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SERVICE MANUAL

DRYERS

Dryers - User Interface

INSPIRATION PERFEKT 10 PILOT 2 POne
Diamond Indigo Core Ruby

FOR INTERNAL AND PARTNERS USE ONLY

Publication number: 599 794-731 EN Edition: 04/2024 - Rev.0.4

1 PRECAUTION



Information
"Safety"

- All the work to be performed inside the appliance requires specific skills and knowledge and may only be carried out by qualified and authorised Service Engineers
- This platform is not fitted with an ON/OFF switch. Before you access internal components, take the plug out of the socket to disconnect the power supply.
- Some of the components in the mechanical part could cause injuries, so wear suitable protection and proceed with caution
- Always empty all the water from the condensation tank before laying the appliance on its side.
- If the appliance has to be placed on its side for maintenance or another reason, lie it on its left side, to avoid the risk of any residual water falling onto the main circuit board.

Document Revisions

Revision	Date	Description
0.0	02/2016	Document creation
0.1	10/2016	Added POne "Working hours counter" updated "Conductivity setting" updated Added "Warnings"
0.2	07/2017	Added Diamond
0.3	12/2022	Added Ruby
0.4	04.2024	Added Indigo Core

2 PURPOSE OF THIS MANUAL

The purpose of this Service Manual is to provide Service Engineers who are already familiar with the repair procedures with information regarding: **Tumble dryers**

fitted with **EDR10**, **EDR11**, **EDR12**, **EDR14 EU**, **EDR16** electronic control systems.

This document describes the basic functional concepts of all User Interface types designed for:

- BLUE FIRE INSPIRATION, AEG PERFEKT 10, PILOT 2, POne, Diamond, Ruby

For each aesthetic level, according to buttons/lights layout, specific electronic boards are provided.
Such boards are separated from the main power board that controls the tumble dryer and communicates with it by means of MACS serial protocol.

The compatible main boards are based on:

	EDR10	EDR12	EDR14 EU	EDR16
BLUE FIRE INSPIRATION	x	x	x	x
AEG PERFEKT 10	x	x	x	x
PILOT 2	x	x	x	x
POne			x	x
Diamond / Indigo Core				
Ruby			x	x

The manual deals with the following topics:

- General characteristics
- Control panel
- Guide to diagnostics

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Classified as Internal

4 BLUE FIRE

4.1 TC4 LEVEL

4.1.1 CONTROL PANEL

The TC4 aesthetic level can be used on both Standard Condense and Heat Pump machines.

The control panel layout foreseen two applications, with and without On/Off button: here the pictures:

TC4 level

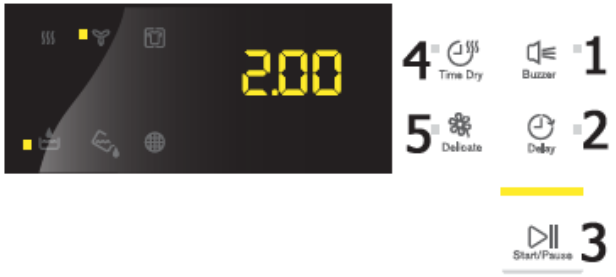


TC4 level



4.1.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	5	4
Conductivity setting	4	1
Buzzer enable/disable (*)	2	1
Tank Warning disable	5	2
Demo mode	3	2
Diagnostic mode	3	2

(*) Buzzer enable/disable combination is available but not needed since the Buzzer button itself saves permanently the option status when changed. The combination should be configured only when the buzzer option button is not present.

4.2 TC3 AND TC2 LEVELS

4.2.1 CONTROL PANEL

The TC2 aesthetic level can be used only on Heat Pump machines. The TC3 aesthetic level can be used on both Standard Condense and Heat Pump machines. Here the application pictures:

TC3 level



TC2 level



4.2.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:

	Function	Button 1	Button 2
	Child lock	5	4

	Conductivity setting	4	1
	Buzzer enable/disable (*)	2	1
	Tank Warning disable (**)	7 (TC2) 5 (TC3)	6 (TC2) 2 (TC3)
	Demo mode	3	2
	Diagnostic mode	3	2

(*) Buzzer enable/disable combination is available but not needed since the Buzzer button itself saves permanently the option status when changed. The combination should be configured only when the buzzer option button is not present, in particular in case of TC3 HP Vario machines.
(**) Tank Warning disable combination for TC2 level is 7-6, for TC3 level is 5-2.

4.3 TC1 LEVEL

4.3.1 CONTROL PANEL

The TC1 aesthetic level can be used only on Heat Pump machines. Here the application pictures:

TC1 level



4.3.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	5	4
Conductivity setting	4	1
Buzzer enable/disable (*)	5	2
Tank Warning disable	7	6
Demo mode	3	2
Diagnostic mode	3	2
Language setting	2	1

(*) Buzzer enable/disable combination is available but not needed since the Buzzer button itself saves permanently the option status when changed. The combination should be configured only when the buzzer option button is not present.

4.4 COMMON FUNCTIONALITIES

4.4.1 ON/OFF BUTTON (ALL LEVELS)

The TC1, TC2, TC3 aesthetics levels and TC4 for EDR12 platform have a dedicated On/Off mechanical switch button always present. Depending on the main board features of the machine, this button could completely disconnect the machine from the mains, or alternatively put the machine in a special low power consumption mode. When the main board mounts the 0 Watt power consumption circuit the machine is automatically and completely disconnected from the mains; without 0 Watt circuit, the user has to unplug machine to disconnect mains power. In any case the user interface behaviour is the same.

To switch on the appliance, simply press shortly the button. The user interface plays the dedicated jingle (if buzzer is enabled), performs the fade in sequence of Hi-Fi LEDs (TC2 and TC3 levels only, see "Power on/-off sequence" paragraph) and then switches the lights and display on according to default programme. On TC1 only, together with programme info also the text line is updated showing the programme name.

To switch off the appliance, press and hold the button for about 1 second. After this time, the user interface plays the dedicated jingle (if buzzer is enabled), performs the fade out sequence of Hi-Fi LEDs (TC2 and TC3 levels only) and all lights and display are switched off. All selected options and the possible programme in progress are reset.

4.4.2 LOW POWER CONSUMPTION MODES

The machine is put in low power consumption mode to avoid wasting energy when the cycle is not running, in accordance with international standards in terms of energetic consumption normative.

Two low power modes are provided: Stand-By and Stand-Off.

4.4.2.1 STAND-BY MODE BEHAVIOUR (ONLY TC4 LEVEL EDR10 PLATFORM)

This mode applies only in Core TC4 levels where On/Off button is not provided.

