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EN

**Built-in Ovens
&
Cookers**

**“OMEGA”
User Interface**

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1. INTRODUCTION

1.1 PURPOSE OF THIS MANUAL

The purpose of this Manual is to provide information of new User Interface board OMEGA.

1.2 WARNINGS



All work with open appliances must be done with the mains supply disconnected.

The intervention on electrical equipment should only be performed by qualified personnel.

Before working on a device, check the efficiency of the system housing through means of appropriate equipment. As an example, refer to the indications described / illustrated in the portal Electrolux Learning Gateway (<http://electrolux.edvantage.net>).

After intervention, carry out electrical safety tests and check the correct operation of all safety devices.

In the case of manipulation / replacement of the PCB, use the ESD kit (Code 405 50 63-95/4) to prevent electrostatic discharge damage the circuit board see SB No. 599 72 08-09

1.3 ABBREVIATIONS, ACRONYMS, DEFINITIONS

Abbreviations	Meaning
ABO	Automatically back to OFF_STATE from STAND_BY_STATE
AC	Assisted Cooking
BS	Basic Settings
COT	Current Oven Temperature (= actual temp. in cavity)
Customer Action	Press any key, open the door (if door switch for light), plug in /out food probe
DE	Language = German
DUR	Duration
FC	Food Category
FCT	Food Probe Current Temperature
FPE	Food Probe Extended
FST	Foot Set Temperature
H+H	HEAT+HOLD
KEY_U/D	Key for up/down-selection
LTC	Low Temperature Cooking
MAN	Manuel in Assisted Cooking
MEM	My Programs menu
MM	Minute Minder
MP	Food probe
OFF	Off-State
ON	On-State
OST	Oven Set Temperature
OUI	Oven User Interface
OVF	Oven Function
RTC	Real Time Clock
REC	Recipe
S+G	SET+GO
STB	Stand-By-State
ToD	Time of Day
W	Window
OCT	Oven current temperature

ON_STATE	Oven is running
STAND_BY_STATE	Oven is in standby with standard menu
OFF_STATE	Oven is Off, ToD indication
tbd	to be defined

2. OVERVIEW

The OMEGA interface is a new mid range oven user interface for the cooking appliance. Omega replacing (in the factory) Perfect2, Kronos2+ and partly Rhea.

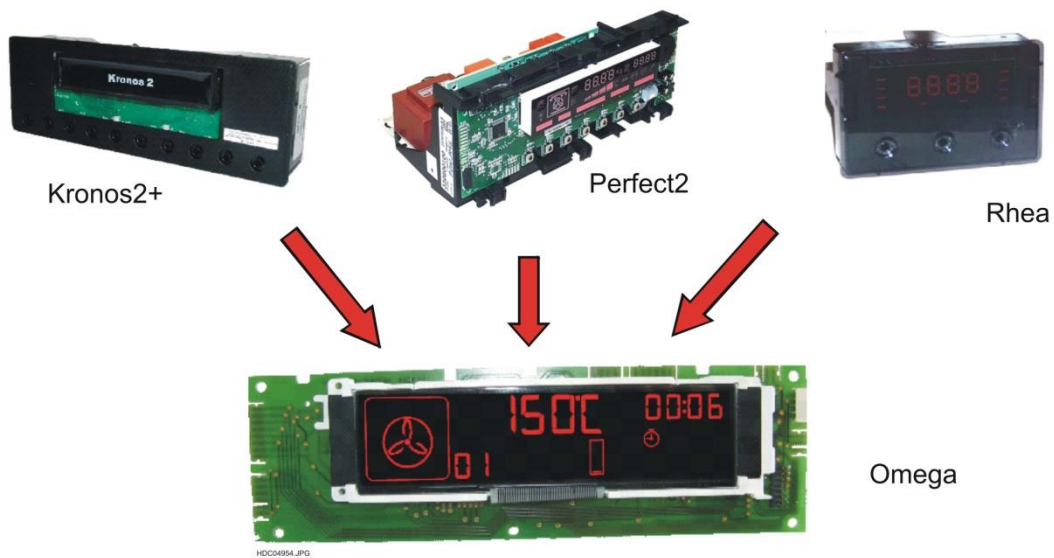
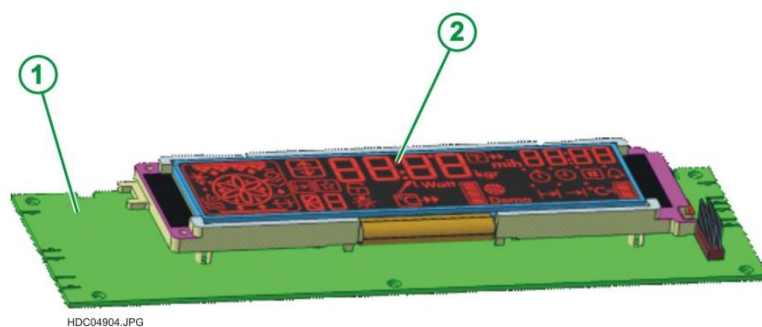


Fig. 1

Construction with one PCB, the same for OMEGA and VISION update (VCU).



1. CONNECTION PCB
2. OMEGA DISPLAY



2.1 RANGE OF APPLICATION AND SPECIFIC FEATURES

There are several variants of ovens and cookers with Omega interface in various structures, combined with the power board OVC3000 or OVC2000 in different aesthetic and brands with the following features:

- Pyro
- Non-Pyro
- Catalytic
- Meat Probe
- Steam
- Microwave

The main features of the Omega interface are:

LCD Modul

same μ C family (Renesas) for all interfaces Omega and Vision VCU

flexibility with different glass designs (new designs can be realized very fast)

supports nonPyro, Pyro appliances

supports Steam functionality

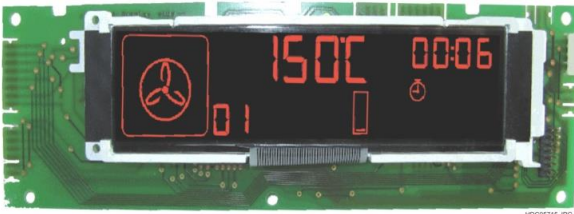
supports MW functionality

supports double oven appliance

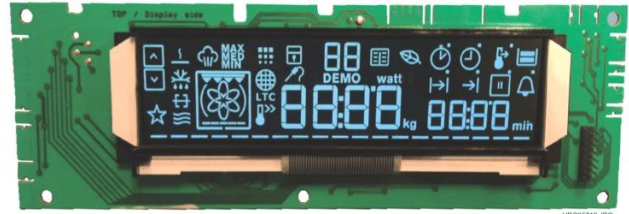
support 10 digital Inputs for touch sensor fields

2.2 DIFFERENT VERSIONS

RED VERSION (AEG)



BLUE VERSION (ELECTROLUX)



NOTE: The different Hardware versions of Omega Interface through the various software give rise to different codes programmed interface adapted to the different types and functions of the oven

3. CONCETP

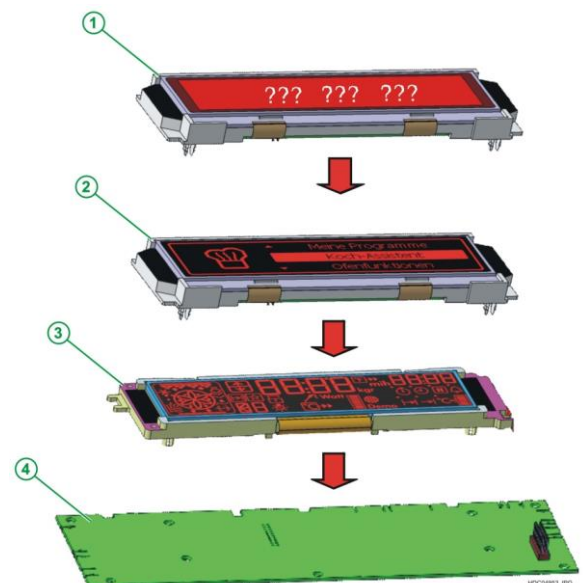
All glass variants should be adapted to this PCB.

same connection PCB <-> glass

same connection PCB <-> LCD module

same position

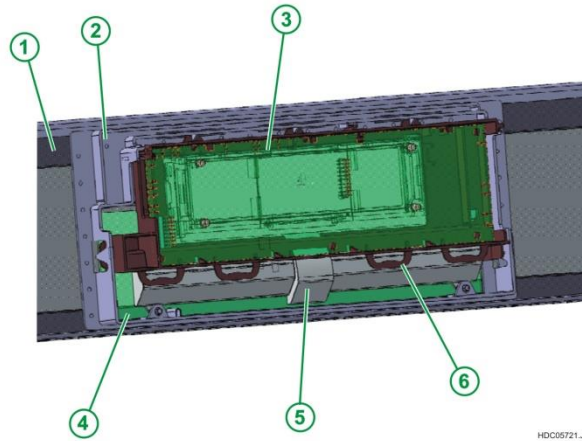
1. FUTURE DESIGN DISPLAY
2. VISION VCU DISPLAY
3. OMEGA DISPLAY
4. CONNECTION PCB (BASIS PCB)



4. OMEGA AND TOUCH BOARD FIXING

The housing of the user interface is snapped in a frame glued. No glue is needed of touch zones, then an easy mounting of the components.

1. CONTROL PANEL GLASS
2. GLUED FRAME
3. OMEGA USER INTERFACE
4. TOUCH PCB
5. REFLECTOR
6. SNAP HOOKS

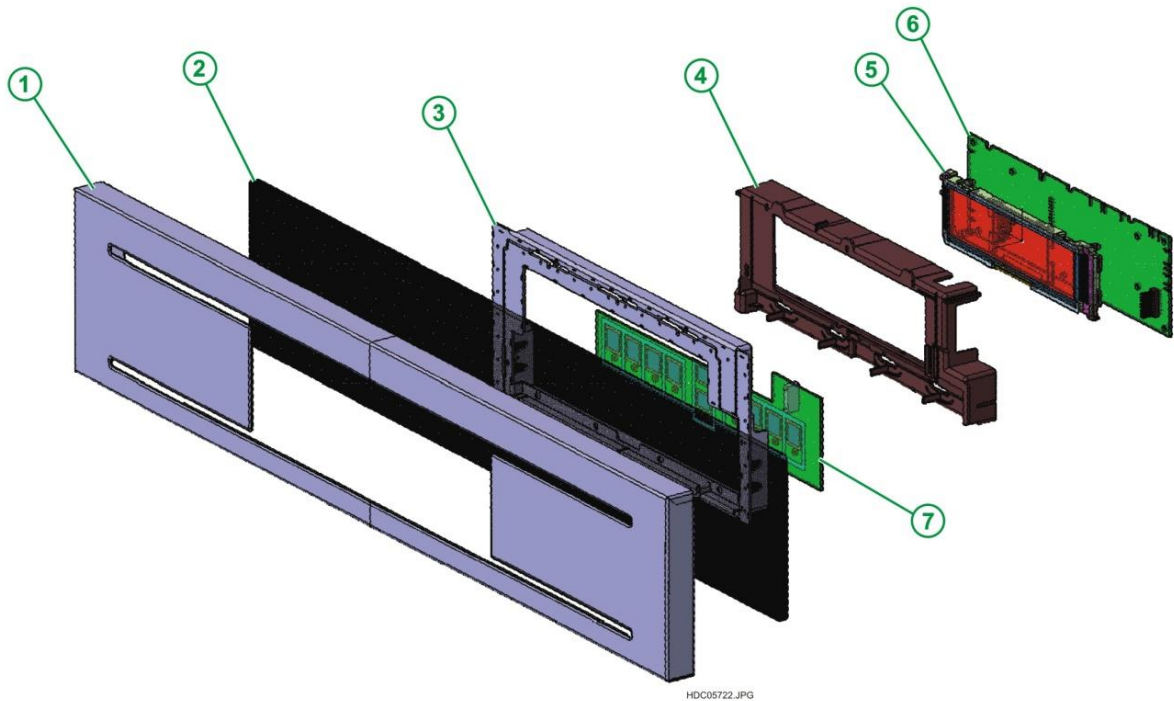


NOTE: For the fixing system in the various applications and aesthetic refer to manuals Service relating (Apollo structure, Sputnik structure etc.).

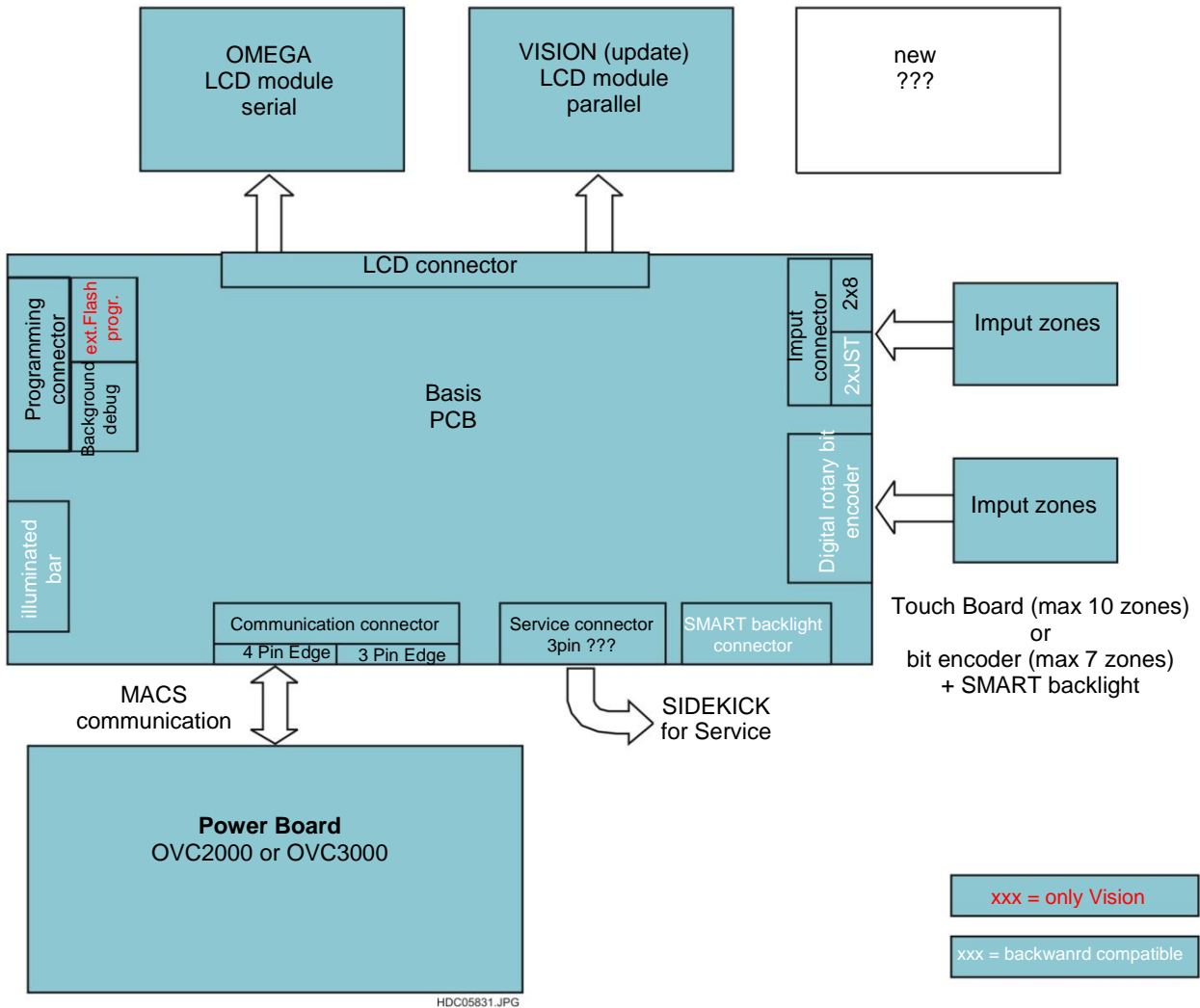
4.1 OMEGA - 10 TOUCH ZONES

Example fixing UI Omega in one of the applications.

