EV9316 Digital controller with 6 outputs for electric breadovens, with RTC functions, programmed switch-on and cooking timer function

Important

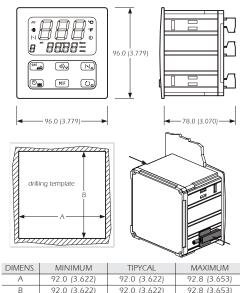
Read these instructions carefully before installation and use and follow all warnings regarding installation and for the electric connection. Keep these instructions with the instrument for future reference.



The instrument must be disposed of in compliance with local Standards relative to the collection of olders.

1.2 Dimensions and installation

Panel with supplied brackets with screws; dimensions in mm (in).

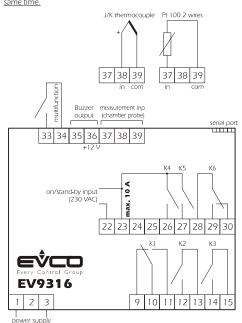


- the thickness of the panel must not exceed 4.0 mm (0.157 in)
- position the brackets as indicated in the drawing in this paragraph, moderate the coupling torque make sure that the working conditions (temperature of use, humidity,
- etc.) lie within the limits indicated in the technical data
- do not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

1.3 Electric connection

mechanical vibrations or jerks

With reference to the wiring diagram: the serial port is the port for the communication with the supervising system (through a serial interface via TTL with MODBLIS communication protocoll or with the programming key; the port must not be used for two purposes at the



Recommendations for the electric connection:

- if the instrument has been taken from a cold place to a hot place, the
- do not operate on the terminal boards using electric or pneumatic humidity could condense inside: wait for about one hour before applying power

- check that the power supply voltage, the frequency and the electric local power supply
- disconnect the power supply before performing any type of mainte-
- supply the probe with protection able to isolate it from 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

1.4 Functions associated with the digital outputs

	It is possible to set the utility managed by each digital output (i.e. relay
	K1 K6).
ı	

001101	TREBETIVED FORCEION				
K1	Temperature regulation				
	The output activity mainly depends on the work set-poir				
	and the parameter r0				
K2	Cooking timer				
	The output is activated during the cooking timer count				
К3	Acoustics				
	The output is activated in the following conditions:				
	■ 10 s before the conclusion of the cooking timer count for				

- the time established with parameter c4
- during alarms and errors, with continuous contribution The output is activated in the following conditions: before the conclusion of the cooking timer count (of the
 - time established with the parameter c5), for the time established with parameter c6 in manual mode, for the time established for parameter c7
- The output activity depends mainly on parameter t0 hrough the multifunction input it is also possible to actiate the output in remote mode On/stand-by input
- The output is activated during the on state

To set the utility managed by each output, see paragraph 3.1.

USER INTERFACE Preliminary considerations

The following functioning states exist:

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

Successively, the term "switch-on" means the passage from the stand-by state to the on state. The term "switch-off" means the passage from the on state to the stand-by state. When powered, the instrument re-proposes the state that it was in when

the power supply was disconnected

2.2 Selecting the functioning state

- To pass from the stand-by state to the on state land vice versal:
- make sure no procedure is in progress ■ press og for 1s.
- To pass from the programmed switch-on state to the on state
- make sure no procedure is in progress
- To pass from the on state to the programmed switch-on state
- make sure no procedure is in progress
- press 💍 and 🖭 for 1s.

To pass from the stand-by state to the programmed switch-on state (and

- make sure no procedure is in progress
- press ひ₀ and ⊙๓ for 1s.

Through the on/stand-by input it is also possible to pass from the on state to the stand-by state in remote mode

To pass from the on to the stand-by state in remote mode

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

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

2.3 The display

If the instrument is in the on state:

- 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
- 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 (in this case the "set" LED will be onl
- if P6 = 2, the display will show the value of the cooking timer or its count if the timer is active (in this case the "timer" LED will be only the value of the cooking timer is displayed in the hours:minutes format.

if P6 = 3, the display will show the day and real time (in this case the "clock" LED will be on); the day is displayed in format 1 ... 7 (number 1 corresponds to Monday), the real time in the 24 h format. See also paragraphs 3.5 and 3.6.