Typically set after that cycle has finished, the appliance enters in Stand-by mode acting as follows:

- during program setting up or cycle ended phases, after 5 minutes that the user does not press any button the mode is automatically set;
- all options/status LEDs are lighted off, except for Start/Pause yellow-LED that blinks with a lower frequency to signalize the appliance is supplied but in low power consumption mode;
- display is lighted off;
- all electric/electronic devices that can be switched off are not supplied.

The appliance exits Stand-by mode when the user acts again on control panel pushing any button or turning the selector knob:

- in the former case, the user interface will show the last machine status before entering mode (last program setup or cycle end status) keeping the selected program and options;
- in the latter case, the user interface will go in setup phase showing new program and options info corresponding to the new selector position, if the selected knob position is not Off/Reset, goes in Stand-Off mode otherwise. See next paragraph.

The Stand-by mode cannot be set in following cases:

- during the Delay Start phase, because it is considered as cycle running;
- if the user interface has to be kept operative due to any safety condition, such as Child Lock mode active or in case of alarm presence.

4.4.2.2 STAND-OFF MODE BEHAVIOUR (ONLY TC4 LEVEL EDR10 PLATFORM)

The appliance is in Stand-Off mode when it is "virtually switched off" with the main knob on OFF position.

"Virtually" because electronic boards are supplied anyway, while to cut out mains supply the appliance needs to be unplugged.

The appliance exits Stand-Off mode when the user moves the main knob out of OFF position: the user interface switches on showing the default settings for selected program and the machine becomes operative.

To guarantee that the machine is always in safety conditions, turning main knob on OFF position to cancel a running program when the motor is running, ..., will result in switching off the user interface only, while the main board remains operative till safety conditions are reached.

4.4.2.3 STAND-OFF MODE BEHAVIOUR (FOR TC1-TC2-TC3 LEVELS AND TC4 LEVEL EDR12 PLATFORM)

When the machine is switched off via On/Off button, the appliance goes in Stand-Off mode where it is "virtually switched off": all LEDs and display

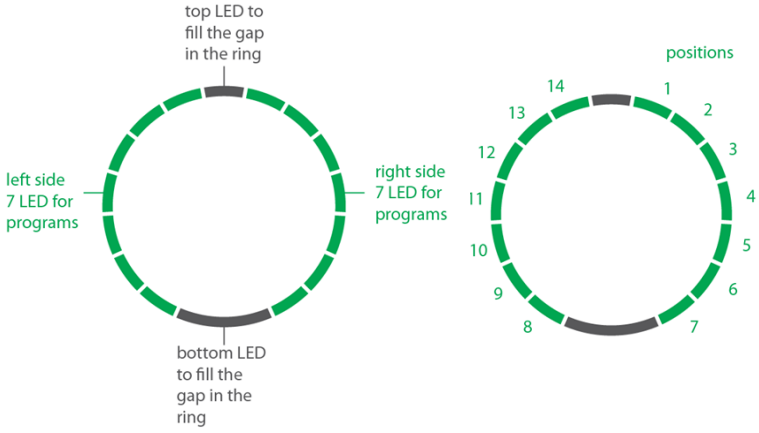
are lighted off and buttons are disabled, but the electronic boards are supplied anyway.

To cut out mains supply the appliance needs to be unplugged or mount the so called Zero-Watt circuit to provide the auto-off feature.

The auto-off feature combined with Zero-Watt circuit works in two ways:

- when pushing the Off button, the electronics cuts out mains supply after some seconds, after having set machine in safety conditions (motor stops, ...). Cycle is reset, previously selected options are cleared so that next machine switching on the default programme is prompt;
- after 5 minutes without interaction with the customer, the electronics cuts out mains supply automatically for energy saving purposes in accordance with power consumption norms. The selected programme and options are kept so that the next machine switching on the same programme is prompt. In this way, if auto-off occurs in cycle end phase, the customer is aware the cycle finished normally and can restart it if desired. If auto-off occurs during programme setup, the cycle and options are kept in case customer takes more than 5 minutes to load and start the cycle. Automatic auto-off is disabled in case an alarm is displayed.

4.4.3 HI-FI SELECTOR



Where Hi-fi selector is used the behaviour is always the same.

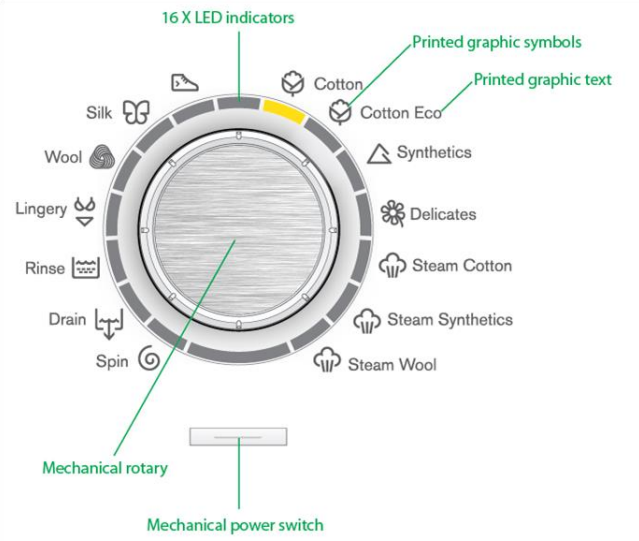
The number of position is not configurable and it is always 14, since it is strictly linked to the programme lights. Programmes layout around the main knob is configurable.

Compared to a traditional absolute selector, the Hi-fi one has no index on the knob and no reset position. The knob itself doesn't point to any position in the control panel; hence the selected programme is indicated by the associated LED. To reset a cycle in progress just press the On/Off button.

When the machine is switched on, the upper right position (position 1 in below figure) is selected by default, if no "special modes", e.g. diagnostic, return from power fails, demo mode etc.

When the rotary is turned clockwise or anti-clockwise in setup, the corresponding LED of selected programme is lighted on and the LCD display info changes accordingly.

4.4.3.1 PROGRAM INDICATION



The currently selected program is indicated by a single LED indicator next to the printed program symbol. Turning the rotary clockwise or counter clockwise the user can select the desired program. The position of the LED indicator will change and indicate the newly selected program.

4.4.3.2 POWER ON TRANSITION

During power on the machine will display a transition sequence. Using all the LEDs of the rotary selector the lights will switch to full brightness then go off leaving lit only the indicator LED of default program.

Directly after pressing power key, the start-up jingle is played and all LEDs switch to 100% luminosity for 1000 msec. The display is off.	
After 1000msec, all LEDs except program indicator go off, while the display is illuminated	

4.4.3.3 POWER OFF TRANSITION

During power off the machine will display a transition sequence. Using all the LEDs of the rotary selector the lights will switch to full brightness and then after 1000msec switch off.