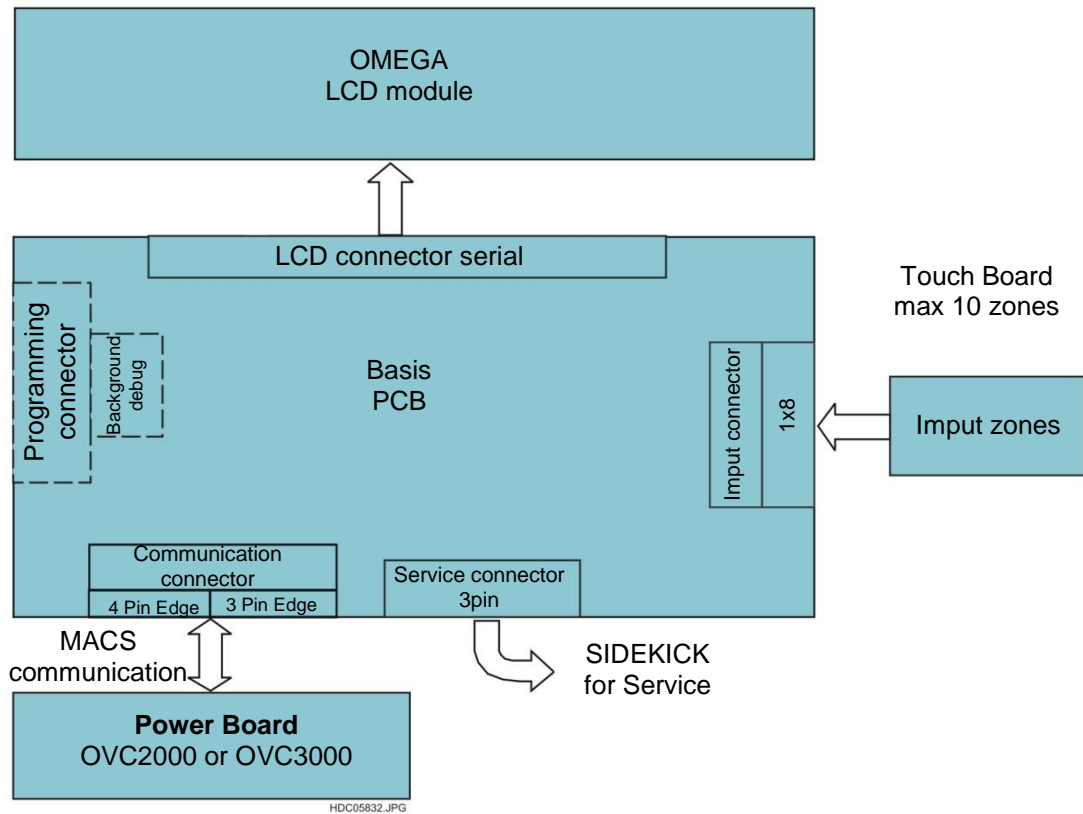
1. CONTROL PANEL
2. GLASS
3. GLUED FRAME
4. UI SUPPORT WITH SNAP HOOKS
5. OMEGA DISPLAY
6. CONNECTION PCB
7. 10 TOUCH ZONES PCB



4.2 - CONNECTORS OF BASIS PCB



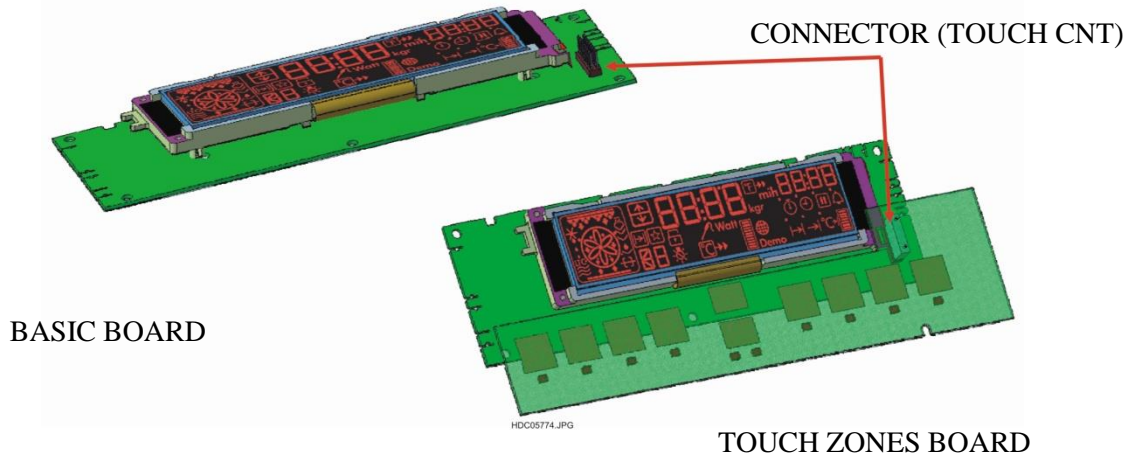
4.2 NEEDED CONNECTOR FOR OMEGA



5. MODULAR CONSTRUCTION

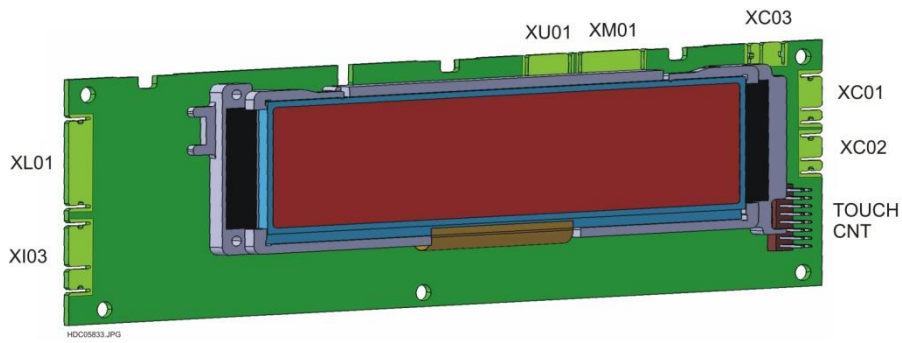
The touch-zones-board is connected over the connector only. No additional wiring is needed.

ATTENTION: Please be careful, during disassembling and assembling the boards!

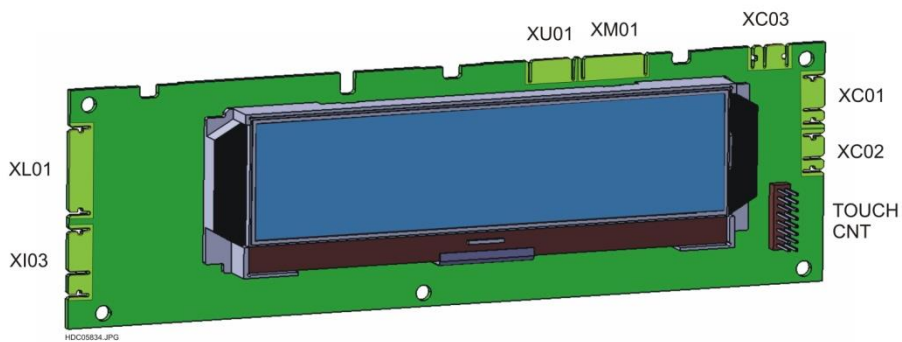


6. ELECTRICAL CONNECTIONS

RED DISPLAY (AEG)



BLUE DISPLAY (ELECTROLUX)



- XC01 MACS BUS FOR POWER BOARD
- XC02 AUXILIARY MACS BUS
- XC03 MACS BUS FOR SIDEKICK (SERVICE)
- XI03 DIGITAL ROTARY BIT ENCODER AND INPUT BLOCK
- XL01 TOUCH BOARD BACKLIGHT
- XM01 PROGRAMMING FLASH MEMORY
- XU01 PROGRAMMING
- TOUCH CNT INPUT TOUCH BOARD (15 PIN)

7. MATCHING THE POWER BOARD

The user interface Omega can be combined, depending on the version and specific appliances to the power board OVC2000 or OVC3000 with FPM board for the food probe.

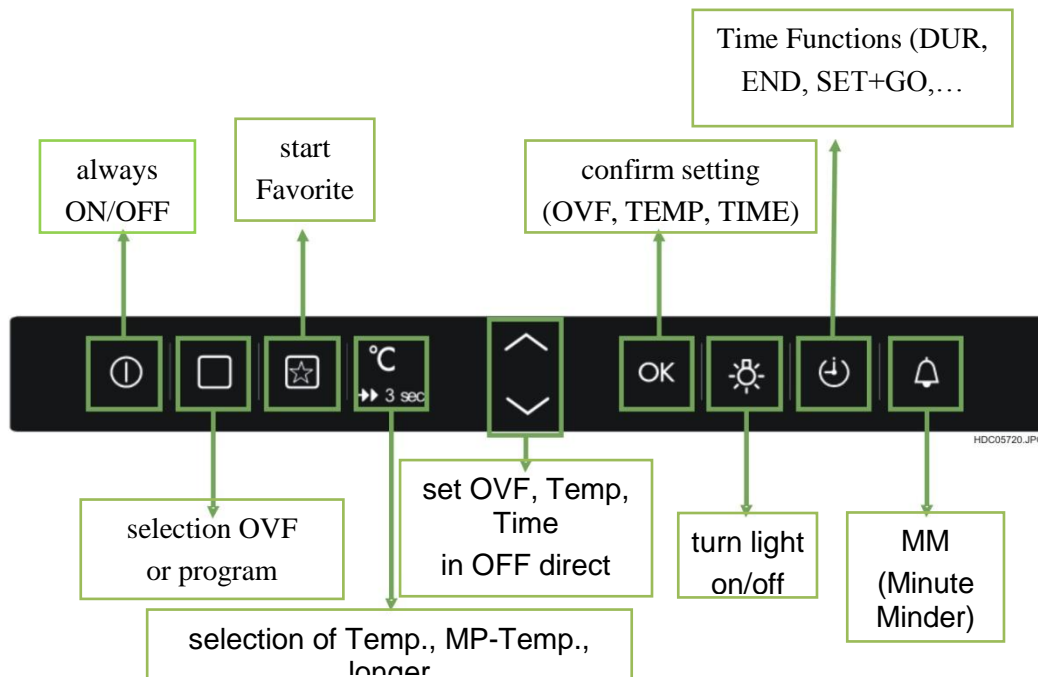
Also refer to the Service Manual in TDS related to power boards linked to specific models.

8. CONTROL PANEL

Example of control panel with user interface Omega



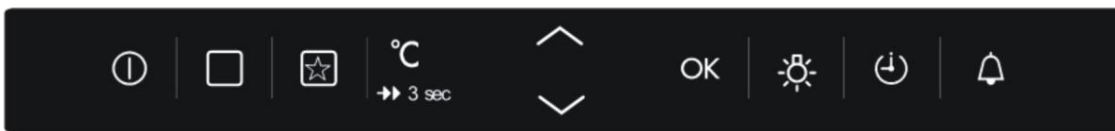
8.1 EXAMPLE OF FUNCTION KEYS



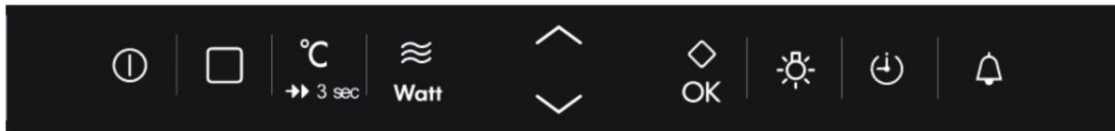
8.2 DIFFERENT KEY LAYOUT

Following key layout includes touch zones positioning. The omega has always a 10 zones key layout. Depending on which variant the key layout is diversify

For normal oven, like non pyro, pyro, catalytic, or steam:



For microwave combi oven:

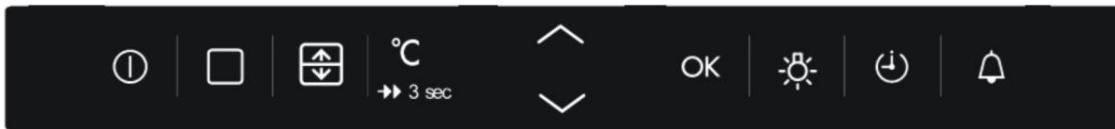


HDC05719.JPG



HDC06423.JPG

For double oven:



HDC05718.JPG










HDC06424.JPG






Example of 10 Zones key layout - single row horizontal:



HDC06425.JPG

8.3 FUNCTION OF KEYS

KEY SIMBOL	KEY NAME	DESCRIPTION
	KEY_MAIN	<p>Main Key</p> <ul style="list-style-type: none"> - From OFF_STATE to STAND-BY_STATE and vice-versa. - Always with function ON/OFF. - If multi-key-action this key has master function (leads always to STAND-BY resp. OFF_STATE). - Can also be used as reset, e.g. for micro wave ovens.
	KEY_CAVITY	<p>Cavity selection</p> <ul style="list-style-type: none"> - Pressing this button, switch between upper and lower cavity.
	KEY_OVF-PROGRAM-BASIC	<p>Oven function selection</p> <ul style="list-style-type: none"> - Pressing this button, toggle between the OVF and the programs. To set an OVF or program simple press on KEY_UP or KEY_DOWN (only STAND_BY_STATE) - In OFF_STATE long press enter the basic settings set mode,
	KEY_MICRO_WATT	<p>Microwave selection</p> <ul style="list-style-type: none"> - Switches on microwave functionality (set available Watt). - By pressing this button, if an oven function is running, combi microwave can be selected. - By pressing during microwave running, microwave Watt can be changed. Also pause is active.
	KEY_TEMP and KEY_BOOST	<p>Temperature selection and Boost</p> <ul style="list-style-type: none"> - Pressing to Current oven temp COT (Current Oven Temperature). - With food probe inside, switch between FST (Food Probe Set Temperature), COT (Current Oven Temperature) and FCT (Food Probe Current Temperature). - Pressing this button for more than 3 seconds, the quick heat turns on. If the customer presses the button a second time longer than 3 seconds, fast heat up is deactivated.
 	KEY_UP KEY_DOWN	<p>Scroll buttons</p> <ul style="list-style-type: none"> - After selection of oven function, program selection or temperature, this two keys can be used for set up or set down the corresponding function. If the oven is running and no selection is blinking, then this is also used for set temperature directly (In micro wave no function). The KEY_UP and KEY_DOWN also used for set timer functions.

