed switch-on status:
- the upper part of the display will show the program label which will be started on programmed switch-on of the instrument (if the start-up of any program is not envisioned, the upper part of the display will show "**P -**")
- the lower part of the display will show the day of the time of the next switch-on; the day is visualised in 1 ... 7 format (number 1 corresponds to Monday), the real time in the 24 h format (if no switch-on is programmed, the lower part of the display will show "**- - : - -**")
- the "**delay**" LED will be on
- the ⏻ LED will be on.

12.3 Temporary modification of the next switch-on time

To access the procedure:
- make sure that the instrument is in the programmed switch-on status and no procedure is in progress
- press SET and ⏻ : the upper part of the display will show the label of the program that will be started-up on switch-on, the lower part will show the day of the week and the time of the next switch-on; the indication relative to the day and the "**delay**" LED will flash.

The day is displayed in the 1 ... 7 format (number 1 corresponds to Monday), the time in the 24 hour format (hours:minutes)

To modify the day:
- press ∧ or ∨ within 15 s
- press SET : the left part of the indication relative to the ignition time will flash.

To modify the hour:
- press ∧ or ∨ within 15 s
- press SET : the right part of the indication relative to the ignition time will flash.

To modify the minutes:
- press ∧ or ∨ within 15 s
- press SET : the label of the program that will started on switch-on will flash.

To modify the program that will be started-up on switch-on:
- press ∧ or ∨ within 15 s
- press SET : the "**delay**" LED will switch-on, after which the instrument will exit the procedure.

To go back to the previous level:
- press ⏲ during the procedure.

To exit the procedure in advance:
- press SET and ⏻ or do not operate for 15 s (any modifications will not be saved).

The temporary modification of a switch-on is re-proposed also after a power cut and has an exclusive effect on the immanent switch-on and not on those previously set.

If ou pass to the programmed switch-on status or any other status, the modification will not be re-proposed.

12.4 Exclusion of the next switch-on for the benefit of another already programmed

- make sure that the instrument is in the programmed switch-on status and no procedure is in progress
- press SET and ⏻ for 1 s: the lower part of the display will show the day of the week and the time of next switch-on and the "**delay**" LED will flash.

The day is displayed in the 1 ... 7 format (number 1 corresponds to Monday), the time in the 24 hour format.
- press ∧ within 15 s to select another switch-on already programmed
- press SET : the "**delay**" LED will switch-on, after which the instrument will exit the procedure.

To exit the procedure in advance:
- press SET and ⏻ or do not operate for 15 s (any modifications will not be saved).

The exclusion of a switch-on is re-proposed also after a power cut; the switch-ons excluded are re-proposed in the following day and time circumstances.

If you pass to the programmed switch-on status or any other status, the exclusion will not be re-proposed.

13 SIGNALS

13.1 Signals

LED	MEANING
	temperature regulation LED if on, the output for the regulation of the temperature will be on if it flashes, the modification of the work set-point is in progress (with the procedures indicated in paragraphs 4.3, 4.4, 4.5, 4.6 and 4.7)
	Grill LED if it is on, the grill will be on if it flashes, the duration of grill switch-on is being modified (with the procedure indicated in paragraph 4.6) if it flashes for 1 s every 3, cyclical switch-on of the grill will be enabled and these will be off (parameter r17)

	Steam injection LED
	if it is on:
	▪ and the parameter t0 is set at 0, the steam injection will be in progress
	▪ and the parameter t0 is set at 1, the steam injection will be enabled
	if flashing:
	▪ parameter t2 is being modified (with the procedure indicated in paragraph 4.5)

	Airhole LED if it is on, the airhole will be switched-on in manual mode if flashing: ▪ the airhole will be on due to the effect of the conclusion of the steam cooking phase (parameter c6) ▪ parameter c7 is being modified (with the procedure indicated in paragraph 4.5)
°C	Degrees Celsius LED if it is on, the unit of measurement of the temperatures will be the degree Celsius (parameter P2)
°F	Degrees Fahrenheit LED if it is on, the unit of measurement of the temperatures will be the degree Fahrenheit (parameter P2)
	on/stand-by LED if it is on, the instrument will be in the programmed switch-on status or in the stand-by status
delay	programmed switch-on LED if it is on, the instrument will be in the programmed switch-on status if it flashes, setting of the day and time of programmed switch-on will be in progress
timer	cooking phase duration LED if on, the quantity displayed by the lower part of the display will be the duration of the cooking phase if flashing: ▪ modification of the cooking phase duration is being modified (with the procedures indicated in paragraphs 4.3, 4.5 and 4.7) ▪ the count of the duration of the cooking phase will be in progress but the lower part of the display will be showing another quantity
clock	real time LED if it is on, the quantity shown on the lower part of the display will be the real time if it flashes, setting of the day and real time will be in progress
set	set-point LED if on, the quantity displayed by the lower part of the display will be the value of the work set-point of the phase in progress or the core set-point.
1	▪ the quantity displayed by the lower part of the display will be the work set-point of the phase in progress
2	▪ the quantity displayed by the lower part of the display will be the core set-point value