Directly after pressing power key, the power off jingle is played and all LEDs are lighted on to 100% luminosity for 1000msec. The display is still on.	
After 1000msec, all LEDs and the display switch off to 0% luminosity.	

4.5 BUZZER

A multi-tone buzzer is provided to sound in following cases:

- switching machine on and off, with 2 different short jingles;
- pressing a button, with a very short “click” sound;
- when the cycle is finished, for about 2 minutes with a specific sequence of three long beeps (1sec on - 1 sec off - 1sec on - 1 sec off - 1sec on) repeated every 15 seconds; the sequence is stopped when the door porthole is opened;
- when alarms/warnings occur, for about 5 minutes with a specific sequence of three short beeps repeated 3 times every 15.

The buzzer can be active or not by configuration; **anyway the default factory setting has to be active** to meet the norms regarding eyesight handicap people. To deactivate it the specific push button has to be pressed.

When deactivated the buzzer doesn’t play the on/off jingles and cycle end melody, while sounds anyway in case of button “click” and alarm/warnings occurrence.

Volume level is pre-fixed and can’t be changed by user. The behaviour is the same for all UI levels.

4.6 FAULTS/WARNINGS SIGNALS

4.6.1 SELECTION ERROR

The selection errors are noticed to customer by a flashing “Err” text on cycle time digits if TC2, TC3, TC4 user interface levels, by “Not possible” message on text line if TC1 level; buzzer doesn’t sound a specific melody and Start/Pause LED doesn’t flash like previous platforms.

The signalling is displayed for about 1 second in following cases:

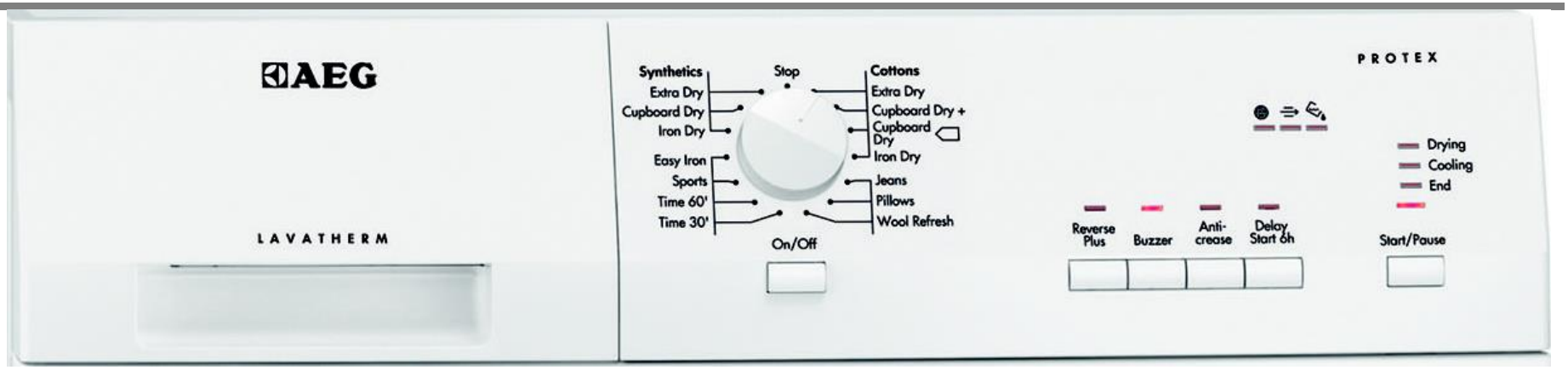
- when an incompatible option button with selected washing program has been pressed;
- when an option button is pressed or the selector is moved during the cycle execution.

5 AEG PERFEKT 10

5.1 SERIES 5

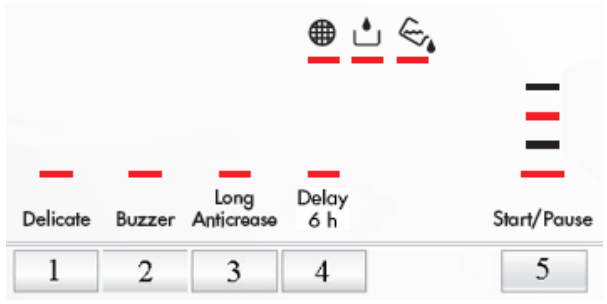
5.1.1 CONTROL PANEL

Series 5 aesthetic level is used only for Traditional machines. Here the application pictures:



5.1.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Conductivity setting	1	3
Buzzer enable/disable (*)	1	2
Tank Warning disable	1	4
Demo mode	4	5
Diagnostic mode	4	5

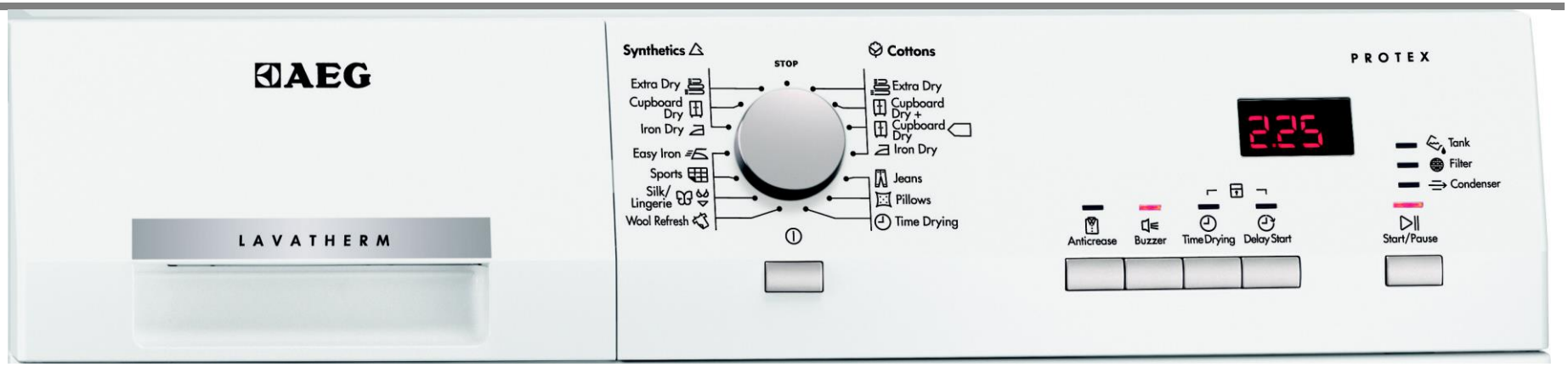
(*) Buzzer enable/disable combination is available but not needed since the Buzzer button itself saves permanently the option status when changed.