If the instrument is in the programmed switch-on state:

- the upper part of the display will be off:
- the lower part of the display will show the day and time of the next switch-on; the day is displayed in format 1 ... 7 (number 1 corresponds to Monday), the real time in 24 h format (if switch-on is not programmed, the lower part of the display will show "- - - -")
- the "delay" LED will be on
- the LED (1) will be on.

If the instrument is in the stand-by state:

- 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 24 h format

• the LED **(**) will be on. 2.4 Learning the quantity shown by the upper part of the display during the on state

- make sure no procedure is in progress
- ${\color{red} \bullet}$ press ${\color{red} [\mathbf{v}]_{\triangle}}$ and ${\color{red} \bullet}$: the upper part of the display will show one of the labels given in the following table for 2 secs:

	LABEL	MEANING
'	Pb	chamber temperature
	SP	work set-point

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

• make sure no procedure is in progress

■ press 📢 and 💽 for 1s several times: the upper part of the display will show one of the labels given in the table in paragraph 2.4 for 2 secs, after which it will show the corresponding value.

Any power supply cut-off causes the display of the quantity established with parameter P5 to be restored.

Learning the quantity shown by the lower part of the display during the on state

- make sure no procedure is in progress
- press $\stackrel{\cdot}{\Longrightarrow}_{\mathbb{Z}}$ and $\stackrel{\cdot}{\bigcirc}_{\mathbb{Z}}$: the lower part of the display will show one of the

	labels given in the following table for 2 sees.
LABEL	MEANING
Pb	chamber temperature
SP	work set-point
tine	value of the cooking timer or its count if the timer is activ

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

make sure no procedure is in progress

rtc day and real time

■ press → and o for 1s several times: the lower part of the display will show one of the labels given in the table in paragraph 2.6 for 2 secs, after which it will show the corresponding value.

Any power supply cut-off causes the display of the quantity established with parameter P6 to be restored

2.8 Chamber light switch-on/off

• make sure no procedure is in progress

If the chamber light is not managed by any digital output, pressing the MIF key will cause the display of the flashing "no" indication for 2 s in the lower part of the display

2.9 Buzzer silencing

• make sure no procedure is in progress

• press a key (the first time the key is pressed, the associated effect is not

Pressing the key also causes the deactivation of the acoustic output and

Using the multifunction input, it is also possible to deactivate the buzzer, the acoustic output and the buzzer output in remote mode.

SETTINGS

3.1 Setting the utility managed by each digital output To access the procedure:

 make sure that the instrument is in stand-by state and that no proce dure is in progress

• press াব্য and হিচ্চ for 4s: the upper part of the display will show

press : the lower part of the display will show the corresponding ■ press 📢 or 🖏 within 15s to set "**743**"

■ press [|] and [|] for 4s: the upper part of the display will show

"dEF" • press (|▼|_Δ) or (≤)√ to select "**do1** ... **do6**"

The label meaning is the following: LABEL MEANING

do1 utility managed by the first digital output (relay K1) do2 utility managed by the second digital output (relay K2) do3 utility managed by the third digital output (relay K3) utility managed by the fourth digital output (relay K4) **do5** utility managed by the fifth digital output (relay K5)

do6 utility managed by the sixth digital output (relay K6)

press : the lower part of the display will show the corresponding

The meaning of the values is the following:

VALUE	MEANING				
0	not used				
1	temperature regulation				
2	cooking timer				
3	acoustics				
4	airhole				
5	steam injection				
6	on/stand-by				
7	alarm				
8	chamber light				
press or so within 15s					

oı [≼§△] • press set

To exit the procedure

■ press and so for 4s.