	KEY_MODE	<p>Time mode selection</p> <ul style="list-style-type: none"> - Switches the between Time the different time functions. Set of these values with KEY_UP and KEY_DOWN . See chapter 9.10 - TIME / MODE MENU for the correct order.
	KEY_MINUTEMINDER	<p>Minute minder selection</p> <ul style="list-style-type: none"> - Switches to minute minder set state. Set values with KEY_UP and/or KEY_DOWN. See chapter minute minder for more details.
	KEY_OK	<p>Confirm selection</p> <ul style="list-style-type: none"> - Pressing this button, customer can confirm settings, e.g. minute minder, or the settings. - In microwave oven this button can be switch on the microwave with the maximum power and a time of 30 seconds. Each press on this key add 30seconds to the duration. <p>Cleaning conformation</p> <ul style="list-style-type: none"> - Oven does not start before customer press KEY_OK.
	KEY_FAVOURITE	<p>Quick Start</p> <ul style="list-style-type: none"> - A special oven function with pre-defined temperature and a pre- defined time. A new favourite program can always be saved with a key press longer than 3 seconds. Program functions are not saveable!
	KEY_LIGHT	<p>Light</p> <ul style="list-style-type: none"> - Turn the light ON / OFF at the whole time.

8.3.1 KEY COMBINATIONS OVERVIEW

FUNCTION	ACTION	KEY COMBINATION
Factory test	Activate after start up.	KEY_OK + KEY_MODE
Display off	Activate in OFF_STATE.	KEY_UP + KEY_MODE
Child safety	Activate / deactivate only in OFF_STATE.	KEY_DOWN + KEY MODE
Demo mode	Activate / deactivate after switch on / off over KEY_MAIN.	
Function lock	Activate / deactivate only in OFF_STATE.	

8.3.2 DOUBLE USAGE OF KEY


















FUNCTION	ACTION	KEY COMBINATION
Quck heat	Deactivate / activate during ON_STATE.	Long press KEY_TEMP
Basic setting	Deactivate / activate during OFF_STATE.	Long press KEY_TEMP
Save favourite program	Activate / deactivate only in OFF_STATE.	Long press KEY_FAVOURITE

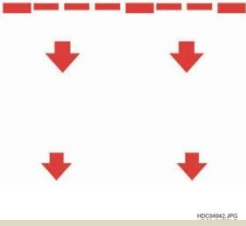

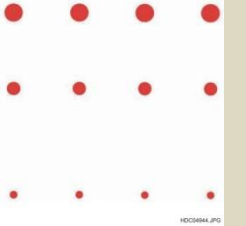
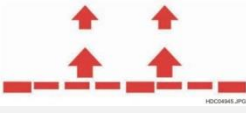



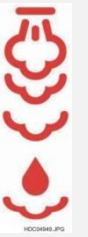


8.4 DISPLAY

8.4.1 DISPLAY RED (AEG)

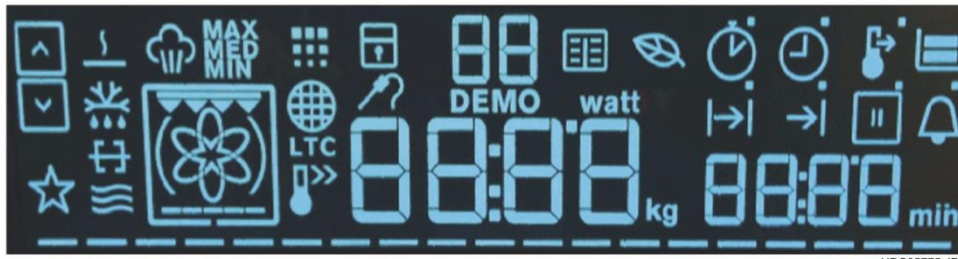


SYMBOL	DESCRIPTION
	<p>Off-state: Shows the time of day.</p> <p>On-state: Shows different temperature, the setting, the current and the current food temperature.</p>
	<p>On-state: Shows different timer values Shows the residual heat temperature.</p>
	<p>Shows the order number of oven functions or programs (at the moment only numbers) 1-99 without leading zero.</p>
	<p>Shows which cavity is selected.</p> <p> Upper cavity Lower cavity </p>
	<p>Shows if oven function or program function is selected.</p> <p> Oven function. Program function. </p> <p>Select with up- and down-key.</p>
	<p>Shows that the favourite program is active.</p>
	<p>Shows different temperature values in °C.</p> <p> Oven set temperature, can be set with up- and down-key. </p> <p> Current oven temperature is indicated. </p> <p> Boost-function is active. </p>
	<p>Shows different temperature values in °F.</p> <p> Oven set temperature, can be set with up- and down-key. </p> <p> Current oven temperature is indicated. </p> <p> Boost-function is active. </p>
















SYMBOL	DESCRIPTION
	Food probe icon.
	Indicated while microwave Watt can be selected.
	Indicated while kg or gr can be selected.
	Indicated during time functions. Show minutes (min) or hours (h).
	Counter.
	Time of day.
	Duration.
	End time.
	Set + Go.
	HEAD + HOLD (not used in Omega).
	Minute minder.
	Door is locked.
	Illumination off or on (only if no OVF is running).
	Smell filter function.
	Temperature bar, shows heat up phase, cool down, boost phase ...
	Shows on steam appliance the water tank level. Off-state: shows the residual heat.
	Indicated if the demo mode is active.

















SYMBOL	DESCRIPTION
	Top element.
	Grill element.
	Cleaning indication. Also if cleaning is necessary.
	Bottom element.
	Microwave function.
	Low temperature cooking function.
	Defrost function.
	Steam function.
	Turnspit.
	Rear element.









8.4.2 DISPLAY BLUE / WHITE (ELECTROLUX)



HDC05775.JPG

SYMBOL	DESCRIPTION
	<p>Off-state: Shows the time of day.</p> <p>On-state: Shows different temperature, the setting, the current and the current food temperature.</p>
	<p>On-state: Shows different timer values Shows the residual heat temperature.</p>
	Shows the order number of oven functions or programs (at the moment only numbers) 1-99 without leading zero.
	Shows which cavity is selected.  Upper cavity  Lower cavity
	Shows if program function is selected.  program function can be selected with KEY_UP or KEY_DOWN.
	Shows that the favourite program is active.
	Shows different temperature values in °C.  Blinking - OST can be set with KEY_UP or KEY_DOWN  Permanent - Current oven temperature is indicated.  Boost-function is active.
	Food probe icon.
	Indicated while microwave Watt can be selected.

SYMBOL	DESCRIPTION
	Indicated while kg or gr can be selected.
	Indicated during time functions. Show minutes (min) or hours (h).
	Time of day.
	Duration.
	End time.
	Minute minder.
	Door is locked.
	Set + Go.
	Water level indication (Hot Steam)
	Smell filter function.
	Temperature bar, shows heat up phase, cool down, boost phase ...
	Indicated if the demo mode is active.
	Top element.
	Grill element.
	Cleaning indication. Also if cleaning is necessary.
	Bottom element.

SYMBOL	DESCRIPTION
	Microwave function.
	Low temperature cooking function.
	Defrost function.
	Steam function.
	Turnspit.
	Keep warm.
	Rear element.
	ECO functionality.

9. FUNCTIONS AND USE OF OMEGA INTERFACE

In use, the user interface Omega can have different states:

NAME OF STATE	DESCRIPTION
FIRST_TIME_SET_STATE	Appliance newly connected to the power supply after the initial operation (Start-up) before setting the current time.
OFF_STATE	Appliance after the initial operation (with the current time set).
STANDBY_STATE	Power on but no setup cooking.
ON_STATE	Appliance on operating with a setting of cooking or the active program.

9.1 INITIAL OPERATION (START-UP PROCEDURE)

The user interface does not have a real time clock, so the interface always starts with FIRST_TIME_SET_STATE.

9.1.1 FIRST CONNECTION WITH THE MAINS

After the first connection with the mains (resp. after connection with mains after factory test) the following sequence starts:

1. All segments on for 2 seconds, after this starting indication of the firmware



2. For the next 6 seconds displaying software version from

- Firmware OUI (2 seconds)





- Configuration OUI (2 seconds)




- Firmware PB (2 seconds)




3. Start sequence to set Time of Day (ToD). ToD  symbol and hour are blinking every second. Static icon  of hour.

In this state entry to factory test is activated. See chapter 11 - SERVICE MODE (FACTORY TEST) for more details. Factory test can be activated until a time is set.

The go faster to FIRST_TIME_SET_STATE the customer can easy press KEY_OK  to confirm the different version indications.



9.2 TIME OF DAY



Is it possible to set the current time (FIRST_TIME_SET_STATE):

- During the initial operations during startup after the appearance of the various codes.
- Or with appliance completely off hold KEY_MAIN  for at least 5 seconds.



In this state entry to factory test is activated. See chapter 11 - SERVICE MODE (FACTORY TEST) for more details. Factory test can be activated until a time is set.

Now the user can set the actual ToD.





First step is to set the hour with KEY_UP  or KEY_DOWN . The icon of hours and also the hours blink.

While setting with KEY_UP  or KEY_DOWN  the hours do not blink.






To set the minutes of ToD too, the user has to press KEY_OK  to confirm set of hours and continue with set of minutes. Also customer can press KEY_MODE  to switch to the minutes.

Hour icon disappears and minute icon and minutes starts to blinking.

Now the user can set the actual minutes with KEY_UP  and KEY_DOWN . While setting with KEY_UP  or KEY_DOWN  the minutes do not blink. If user do not confirm, the settings will confirm automatically after 5seconds.




To confirm these settings the user has to press the KEY_OK  again. Also customer can press KEY_MODE  to confirm setting minutes. If user do not confirm, the settings will confirm automatically after 5 seconds.



ToD  symbol and minute icon **min** disappears, and the indication of ToD jumps into middle segment.



Now interface is in OFF_STATE. User interface is now ready to work.

9.3 ON / OFF KEY

To turn the power on, from off state (OFF_STATE) press KEY_MAIN  to switch in stand-by state (STANDBY_STATE).

Then set the oven for cooking by pressing the KEY_MAIN  or the KEY_OVF-BASIC PROGRAM  to activate a cooking function or program (ON_STATE) (see Chapter 9.6).



In stand-by state (STANDBY_STATE) if there is a residual heat in the oven, will be visible the residual heat bar with real temperature degrees and running down segment (see Chapter 9.4.3).

9.4 OFF STATE

9.4.1 DAY / NIGHT BRIGHTNESS




The OUI reduces the brightness of ToD indication in OFF_STATE in the timeframe 22:00 until 06:00 o'clock to lowest brightness. With any key press, which switch not on the oven, brightness is set to highest level (day brightness) for the next 10 seconds.

If customer activates the MM in OFF_STATE the brightness is set to highest level in that time.

9.4.2 DISPLAY INDICATION (ON / OFF)

For reduce energy consumption, the customer can turn off /turn on the display indication in OFF_STATE.

9.4.2.1 ACTIVATE / DEACTIVATE DISPLAY

The customer has to set OUI to OFF_STATE with KEY_MAIN . After that customer has to press KEY_MODE  and KEY_UP  together to disable / enable the indication.



9.4.3 RESIDUAL HEAT DISPLAY

If in the oven is a residual heat will be displayed the residual heat bar with real temp degrees and running down segment according to the criteria listed:





- Always active after every program (OVF, Recipe, ...)
- Residual heat is shown with the heating bar and with real temp degree
- Indication in relation to heating bar state (same state).
- Available in STANDBY_STATE and OFF_STATE.
- Decreasing bar - same animation and position as heating indication in ON_STATE
- At all applications in real degrees with state bar, change of value with max. 1°C/sec!
- Disappears if cavity temperature less than 40°C
- Animation shows a relation between cavity temperature/oven set temperature
- If MM is running, real degrees should be hidden until MM end is confirmed or MM end has timeout.

9.4.4 CHILD SAFETY

In OFF_STATE the customer can activate/deactivate the "child safety state". In active child safety state every user action on oven keys is disabled.

Child safety only settable if no other function is activated, e.g. minute minder

9.4.4.1 ACTIVATE / DEACTIVATE CHILD SAFETY

1. Pressing KEY_MODE  + KEY_DOWN  simultaneously for at least 2 seconds.
2. Buzzer sounds.
3. Indication in OFF_STATE:

- With all key press, display shows "SAFE" in middle instead of ToD for 5 seconds. Then switch back to indication of ToD. No chance to switch on the appliance.




9.4.5 MINUTE MINDER IN OFF STATE

The minute minder can also be set in OFF_STATE. For more information about minute minder please check Chapter 9.11.

9.4.6 BASIC SETTING IN OFF STATE

The basic settings can only be reached if appliance stays in OFF_STATE.

To set general settings, press KEY_OVF-PROGRAM-BASIC  for more than 3 seconds to enter the basic settings.

See chapter **9.13 BASIC SETTINGS** for more details.





9.5 STANDBY STATE

The STANDBY_STATE can be only reached if Oven stays in OFF_STATE. Depending which key is pressed, the user interface goes into a STANDBY_STATE or not. At press on

KEY_MAIN  or KEY_OVF-PROGRAM-BASIC  :

The first OVF is selected; STANDBY_STATE until customer press another key.



KEY_UP  or KEY_DOWN  to change the OVF.






Static OVF , cavity icon  blinking (if available).

KEY_OVF-PROGRAM-BASIC  (twice) (if available):

The first OVF is selected; STANDBY_STATE until customer press another key.

KEY_UP  or KEY_DOWN  to change the OVF.






Static OVF , cavity icon  blinking. If pressing KEY_OVF-PROGRAM-BASIC  twice, indication of programmed OVF list .

KEY_FAVORITE  :




The oven starts with the favorite program, no Standby.



KEY_TEMP  :

The first OVF is selected; KEY_UP  or KEY_DOWN  to change the temperature. STANDBY_STATE until customer press another key. Temperature icon  blinking. If press longer than 3 seconds, oven starts heating with fast heat-up.

KEY_MODE  :

Set ToD; No STANDBY_STATE ; with KEY_UP  or KEY_DOWN  the hours can be set. With KEY_OK  jump to set minutes. Same like FIRST_TIME_SET_STATE.



KEY_OK 

KEY_MINUTEMINDER 

KEY_UP  or

KEY_DOWN 

No function in OFF_STATE.



Check Chapter 9.11(MINUTE MINDER)

Check Chapter 9.11(MINUTE MINDER)

9.5.1 MENU STRUCTURE IN STANDBY STATE

9.5.1.1 OVEN FUNCTION SELECTION

The oven function selection is active, if appliance is switched on with

KEY_MAIN , or KEY_DOWN  to choose an oven function. The oven stays in STANDBY_STATE, no automatic start of the function. For detailed information about the running oven function, see chapter **ON_STATE => Running an oven** function.







NOTE: No start of the function until customer press a key, except KEY_MAIN  or KEY_OVF-PROGRAM-BASIC .

With next press on KEY_OVF-PROGRAM-BASIC  customer enter program function selection.

9.5.1.2 PROGRAM FUNCTION SELECTION

If customer wants to start a program, he has to press KEY_OVF-PROGRAM-

BASIC  twice to switch to program function selection. See chapter **“Programs”** for more details.

By selection of program function selection, icon program is flashing and first program is indicated. The user can select one of these food programs by pressing KEY_UP  or KEY_DOWN . To confirm the program, customer can press KEY_OK  or simply wait for timeout.



9.5.2 AUTOMATIC BACK TO OFF (ABO)

In STAND_BY_STATE the oven will enter the OFF_STATE automatically after defined time without user interaction. The customer has to press KEY_MAIN , KEY_OVF_PROGRAM-BASIC  or KEY_TEMP  to enter the STANDBY_STATE again. The time should be configurable.