5.2 SERIES 6

5.2.1 CONTROL PANEL

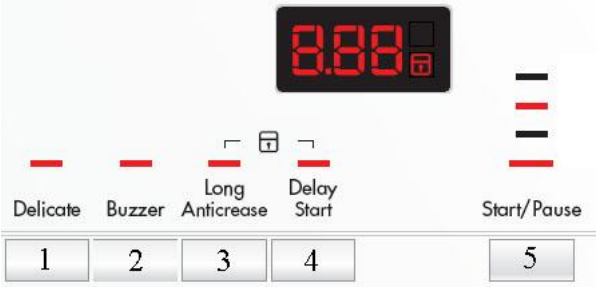
Series 6 aesthetic level can be used on both Traditional and Heat Pump machines.

The control panel layout is only one for all the applications; here the picture:



5.2.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	3	4
Conductivity setting	1	3
Buzzer enable/disable (*)	1	2
Tank Warning disable	1	4
Demo mode	4	5
Diagnostic mode	4	5

(*) Buzzer enable/disable combination is available in all TD ranges, but needed only in HP Vario where the Buzzer button is not present.

5.3 SERIES 7

5.3.1 CONTROL PANEL

Series 7 aesthetic level can be used on both Traditional and Heat Pump machines.

The control panel layout is only one for all the applications; here the picture:



5.3.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	1	2
Conductivity setting	1	3
Buzzer enable/disable (*)	3	4
Tank Warning disable	1	4
Demo mode	6	7
Diagnostic mode	6	7

(*) Buzzer enable/disable combination is available in all TD ranges, but needed only in HP Vario where the Buzzer button is not present.

5.4 SERIES 8

5.4.1 CONTROL PANEL

Series 8 aesthetic level can be used on both Traditional and Heat Pump machines.

Two control panel layouts foreseen, here the pictures:

SERIES 8



SERIES 8

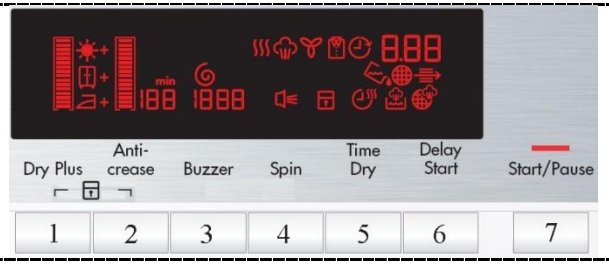


5.4.2 BUTTONS COMBINATIONS

Some extra options or working modes can be selected by means of buttons combinations.

The available functions and related key combinations to set them are:

	Function	Button 1	Button 2
	Child lock	1	2



Conductivity setting	1	3
Buzzer enable/disable (*)	3	4
Tank Warning disable	1	4
Demo mode	6	7
Diagnostic mode	6	7

(*) Buzzer enable/disable combination is available but not needed since the Buzzer button itself saves permanently the option status when changed.

5.5 SERIES 9

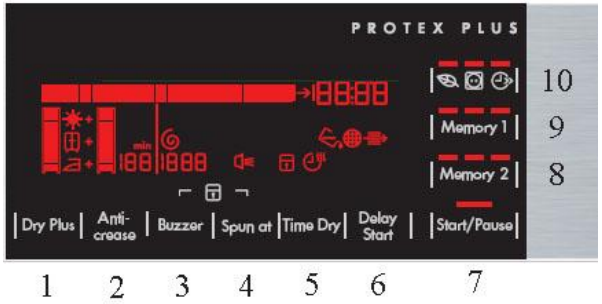
5.5.1 CONTROL PANEL

Series 9 aesthetic level is used only for Heat Pump machines. The control panel layout is only one for all the applications; here the picture:



5.5.2 BUTTONS COMBINATIONS

Some extra options or working modes can be selected by means of buttons combinations.
The available functions and related key combinations to set them are:



Function	Button 1	Button 2
Child lock	1	2
Conductivity setting	1	3
Buzzer enable/disable (*)	3	4
Tank Warning disable	1	4
Demo mode	6	7
Diagnostic mode	6	7
Clock setting	4	5
Language setting	2	3

(*) Buzzer enable/disable combination is available but not needed since the Buzzer button itself saves permanently the option status when changed.

5.6 COMMON FUNCTIONALITIES

5.6.1 ON/OFF BUTTON

All the aesthetics levels of the P10 range have a dedicated On/Off button always present. Depending on the main board features of the machine,

this button could completely disconnect the machine from the mains, or alternatively put the machine in a special low power consumption mode. When the main board mounts the 0 Watt power consumption circuit the machine is automatically and completely disconnected from the mains; without 0 Watt circuit, the user has to unplug machine to disconnect mains power. In any case the user interface behaviour is the same.

See also next "Stand-Off mode" paragraph.

To switch on the appliance, simply press shortly the button. The user interface plays the dedicated jingle (if buzzer is enabled) and switches the lights and display on according to default programme. On Series 9 only, before showing the programme info, the time of day is displayed for about 2 seconds to allow the customer checking the correct clock time. Besides, together with programme info also the text line is updated showing the programme name.

To switch off the appliance, press and hold the button for about 1 second. After this time, the user interface plays the dedicated jingle (if buzzer is enabled) and all lights and display are switched off. All selected options and the possible programme in progress are reset.

5.6.2 STAND-OFF MODE BEHAVIOUR

The machine is put in low power consumption mode to avoid wasting energy when the cycle is not running, in accordance with international standards in terms of energetic consumption normative.

When the machine is switched off via On/Off button, the appliance goes in Stand-Off mode where it is "virtually switched off": all LEDs and display are lighted off and buttons are disabled, but the electronic boards are supplied anyway.

To cut out mains supply the appliance needs to be unplugged or mount the so called Zero-Watt circuit to provide the auto-off feature.

The auto-off feature combined with Zero-Watt circuit works in two ways:

- **when pushing the Off button**, the electronics cuts out mains supply after some seconds, after having set machine in safety conditions (motor stops, ...). Cycle is reset, previously selected options are cleared so that next machine switching on the default programme is prompt;
- **after 5 minutes without interaction with the customer**, during programme setup or after the cycle is finished, the electronics cuts out mains supply automatically for energy saving purposes in accordance with power consumption norms. In case of cycle end, the cycle status and previously selected options are kept so that next machine switching on the same programme in cycle end phase is prompt; this way the customer is aware the cycle finished normally and can restart it if desired. During programme setup, the cycle and options are reset so that next machine switching on the default programme is prompt.