14 INDICATIONS

14.1 Indications

INDICAT.	MEANING
P -	the start-up of any program is not envisioned on programmed switch-on of the instrument
P 0 ... 9	the start-up of program 0 ... 9 is envisioned on the programmed switch-on of the instrument
PrEH	the pre-heating phase is in progress
rdY	the pre-heating phase has been concluded
PAUS	the cooking phase has been concluded
count time c9	the time is missing established with the parameter c9 to the conclusion of the timed cooking phase, of the stem cooking phase or the grill cooking phase
End	the cooking phase has been concluded
EndP	the program is concluded
- - - -	the quantity to be displayed is not available (e.g. because the probe is absent)
1 ... 9	the first ... ninth program will be in execution

15 ALARMS

15.1 Alarms

CODE	MEANING
AL	chamber temperature alarm Solutions: ▪ verify the chamber temperature ▪ see parameters A1 and A3 Consequences: ▪ the alarm output will be switched-on ▪ the acoustics output and the buzzer output will be switched-on
id	Multifunction input alarm (only if parameter i5 is set at 4) Solutions: ▪ check the causes that caused activation of the input ▪ see parameters i5 and i6 Main consequences: ▪ the temperature regulation output will be switched-off ▪ the grill will be off ▪ the airhole will be off ▪ the steam injector will be off ▪ the fan will be off ▪ the count of the duration of the cooking phase will be suspended
PF1	power cut alarm during the cooking phase with interruption of duration shorter than the time established with parameter r13 Solutions: ▪ press a key to restore the normal display ▪ check the causes of the power cut Main consequences: ▪ the count will continue even when the instrument is not powered ▪ when the power supply is restored, the acoustic output and the buzzer output will be switched-on
PF2	power cut alarm during the cooking phase with interruption of duration longer than the time established with parameter r13 Solutions: ▪ press a key to restore the normal display ▪ check the causes of the power cut Main consequences: ▪ the cooking phase will be interrupted ▪ when the power supply is restored, the acoustic output and the buzzer output will be switched-on

When the cause of the alarm has disappeared, the instrument restores normal functioning, except for power cut alarms during the cooking timer count (codes "**PF1**" and "**PF2**") which require pressing the button.

16 INTERNAL DIAGNOSTICS

16.1 Internal diagnostics

CODE	MEANING
Pr1	chamber probe error Solutions: ▪ see parameter P0
	▪ check the integrity of the probe ▪ check the instrument-probe connection ▪ verify the chamber temperature Main consequences:
	▪ the temperature regulation output will be switched-off
	▪ the acoustics output and the buzzer output will be switched-on ▪ no phase can be started-up ▪ if a phase is in progress, this will be interrupted
Pr2	core probe error Solutions: ▪ the same as the previous case but relative to the core probe Main consequences: ▪ the acoustics output and the buzzer output will be switched-on ▪ the core cooking phase cannot be selected ▪ if a core cooking phase is in progress, this will last for the time established with parameter d3
rtc	clock error Solutions: ▪ set the day and real time again Main consequences: ▪ programmed switch-on will not be available ▪ the acoustics output and the buzzer output will be switched-on

When the cause of the alarm disappears, the instrument restores normal functioning, except for the clock error ("**rtc**" code) that requires setting of the day and real time.

17 TECHNICAL DATA

17.1 Technical data

Container: grey self-extinguishing.

Front panel protection rating: IP 54.

Connections: extractable terminal board (power supply, inputs and outputs), 6 pole connector (serial).

Temperature of use: from 0 to 55 °C (from 32 to 131 °F, 10 ... 90% relative humidity without condensate).

Power supply: 115 ... 230 Vac, 50/60 Hz, 5 VA (approximate) or 24 Vac, 50/60 Hz, 5 VA.

Maintaining the clock data in a power cut: 24 h with battery charged.