ABO does not work if minute minder is active.

9.6 ON STATE



9.6.1 RUNNING AN OVEN FUNCTION

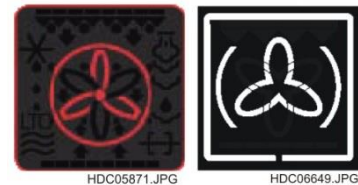
The content of the heating functions menu depends on the appliance. Typical heating functions are:



- hot air
- top + bottom
- ...

Also special oven functions, like steam or low temperature cooking, can be a part of the heating function menu. Please check oven functions overviews in the variant specifications of the different models for more information (see also specific instruction manuals). But: Low temperature cooking or steam are normal oven functions with pre- defined phases!

9.6.1.1 START WITH “KEY_MAN” OR “KEY_OVF-PROGRAM-BASIC”

All heating functions are described with a static symbol which indicates the active element (see Fig. 60 and 61). Middle display segment shows predefined Oven Set Temperature (OST) for each oven function. In the oven functions menu, the customer can select the traditional heating functions by pressing KEY_UP  or KEY_DOWN .



With first KEY_OVF-PROGRAM-BASIC  or KEY_MAIN  press, the display show following items:


- Static oven function symbol.
- Cavity outline border.

Oven function symbol static if available.

- Seven segment shows the number of selected OVF (e.g. 1).

and perhaps duration time and duration icon (if oven function has defined time).

To confirm the chosen oven function,

customer simple press KEY_OK .

After that oven starts heating.

Or customer can wait for auto timeout.







In this case oven begins heating with pre-defined Oven Set Temperature (OST). Auto timeout only work, if customer has changed the OVF or the temperature.



A running oven function is indicated in the following way:



- Static icon symbol changes into an animated icon symbol.
- Oven Set Temperature (OST) and heating bar with an increasing bar -> last bar icon is blinking. The heating bar is depending on the relation between Oven Set Temperature (OST) and Current Oven Temperature (COT).
- Elapsed cooking time (counter) with counter icon or a defined duration time, like low temperature cooking or steam oven functions with duration symbol and status bar with time information.




If customer wants to change the pre-defined Oven Set Temperature (OST), simple press on KEY_UP  or KEY_DOWN  or KEY_TEMP .

After this temperature icon  is flashing.

(First press on KEY_UP  or KEY_DOWN  only select the temperature setting, second press changes the value).

The temperature can be changed with KEY_UP  or KEY_DOWN  in steps of 5°C.

The customer can confirm the settings with the KEY_OK  or wait for auto time out.



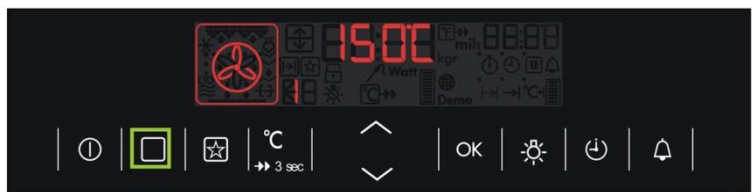
If temperature reached (COT 5°C > OST; this is handled from power board), the buzzer sounds (3 x Tone) that temperature is reached. The full heating bar disappears.



9.6.1.2 POSSIBLE ACTIONS DURING “ON STATE”

In ON_STATE following actions are possible:

1. Set oven to OFF_STATE. Customer has to press KEY_MAIN to switch off the appliance. All functions stop immediately.
2. Change an oven function if a oven function is running: Customer has to press KEY_OVFPROGRAM-BASIC, to set oven function selection: Following indication



If no KEY_UP or KEY_DOWN key-press within the next 5 seconds, the interface jumps back to last indication. By pressing KEY_UP or KEY_DOWN in oven function selection, the customer can change the oven function. In this case heating elements are switched off. To confirm this choice the user can press KEY_OK or wait for auto time out.


3. Change program if running a program function: Customer has to press KEY_OVFPROGRAM - BASIC, to set a program. By pressing KEY_UP or KEY_DOWN Oven stops heating and customer changes to an other function. To confirm this choice the user has to press KEY_OK or simple wait for auto time out.



4. Change to a program function if oven function is running or vice versa. Customer has to press KEY_OVF-PROGRAM-BASIC twice, to select program function/oven function choice. By pressing KEY_UP or KEY_DOWN oven stops heating. To confirm this choice the user has to press KEY_OK or simple wait for auto time out. In this case heating elements are switched to the needed heating elements.
5. Change to a cleaning program, if available. Customer has to press KEY_OVF-PROGRAMBASIC, to select cleaning function choice. See chapter Cleaning.
6. Save a running OVF with KEY_FAVOURITE. See chapter Oven Quick Start for more details.
7. Change temperature: Customer simple pressing KEY_UP or KEY_DOWN will still adjust the set temperature. With first key-press temperature symbol flashing. With second key-press change temperature in steps of 5 degrees.
8. Check real temperature: Customer simple press KEY_TEMP to show COT or OST. User interface switch back to OST automatically after 5 seconds without any customer action or simple press KEY_OK or KEY_TEMP again (KEY_TEMP → show COT KEY_TEMP back to running screen). If food probe plugged, Indication stays on FCT:
 - KEY_TEMP → set FST → KEY_TEMP → show COT → KEY_TEMP → shows FCT → ...
 - To show the OST customer can press KEY_UP/KEY_DOWN during running screen
9. Time settings and other further settings can be done in time menu by pressing KEY_MODE. Further information about this in chapter “Time/Mode Menu”.
10. If the appliance is equipped with door-switch-for-light, the animated symbol on left side goes to static (always starting icon), if the door is opened.
11. Toggle Light ON and OFF with KEY_LIGHT

9.6.1.3 RAPID HEAT UP - BOOST

Depending of the oven functions, rapid heat up function (=BOOST) is available. Not all oven functions have these “boost” feature. See different variant specification which oven function supports the boost feature.

To activate boost, the customer has to press KEY_TEMP  for more then 3 seconds. If customer activates the boost at an Oven Function (OVF) without boost, appears an error beep. The conditions for boost are regulated in the power board. Heating indication makes an upward movement and boost icon displayed. The last icon is always static



If temperature reached, the behaviour is the same like normal heating phase.



9.6.1.4 RESIDUAL HEAT USE

For energy reason the heating elements can be switched off 10% earlier than the cooking process is finalized (min 3min, max 20min). This is done in a way that the customer doesn't notice any change. Only the heating elements are switched off, the light and the cooling fan are running if they were active before.

To use this feature a oven function with a defined end has to be selected (DUR, END, DUR+END) for at least 30min. The residual heat use is not working with grill functions.

9.6.1.5 TURNSPIT

Some OVF's can also have the turnspit. If setting an OVF with turnspit the spit starts turning immediately if the oven function is running. If the appliance is equipped with door-switch-for-light, turnspit stops turning when opening the door and turns again when closing the door.

If a time function (duration/end) is end and no user interaction (only KEY_MAIN or door-switch-forlight) follows, the turnspit is turning for the next 10minutes

9.6.1.6 REAL TEMPERATURE INDICATION

In ON_STATE it is possible to show the current oven temperature with pressing KEY_TEMP; the display toggle between real temperature indication and running state. In this case the heating bar disappears and real temperature is displayed on OST position. If appliance with food probe inside, toggling between FST, COT and running state (FCT)

9.6.1.6.1 IN GENERAL

Real Temperature Indication only available as long as $COT < OST$ (= Oven Set Temperature).

Only possible to activate in heat-up phase till OST reached – also cool-down from higher OST

to a lower OST level. In this case the maximum temperature is OST.

Real Temperature Indication not available in OFF_STATE, WAIT_STATE, setting mode or at

cleaning functions (e.g. pyrolyse).



Only 1 degree per 1 second change of COT in display – no jumps of real temperature

indication.

Real temperature indication only works in ON_STATE.

During heat up phase, customer has to press KEY_TEMP to show real temperature indication.



9.6.1.6.2 BEHAVIOR

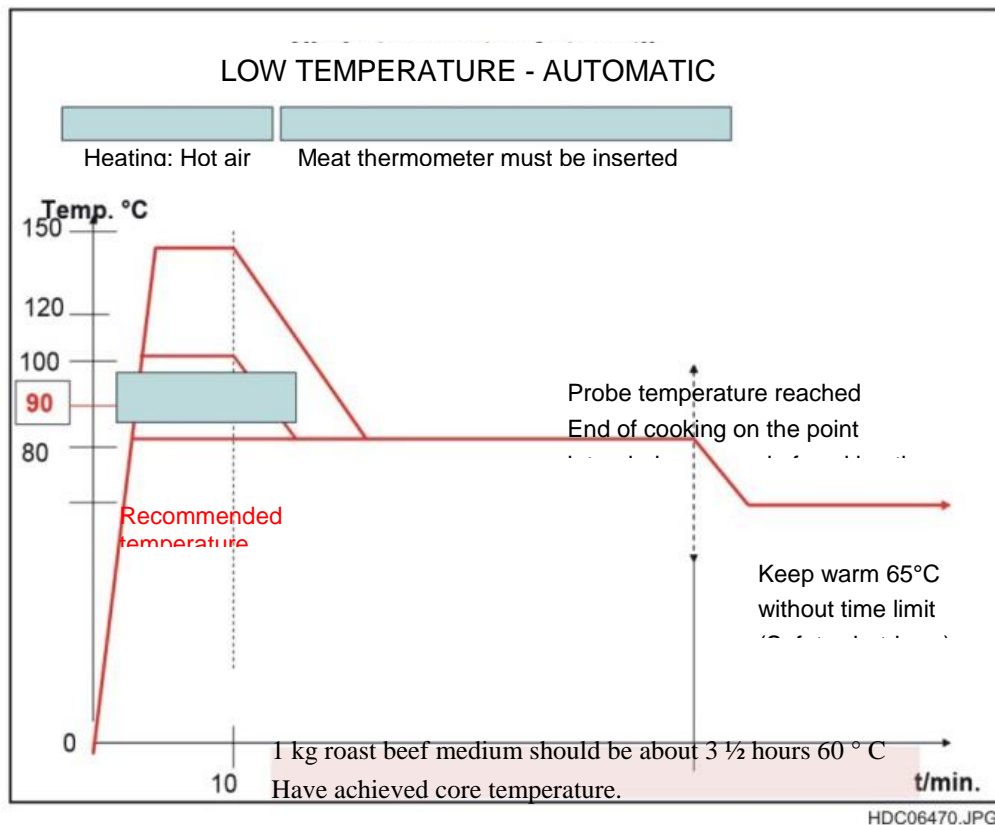
Switch back to running state with KEY_OK/KEY_TEMP or after 5seconds automatically.

If trying to activate the feature when $COT \geq OST$ indication of OST instead of real temperature.

By pressing KEY_UP/KEY_DOWN back to running state with OST selection indication.

9.6.1.7 LOW TEMPERATURE COOKING (LTC)

9.6.1.7.1 DIAGRAM

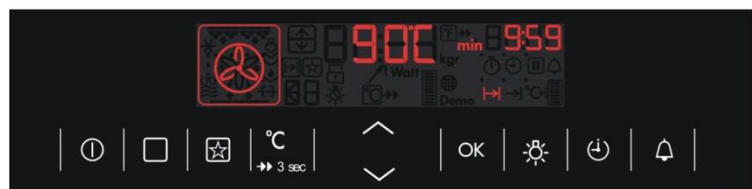


9.6.1.7.2 BEHAVIOUR

Following characteristics are sufficient for this function:

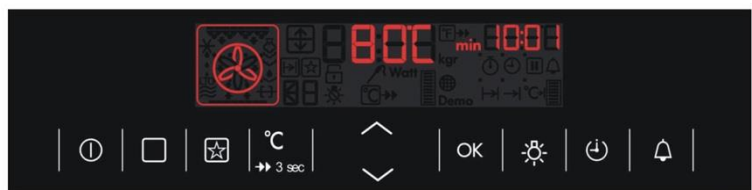
The function is split into two phases:

Phase1: OST = 80° - 150° default temperature 90°; a fix duration of 10minutes. Possible to toggle between 80°C and 150°C with KEY_UP and KEY_DOWN in step of 5°.



Phase2: OST = 80°C fix without a duration, but with counter indication.

- Possible to set a delay time for the first phase by setting an end. This is only possible during the first two minutes after starting the function.
- Possible to use FP as usual. So low temperature cooking has a defined end of cooking. There a special mode by using food probe with LTC:
If core temp is reached, 3x Tone_1a, change to indication OST=65° and no time limit.



9.6.1.7.3 WORKFLOW

1. Set OVF low temperature cooking:
 - a. Indication temperature as usual.
 - b. Duration indicated with 10minutes, indicator for duration.
 - c. Change of temperature in borders as usual via KEY_UP or KEY_DOWN.
2. After the 10 minutes a buzzer sounds for three times (3x Tone_1a):
 - a. Temperature indication changes to 80°C.
 - b. Running up counter instead of duration.
3. A) End of OVF by setting another OVF, entering STAND_BY_STATE, OFF_STATE or by use of food probe.
 1. END of OVF over FP end. After this switch to keep warm with OST 65°.

9.6.1.8 EXIT AN ACTIVE FUNCTION

After selecting an oven function or program the oven is in *ON_STATE* and the indication depending to the selected function appears.

By pressing KEY_OVF-PROGRAM-BASIC customer can set an oven function, a program, or a cleaning function if available. With first press on KEY_OVF-PROGRAM-BASIC indication goes to following indication.

- Cavity outline frame
- Static heating icon, depends on the selected OVF
- Program number (P1-P9), number of selected OVF static or cleaning function if available
- pre defined OST, pre defined weight or FCT
- Duration or end time, if set.

Second press on KEY_OVF-PROGRAM-BASIC or press on KEY_UP or KEY_DOWN stops the *ON_STATE* and oven switch off all loads. Oven is now in *STANDBY_STATE* and the next menu item is indicated.

If no second press on KEY_OVF-PROGRAM-BASIC or press on KEY_UP or KEY_DOWN is done, the display switches back automatically to the *ON_STATE* indication after 5seconds.

Exit an active function is also possible with

KEY_MAIN □ Interface goes back to *OFF_STATE*, the time of day (ToD) is displayed and, in case of residual heat in oven, also the residual heat indication is active.

9.6.2 FOOD PROBE FUNCTIONALITY

9.6.2.1 PLUG IN A FOOD PROBE

The user can plug in a food probe anytime before or during cooking process.

After plug-in a food probe the indication for set the food probe temperature appears with a default food probe temperature from (First time 60°, after change save the value as default).

The indication for set food probe temperature does not work if the user interface is in *OFF_STATE*. After plug in the food probe in *OFF_STATE* the user has to switch on the appliance first. After this the FP is recognized and the default value will be indicated

If food probe insert during *ON_STATE* interface oven does not switched off.

If food probe insert during *ON_STATE* or *STANDBY_STATE* interface change to following state



The customer can adjust the core temperature by pressing KEY_UP or KEY_DOWN, indicated by a flashing food probe symbol. Selection will be confirmed automatically or with KEY_OK. Without user interaction the set-temperature-state will disappear after 5seconds and food probe set temperature will stay at default value.

9.6.2.2 RUNNING A OVEN FUNCTION WITH FOOD PROBE

If oven running with food probe, customer settings of duration and/or end time will be removed by plug-in the food probe. There a two ways, to indicate the food probe. Conventional and food probe extended.