Automatic auto-off is disabled in case an alarm is displayed.

In the former case, switching machine off when door is locked, it is necessary waiting about 1-2 minutes before the door lock device is released.

5.6.3 HI-FI SELECTOR



Where Hi-fi selector is used the behaviour is always the same.

The number of position is not configurable and it is always 16, since it is strictly linked to the programme lights. Programmes layout around the main knob is configurable.

Compared to a traditional absolute selector, the Hi-fi one has no index on the knob and no reset position. The knob itself doesn't point to any position in the control panel; hence the selected programme is indicated by the associated LED.

To reset a cycle in progress just press the On/Off button.

When the machine is switched on, the upper right position is selected by default (if no "special modes, e.g. diagnostic, return from power fails, demo mode etc). When the rotary is turned clockwise or anti-clockwise in setup, the corresponding LED of selected programme is lighted on and the LCD display info changes accordingly.

5.7 BUZZER

A multi-tone buzzer is provided to sound in following cases:

- switching machine on and off, with 2 different short jingles;
- pressing a button, with a very short "click" sound;
- when the cycle is finished, for about 2 minutes with a specific sequence of three long beeps (1sec on - 1 sec off - 1sec on - 1 sec off - 1sec on) repeated every 15 seconds;
- when alarms/warnings occur, for about 5 minutes with a specific sequence of three short beeps repeated 3 times every 15;
- when the full level is reached during the steam tank water filling with 3 seconds single beep (Series 8 heat pump steam models only)

The buzzer can be active or not by configuration; **anyway the default factory setting has to be active** to meet the norms regarding eyesight handicap people. To deactivate it the specific push button has to be pressed.

When deactivated the buzzer doesn't play the on/off jingles and cycle end melody, while sounds anyway in case of button "click" and alarm/warnings occurrence.

Volume level is pre-fixed and can't be changed by user. The behaviour is the same for all UI levels from Series 5 to Series 9.

5.8 FAULTS/WARNINGS SIGNALS

5.8.1 SELECTION ERROR

The selection errors are noticed to customer by a flashing “Err” text on cycle time digits if Series 6, 7 and 8 user interface levels, by “Not possible” message on text line if Series 9 level; buzzer doesn’t sound a specific melody and Start/Pause LED doesn’t flash like previous platforms. For Series 5 level there is a dedicated alarm LED, yellow colour, integrated on Start/Pause button; it flashes for 3 seconds in case of selection errors.

The signalling is displayed for about 1 second (Series 6, 7, 8 and 9) or alarm LED flashes for 3 seconds (Series 5) in following cases:
- when an incompatible option button with selected program has been pressed;
- when an option button is pressed or the selector is moved during the cycle execution.

6 PILOT 2 TD

6.1 ENTRY TC5 LEVEL

6.1.1 CONTROL PANEL

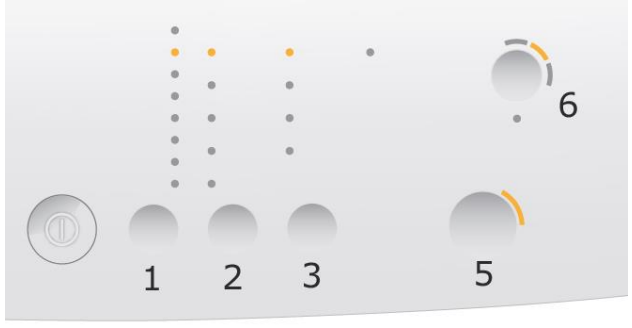
Series 5 aesthetic level is used only for Traditional machines. Here the application pictures:

TC5



6.1.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	3	2
Buzzer enable/disable	2	1
Water conductivity setting	3	1
Tank warning enable/disable	6	5
Demo mode	5	3
Diagnostic mode	5	3

6.2 CORE TC4 LEVEL

6.2.1 CONTROL PANEL

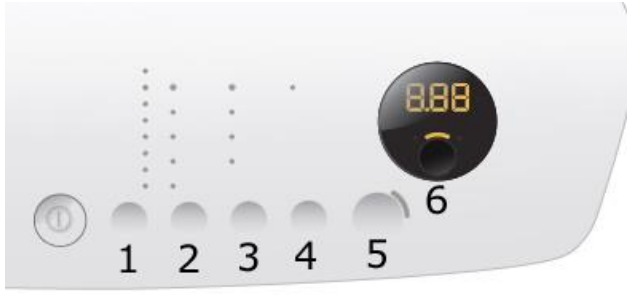
The TC4 aesthetic level can be used on both Standard Condense and Heat Pump machines.
The control panel layout is only one for all the applications; here the picture:

TC4



6.2.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	3	2
Buzzer enable/disable	2	1
Water conductivity setting	3	1
Tank warning enable/disable	6	5
Demo mode	5	4
Diagnostic mode	5	4

6.3 PERFORMANCE TC2 LEVEL

6.3.1 CONTROL PANEL

Here the application picture:

TC2



6.3.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	3	2
Buzzer enable/disable	2	1
Water conductivity setting	3	1
Tank warning enable/disable	6	5
Demo mode	5	4
Diagnostic mode	5	4

6.4 COMMON FUNCTIONALITIES

6.4.1 ON/OFF BUTTON

All Pilot 2 aesthetics levels have a dedicated On/Off mechanical switch button always present.

Depending on the main board features of the machine, this button could completely disconnect the machine from the mains supply, or alternatively put the machine in a special low power consumption mode. When the main board mounts the 0 Watt power consumption circuit the machine is automatically and completely disconnected from the mains; without 0 Watt circuit, the user has to unplug machine to disconnect mains power. In any case the user interface behaviour is the same.

To switch on the appliance, simply press shortly the button. The user interface plays the dedicated jingle (if buzzer is enabled, otherwise a simple "click" sound), performs the start up animation and then switches the lights and display on according to default programme.

To switch off the appliance, press and hold the button for about 1 second. After this time, the user interface plays the dedicated jingle (if buzzer is enabled, otherwise a simple "click" sound) and all lights and display are switched off. All selected options and the possible programme in progress are reset.

6.4.2 LOW POWER CONSUMPTION MODES

The machine is put in low power consumption mode to avoid wasting energy when the cycle is not running, in accordance with international standards in terms of energetic consumption normative.

The appliance enters automatically in Stand-off mode acting as follows:

- during program setting up or cycle ended phases, after 5 minutes that the user does not press any button the mode is automatically set;
- all LEDs and display are lighted off;
- Door lock device and all electric/electronic devices that can be switched off are not supplied.

The appliance exits Stand-off mode when the user presses the On/Off button.