Battery charging time: 2 min without interruptions (the battery is charged by the instrument power supply).

Alarm buzzer: incorporated.

Measurement inputs: 2 (chamber probe and core probe) for J/K thermocouple or Pt 100 2-wire probe (according to the model).

Digital inputs: 2 inputs:
- on/stand-by input in high voltage conditions (230 Vac) with polarity that can be configured
- multifunction input for NO/NC contact (5 V 1 mA potential-free contact).

Range of measurement: from -99 to 800 °C (from -99 to 999 °F) for thermocouple J, from -99 to 999 °C (from -99 to 999 °F) for thermocouple K, from -99 to 650 °C (from -99 to 999 °F) for Pt 100 probe.

Resolution: 1 °C/1 °F.

Digital outputs: 6 relays:
- **temperature regulation (K1 relay):** 8 A res. @ 250 Vac (NO)
- **grill (K2 relay):** 8 A res. @ 250 Vac (NO)
- **utility that can be set (K3 relay):** 8 A res. @ 250 Vac (exchange contact)
- **steam injection (K4 relay):** 8 A res. @ 250 VCA (NO contact)
- **fan (K5 relay):** 8 A res. @ 250 Vac (NO contact)
- **utility that can be set (K6 relay):** 8 A res. @ 250 Vac (exchange contact)

The maximum current accepted on the clamp 23 is 10A.

To set the utility managed by the relay K3 and relay K6, see paragraph 5.1.

Other outputs: buzzer output (12 V, max. 20 mA); the output is switched-on during the alarms and errors, with continuous contribution.

Serial port: port for communication with the supervision system (via a serial interface, via TTL, with MODBUS communication protocol) or using the programming key.

18 WORK SET-POINT AND CONFIGURATION PARAMATERS

18.1 Work set-point

	MIN	MAX	U.M.	DEF.	WORK SET-POINT
	r1	r2	°C/°F (1)	150	work set-point of the timed cooking phase
	r7	r8	°C/°F (1)	150	set pint at core
	r1	r2	°C/°F (1)	150	work set-point of the core cooking phase
	r1	r2	°C/°F (1)	150	work set-point of the steam cooking phase
	r1	r2	°C/°F (1)	150	work set-point of the grill cooking phase
	r1	r2	°C/°F (1)	150	work set-point of the continuous cooking phase