3.2 Setting the day and the real time

• make sure that the instrument is in stand-by state and that no procedure is in progress

■ press and 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 format 1 ... 7 (number 1 corresponds to Mon day), the real time in the 24 h format (hours:minutes). To modify the day:

■ press or sy within 15s

press the left part of the indication relative to the real time will

To modify the hour

press or within 15s

 \blacksquare press $\begin{tabular}{l} \hline \blacksquare \\ \hline \hline \end{tabular}$: the right part of the indication relative to the real time will To modify the minutes:

press or within 15s

press : the "clock" LED will switch-off, after which the instrument will exit the procedure.

To go back to previous levels:

 press_∞ several times during the procedure. To exit the procedure in advance:

 do not operate for 15s (any modifications will be saved). 3.3 Setting the work set-point

 make sure that the instrument is in on state and that no procedure is press : the lower part of the display will show "SP", the upper

press or within 15s; see also parameters r1 and r2 press : the LED W will switch-off, after which the instrument will exit the procedure.

To exit the procedure in advance:

do not operate for 15s (any modifications will be saved). It is also possible to set the work set-point via the SP parameter

3.4 Setting the configuration parameters

To access the procedure:

- make sure that the instrument is in stand-by state and that no procedure is in progress
- make within 15s to set is in stand-by state and that no procedure is in
- press Na and Symp for 4s: the upper part of the display will show "PA" press : the lower part of the display will show the corresponding
- value • press or Śy within 15s to set "-19"
- press or do not operate for 15s
- press $\frac{-}{|\mathbf{x}|_{\Delta}}$ and $\frac{-}{|\mathbf{x}|_{\nabla}}$ for 4s: the upper part of the display will show "SP". To select a parameter
- press or sy
- To modify a paramete press : the lower part of the display will show the corresponding

value ■ press or within 15s

press or do not operate for 15s.

To exit the procedure: • press $\overline{\rm N_{\Delta}}$ and $\overline{\rm Sy}_{\rm p}$ for 4s or do not operate for 60 s (any modifica-

tions will be saved

Cut the instrument power supply off after modification of the parameters. Restore the default value of the configuration pa

rameters make sure that the instrument is in stand-by state and that no procedure is in progress

press | and | so | for 4s: the upper part of the display will show "dEF"

show "def" flashing for 4s, after which "def" will switch on

- press $\overline{|\mathbf{r}|_{\Delta}}$ and $\overline{|\mathbf{r}|_{\Delta}}$ for 4s: the upper part of the display will show "**PA**" press : the lower part of the display will show the corresponding value
- press ⋈ or ⋈ within 15s to set "**743**" press or do not operate for 15s
- press the lower part of the display will show the corresponding • press or (€), within 15s to set "149" press or do not operate for 15s: the upper part of the display will

• cut the instrument power supply off.

To exit the procedure in advance

 \bullet press $_{\rm [N]_{\Delta}}$ and $_{\rm [S]_{T}}$ for 4s during the procedure (i.e. before setting "149": restore will not be carried out).

Make sure that the default value of the parameters is appropriate.

PROGRAMMED IGNITION

4.1 Preliminary considerations

Programmed ignition allows to plan the automatic switch-on of the instrument.

On switch-on the instrument will function with the latest settings memorised before being passed to the programmed switch-on state (see paragraph 2.2).

It is possible to plan 14 switch-on hours, the possible combinations of switch-on days are 12.

If there is a power cut at the switch-on time, this will be re-proposed

when the power supply is restored. 5.2 Setting programmed ignition

To access the procedure

• make sure that the instrument is in on state and that no procedure is

press and o : the upper part of the display will show "H01" flashing (it is the label of the first switch-on time), the lower part will show a label relative to a com bination of switch-on days and the "delay" LED

WIII IICISTI:							
The combination of the switch-on days available are the following:							
LABEL COMBINATION OF DAYS							
Never							
- 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 a switch-on time:							

press Na or Sy within 15s (e.g. to select "H07").