The Stand-off mode cannot be set in following cases:

- during the Delay Start phase, because it is considered as cycle running, hence the door is kept locked;
- in case of alarm presence.

6.4.3 STAND-OFF MODE BEHAVIOUR

When the machine is switched off via On/Off button, the appliance goes in Stand-Off mode where it is "virtually switched off": all LEDs and display are lighted off and buttons are disabled, but the electronic boards are supplied anyway.

To cut out mains supply the appliance needs to be unplugged or mount the so called Zero-Watt circuit to provide the auto-off feature.

The auto-off feature combined with Zero-Watt circuit works in two ways:

- **when pushing the Off button**, the electronics cuts out mains supply after some seconds, after having set machine in safety conditions (motor stops). Cycle is reset, previously selected options are cleared so that next machine switching on the default programme is prompt;
- **after 5 minutes without interaction with the customer**, the electronics cuts out mains supply automatically for energy saving purposes in accordance with power consumption norms. The selected programme and options are kept so that the next machine switching on the same programme is prompt. In this way, if auto-off occurs in cycle end phase, the customer is aware the cycle finished normally and can restart it if desired. If auto-off occurs during programme setup, the cycle and options are kept in case customer takes more than 5 minutes to load and start the cycle. Automatic auto-off is disabled in case an alarm is displayed.

6.5 BUZZER

A multi-tone buzzer is provided to sound in following cases:
- switching machine on and off, with 2 different short jingles;
- pressing a button, with a very short "click" sound;
- when the cycle is finished, for about 2 minutes with a specific sequence of three long beeps (1sec on - 1 sec off - 1sec on - 1 sec off - 1sec on) repeated every 15 seconds; the sequence is stopped when the door porthole is opened;
- when alarms/warnings occur, for about 5 minutes with a specific sequence of three short beeps repeated 3 times every 15.

The buzzer can be active or not by configuration; anyway **the default factory setting has to be active** to meet the norms regarding eyesight handicap people. To deactivate it the specific push button has to be pressed.

When deactivated the buzzer doesn't play the on/off jingles and cycle end melody, while sounds anyway in case of button "click" and alarm/warnings occurrence.

Volume level is pre-fixed and can't be changed by user. The behaviour is the same for all UI levels.

6.6 FAULTS/WARNINGS SIGNALS

6.6.1 SELECTION ERROR

The selection errors are noticed to customer by:

- **TC5** three quick flashings of a dedicated red-colour LED integrated on Start/Pause light. The same LED is also used for machine faults/warnings, see next paragraph.
  The buzzer doesn't sound any specific melody.
- **TC4** three quick flashings of "Err" text displayed on time digits as shown in the picture aside.
- **TC2** three quick flashings of "Err" text displayed on time digits as shown in the picture below.



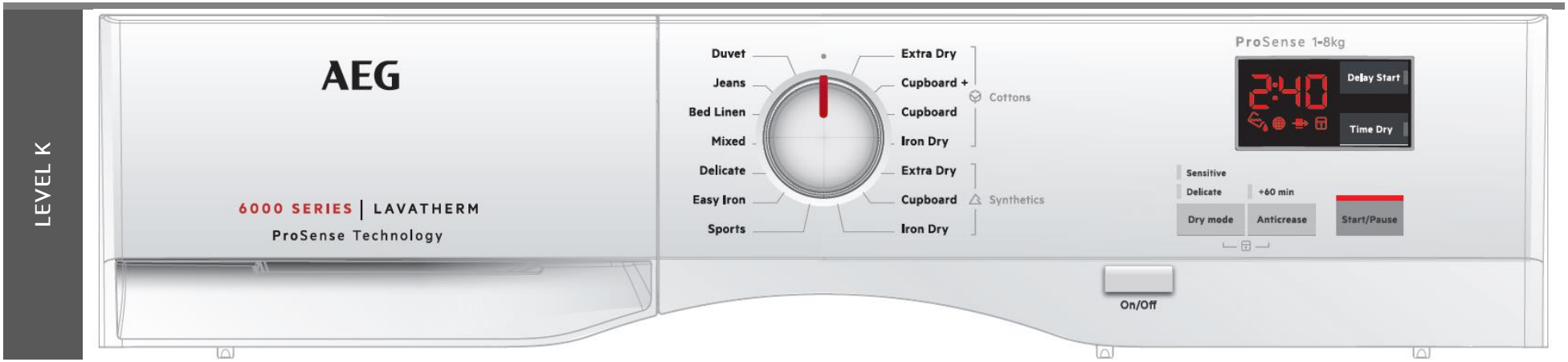
The selection errors are given in following cases:
- when an incompatible option button with selected washing program has been pressed;
- when an option button is pressed or the selector is moved during the cycle execution.

7 PONE

7.1 SERIES 6B – LEVEL K

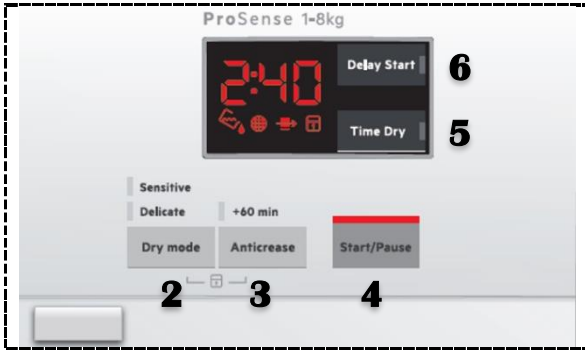
7.1.1 CONTROL PANEL

Here the application pictures:



7.1.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	6	5
Conductivity setting	5	2
Buzzer enable/disable (*)	3	2
Tank Warning disable	5	3
Demo mode	4	3
Diagnostic mode	4	3

7.2 SERIES 7B – LEVEL G

7.2.1 CONTROL PANEL

Here the application pictures:

LEVEL G



7.2.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	8	7
Conductivity setting	9	7
Buzzer enable/disable (*)	9	8
Tank Warning disable	7	5
Demo mode	7	1
Diagnostic mode	7	1

7.3 SERIES 7 – LEVEL E

7.3.1 CONTROL PANEL

Here the application pictures:



7.3.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	8	7
Conductivity setting	9	7
Buzzer enable/disable (*)	9	8
Tank Warning disable	7	5
Demo mode	7	1
Diagnostic mode	7	1
WiFi Install	7	4
WiFi Remote	5	4

7.4 SERIES 8 – LEVEL C

7.4.1 CONTROL PANEL

Here the application pictures:

LEVEL C



7.4.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	8	7
Conductivity setting	9	7
Buzzer enable/disable (*)	9	8
Tank Warning disable	7	5
Demo mode	7	1
Diagnostic mode	7	1
WiFi Install	7	4
WiFi Remote	5	4

7.5 COMMON FUNCTIONALITIES

7.5.1 ON/OFF BUTTON

All the other aesthetics levels of AEG ONE range have a dedicated mechanical tact-switch button for On/Off function always present. Depending on the main board features of the machine, this button could

completely disconnect the machine from the mains, or alternatively put the machine in a special low power consumption mode. When the main board mounts the 0 Watt power consumption circuit the machine is automatically and completely disconnected from the mains; without 0 Watt circuit, the user has to unplug machine to disconnect mains power. In any case the user interface behaviour is the same.