9.6.2.2.1 CONVENTIONAL FOOD PROBE INDICATION

In conventional way, the displays shows the actual food core temperature instead of OST.

The bar show the relation OST to COT. Normal heat up bar.

In food probe functionality the middle seven segments always shows FCT. With each press on

KEY_TEMP display shows following information:

FCT → KEY_TEMP → FST →
KEY_TEMP → COT → KEY_TEMP →
FCT → ...



9.6.2.2.2 FOOD PROBE EXTENDED (FPE)

In food probe extended way, the user interface calculates the needed cooking time to reach the selected core temperature of the dish. In this way user interface shows calculated duration time instead of FST.

Indication of calculation end time

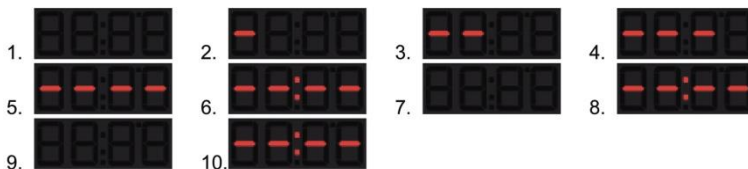
During the calculation of the estimated end time the indication is the same as conventional way.

The indication, before duration is calculated, is shown in Fig



The bars show the relation OST to COT. Normal heat up bar.

If first time is calculated, there is a animation on the right seven segments before the time is indicated.



After that the right side shows the calculated duration. Middle Status bar disappears if indication stays on FCT.

The estimated end time value will be updated at every refreshing of ToD display. If the remaining time is less than 10 minutes of the end time, no update of calculated duration. The end of cooking is the calculated duration and not the FST!



If oven set temperature is too low, the estimation time is deleted and indication changes to conventional way (see conventional food probe indication). Food probe extended is only available if OST is equal or higher 70°C and if it's a function without steam.

9.6.2.3 FOOD PROBE VALUES

Default temperature: 60°C (from factory) and then last set FST is default temperature.

Set range: 30-99°C

Indication range: 10-99°C

Step: 1°C

A changed food probe temperature takes effect in all conventional oven functions.

9.6.2.4 FOOD PROBE END INDICATION

At the end of any food probe cooking the user interface shows, depending which way was used, the reached food probe temperature or the reached end time. Buzzer sounds 2 minutes.

Indication in conventional way:

Left side: Cavity outline frame, static OVF icon.

Middle area: FST and food probe symbol flashing.

Right side: Shows nothing (perhaps minute minder, if active).



Indication in food probe extended way:

Left side: Cavity outline frame, static OVF icon.

Middle area: FST and food probe symbol static.

Right side: Minutes symbol static, 00:00 and duration symbol flashing (perhaps static minute minder symbol static, if active. In this case the dot on duration symbol is on).



After customer action (KEYS, except ON/OFF) end indication disappears and user interface go back to STAND_BY_STATE with main menu indication.

If food probe plugged in during food probe is not possible (e.g. pyrolytic during), the oven should stop the heating and show a customer error. In this case "C2". "C2" means "Plug out food probe". After customer has plugged out the food probe, oven should continue the last function automatically.

For programs which makes no sense to run with FP, the oven can continue but without recognition of the FP.

9.6.3 AUTO SWITCH OFF

Automatically switch off the oven depending on operation time/set temperature, handled by the power board:

Temperature < 120°C → 12,5 h

120°C ≤ temperature < 200°C → 8,5 h

200°C ≤ temperature < 250°C → 5,5 h

250°C ≤ temperature → 3,0 h

Indication with blinking oven set temperature

In this case, the animation stops and shows the static oven function icon. Any customer action/key press, except KEY_MAIN leads to STAND_BY_STATE.



The Safety Switch Off works with all oven function, except OVF "light only", low temp cooking, food probe, demo mode, or programmed duration, programmed end or programmed duration/end.

9.7 PROGRAMS

From main menu the user can reach the program menu. This section includes several programs to support unskilled user to prepare a meal. There is no knowledge in cooking temperatures or cooking times needed.

From *OFF_STATE* or *STANDBY_STATE* the user can enter the program menu by pressing **KEY_OVF-PROGRAM-BASIC** twice.

The Program mode consists depending on configuration different programs. The user can select one of these food programs by pressing **KEY_UP** or **KEY_DOWN**.



Depending which variant, there are different numbers of programs:

- For variants with 9 programs there is the indication P1-P9 and the program icon
- For variants with more then 9 programs there is the indication with the number and the recipe icon.

The right numbers of programs are inside in the variant specification.

The oven will start automatically after 5sec. without customer action or by pressing **KEY_OK**. In some programs (e.g. weight automatic) customer can change the weight with **KEY_UP** or **KEY_DOWN**.

For every dish the best way of how to prepare this is proposed as selection in the next menu level.

Possible are pre-defined recipes with a recipe in user manual behind, weight controlled programs or food probe controlled programs.

As soon as any program finishes the dedicated auto-time-out indication appears. For programs with defined duration it is the EOC with duration, for programs with food probe it is end of food probe program. Same action as finishing a time programmed OVF or a food probe function.

9.7.1 WEIGHT PROGRAMS

At weight programs the duration of the program is fix defined by the weight the user can set. The oven will stop the program as soon as the duration is reached. Normally a weight program has different phases with temperature profile. For further information about this check the different configuration specifications including the specified program parameters.

After choosing a weight controlled program the OUI shows:

Left side: The icon of the oven function static, program symbol flashing and number of program static.

Middle area: Default weight.

Right side: Default duration, static duration symbol.



To choose the weight program, customer simple press KEY_OK or wait for auto time-out. After this oven starts with heating and weight symbol flashing for the next 10seconds, this means customer can change the default weight value. OUI change to following indication:

Left side: Animated OVF icon.

Middle area: Default weight, weight symbol flashing

Right side: Default duration counts down, static duration symbol



Further adjustment of the weight parameter can be done anytime after starting the program as normally changing the temperature (KEY_UP or KEY_DOWN) → on first key-press the weight icon starts flashing on second key-press the weight value change.

At weight programs it is possible to set an end time for shifting the starting point of the program. But if the user selects a defined end, it is not possible to select a weight that shifts the end of cooking time over the defined end!

9.7.2 FOOD PROBE PROGRAMS

At food probe programs the core temperature of the food is fix defined. The oven will stop the program as soon as the core temperature is reached. Also an food probe program can have different phases with temperature profile. For further information about this check the different configuration specifications including the specified program parameters.

After choosing a food probe program with KEY_UP or KEY_DOWN the OUI shows:

Oven function static

Recipe icon static

Program symbol static

Number of program static

FST of the FP program static

Food probe symbol static



The oven will start automatically after 5sec. without customer action or by pressing KEY_OK. OUI indicates following:

Animated oven function

FCT and food probe symbol

Heat up bar Counter and if duration is calculated Instead of counter the calculated duration, hour or minute icon and duration symbol.



If calculation is done, duration is indicated. Same as FPE.



9.7.3 RECIPE PROGRAMS

At recipes programs the oven function works with a pre-set duration and temperature. These settings are fixing and can't change by the user. User is only able to set an end time during two minutes after starting the program. Also a recipe can have different phases with temperature profile. For further information about this check the different configuration specifications including the specified program parameters.

After choosing a recipe automatic by pressing KEY_UP or KEY_DOWN the OUI shows:

- Oven function static,
- Program symbol static;
- Number of program static
- Fix pre-defined oven set temperature
- Fix pre-programmed duration hour or minute symbol and duration symbol.



As soon as the program is selected, OUI goes to following indication:

- Oven function animated,
- Fix pre-defined oven set temperature.
- Heat up bar.
- Duration counts down; hour or minute symbol and duration symbol.



9.7.4 OVEN QUICK START

With the Favourite program customer can start the oven with his own program in a fast way. In initial state the favourite program is set by the factory (Most used oven function with pre-define temperature and a pre-defined time). The customer can always change these values.

9.7.4.1 WORKFLOW FOR ACTIVATION

In OFF_STATE or STANDBY_STATE customer has to press KEY_FAVOURITE

Oven starts automatically the favourite program.

The most used oven function is indicated with outline cavity frame, static heating element and defined OST.



Oven starts instantly with heating.
Customer can change the temperature or time as usual.



9.7.4.2 WORKFLOW FOR DEACTIVATION

Customer has to press KEY_MAIN to switch off the oven.

9.7.4.3 SAVE A OWN FAVOURITE PROGRAM

Oven stays in ON_STATE. Customer has to press KEY_FAVOURITE longer than 3 seconds to save his own program.

9.8 MICROWAVE FUNCTION OMEGA

If appliance is configured as a combi oven, customer can use the oven as microwave oven, as conventional oven or as combination of both.

In microwave appliance there are only microwave automatic programs.

The microwave appliance has 3 possible functionalities.

- Normal microwave mode
- Quick start microwave
- Microwave kombi using

Note:

- In microwave mode there is no END available inside in the Mode menu.
- In ON_STATE the KEY_UP and KEY_DOWN is linked to OST. If OST is not available
- (Microwave only, no functionality).
- The microwave has no automatic start!
- KEY_MAIN has always ON/OFF function.

9.8.1 NORMAL MICROWAVE MODE

The oven can be used as normal microwave appliance. For this customer has to press KEY_MICRO_WATT to enter the microwave function.

The normal microwave function can only be reached in OFF_STATE.



By pressing KEY_MICRO_WATT oven changes to indication:

Oven function outline frame.

Static microwave icon.

Default Watt indicated (1000) and watt icon flashing.

“0:00”, minute icon and duration icon static.

With KEY_UP or KEY_DOWN customer can change the default Watt. Customer can switch through the available power in 100Watt steps. A microwave “Off” is also available inside the Watt selection. If customer presses the KEY_MICRO_WATT during running microwave, the oven stops and customer must restart with KEY_OK.



To set duration, customer has to press the:

- KEY_MODE and select the duration (like normal duration setting). The duration can be set in 10 second steps. If customer has made his settings, the microwave starts with KEY_OK.
- KEY_OK. In this case the duration is set to 30 seconds and microwave starts working. Each press on KEY_OK add 30seconds to the duration.

No automatic start of microwave! If customer does not press KEY_OK oven goes back to off after 20 seconds.

Limits:

Duration maximum time is 90 minutes

1000 Watt and set duration < 7minutes → Watt stays on 1000Watt

1000 Watt and set duration > 7minutes → Watt is reduced to 600Watt

9.8.2 QUICK START (MICROWAVE)

The quick microwave start is available in OFF_STATE. Customer can switch on the appliance with one key press.

By pressing KEY_OK oven changes to indication:

Oven function outline frame.

Static microwave icon.

Highest available Watt indicated (e.g. "1000").

watt icon.

"0:30" and starts counting down, minute icon and duration icon static.



Note: Microwave starts immediately if customer has pressed KEY_OK

Each press on KEY_OK adds 30 seconds to the running duration. The duration can also be changed inside in "Mode" menu in steps of 10 seconds. With KEY_MICRO_WATT customer brings the power selection in focus. In this case customer can change the power of the microwave with KEY_UP or KEY_DOWN.

Customer can switch through the available power in 100Watt steps.

A microwave "Off" is also available inside the Watt selection. If customer presses the KEY_MICRO_WATT during ON_STATE, the oven stops and customer must restart with KEY_OK.

If customer does not press KEY_OK oven goes back to off after 20 seconds.

The KEY_MAIN has always ON/OFF function.



COMBINATION WITH NORMAL OVEN FUNCTION

A microwave function can also be activated with normal heating function. To do this customer has to activate a normal oven function first.

To switch on microwave combination mode customer simple press KEY_MICRO_WATT during normal heating function.



Indication switches to following state. Oven is not stopping heating.

Animated oven function.

Microwave icon static.

OST disappears, available Watt (600);

Watt icon flashing.

0:00 static; minute icon static; duration icon tatic.

With KEY_UP or KEY_DOWN customer can change the default power.

Customer can switch through the available power in 100Watt steps. A microwave “Off” is also available inside the Watt selection.

If customer presses the KEY_MICRO_WATT during ON_STATE, the oven stops and customer must restart with KEY_OK.



To set duration, customer has to press

- The KEY_MODE and select the duration (like normal duration setting). The duration can be set in 10 second steps.
- The KEY_OK. In this case the duration is set to 30 seconds and microwave starts working. Each press on KEY_OK add 30seconds to the duration.

If duration or end time was set, the time settings are deleted if combination function is selected.

Microwave can only be used for maximum time 90minutes.

If customer do not confirm with KEY_OK the oven goes back to normal heating after 20 seconds. If customer has made his settings, the oven starts combination heating with KEY_OK.

Indication changes to following state:

Animation of oven function.

Microwave symbol.

Selected watt.

Watt icon.

Heat up bar if OST not reached.

Duration in minutes, minute icon, duration icon.



9.8.3 END OF MICROWAVE FUNCTION

If microwave function end (duration reaches 00:00) the microwave is switched off. If combination is selected, the heating elements switch off too.

Static microwave symbol.

OVF icon static in combination function.

Selected watt static.

Watt icon static.

Duration 00:00 flashing, minute icon static, duration icon flashing.

The customer has the chance to restart the microwave by pressing KEY_OK to add 30sec. Customer can also use KEY_MODE to reach the duration.



If microwave function is end, customer can switch off the appliance by pressing KEY_MAIN.

KEY_MAIN has always ON/OFF function.

If customer confirms the EOC oven goes back to last used function:

- Back to the selected oven function in combination mode, without heating.
- Back to the microwave setting mode in Quick start or microwave mode.

9.9 DOUBLE OVEN

The user interface can also display double oven. Customer can change the cavities with KEY_CAVITY to toggle between the main and top cavity.

If appliance is switched on the indication starts with the main cavity. This should be variable in the configuration. Indication same as for normal oven, but with cavity indication.

The ovens do not start heating on press on KEY_CAVITY. If customer wants to start the OVF, he must confirm with KEY_OK or change of value (change OVF, or temperature,...). In this case auto-timeout works too.

9.9.1 INDICATION OF DOUBLE CAVITY

Indication if main cavity is selected



Indication if top cavity is selected



9.9.2 DIFFERENT TO SINGLE OVEN APPLIANCE

9.9.2.1 START WITH OTHER KEY THAN “KEY_MAN”

It is possible to switch on the appliance with an other key than KEY_MAIN. In this case the main cavity is selected.

9.9.2.2 PYRO

It is not possible to run a pyrolytic cleaning in both cavities at the same time. Also if one cavity stays in WAIT_STATE or a normal oven function, program is running.

To guarantee cooling of the oven both doors have to be closed and locked during the Pyro mode.

9.9.2.3 CATALYTIC REFRESH

The catalytic cleaning is described in chapter “Catalytic Cleaning”. It is possible to run the catalytic cleaning both cavities at the same time. Also a delayed start of a catalytic cleaning while other cavity is in use. The door is not locked during catalytic cleaning.

9.9.2.4 PROGRAMS

The programs are only available on main cavity.

9.9.2.5 RAPID HEAT UP

The rapid heat up is described in chapter “Rapid heat up → Boost”. The boost will be switched off if both cavities in use. No restart of boost if one cavity is switched off.

9.9.2.6 MINUTE MINDER

The minute minder is a independent timer. The minute minder is always with highest priority than any other time function.