To select a combination of days to which to apply the selected switchon time (in the example, "H07"): press during flashing of the upper part of the display: 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 $[\mathbf{x}]_{\Delta}$ or $[\mathbf{x}]_{\nabla}$ within 15s (for example to select "1 - 5").

To set the selected switch-on time (in the example, "H07"): • press during flashing of the lower part of the display: the lower part of the display will show the switch-on time; the left part

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

To modify the hour:

• press ⋈ or ⋈ within 15s \blacksquare press \blacksquare : the right part of the indication relative to the switch-on

time will flash

To modify the minutes: ■ press | or | sy within 15s • press : the upper part of the display will show the flashing switch-

on time label again (in the example "H07") and the lower

part will show the combination of days again (in the example "1 - 5"). To set another programmed ignition, repeat the procedure given in

this paragraph.

To go back to previous levels:

■ press on several times during the procedure. To exit the procedure

 \bullet press $\fbox{\mbox{\scriptsize ML}}$ and $\fbox{\mbox{\Large O}}_{\mbox{\scriptsize 0}}$ or do not operate for 15s: the "delay" LED switches To exit the procedure in advance ullet press ${\color{red} {\rm set}}_{\color{blue} {\rm add}}$ and ${\color{red} {\rm C}}_{\color{blue} {\rm D}}$ or do not operate for 15s during the procedure

(i.e. before modifying the minutes: any modifica-

tions will not be saved) For the instrument to automatically switch-on at the day and time set, these must be in the programmed switch-on mode.

To pass from the on state (or the stand-by state) to the programmed switch-on state

 make sure no procedure is in progress press⊗_m and O_∞ for 1s.

If the instrument is in the programmed switch-on state: • the upper part of the display will be off:

• the lower part of the display will show the day and time of the next switch-on: the day is displayed in format 1 7 Inumber 1 corresponds to Mondayl, the real time in 24 h format (if switch-on is not

Temporary modification of the day and time of the

programmed, the lower part of the display will show "- - - -")

• the "delay" LED will be on ullet the LED $oldsymbol{\mathbb{O}}$ will be on.

next switch-on To access the procedure

• make sure that the instrument is in the programmed switch-on state and that no procedure is in progress

• press $^{\text{set}}$ and $^{\text{O}}$: the lower part of the display 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

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

■ press or within 15s

• press : the left part of the indication relative to the switch-on time will flash

To modify the hour

■ press or sy within 15s

• press : the right part of the indication relative to the switch-on

To modify the minutes:

press : the "delay" LED will switch-on, after which the instrument will exit the procedure

To exit the procedure in advance

press and on do not operate for 15s (any modifications ill

The temporary modification of an ignition is re-proposed also after a power cut and has exclusive effect on the imminent switch-on and not

If passing from the programmed switch-on state to any other state, the modification will not be re-proposed. 5.4 Exclusion of the next switch-on for the benefit of

• make sure that the instrument is in the programmed switch-on state and that no procedure is in progress

on, the "delay" LED will flash. The day is displayed in format 1 ... 7 (number 1 corresponds to Mon-

dayl, the time in the 24 h format. • press within 15s to select another switch-on already programmed

ment will exit the procedure.

• press and or do not operate for 15s (any modifications will not be saved). The exclusion of a switch-on is re-proposed also after a power-cut. The

circumstances.

COOKING TIMER

The cooking timer allows to start the reverse countdown of a time. The countdown is shown in the lower part of the display: during the count the "timer" LED is on and the timer output is activated.

the buzzer and the acoustic output are activated, for the time established with parameter c4. Before conclusion of the count (of the time established with parameter c5) the airhole is activated, for the time established with parameter c6.