18.2 Configuration parameters

PARAM.	MIN	MAX	U.M.	DEF.	WORK SET-POINT
SP1	r1	r2	°C/°F (1)	150	work set-point of the timed cooking phase
SP2	r7	r8	°C/°F (1)	150	set pint at core
SP3	r1	r2	°C/°F (1)	150	work set-point of the core cooking phase
SP4	r1	r2	°C/°F (1)	150	work set-point of the steam cooking phase
SP5	r1	r2	°C/°F (1)	150	work set-point of the grill cooking phase
SP6	r1	r2	°C/°F (1)	150	work set-point of the continuous cooking phase
PARAM.	MIN	MAX	U.M.	DEF.	MEASUREMENT INPUTS
CA1	-25/-50	25/50	°C/°F (1)	0	chamber probe offset
CA2	-25/-50	25/50	°C/°F (1)	0	core probe offset
P0	0	1	----	0	type of probe (2) 0 = J 1 = K
P2	0	1	----	0	temperature unit of measurement (3) 0 = °C 1 = °F
P4	0	1	----	0	enabling the core probe 1 = YES
P5	0	3	----	0	quantity displayed by the upper part of the display during the on status in progress of normal functioning mode 0 = chamber temperature 1 = work set-point of the phase in progress 2 = core temperature (4) 3 = core set-point (4)
P6	0	6	----	6	quantity displayed by the lower part of the display during the on status in progress of normal functioning mode 0 = chamber temperature 1 = work set-point of the phase in progress 2 = count of the duration of the cooking phase in progress 3 = day and real time 4 = core temperature (6) 5 = core set-point (6) 6 = most significant quantity for the event in progress: ▪ "**PrEH**" during the pre-heating phase ▪ "**rdY**" flashing on conclusion of the pre-heating phase ▪ "**End**" flashing on conclusion of the cooking phase ▪ "**EndP**" flashing on conclusion of the program ▪ "**PAUS**" flashes during the suspension of the cooking phase ▪ count of the duration of the cooking phase, during the timed cooking phase, during the steam cooking phase and during the grill cooking phase ▪ core temperature during the core cooking phase ▪ "**- - - -**" during the continuous cooking phase
PARAM.	MIN	MAX	U.M.	DEF.	MAIN REGULATOR
r0	1	99	°C/°F (1)	5	work set-point differential of the pre-heating phase and of the work set-point of any cooking phase
r1	0	r2	°C/°F (1)	50	minimum work set-point of any cooking phase
r2	r1	999	°C/°F (1)	350	maximum work set-point of any cooking phase
r4	0	99	°C/°F (1)	10	work set-point of the pre-heating phase (relative to the work set-point of the cooking phase following pre-heating, i.e. "work set-point of the cooking phase following pre-heating + r4")
r7	0	r8	°C/°F (1)	50	core minimum set-point
r8	r7	999	°C/°F (1)	350	core maximum set-point
r11	0	1	----	1	enabling the pre-heating phase 1 = YES
r13	0	240	min	240	duration of the power cut that occurs during a cooking phase, after exceeding which the count of the duration of the phase is interrupted (7)
r15	0	1	----	0	enabling of the switch-on of the output for the regulation of the temperature during the grill cooking phase 1 = YES
r16	0	1	----	0	switch-off of the output for the regulation of the temperature during switch-off of the fan. 1 = YES
r17	0	1	----	0	switch-on of the grill only once before the conclusion of the grill cooking phase (for the time established with the parameter c11) 1 = YES
PARAM.	MIN	MAX	U.M.	DEF.	DURATION OF THE COOKING PHASES
d1	00:01	24:00	h:min	00:30	duration of the timed cooking phase
d3	00:01	24:00	h:min	01:00	duration of the core cooking phase during the core probe error
d4	00:01	24:00	h:min	00:30	duration of the steam cooking phase
d5	00:01	24:00	h:min	00:30	duration of the grill cooking phase
PARAM.	MIN	MAX	U.M.	DEF.	STEAM INJECTION
t0	0	1	----	0	steam injection functioning mode 0 = pressing the key will cause the injection of the steam for the time established with parameter t2 or for the entire duration that the key is pressed; the parameter t1 establishes the minimum time that will pass between the two successive injections. 1 = pressing the key enables the automatic injection of the steam in a cyclical manner (the parameter t2 establishes the duration of switch-on of the injector and the parameter t1 establishes the duration of switch-off.
t1	0	250	s	1	if t0 = 0, minimum time that passes between two successive injections if t0 = 1, duration of injection switch-off
t2	1	250	ds (8)	10	if t0 = 0, minimum injection duration if t0 = 1, duration of injection switch-on
t5	0	1	----	0	link between the status of the fan and steam injection 0 = injection of the steam is allowed on the condition that the fan is on 1 = steam injection is allowed on condition that the fan is off (during fan switch-off)
PARAM.	MIN	MAX	U.M.	DEF.	VARIOUS
c1	1	60	min	5	cycle time for grill switch-on, see also c11
c4	-1	120	s	15	duration of switch-on of the buzzer and the acoustic output on the conclusion of the pre-heating phase and the conclusion of any cooking phase, see also c9 -1 = the buzzer and the acoustic output must be off in manual mode by pressing a key
c5	0	60	min	20	time that passes between switch-on of the airhole and the conclusion of the steam cooking phase; see also c6
c6	0	60	min	20	duration of switch-on of the airhole on conclusion of the steam cooking phase; see also c5
c7	00:00	60:00	min:s	00:30	duration of airhole switch-on in manual mode
c8	0	1	----	1	display of the real time in the lower part of the display during the stand-by status 1 = YES