9.9.2.7 REAL TEMPERATURE INDICATION

The real temperature should be indicated of the selected cavity

9.9.2.8 RESIDUAL HEAT INDICATION

The residual heat is only shown of the selected cavity if oven stays in STANDBY_STATE. If the oven is switched off the temperature of the hottest cavity is displayed; cavity icon is displayed.

9.9.2.9 SET+GO

The SET+GO feature is only available in the main cavity.

9.9.2.10 TIME EXTENSION

After confirm TE the interface should be jump back to the last indicated cavity.

9.9.2.11 CLEANING REMINDER

The cleaning reminder should also be possible for Catalytic ovens. If both cavities have all requirements for the Cleaning reminder, then the active cavity first is displayed first, if the oven is switched off

9.9.2.12 AUTO BACK TO OFF

If the oven is switched on (STANDBY_STATE) and no other action is done (both cavities stays in STANDBY_STATE), the oven is switched off after a defined time.

If in one cavity an OVF is running and the other cavity is selected, the oven is not switched off.

9.9.2.13 TEMPERATURE REACHED

If the temperature is reached in the not selected cavity, only the temp reached beep should be audible, no changing cavity needed. If the user switches to this cavity, the heating bar should not be indicated longer.

9.9.2.14 CHILD LOCK

Child lock can only be set, if oven in OFF_STATE. Child lock is a general feature, not dependent of Cavity.

9.9.2.15 FUNCTION LOCK

Function lock can only be set if an oven function is active in at least one cavity. It is possible to change the cavities if Function lock is active. Function lock is a general feature, not dependent of cavity.

9.9.2.16 RESIDUAL HEAT INDICATION IN OFF STATUS

If oven is switched off, the residual heat should be indicated if temperature > 40°C. Also with cavity symbol. If both cavities are too hot, indication swap between main and top cavity in time of 10 seconds.

9.10 TIME / MODE MENU

9.10.1 OVER VIEW

Following chart gives an overview to different states and available functions in the time/mode menu by pressing KEY_MODE. Every function / item will be shown with a menu bar and indicated icon.

Table overview mode menu

STATE	Option menu items	Comments
OFF_STATE	ToD	set of time of day
ON_STATE without Meatprobe	DUR END ToD	only indication no change of value
ON_STATE with Meatprobe	ToD	only indication no change of value
PYRO	END ToD	→ only first two minutes after pyro start only indication no change of value
WEIGHT PROGRAM	END ToD	→ only first two minutes after function start only indication no change of value
MEATPROBE AUTO	ToD	only indication no change of value
RECIPE AUTO	END ToD	→ only first two minutes after function start only indication no change of value
Microwave and combination	DUR ToD	set only in 5second steps only indication no change of value

The feature SET+GO will appear in the option menu only if set enabled in menu basic settings. After pressing KEY_MODE one times without any further user interaction for 5sec the option menu disappears. Then the display will show the previous state (e.g. running oven function).

9.10.2 USING A TIMER

The user can choose between 3 timers.

Timer	Dimension	Maximum	
1. Duration:	hh:mm mm:ss	23hour 59min.	: 59min. : 59sec.
2. End Time:	ToD + hh:mm ToD + mm:ss	23hour 59min.	: 59min. : 59sec.
3. Minute Minder:	hh:mm mm:ss	23hour 59min.	: 59min. : 59sec.

During running a normal oven function, not automatic programs, with no timers set, a counter shows the elapsed time. The combinations and the displaying of timers in different states are showing in the following chart: If more than one counter is selected (MM, duration...) the active timer is indicated with a dot to show the customer which time function is indicated.

9.10.2.1 SET A TIMER

To make the input easier, customer can set minutes and/or hours separately.

Minute minder:

- Seconds, minutes and hours. See chapter “Minute Minder”.

Duration:

- Minutes and hours. See chapter “Duration”

End:

- Hours and minutes, from starting point actual ToD. See chapter “End”

Duration / End:

- See chapter “Duration / End”

9.10.2.2 INCREMENT/DECREMENT SPEED OF TIMER STEPS

The timers can be set faster by pressing KEY_UP or KEY_DOWN longer as a defined time, so the step value changes to a higher value step.

Increase /decrease value in step of 1 minute if customer press the keys more than one.

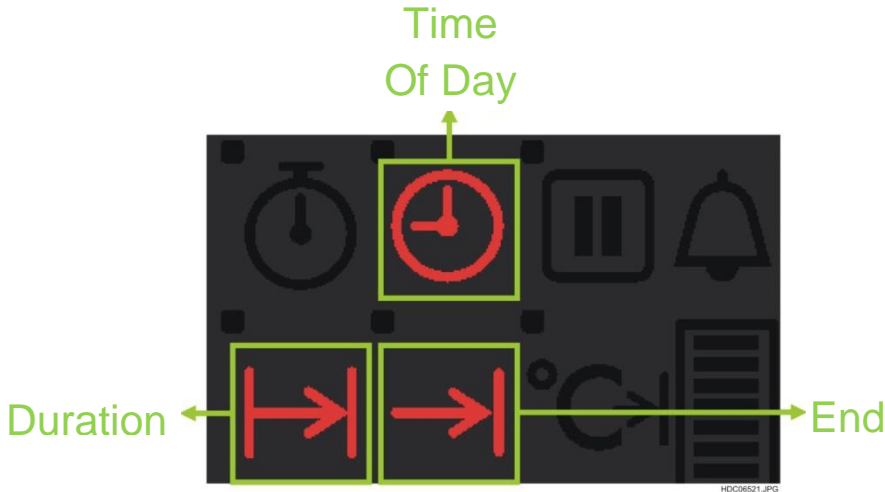
When holding the keys the first step is 1 minute, after that value will increase with step “5minute” every 500ms, after 4 seconds the value will increase / decrease with step “5minutes” every 125ms. (when starting the multiple, the value will start by rounding up or rounding down to a multiple value (e.g.26, 26 →start multiple → jump to 30, 35, 40...)

9.10.2.3 TIMER INDICATION

The customer can reset the Minute Minder and Duration to "00:00" by pressing KEY_UP and KEY_DOWN simultaneous while stay in the right menu. (note: reset to zero always if customer inside the right menu, see chapter minute minder). Also the end time can be reset to the actual ToD. To reset the counter, customer simple press KEY_UP and KEY_DOWN simultaneously during running state and no DUR is set .

9.10.3 TIME MODE ENTRIES

In the Time / Mode settings there are different entries available:



To reach the different modes simple press on KEY_MODE to toggle through the different modes.

9.10.3.1 COUNTER

The counter starts immediately if the oven starts heating. This is very helpful to see in an easiest way how long the Oven is on. The counter only available if no duration or end is set. Customer can easy reset the timer by pressing KEY_UP and KEY_DOWN during the running state.



9.10.3.2 SET TIME OF DAY (ToD)

Set “ToD” only possible in OFF_STATE also with running MM. With KEY_MODE select icon “ToD”.

Indication changes to flashing hours and flashing ToD icon.



Now the user can set the actual ToD. First step is to set the hour with KEY_UP and KEY_DOWN .

To set the minutes of ToD too, customer has to press KEY_OK to confirm set of hours and continue with set of minutes. Hour icon disappears and minute icon starts blinking. Now the user can set the actual minutes with KEY_UP and KEY_DOWN.



To confirm these settings the user has to press the KEY_OK. ToD symbol and minute icon disappears, and the indication of ToD jumps into middle segment. With press KEY_MODE the set state will be left.



The indication of ToD in OFF_STATE



9.10.3.2.1 ToD WHILE OVEN IS RUNNING

The Time of Day, ToD can only be set as visible indication during the runtime. For this customer simple press KEY_OK while inside the ToD menu.

9.10.3.2.2 DURATION / END TIME

By pressing the KEY_MODE the user can enter the duration or end time menu if the oven is in ON_STATE. The duration or end time can be set at the whole time, except end time, programmed in programs or low temperature cooking. See chapter “**Programs**” or “**Low Temperature Cooking**” for more details.

9.10.3.2.3 DURATION

To enter the duration setting, customer has to press KEY_MODE until the duration symbol is flashing.



Indication if oven function stays in ON_STATE without any timer settings:

Animated oven function icon.

Cavity outline border.

Middle segment: OST.

Perhaps heat up bar (with /without fast heat up indication).

Elapsed counter + minute or hour symbol.

By pressing key KEY_MODE until duration set mode indication goes to following state:

Animated oven function icon,
Cavity outline border.

Middle segment: OST.

Perhaps heat up bar (with /without fast heat up indication).

Duration icon flashing, right seven segments with minutes segments flashing.



With KEY_UP or KEY_DOWN customer can set minutes of duration. Minute segment and duration icon changes to static while change of value. Without any customer action, duration icon and minute segment and duration icon starts flashing again after 1,5seconds. With KEY_OK customer can change to the hours. Alternative the customer can set the whole duration with KEY_UP (means set also hours inside minute set state with KEY_UP).

Note: If customer press KEY_MODE during set hours, user interface jumps to next setting (end time)!

If customer waits for auto timeout, indication goes back to ON_STATE with the set duration.

By pressing the KEY_OK minute segment stops flashing and hour segment start flashing. Now customer can set hour of duration. Alternative customer can set hours inside minute menu by pressing KEY_UP. Same setting as in old OUI's

With KEY_UP or KEY_DOWN customer can set hours of duration. In this time flashing of hour's segment and duration icon changes to static. Without any customer action, duration icon and hours

Segment starts flashing again after 1.5 seconds. With KEY_OK indication goes back to ON_STATE.

If customer waits for auto timeout, indication goes also back to ON_STATE with the set duration.



Fig. 155



Fig. 156

9.10.3.2.4 END

If the user has set a duration time or the user wanted to set only a end time, the user switch to end time setting. The end symbol and minute segments are flashing as long as the end time can be set. end time shows as default value the actual ToD. With KEY_UP or KEY_DOWN customer can set the minutes of the end time. Afterwards the next press of KEY_OK changes to hours of end time.

Alternative customer can wait for auto time out. Also customer can set hours inside minute menu by pressing KEY_UP or KEY_DOWN. Same setting as in old OUI's. With KEY_UP or KEY_DOWN customer can set the hours of the end time. After that the next press on KEY_OK leaves the settings menu and user interface goes back to the last indication (ON_STATE with duration and/or end time set). Also the user can press KEY_MODE to switch trough the mode menu to make another settings.

In this case the confirm button is KEY_MODE.

Note: If customer presses KEY_MODE during set hours, user interface jumps to the next menu entry (E.g. time of day indication)

Indication if oven function stays in *ON_STATE* without any timer settings:

Animated oven function icon

Cavity outline border.

OST

Perhaps heat up bar (with /without fast heat up indication)

Elapsed counter, and counter icon. minute or hour icon



By pressing key *KEY_MODE* switch to end time set state, the indication changes to following state:

Animated oven function icon.

Cavity outline border.

OST and perhaps heat up bar (with /without fast heat up indication).

End icon and hour segment flashing.

Minute segment, dots, and hour icon static.



With *KEY_UP* or *KEY_DOWN* customer can set minutes of end time. In this time flashing of minute's segments and duration icon changes to static. End time shows as default value actual ToD. Without any customer action, duration icon and minute segment starts flashing again after 1,5seconds. With *KEY_OK* customer can change to the hours. Alternative customer can set hours inside minute menu by pressing *KEY_UP*. Same setting as in old OUI's.

Minute segments stops flashing and hour segments starts flashing. Now customer can set hours of end time.



With *KEY_UP* or *KEY_DOWN* customer can set hours of end time. In this time flashing of hours segment and duration icon changes to static. Without any customer action, duration icon and hours segment starts flashing again after 1,5seconds. With *KEY_OK* indication changes to *ON_STATE*. With press on *KEY_MODE* instead of *KEY_OK* display switches to the next mode entry.

9.10.3.2.5 TIME-DELAYED FUNCTION

If a time-delayed function is programmed (duration and end), user interface changes into *WAIT_STATE*, animated icon changes to a static icon until the oven starts heating; heating bar disappears. No status bar.



If customer does not make any other settings, indication jumps to programmed indication, which customer can see the needed information, when the oven ends.



The user can switch back to *WAIT_STATE* indication by pressing any key except *KEY_MAIN*. In this case the delayed start indication appears after 10sec again automatically.

In delayed start it is possible to set the duration over the set end. In this case the end time is deleted and oven runs without end!

9.10.3.2.6 END OF COOKING INDICATION

At the end of cooking the indication changes to following state and the buzzer sounds (Tone_4) for the next 2 minutes. The light should stay on during EoC. So customer can see the cooking result.

Duration time (00:00) or reached end time is flashing

Time function icon is flashing

Animated heating symbol changes to static indication



Depending which time function was end (duration, end or duration-end) the indicated icons can be different.

As long as the user does not confirm the end of cooking indication stays alive. Confirm end of cooking possible with any customer action (any key press, open door...). In these case the buzzer sound stops and the pop up disappears.



Note: In running state the set duration or end time stays alive, if another oven function is selected and no defined duration is valid (e.g. LTC). Not valid for programmes!

If the oven is programmed with end time, the right side shows the end time at EOC. It makes no sense, to show in this case "0:00"

9.11 MINUTE MINDER

The minute minder is possible at all time. *OFF_STATE*, *STANDBY_STATE*, *ON_STATE*

The minute minder has always the highest priority. (e.g. DUR and MM are set together, then MM is indicated in 7segment.)

9.11.1 SET A MINUTE MINDER

The example bellows shows the minute minder in *OFF_STATE*.

By pressing the KEY_MINUTEMINDER user interface goes into the minute minder set state. At enter the minute minder setting, the minute minder icon is flashing.

The minute minder can be set with KEY_UP or KEY_DOWN or reset with KEY_UP and KEY_DOWN together. To make the settings easy for the customer the minute minder can be set with seconds, minutes and hours separately. If a timer is set and user wants to change the settings, round up/down seconds to next 10second minute. Alternative customer can set / reset minutes and hours inside the seconds setting by overflow the 00:59 of second settings. The user has to press the KEY_OK to confirm settings and switch to next setting (from seconds to minutes...). KEY_MINUTEMINDER is only to toggle between normal state and MM setting. The minute minder begins to count down immediately after leaving the set mode automatically. Without any user action the interface goes back to last indication after 5 second.

If the set time $\geq 2\text{min}$ the buzzer sounds 10% before end is reached.

9.11.1.1 WORKFLOW FOR ACTIVATION A MINUTE MINDER

Customer has to press KEY_MINUTEMINDER to go inside the settings menu. MM icon is blinking.

Changeable value is blinking. First settings can be made in seconds. As long as user changes the value, the value is not blinking.

In all stages minute minder starts automatically with a time out time of 5 seconds

To set minute minder customer has to press KEY_UP or KEY_DOWN to set the seconds. If customer has done the settings, the minute minder starts to count down after 5 seconds automatically.



If customer wants to set minutes, simple press KEY_OK to activate setting of minutes. Blinking of second's stops and minutes starts blinking. Alternative customer can also set minutes with KEY_UP in minute indication (like today's OUI's)



Customer has to press KEY_UP or KEY_DOWN to set the minutes. If customer has done the settings, the minute minder starts to count down after 5 seconds automatically.



If customer wants to set hours simple press KEY_OK to activate setting of hour. Alternative customer can also set hours with KEY_UP in minute indication (like today's OUI's).



In this case seconds are disappearing and minutes indicated in the last two segments

Blinking on first two segments again.
Change icon minutes to icon hours.