Before conclusion of the count (of the time established with parameter c9)

count is not in progress and that no procedure is in progress ■ press and on the lower part of the display shows the value of the cooking timer; the left part and the "timer"

The value of the cooking timer is displayed in the hours:minutes format To modify the hour:

To modify the minutes: • press or € within 15s. The cooking timer can be set between 00:00 and 24:00 h:min.

will exit the procedure. To go back to previous levels:

■ press 🖭 several times during the procedure. To exit the procedure in advance:

The cooking timer can also be set when the count is in progress (this modification is temporary, i.e. any power supply cut-off causes the value set with the procedure given at the start of this paragraph to be restored). If the value is set at 00:00 h:min, the count will be interrupted, the "timer" LED will switch-off and the buzzer will be activated for 3 seconds.

5.3 Starting the cooking timer

Alternatively

• press \bigcirc_{III} : the "**timer**" LED will switch on.

in progress

time will flash

To modify the day:

■ press N or S within 15s

To go back to previous levels:

■ press several times during the procedure.

not be saved)

on those previously set.

another already programmed

■ press and on for 1s: the lower part of the display will show the day of the week and the time of the next switch

press : the "delay" LED will switch-on, after which the instru-

To exit the procedure in advance:

switch-ons excluded are re-proposed in the successive day and time

If passing from the programmed switch-on state to any other state, the exclusion will not be re-proposed.

5.1 Preliminary considerations

Using the multifunction input, it is also possible to start/interrupt the cooking timer in remote mode

5.2 Setting the cooking timer • make sure that the instrument is in the on state, that the cooking times

LED will flash.

• press | N or Sy within 15s • press : the right part will flash.

press : the "**timer**" LED will switch-off, after which the instrument

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

\bullet press $\boxed{0}_{0}$ during timer setting: the "timer" LED will switch on.

• make sure that the instrument is in on state and that no procedure is

5.4 Interrupting the cooking timer

■ press 💿 for 1s: the "**timer**" LED switches off and the buzzer will be activated for 3s.

STEAM INJECTION

6.1 Preliminary considerations

The functioning mode of the steam injection depends on parameter t0. If the parameter t0 is set at 0, pressing the sy key causes the injection of 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 can pass between the two successive injections.

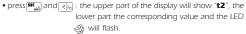
If the parameter t0 is set at 1, pressing the key (s), will enable the automatic injection of the steam (in cyclical mode: parameter t2 establishes the duration of the injector switch-on and parameter t1 establishes the duration of switch-off).

Using the multifunction input, it is also possible to cause the same effect by pressing the $\ensuremath{\mathfrak{D}}_{\overline{\psi}}$ key in remote mode.

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

6.2 Quick setting of the parameter t2

 make sure that the instrument is in on state and that no procedure is in progress



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

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

• press Na or Sy within 15s

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

To exit the procedure in advance:

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

AIRHOLE

7.1 Preliminary considerations

The airhole is activated in the following conditions:

- before the conclusion of the cooking timer count (of the time established with the parameter c5), for the time established with parameter c6
- \bullet in manual mode, by pressing the $\boxed{|\bullet|_\Delta}$, key for the time established

If the airhole is not managed by any digital output, pressing the $\lceil k \rceil_{\Delta}$ key will cause the display of the "no" indication for 1s in the lower part of the display

7.2 Quick setting of the parameter c7

• make sure that the instrument is in on state and that no procedure is in progress

 \bullet press $\underbrace{\text{sst}_{\underline{\omega}\underline{\omega}}}$ and $\underbrace{|\mathbf{v}|_{\underline{\omega}}}$: the upper part of the display will show "c7", the lower part the corresponding value, the left part and the LED 🔪 will flash.

The parameter c7 is visualised in the minutes:seconds format

To modify the minutes:

■ press Na or Sy within 15s ■ press (set a): the right part will flash.

To modify the seconds:

• press $\begin{tabular}{l} \bullet \end{tabular}$ or $\begin{tabular}{l} \bullet \end{tabular}$ within 15s. 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 1s.