See also next "Stand-Off mode" paragraph.

To switch on the appliance press shortly the On/Off button. The user interface plays the dedicated jingle and switches the lights and display on according to default programme.

To switch off the appliance, press and hold a bit longer the On/Off button. The user interface plays the dedicated jingle and all lights and display are switched off. All previously selected options and the possible program in progress are reset, so that at next machine switching on the default drying program is selected.

7.5.2 LOW POWER CONSUMPTION MODES

The machine is put in low power consumption mode to avoid wasting energy when the cycle is not running, in accordance with international standards in terms of energetic consumption normative.

The low power mode in this document is referenced as **Stand-Off**.

7.5.3 STAND-OFF MODE BEHAVIOUR

This mode applies to all UI levels where On/Off button is provided.

The appliance goes in Stand-Off mode when it is "virtually switched off" by pressing On/Off button or the user does not interact with control panel for 5 minutes during program setting up or after that cycle has finished (auto stand-by). The machine is "virtually switched off" because all LEDs and display are lighted off and buttons are disabled, but the electronic boards are supplied anyway.

To cut out mains supply the appliance needs to be unplugged or mount the so called Zero-Watt circuit to provide the auto-off feature.

The appliance exits Stand-Off mode when the user presses the On/Off button to switch machine on.

The auto-off feature combined with Zero-Watt circuit works in two ways:

- **when pushing the Off button**, the electronics cuts out mains supply after some seconds, after having set machine in safety conditions (motor stops, ...). Cycle is reset, previously selected options are cleared so that next machine switching on the default programme is prompt;
- **after 5 minutes without interaction with the customer**, during programme setup or after the cycle is finished, the electronics cuts out mains supply automatically for energy saving purposes in accordance with power consumption norms. In case of cycle end, the cycle status and previously selected options are kept so that next machine switching on the same programme in cycle end phase is prompt; this way the customer is aware the cycle finished normally and can restart it if desired. During programme setup, the cycle and options are reset so that next machine switching on the default programme is prompt.

Automatic auto-off is disabled in case an alarm is displayed.

7.6 HI-FI SELECTOR



The program selector knob works as a Hi-fi selector.

The number of position is not configurable and it is always 10, since it is strictly linked to the program lights.

Programmes layout around the main knob is configurable.

Compared to a traditional absolute selector, the Hi-fi one has no index on the knob and no reset position. The knob itself doesn't point to any position in the control panel; hence the selected programme is indicated by the associated LED.

To reset a cycle in progress just press the On/Off button.

When the machine is switched on, the top LED position is selected by default (if no "special modes, e.g. diagnostic, return from power fails, demo mode etc). When the rotary is turned clockwise or anti-clockwise in setup, the corresponding LED of selected programme is lighted on and the display info changes accordingly.

7.7 BUZZER

A multi-tone buzzer is provided to sound in following cases:

- switching machine on and off, with 2 different short jingles;
- pressing a button, with a very short "click" sound;
- when a selection error occurs, with three very short "click" sounds;
- when the cycle is finished, for about 2 minutes with a specific sequence of beeps;
- when alarms/warnings occur, for about 5 minutes with a specific sequence of short beeps.

The buzzer can be active or not by configuration; anyway **the default factory setting has to be active** to meet the norms regarding eyesight handicap people. To deactivate it the specific push buttons combination has to be used (see "Buttons Combinations" paragraph).

When deactivated the buzzer doesn't play the anti-crease start and cycle end melodies, while sounds anyway in case of button "click", the on/off jingles and selection error/alarms occurrence.

Volume level is pre-fixed and can't be changed by user. The behaviour is the same for all UI levels.

7.8 FAULTS/WARNINGS SIGNALS

7.8.1 SELECTION ERROR

The selection errors are noticed to customer by a specific buzzer melody. The selection errors are given in following cases:

- when an incompatible option button with selected program has been pressed;
- when an option button is pressed or the selector is moved during the cycle execution

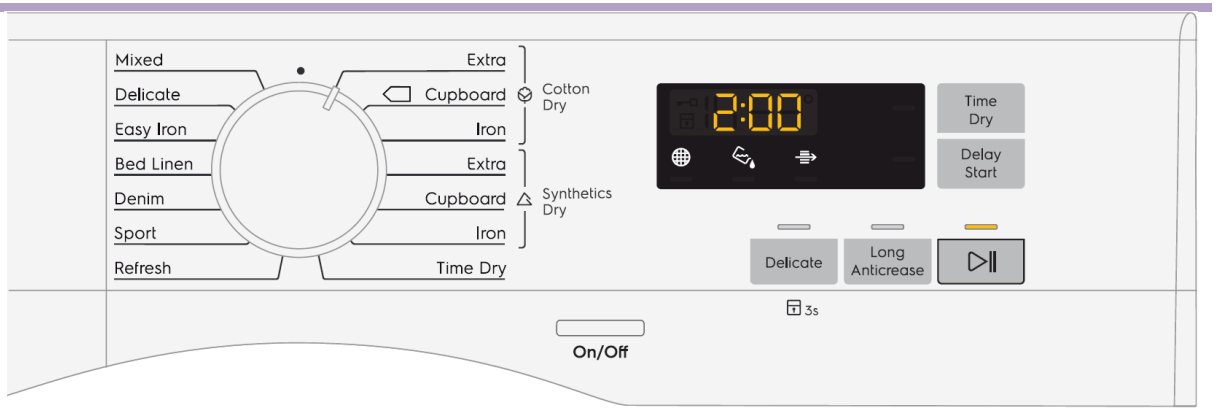
8 DIAMOND / INDIGO CORE

8.1 TC5 / E1 LEVEL

8.1.1 CONTROL PANEL

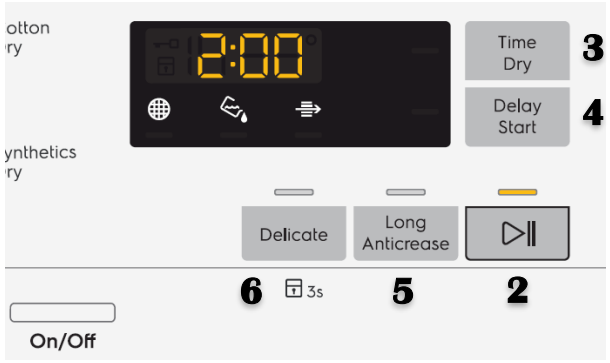
Here the application pictures:

TC5



8.1.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	6	6
Conductivity setting	6	5
Buzzer enable/disable	4	3
Tank Warning disable	5	4
Demo mode	4	2
Diagnostic mode	4	2
WiFi Remote (*)	-	-

(*) WiFi Remote is not applicable to this level.