Customer has to press KEY_UP and KEY_DOWN to set the hours. If customer has done the settings, the minute minder starts to count down after 5 seconds automatically.



1. To leave the settings menu customer can do this in following ways. Wait for timeout for approx. 5 seconds. Minute minder starts to count down after 5 seconds automatically.
2. Customer has to press KEY_OK to confirm settings and the MM begin to run.
3. Customer has to press KEY_MINUTEMINDER to leave the set mode of minute minder.



Different Minute Minder indication:

Indication A:

ToD in middle segment

MM icon and time of minute minder in minutes

Minute icon



Indication B:

ToD in middle segment

MM icon and time of minute minder in hours

Hour icon



For more details about minute minder, see chapter minute minder.

9.11.1.2 WORKFLOW FOR DEACTIVATION A MINUTE MINDER

Two possible ways:

Customer has to press KEY_MINUTEMINDER to go inside the timer settings. Select MM set state. Then customer has to press KEY_UP and KEY_DOWN together. In this case the complete minute minder is set to zero!

Or KEY_DOWN to set value to zero.

9.11.2 MINUTE MINDER END INDICATION

If the minute minder is ready the indication is different in the different states (e.g. In ON_STATE animated icon on the left side, in OFF_STATE nothing).

But indication of MM is always the same:

Right side shows: Flashing "00:00", flashing MM icon.

Buzzer sounds for the next 2 minutes.



Customer can confirm the MM end by pressing any key. Or simple wait 2 minutes. After that the indication goes back to the last indication before MM was set (e.g. OFF_STATE, ON_STATE, ON_STATE with DUR...)

9.11.3 MINUTE MINDER IN OFF_STATE

The running minute minder is shown in the right segment and ToD is shown in the middle segment after activation. The display switches back to OFF_STATE after confirmation by pressing any key or without confirmation after the 2 minutes end indication.



9.11.4 MINUTE MINDER IN STANDBY_STATE

If the minute minder is set, the MM is shown in the right segment.

Static oven function symbol;

Cavity outline border;

Oven function number

OST

Running MM;

Minute symbol or hour symbol; MM symbol static



9.11.5 MINUTE MINDER IN ON_STATE

The indications of timers in *ON_STATE* are depending on how many timers are running. (See chapter **timer indications**).

The minute minder has highest priority. If MM end, the display switches back to *ON_STATE* after confirmation by pressing any key – except **KEY_MAIN**, or without confirmation after the 2 minutes end indication.



9.11.6 MINUTE MINDER IN WAIT_STATE

If the oven stays in a programmed delay and the minute minder is running → the indication of MM is the same as in *ON_STATE*. The display switches back to programmed indication after confirmation by pressing any key – except **KEY_MAIN** or without confirmation after the 2 minutes MM end indication.

9.12 FUNCTION LOCK / KEY LOCK

This function locks all buttons -except **KEY_MAIN** so the settings of running oven function can't be changed. Indication of the feature with the key lock icon.

9.12.1 ACTIVATE / DEACTIVATE

To activate the function lock the user interface stays in *ON_STATE* or *WAIT_STATE*. By pressing the key combination **KEY_MODE + KEY_DOWN** the function lock active.

If feature is active, each key press, except **KEY_MAIN** activates a faulty tone (Tone_2). The feature is active until the oven is switched off. No save of feature over power fail.



To deactivate function lock customer has to press key combination KEY_MODE + KEY_DOWN again.



9.13 BASIC SETTING

The basic settings is to make general settings to activate features in general that are available in mode menu (HEAT+HOLD, TE, SET+GO,...). The customer can reach the Basic Settings with long key press KEY_OVF-PROGRAM-BASIC during OFF_STATE.

The basic settings can be only reached, if appliance is in OFF_STATE.

The content of the menu “Basic Settings” is depending on the application. Check Variant Specifications for several menus and default settings.



Setting for SET 1 are now indicated. The “1” flashing. Customer can now switch through to the settings by pressing KEY_UP or KEY_DOWN. The number changes to a static indication while pressing KEY_UP or KEY_DOWN. Select a setting with KEY_OK. In this case the number changes to a static indication and the setting value (e.g.ON) starts to flash.

To change settings customer has to press KEY_UP or KEY_DOWN to change the values inside the settings. The setting value changes to a static indication while pressing KEY_UP or KEY_DOWN.
















To confirm the settings customer has to press KEY_OK again. After that indication goes back to last used basic settings. Settings number flashing again.



EXAMPLE OF BASIC SETTINGS

Long press

KEY_OVF_PROGRAM_BASIC	SET1	RESIDUAL HEAT	KEY_OK	KEY_UP / KEY_DOWN	
					
	SET2	CLEANING REMINDER	KEY_OK	KEY_UP / KEY_DOWN	
					
	SET3	tone MENU	KEY_OK	KEY_UP / KEY_DOWN	
					
					
	SET4	FAULTY TONE	KEY_OK	KEY_UP / KEY_DOWN	
					
	SET5	SMELL FILTER	KEY_OK	KEY_UP / KEY_DOWN	
					
	SET6	SERVICE MENU	KEY_OK	See also first connection	
	SET7	RESTORE SETTINGS	KEY_OK	KEY_UP / KEY_DOWN	
					

9.13.1 SMELL FILTER (IF APPLIANCE HAVE SMELL FILTER)

We have two smell filter solutions. First a heating smell filter and a simple smell filter. So the indication of smell filter depends on which smell filter is integrated.

In simple smell filter applications the smell filter icon should remind the customer to clean the filter. In heated smell filter applications the smell filter symbol shows that smell filter is active.

9.13.1.1 HEATED SMELL FILTER

9.13.1.1.1 INDICATION AT RUNNING OVEN FUNCTION

The OUI must check if smell filter command status bit is set or not.

Then indication of smell filter above the normal oven functions.



9.13.1.1.2 BEHAVIOR

The behaviour of the smell filter is handled by power board:

Smell filter Management (Extracted from the software report of OVC2000)

“The smell filter is active during the cooking phase of an OVF if the SMELL_FILT_ON_CMD is received by UI and the oven_set_temp is higher than TEMP_SMELL_FILT_MIN. The backlash of the smell filter is only active if the OVF has run longer than 2min. At pyro the smell filter is running automatically for MELL_FILT_RUN_PYRO_TIME if the sens_func_temp is lower than 400°C. The backlash is not active for pyro.

Examples:

- *At the end of cooking with OVF, smell filter continues to be active for a time SMELL_FILT_DELAY_TIME. But, after the end of cooking, if the door is opened or the main switch is pressed, smell filter ends.*
- *During the OVF, if the OVF is changed to NO_OVEN_FUNC, smell filter continues to be active for a time SMELL_FILT_DELAY_TIME. But, if the door is opened, smell filter ends.*
- *During the OVF, if the SMELL_FILT_OFF_CMD is received by UI, smell filter is immediately blocked.*

TEMP_SMELL_FILT_MIN = 50°C

SMELL_FILT_RUN_PYRO_TIME = 15 minutes

SMELL_FILT_DELAY_TIME = 10 minutes”

9.13.1.1.3 SMELL FILTER ACTIVATION

Smell filter is active at every OVF → OUI must only check, if smell filter bit is set. (Smell filter status activate, smell filter command status enabled) (Smell filter is switched on and off by power board).

If a cleaning function (pyro) is chosen, the smell filter is active for the next 15 minutes. OUI must only check, if the smell filter bit is set. (Smell filter status activate, smell filter command status enabled) (Smell filter is switched on and off by power board).

The user interface activates the smell filter in each case after 100 hour running time. The OUI activate at this time the smell filter in general. If an OVF is begun, the smell filter is activated for the next 30 minutes. If the user choose an OVF with running time < 30 minutes, the remaining time is begun with the following OVF, until the time is reached.

9.13.2CLEANING REMINDER

9.13.2.1 PYRO REMINDER

The OUI advises the user to run a pyrolytic cleaning program depending on:

Operation time

Last used oven functions

Selected set temperature

A table in the external file "CleaningReminder_value_xxxxxx.xls" offers a pollution value - a relation of used oven function, set temperature and cavity pollution. By multiplying the operation time of the appliance you get a pyro value (operation time [h] x pollution value = pyro value).

The accumulation of this pyro value will cause information at the following limits:

Pyro value limit:

(5x infraroasting @ 180°C/180min) = 3600

9.13.2.1.1 INDICATION IF CLEANING IS NECESSARY

After reaching the pyro value limit, the cleaning reminder appears on every shut off of the appliance (e.g. ON_STATE, STANDBY_STATE, WAIT_STATE). The cleaning reminder is an advice not a direct link to cleaning program.

If cleaning necessary, the cleaning function blinking if oven is switched off for the next 10sec.



9.13.2.1.2 BEHAVIOR

- Safe over power fail: The value must be stored in E²PROM every 24hours.
- If cleaning necessary:

Oven is switched off. Pyro symbol is blinking for the next 10sec.

Cleaning reminder indication at every switch off (After ON_STATE, WAIT_STATE; STANDBY_STATE or ABO).

Reminder can be reset by → end of Pyro

- With KEY_UP and KEY_DOWN in the time the symbol is blinking
- Over KEY_PRORAM or KEY_OVF-PROGRAM-BASIC in STANDBY_STATE.

The feature only available if (update of pollution value every minute if a OVF is selected)

- Runtime ≥ 20minutes
- If boost active, no update of pollution value

9.13.3SERVICE MENU

9.13.3.1 INDICATION

(see exel sheet “Service indications.xls”)

9.14 CLEANING

Customer can reach the cleaning program by pressing KEY_OVF-PROGRAM-BASIC in STANDBY_STATE to select the cleaning function (Press KEY_OVF-PROGRAM-BASIC 3 times).

During OFF_STATE press Main key to enter STANDBY_STATE.



During STANDBY_STATE press the KEY_OVF-PROGRAM-BASIC to enter the cleaning menu.



9.14.1 PYROLITIC CLEANING

After selecting the cleaning function customer can start with different durations. Display shows following information:

Outline border.

Cleaning icon static.

Number of cleaning mode (1, 2 or 3);

“Pyro” as written letters.

Duration time; duration icon and hour icon.

The user can choose between different cleaning ranges: Pyro 1 → "light" (duration 1h00min), Pyro 2 → "normal" (duration 1h30min) or Pyro 3 → "intense" (duration 2h30min) with KEY_UP and KEY_DOWN. To confirm the cleaning time, customer must press KEY_OK to start cleaning process.



After selecting one of these times the display shows following items:

Cavity outline border.

Static icon symbol changes into an animated icon symbol (depends on LCd module).

“Pyro” as written letters.

Down counter, duration icon and hours or minute icon.

To change the cleaning time, simple press KEY_UP or KEY_DOWN to change the cleaning time. All cleaning cycles have fixed duration.



The user can also adjust the end time, to start the cleaning with a delayed time. To set an end time the user has to press KEY_MODE to enter the end time.



During pyrolytic cleaning and a cavity temperature over 320°C the door will be locked for security reasons and can't be unlocked by user interaction. As soon as the customer starts the pyrolytic cleaning, the oven locks the door over the full cleaning process.



9.14.1.1 LIMITS

Pyrolytic cleaning is running:	t<2min:	pyro variable;	END variable
Pyrolytic cleaning is running	t>2min:	pyro variable;	END fix
Pyrolytic cleaning is running	t>doorlock:	pyro variable;	END fix
Pyrolytic cleaning is in cool-down-phase:		pyro fix;	END fix
Pyrolytic cleaning in wait state:	t<2 min:	pyro variable;	END variable
Pyrolytic cleaning in wait state:	t>2 min:	pyro variable;	END variable
Pyrolytic cleaning after wait state:	t<2 min:	pyro variable;	END variable
Pyrolytic cleaning after wait state:	t>2 min:	pyro variable;	END fix.

9.14.1.2 END OF PYROLITIC CLEANING

Same behaviour as end of timer functions, but without any buzzer sound.

Door will be unlocked at cavity temperature less 180°C, handled by power board.

Pyro end - when door is unlocked.

9.14.2 STEAM CLEANING

Customer can reach the steam cleaning program by pressing KEY_OVF-PROGRAM-BASIC in *STANDBY_STATE*.

To select the cleaning function press KEY_OVF-PROGRAM-BASIC 3 times.

Steam Cleaning shows following items in the display:

Cavity outline border;

Cleaning icon static

Fix OST of 96°;

Duration time; duration icon and minute icon



The user has to confirm with KEY_OK.

After confirm start cleaning automatically. The display shows now following items:

Cavity outline border

Static icon symbol changes into an animated icon symbol (depends on LCd module)

Fix OST of 96°

Heating bar

Duration time counts down; duration icon and minute icon

The cleaning programme has a fixed duration. The user can adjust the end time to start the cleaning with a delay time. To set an end time the user has to press KEY_MODE to enter the end time menu.



9.14.2.1.1 LIMITS

Steam cleaning is running:	t<2min:	Steam duration fix;	END variable
Steam cleaning is running	t>2min:	Steam duration fix;	END fix
Steam cleaning is in cool-down-phase:		Steam duration fix;	END fix
Steam cleaning in wait state:	t<2 min:	Steam duration fix;	END variable
Steam cleaning in wait state:	t>2 min:	Steam duration fix;	END variable
Steam cleaning running after wait state:	t<2 min:	Steam duration fix;	END variable
Steam cleaning running after wait state:	t>2 min:	Steam duration fix;	END fix.

9.14.2.1.2 END OF STEAM CLEANING

Same behaviour as end of steam function

9.14.3 CATALYTIC CLEANING

The catalytic refreshing means in general to heat up to a defined temperature and keeps this temperature for a defined time. A catalytic refresh program is needed for cleaning oven cavities automatically which are coated with a special catalytic enamel.

Following OVF has to be used for catalytic refresh: OVF_hotair or the applied equivalent function for hot air.

Catalytic cleaning can be reached by pressing KEY_OVF-PROGRAM-BASIC in *STANDBY_STATE* 3 times.

Catalytic Cleaning shows following items in the display:

Static cleaning icon symbol.

Cavity outline border.

“CAtA” in written letters.

Fix duration time of 1:00 hour; duration icon and hour icon.



The user has to confirm with KEY_OK.

After confirm “Catalytic Cleaning” the oven will start cleaning automatically.

Oven light is on during the catalytic refresh. Oven function icon disappears.

The display shows now

following items:

Cavity outline border.

Static icon symbol changes into an animated icon symbol (depends on LCD module).

“CAtA” in written letters.

Heating bar.

Duration time counts down; duration icon and minute icon.



The cleaning programme has a fixed duration. The user can adjust the end time to start the cleaning with a delay time. To set an end time the user has to press KEY_MODE to enter the set menu.

9.14.3.1 LIMITS

Catalytic cleaning is running: $t < 2\text{min}$:	Catalytic duration fix; END variable
Catalytic cleaning is running: $t > 2\text{min}$:	Catalytic duration fix; END fix
Catalytic cleaning is in cool-down-phase:	Catalytic duration fix; END fix
Catalytic cleaning in wait state: $t < 2\text{ min}$:	Catalytic duration fix; END variable
Catalytic cleaning in wait state: $t > 2\text{ min}$:	Catalytic duration fix; END variable
Catalytic cleaning running after wait state: $t < 2\text{ min}$:	Catalytic duration fix; END variable
Catalytic cleaning running after wait state: $t > 2\text{ min}$:	Catalytic duration fix; END fix.

9.14.3.2 END OF CATALITIC CLEANING


Same behaviour as end of normal time function.