 ${\color{red}\bullet}$ press ${\color{red}\bullet}$: the LED ${\color{red}\backslash}$ will switch-off, after which the instrument will exit the procedure

To go back to previous levels:

 \bullet press $\bigodot_{\mbox{\scriptsize m}}$ several times during the procedure.

To exit the procedure in advance:

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

7.3 Activation of the airhole in manual mode

- make sure that the instrument is in on state and that no procedure is
- ullet presslacksquare : the LEDlacksquare will switch on and the airhole will be activated, both for the time established with parameter c7.

7.4 Airhole deactivation

make sure no procedure is in progres.

graph 7.21

8.1 Signals									
LED	MEANING MEANING								
₩	temperature regulation LED								
	if it is on, the output for the regulation of the temperature								
	will be activated								
	if it flashes, the work set-point modification is in progress								
	(with the procedure indicated in paragraph 3.3)								
4	steam injection LED								
	if it is on:								
	 and the parameter t0 is set at 0, steam injection will be in 								
	progress								
	 and the parameter t0 is set at 1, steam injection will be in 								
	enabled								
	if it flashes, rapid setting of parameter t2 is in progress (see								
	paragraph 6.2)								
\	airhole LED								
	if it is on, the airhole will be activated in manual mode								
	if it flashes:								
	• the airhole will be activated due to the effect of the conclu								

sion of the cooking timer count (parameter c6)

rapid setting of parameter c7 is in progress (see para-

degrees Celsius LED f it is on, the unit of measurement of the temperatures will be degrees Celsius (parameter P2) degrees Fahrenheit LED f it is on, the unit of measurement of the temperatures will

be degrees Fahrenheit (parameter P2) on/stand-by LED f it is on, the instrument is in the programmed switch-on state or in the stand-by state

programmed switch-on LED if it is on, the instrument is in the programmed switch-on

if it is flashing, setting of the programmed switch-on day

and time is in progress clock real time LED

if it is on, the quantity displayed by the lower part of the display will be the real time if it is flashing, setting of the day and real time is in progress

ooking timer LED if it is on, the quantity shown by the lower part of the display will be the value of the cooking timer or its count if the timer will be activated

if it flashes: · cooking timer setting is in progress the cooking timer count will be in progress but the lower part of the display will be showing another quantity

vork set-point LED if it is on, the quantity shown by the lower part of the display will be the work set-point value

INDICATIONS

Indications (in the lower part of the display)

INDICAT.	MEANING
decrease	the time established with parameter c9 is missing 1 secon
time	to the conclusion of the cooking timer count
с9	
00.00	flashing: the cooking timer count has ended

10 ALARMS 10.1 Alarms								
CODE	MEANING							
AL	temperature alarm							
	Remedies:							
	• check the chamber temperature							
	• see parameters A1 and A3							
	Consequences:							
	• the alarm output will be activated							
	• the acoustics output and the buzzer output will be act							
	vated							
PF1	power supply cut-off alarm during cooking timer coun							
	with duration shorter than the time established with param							
	eter r13							

• the acoustics output and the buzzer output will be activated power supply cut-off alarm during cooking timer count with duration longer than the time established with parameter r13 emedies

press a key to restore the normal display check the causes that brought about the power supply

press a key to restore the normal display

check the causes that brought about the power supply

• the count will continue until the instrument is powered

cut-off Main consequences:

cut-off

Main consequences:

• the count will be interrupted the acoustics output and the buzzer output will be activated

When the cause of the alarm disappears, the instrument restores normal functioning, except for the power supply cut-off alarm during the cooking timer count (codes "PF1" and "PF2") which requires a key to

11 INTERNAL DIAGNOSTICS

11.1 Internal diagnostics CODE | MEANING

and real time to be set

LODE	MEANING
Pr1	chamber probe error
	Remedies:
	■ in the models for J/K thermocouple, see parameter P0, ir
	the models for Pt 100 probe, check the type of probe
	■ check probe integrity
	check the instrument-probe connection
	• check the chamber temperature
	Main consequences:
	• the temperature regulation output will be deactivated
	• the acoustics output and the buzzer output will be acti
	vated
rtc	the lower part of the display: clock error
	Remedies:

Main consequences: • the programmed switch-on will not be available the acoustics output and the buzzer output will be activated When the cause of the alarm disappears the instrument restores normal

functioning, except for clock error (code "rtc") that requires the day

set the day and real time again

TECHNICAL DATA

Container: grey self-extinguishing

Front panel protection rating: IP 54.

outputs), 6-pole connector (serial port).

relative humidity without condensate)

charged by the instrument power supply).