c9	0	120	s	10	time that passes between the switch-on of the buzzer and the acoustic output and the conclusion of a timed cooking phase, a steam cooking phase and a grill cooking phase; see also c4
c11	0	100	%	25	duration of grill switch-on (percentage of c1)
c12	0	999	min	60	time that must pass (from programmed switch-on of the instrument) without having to operate on the keys (or with the multifunction input) so that the instrument passes to the programmed switch-on status again 0 = no function
PARAM.	MIN	MAX	U.M.	DEF.	FAN
F2	0	1	----	1	enabling of reversal of the direction of the fan movement 1 = YES
F3	1	120	s	15	duration of fan switch-off (time between switch-off of the fan output and switch-on of the reversal of the direction of the fan movement; only if F2 = 1)
F4	1	60	min	3	duration of every fan movement direction (duration of switch-on of the fan output and the inversion output of the direction of movement of the fan; only if F2 = 1)
PARAM.	MIN	MAX	U.M.	DEF.	TEMPERATURE ALARMS
A1	0	999	°C/°F (1)	0	chamber temperature over which the chamber temperature alarm is activated, see also A3 (9)
A2	0	240	min	0	chamber temperature alarm delay
A3	0	2	----	0	type of chamber temperature alarm 0 = no alarm 1 = absolute (i.e. A1) 2 = relative to the work set-point of the phase in progress (i.e. "work set-point of the phase in progress + A1")
PARAM.	MIN	MAX	U.M.	DEF.	DIGITAL INPUTS:
i1	0	1	----	0	on/stand-by input polarity 0 = live active input 1 = non-live active input
i5	0	4	----	0	effect caused by the activation of the multifunction input 0 = no effect 1 = SWITCH-ON/OFF OF THE CHAMBER LIGHT - the activation of the input will cause the chamber light to switch-on and the successive activation causes its switch-off 2 = BUZZER SWITCH-OFF, ACOUSTIC OUTPUT AND BUZZER OUTPUT - The activation of the input will cause the buzzer, the acoustic output and the buzzer output to switch-off (activate the input again to switch these utilities off) 3 = STEAM INJECTION - in this case: ▪ if t0 = 0,the activation of the input will cause the injection of the steam for the time established with parameter t2 or for the entire duration of the activation of the input (the parameter t1 establishes the minimum time that will pass between the two successive injections) (10) ▪ if t0 = 1, the activation of the input will enable the automatic injection of the steam (in cyclical mode; the parameter t2 establishes the duration of the injector switch-on and parameter t1 establishes the duration of switch-off) until the input is activated again (10) 4 = DOOR MICRO SWITCH - the activation of the input will cause the switch-off of the output for the regulation of the temperature, of the grill, of the airhole, of the steam injector and the fan, the display of the flashing "**id**" code, the switch-on of the buzzer, the acoustic output and the buzzer output and the suspension of the count of the duration of the phase until the input is deactivated; see also i7 and i8 (11)
i6	0	1	----	0	type of contact of the multifunction input 0 = NO (input active with closed contact) 1 = NC (input active with open contact)
i7	0	120	min	0	multifunction input alarm signal delay (only if i5 = 4)
i8	0	2	----	0	event that causes the passage from the conclusion of the pre-heating phase to the cooking phase following the pre-heating phase 0 = pressing the key for 1 s 1 = pressing the key for 1 s and activation and successive deactivation of the multifunction input (only if i5 = 4) 2 = activation and successive deactivation of the multifunction input (only if i5 = 4)
PARAM.	MIN	MAX	U.M.	DEF.	SERIAL NETWORK (MODBUS)
LA	1	247	----	247	instrument address
Lb	0	3	----	2	baud rate 0 = 2.400 baud 1 = 4.800 baud 2 = 9.600 baud 3 = 19.200 baud
LP	0	2	----	2	parity 0 = none (no parity) 1 = odd 2 = even

(1) the unit of measurement depends on parameter P2

(2) the parameter P0 is not available in the models for Pt 100 2-wire probes

(3) **appropriately set the parameters relative to the regulators after modification of parameter P2**

(4) if parameter P4 is set at 0, the instrument will function as if the parameter P5 is set at 0

(5) if parameter P6 is set at values different to 6, these will have no effect in the following conditions:
- during the pre-heating phase (the lower part of the display will show "**PrEH**")
- on the conclusion of the pre-heating phase, in stand-by for start-up of the cooking phase (the lower part of the display shows flashing "**rdY**")
- during the pre-heating phase (the lower part of the display will show flashing "**PAUS**")
- on conclusion of the cooking phase (the lower part of the display will show flashing "**End**")
- on conclusion of the program (the lower part of the display will show flashing "**EndP**")
- during the core cooking phase (if P6 = 2) and during the continuous cooking phase (the lower part of the display will show "**- - - -**")

(6) if parameter P4 is set at 0, the instrument will function as if the parameter P6 is set at 0

(7) if the power supply cut-off is shorter than the time set with parameter r13, the count will also continue hen the instrument is no longer powered. Parameter r13 has no effect during the core cooking phase and during the continuous cooking phase

(8) ds = tenths of second

(9) the parameter differential is 10 °C/18 °F

(10) pressing the key causes the associated effect

(11) if parameter i5 is set at 4 and parameter i8 is set at 1, the "**id**" code cannot be displayed, the buzzer, the acoustic output and the buzzer output will not be switched on.

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