10. DEMO MODE

The Demo mode function is used for show rooms or shops. The user can find out the complete functionality of the UI but for security reason the loads stay off.

10.1 ACTIVATE / DEACTIVATE DEMO MODE

To activate / deactivate the demo mode:

1. From Off state keep the KEY_MAIN  pressed for at least 5 seconds



2. The user interface enters stand by mode for 5 seconds and jumps back to off state.

Buzzer sounds



3. Release KEY_MAIN 



4. After release the main switch keep the combination

KEY_MODE  +

KEY_DOWN 

simultaneously pressed for two seconds



The buzzer beeps 3 times and:

- If the demo mode is active:
Indication of Demo Mode with icon
“Demo” if the oven is switched on Demo function
- If the demo mode is deactivated:
No indication of “Demo” icon if the oven is switched on.



11. SERVICE MODE (FACTORY TEST)

The factory test is implemented to check all electrical components of the appliance at the end of the production line.

This function can also be used by the Service for troubleshooting.

11.1 SERVICE MODE ACTIVATION

The activation of factory test can only be done can be made only just connected to the mains (in *FIRST_TIME_SET_STATE*) and no time is set.


Activation will be done by pressing KEY_MODE  + KEY_OK  simultaneous for 2seconds until the buzzer sounds.


After activation of the factory test the middle display shows “tEst”. Cavity outline border and (if it is a double oven) the cavity selection of lower cavity is shown.



If the model which is tested has an electronic door lock, the door has to be unlocked immediately after activation of the factory test. After the test is finalized the door stays unlocked.

11.2 SERVICE MODE DEACTIVATION

Pressing the KEY_MAIN  and together with another key you can terminate the factory test. The factory test should be deactivated after 5 minutes without any user interactions.

If the factory test was done, the user can deactivate the factory test with the KEY_MAIN . After that the oven has to be disconnected from the mains.



11.3 SERVICE MODE WORKFLOW

The worker has to follow this workflow step by step.

11.3.1 TEST OF HEATING ELEMENTS

When the oven-test is started the program goes to the Oven test and the main cavity is selected.

At double-cavity-ovens the lower cavity is tested first, after finishing all steps, the upper cavity is selected automatically. If the appliance is a Pyrolytic oven, dismantle the telescopic-runners.

The test of the heating elements starts automatically by pressing KEY_UP  to start the test. The heating-elements are activated one by one by pressing KEY_UP .



The active components will be shown in the display.

All active loads (except “Exhaust”) will be displayed in interface with symbol indication (see [Chapter 8.4](#)).

Order of activation of the heating-elements:


If one heating element is not inside the appliance, jump to the next step.

Test of all heating elements, no switch to upper cavity necessary.

		BIG LOADS						SMALL LOADS								
		top	grill	bottom	rear	drawer	steam	cooking fan	cooling fan		lamp	smell filter	turnspit	plinth	exhaust	waist air
									LOW	HIGH						
	STEP															
MAIN (lower cavity)	1			x						x		x	x			
	2		x						x		x		x	x		
	3	x						x	x						x	
	4				x			x	x		x				x	
	5						x		x						x	
	6					x						x				x
TOP (upper cavity)	1			x						x			x	x		
	2		x						x		x		x			
	3	x							x		x					
	4				x					x	x					

The heating-element under test is shown as heating icon in the cavity outline. After test off all heating elements, the next step should switch off all heating elements.

11.3.2 TEST OF TEMPERATURE SENSOR

By pressing KEY_OK , test of temperature sensor will start. With second key press temperature sensor of second cavity is indicated. If appliance is a single oven, second key press jumps to FP test. If appliance is a steam oven, second temperature sensor should also be tested. The temperature measured by the temperature-sensor inside the cavity will be displayed in the temperature-display (big display), lower display shows “cot”



For lower cavity



For upper cavity

11.3.3 TEST OF FOOD PROBE SENSOR

The food probe will be tested with a special food probe tester. This device simulates different food probe temperatures (by changing resistor value).

The worker has to press the KEY_OK to start this test point. Test begins with lower cavity. If no FP is connected the middle display shows “----”. If appliance is a nonFP variant, pass over this test point automatically.



By pressing the button at food probe tester the displayed temperature changes (e.g. 30°C/80°C). This test point also appears if the appliance has no food probe sensor plug in. In this case the worker can jump over this test point. The worker has to press the KEY_OK again to show MP of the upper cavity. If appliance is a single oven, no second key press is needed.



For lower cavity

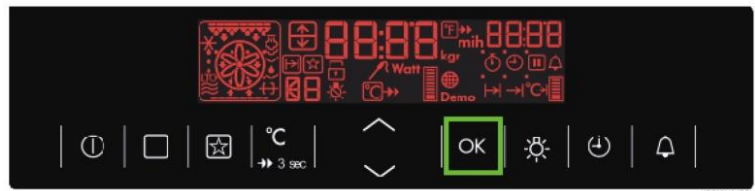


For upper cavity

11.3.4 DISPLAY TEST

Next press on KEY_OK the display switches to different display tests.

First step is showing elements (tbd) on with backlight.



Second step is showing elements (tbd) on with backlight.



11.3.5 DOORLOCK TEST (ONLY FOR PYRO MODELS)

If any cavity has a door-lock-system the next press of KEY_OK starts the locking of door of all cavities with door lock system. Indication same as starting factory test.

If telescopic runners are detected, display shows first “C3” in middle display.



The telescopic runners have to be removed to continue the door lock test. The door lock process starts automatically after the telescopic runners were removed.

If appliance is a double cavity system, both cavity indications should be indicated.

Door lock icon is blinking until door is locked, then static door lock icon. After successfully lock-door-cycle the unlocking of door starts automatically; the sensor is permanent at voltage till the door is unlocked.



11.3.6 KEY TEST

Next step is to test all keys that available in appliance. Not all appliances has all keys activated. This should be variable at all variants.

After successfully door lock test, display switches to following indication:

Customer has to press all buttons to finish this test. Worker has to start with the key on left side and go on to the right side. In the middle the KEY_UP should pressed before KEY_DOWN.



If all keys identified correct, the factory test is done and display shows a end message "donE" in middle display.

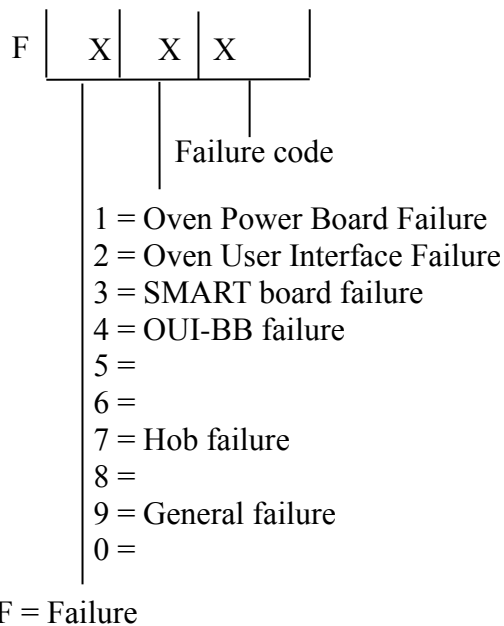


12. ALARM CODE

The User Interface Omega displays any alarm codes generated by the power board (see example in Fig).



To identify on which place a failure occurred the first value shows the failure place, described at following schematic:
FXXX



Cx → for customer errors / failures

Error Display	Possible Failure	Action to solve
C1	Telescopic runner inside during pyrolyse	Remove side grids during pyrolyse
C2	Meat probe inside during pyrolyse	Remove Foodprobe during Pyrolyse
C3	Door open during pyrolyse	Close door during pyrolyse
F101	Doorlock sensor problem	Check wiring Check doorlock system Check powerboard
F102	Doorlock failure	Check wiring Check doorlock system Check powerboard
F104	Oven temperature sensor (PT500) out of range	Check wiring Check temperature sensor Check powerboard
F105	Oven temperature sensor (PT500) has too hightemperature	Check temperature sensor Check wiring
F106	Electronic temperature sensor out of range	Check Powerboard Check wiring
F109	Software of user interface and powerboard notfirt together	Check software version and compare with sparepart software
F111	Foodprobe sensor out of range	Check Foodprobe Check wiring Check Foodprobe module
F112	steam sensor out of range	Check Powerboard Check wiring
F113	OVC2000 Ozillator failure	Check Powerboard
F130	Triac failure	Check motors Check Powerboard Check wiring
F131	Temperature sensor of steam generator out ofrange	Check wiring Check temperature sensor Check powerboard
F132	Software expecting oven with door lock,wrong software programmed	Check programming of UserInterface Contact quality department
F133	The init or write or read process on the flash failed	Check Powerboard
F134	Reference voltage of the analog digital converter is out of range	Check Powerboard
F135	Incorrect voltage at door lock relay at oventemperature over 380°C	Check Powerboard
F136	Missing or damaged foodprobe module	Check software version and compare with sparepart software Check FP module Check wiring
F137	Missing or incorrect communication between powerboard and Foodprobe module	Check wiring Check FP module Check powerboard

F138	Oven temperature sensor is fixed on one resistor value	Check Powerboard Check temperature sensor
F140	Wrong configured cooking fan	Check software version and compare with sparepart software
F142	Water level sensor (NTC) in steamer out of range. This Fault appears in case the steam generator is overheated because the water refilling to the system is prevented.	Check the Tubes are clogged Check the Tubes assembly Check the Descaling actuator is closed Check the Inlet valve functioning Check the Ambient temperature where the appliance is placed (it should not be too low)
F143	Humidity sensor out of range	Check if sensor is powered on in correct way Check the Wiring
F191	Oven temperature sensor (PT500) out of range (Warning)	Check wiring Check temperature sensor Check powerboard
F192	Foodprobe temperature value too high	Check wiring Check foodprobe sensor and/or food probe connection box Check Foodprobe module
F193	Humidity sensor out of range warning	Check if sensor is powered on in correct way Check the Wiring
F194	Oven temperature sensor (PT500) out of range (Warning)	Check wiring Check temperature sensor Check powerboard
F195	Electronic temperature value too high	Check Powerboard
F196	Electronic temperature value out of range (warning)	Check Powerboard
F197	Water level sensor (NTC) in steamer out of range.	Check the Tubes are clogged Check the Tubes assembly Check the Descaling actuator is closed Check the Inlet valve functioning Check the Ambient temperature where the appliance is placed (it should not be too low)
F203	Programming not correct	Check software version and compare the sparepart software Check User Interface
F208		
F214	Configuration does not match to firmware of user interface	Check software version and compare with sparepart software
F215	Unexpected content of configuration	Check software version and compare with sparepart software Contact quality department
F233		
F239	No communication between user interface and	Check User Interface

	touch electronic	Check touch electronic
F241	Function selector is not connected	Check wiring Check oven knob Check hexagon user interface
F321	Oven temperature is too high to start Smart function	Check wiring Check temperature sensor Check powerboard
F322	Incorrect temperature value between Powerboard and Smart electronic	Check wiring Check electronic "Smart" Check powerboard
F323	Configuration failure of Smart electronic	Check software version and compare with sparepart software Check User Interface Check electronic "Smartboard"
F324	Unknown state of Smart electronic	Check electronic "Smart"
F325	Flash memory failure	Check electronic "Smart"
F326	Calibration of Smart electronic not finished	Check electronic "Smart"
F327	Error in microcontroller of Smart electronic	Check electronic "Smart"
F329	Analog digital converter error of Smart electronic	Check electronic "Smart"
F406	Electronic temperature sensor out of range	Check the Power board Check the Temperature sensor Check PCIII
F408	Missing communication between powerboard and user interface	Check Wiring Check the Power board Check PCIII
F439	No communication between user interface and touch electronic	Unplug and Replug the appliance Check the interface between UI and the Panel Glass Check PCIII
F493	Alarm is triggered if there is a fault in the backlight driver module	Unplug and Replug the appliance Check PCIII
F494	Alarm is triggered if there is a fault in the RTC	Unplug and Replug the appliance Check PCIII
F495	Alarm is triggered when there is a powerfail in the wiring	Check the mains and power supply Check Wiring Check the Power board
F497	Humidity sensor not working or out of range	Check Wiring Check the Humidity sensor
F716	In oven function pyro the hob is in ON_State	Check software version and compare with sparepart software check wiring
F718	Missing communication between oven user interface and hob user interface	Check wiring
F908	Missing communication between powerboard and user interface	Check wiring Check User Interface Check powerboard

F908	Missing communication between user interface and powerboard	Check wiring Check User Interface Check powerboard
F917	Maximum power limitation problem between oven and hob	Check software version and compare with sparepart software Check wiring Contact quality department
F928	Missing communication between Smart electronic and oven user interface	Check wiring Check electronic "Smart"

13. SIDEKICK

TO BE COMPLETED

RED DISPLAY (AEG)

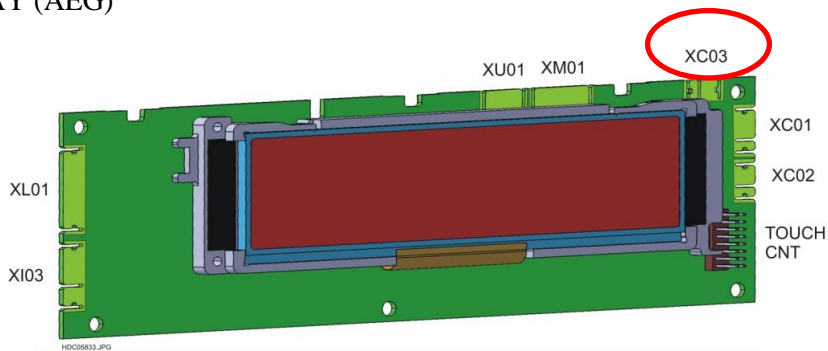


Fig. 251

BLUE DISPLAY (ELECTROLUX)

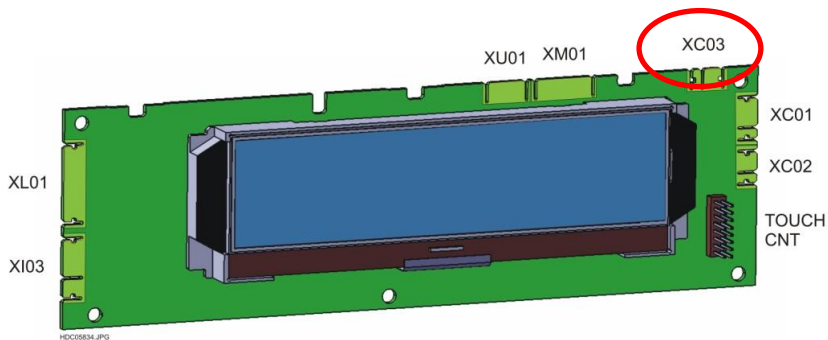


Fig. 252

- XC01 MACS BUS FOR POWER BOARD
- ~~XC02~~ AUXILIARY MACS BUS
- XC03 MACS BUS FOR SIDEKICK (SERVICE)
- XI03 DIGITAL ROTARY BIT ENCODER AND IMPUT BLOCK
- XL01 TOUCH BOARD BACKLIGHT

XM01 PROGRAMMING FLASH MEMORY
XU01 PROGRAMMING
TOUCH CNT INPUT TOUCH BOARD (15 PIN)

14. REVISIONS:

Revision	Date	Description	Author	Approved by - on
00	03/2015	Document Creation	BSP	