Pt 100 2 wire probe (according to the model).

Alarm buzzer: incorporated.

Digital inputs: 2 inputs:

Connections: removable terminal boards (power supply, inputs and

Temperature of use: from 0 to 55 °C (from 32 to 131 °F, 10 ... 90%

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

Keeping the clock data in a power-cut: 24 h with battery

Battery charging time: 2 min without interruptions (the battery is

measurement inputs: 1 (chamber probe) for J/K thermocouple or

multifunction input, for NO/NC contact (potential-

configurable polarity

free contact, 5 V 1 mA).

Range of measurement: from -99 to 800 °C (from -99 to 999 °F) for J thermocouple, from -99 to 999 °C (from -99 to 999 °F) for K thermo-

couple from -99 to 650 °C (from -99 to 999 °E) for Pt 100 probe

Resolution: 1 °C/1 °F.

Digital outputs: 6 relays temperature regulation relay: 8 A res. @ 250 VCA (contact in exchange)

• cooking timer relay: 8 A res. @ 250 VCA (NO

acoustic output relay: 8 A res. @ 250 VCA (NO contact)

airhole relay: 8 A res. @ 250 VCA (NO contact) steam injection relay: 8 A res. @ 250 VCA

(NO contact) • on/stand-by relay: 8 A res. @ 250 VCA (contact

in exchange The maximum current accepted on clamp 23 is 10 A.

To set the utility managed by each output, see paragraph 3.1 Other outputs: buzzer output (12 V, max. 20 mA); the output is activated during alarms and errors, with continuous contribution.

Serial port: port for the communication with the supervising system (through a serial interface, via TTL, with MODBUS communication on/stand-by input in high voltage (230 VAC) with protocol) or with the programming key.

13.1	Work	set-poi	nt		
	MIN.		U.M.	DEF.	WORK SET-POINT
	r1	r2	°C/°F (1)	150	work set-point
13.2	Config	uratio	n parame	ters	
PARAM	MIN.	MAX.	U.M.	DEF.	WORK SET-POINT
SP	r 1	r2	°C/°F (1)	150	work set-point
PARAM	MIN.	MAX.	U.M.	DEF.	MEASUREMENT INPUTS
CA1	-25/-50	25/50	°C/°F (1)	0	chamber probe offset
P0	0	1		0	type of probe (not visible in the models for Pt 100 probe)
					0 = J
					1 = K
P2	0	1		0	temperature unit of measurement (2)
					0 = °C
					1 = °F
P5	0	1		0	quantity shown by the upper part of the display during the on state or during normal functioning
					0 = chamber temperature
					1 = work set-point
P6	0	3		2	quantity shown by the lower part of the display during the on state or during normal functioning
					0 = chamber temperature
					1 = work set-point
					2 = value of the cooking timer or its count if the timer is active
					3 = day and real time
PARAM	MIN.	MAX.	U.M.	DEF.	MAIN REGULATOR
r0	1	99	°C/°F (1)	5	work set-point differential
r 1	0	r2	°C/°F (1)	50	minimum work set-point
r2	r 1	999	°C/°F (1)	350	maximum work set-point
r12	0	1		0	restraint between the output state for the regulation of the temperature and the cooking timer
					$1 = \underline{YES}$ - the temperature regulation output remains off if the cooking timer count is not in progress
r13	0	240	min	240	duration of a power supply cut-off duration that occurs during a cooking timer count exceeding
					which the count is interrupted (3)
PARAM	MIN.	MAX.	U.M.	DEF.	STEAM INJECTION
t0	0	1		0	steam injection functioning mode

= pressing the $\sqrt[4]{|\xi\rangle_{\overline{\gamma}}|}$ key causes the injection of 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 can pass between the two successive injections = pressing the (s) key enables automatic injection of the steam in cyclical mode (parameter t2 establishes the switch-on duration of the injector and parameter t1 establishes switch-off duration) 250 if t0 = 0, minimum time that passes between two successive injections if t0 = 1, injector switch-off duration 250 ds (4) if t0 = 0, minimum injection duration if t0 = 1, injector switch-on duration PARAM MIN. MAX. U.M. duration of buzzer activation and of the acoustic output on conclusion of the cooking timer count; see also c9 (5) (6) -1= the buzzer and the acoustic output must be deactivated in manual mode by pressing a key ime that passes between the activation of the airhole and the conclusion of the cooking timer count, see also c6 duration of the activation of the airhole at conclusion of the cooking timer count, see also c5 00:30 duration of the activation of the airhole in manual mode 60.00 showing the real time in the lower part of the display during the stand-by state = YFS time that passes between the activation of the buzzer and the acoustic output and the conclusion of the cooking timer count, see also c4 time that must pass (from programmed switch-on of the instrument) without having operated on the keys so that the instrument passes to the programmed switch-on state again) = no function PARAM MIN. MAX. U.M. DEF. TEMPERATURE ALARMS 999 °C/°F(1) temperature above which the temperature alarm is activated, se also A3 (7)

? = relative to the work set-point (i.e. "work set-point + A1")

i 1	0	1		0	polarity of the on/stand-by input (instrument off with input active) (8)
					0 = live input active
					1 = non-live input active
i5	0	3		0	effect caused by the activation of the multifunction input
					0 = no effect
					1 = STAR/INTERRUPTION OF THE COOKING TIMER - the activation of the input will cause the cooking
					timer to start and the successive activation will cause its interruption
					2 = <u>BUZZER, ACOUSTIC OUTPUT AND BUZZER OUTPUT DEACTIVATION</u> - the activation of the input w
					cause deactivation of the buzzer, the acoustic output and the buzzer output (activate the input agai
					to deactivate these utilities again)
					3 = <u>STEAM INJECTION</u> - in this case:
					• if t0 = 0, the activation of the input causes the injection of steam for the time established wit
					parameter t2 or for the entire duration that the key is pressed (parameter t1 establishes the minimum
					time that can pass between the two successive injections) (9)
					• if t0 = 1, the activation of the input will enable automatic steam injection (in cyclical mode; parar
					eter t2 establishes the duration of the switch-on of the injector and parameter t1 establishes the
					duration of switch-off) until the input is activated again (9)
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)
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 un	it of me	asuremen	it denend	s on parameter P2

PARAM MIN. MAX. U.M. DEF. DIGITAL INPUTS

 $\underline{\text{set the parameters relative to the regulators appropriately after modification of parameter P2}\\$

if the power supply cut-off is shorter than the time established with parameter r13, the count will also continue when the instrument is not

the buzzer and the acoustic output are activated 10 s before the conclusion of the count of the cooking timer, for the time established with

if the cooking timer is interrupted (with the procedure given in paragraph 5.4 or by activation of the malfunction input), the duration of buzzer activation and of the acoustic output and the flashing duration of the 00:00 indication will be 3 seconds

the parameter differential is 10 °C/18 °F

the activation of the on/stand-by input causes the passage from the on state or from the programmed switch-on state to the stand-by state: the successive deactivation always causes the passage to the on state. If the on/stand-by input is active, it will not be allowed to pass from the stand-by state to the on state or the programmed switch-on state by pressing the keys

pressing the $\fbox{\ \ }$ key causes the associated effect.

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c8

c 9

c12

A3