8.2 TC4 / E2 LEVEL

8.2.1 CONTROL PANEL

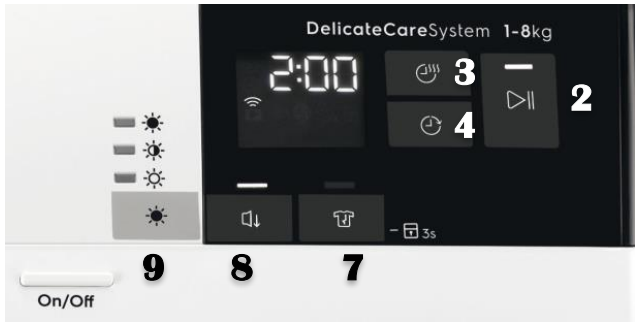
Here the application pictures:

TC4



8.2.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	7	7
Conductivity setting	9	8
Buzzer enable/disable	4 (9*)	3 (7*)
Tank Warning disable	8	7
Demo mode	3	2
Diagnostic mode	3	2
WiFi Remote (**)	4	3

(*) For appliances that support Connectivity the key combination is 9 + 7, for others 4 + 3.

(**) WiFi Remote is provided for future use.

8.3 TC3 / E3 LEVEL

8.3.1 CONTROL PANEL

Here the application pictures:

TC3



8.3.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	7	7
Conductivity setting	9	8
Buzzer enable/disable	-	-
Tank Warning disable	12	11
Demo mode	3	2
Diagnostic mode	3	2
WiFi Remote (*)	4	3

(*) WiFi Remote is provided for future use.

8.4 TC2 / E4 LEVEL

8.4.1 CONTROL PANEL

Here the application pictures:

TC2



8.4.2 BUTTONS COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available in this user interface:



Function	Button 1	Button 2
Child lock	6	6
Conductivity setting	9	8
Buzzer enable/disable	-	-
Tank Warning disable	12	11
Demo mode	3	2
Diagnostic mode	3	2
WiFi Remote (*)	4	3

(*) WiFi Remote is provided for future use.

8.5 COMMON FUNCTIONALITIES

8.5.1 ON/OFF BUTTON

All the aesthetics levels of Elux Diamond range have a dedicated mechanical tact-switch button for *On/Off* function.

To **switch on** the appliance press shortly the *On/Off* button. The user interface plays the dedicated jingle and switches the lights and display on according to default programme.

To **switch off** the appliance, press and hold the *On/Off* button for 1 second. The user interface plays the dedicated jingle and all lights and display are switched off. All previously selected options and the possible program in progress are reset.

Basically the Off function does not disconnect immediately the machine from the mains supply, but puts the appliance in a special low power consumption mode. In the appliances based on EDR16 electronic platform the 0-Watt power consumption circuit disconnects completely the mains supply 20 seconds after pressing the button; in the appliances based on EDR14 platform, in which the 0-Watt circuitry is not present, the electronics remains active in low power mode as long as the appliance is plugged in.

8.5.2 LOW POWER CONSUMPTION MODES

The machine is put in low power consumption mode to avoid wasting energy when the cycle is not running, in accordance with international standards in terms of energetic consumption normative.

The low power mode in this document is referenced as **Stand-off**.

8.5.3 STAND-OFF MODE BEHAVIOUR

In Stand-off mode the machine is "virtually switched off" because all LEDs and display are lighted off and buttons are disabled, but the electronic boards are supplied anyway.

The appliance exits Stand-off mode when the user presses the *On/Off* button to switch machine on.

The Stand-Off mode works in two ways:

- **when pushing the *On/Off* button**, the electronics goes in stand-by after some time, after having set machine in safety conditions. Cycle is reset, previously selected options are cleared so that at next switching on the programme pointed by the selector knob is reloaded with its default settings;
- **if the user doesn't interact with the appliance in any way for 30 seconds or 5 minutes, respectively in the case that the selector knob is pointing to the *Reset* position or another one**, the user interface switches off and the electronics goes automatically in stand-by. All the settings done by the user are remembered at the next switching on, provided that the knob hasn't been turned to another position meanwhile. In this way, if auto stand-by occurs in cycle end phase, the customer is aware that the cycle finished normally and can restart it if desired. If auto stand-by occurs during programme setup, the cycle and options are kept anyway, in case customer takes more than 5 minutes to load and start the cycle.

Automatic stand-by is disabled in case an alarm is displayed.

8.6 PROGRAMME SELECTOR KNOB



The selector knob is used to select the desired programme or to reset the cycle in progress; it can be moved both in clockwise and counter clockwise direction. It is of standard "absolute" type, i.e. the programme selection is done "pointing" the desired graphic with the knob index.

The total number of positions is 15 on TC5 level and 13 on any other level and it is not configurable.

The **12 o'clock position** is reserved for the *Reset* function, which stops and resets any possible running programme. When the selector is in this position the time digits are filled with dashes ("---") and the

Start/Pause LED remains off meaning that no program is selected and the appliance can't be started.

Every other position recalls a program as specified in the Machine Configuration (MCF). The layout of the programmes around the main knob is configurable.

8.7 BUZZER

A multi-tone buzzer is provided to sound in following cases:
- switching machine on and off, with 2 different short jingles;
- pressing a button, with a very short "click" sound;
- when a selection error occurs, with three very short "click" sounds;
- when the cycle is finished, for about 2 minutes with a specific sequence of beeps;
- when alarms/warnings occur, for about 5 minutes with a specific sequence of short beeps.

The buzzer can be active or not by configuration; anyway **the default factory setting must be "on"** to meet the norms regarding eyesight handicap people. To deactivate it the specific *End Alert* button or, when not available, the specific push buttons combination has to be used.

When deactivated the buzzer doesn't play the cycle end melody, while sounds anyway in case of button "click" and selection error/alarms occurrence.

Volume level is pre-fixed and can't be changed by user. The behaviour is the same for all UI levels.

8.8 FAULTS/WARNINGS SIGNALS

8.8.1 SELECTION ERROR

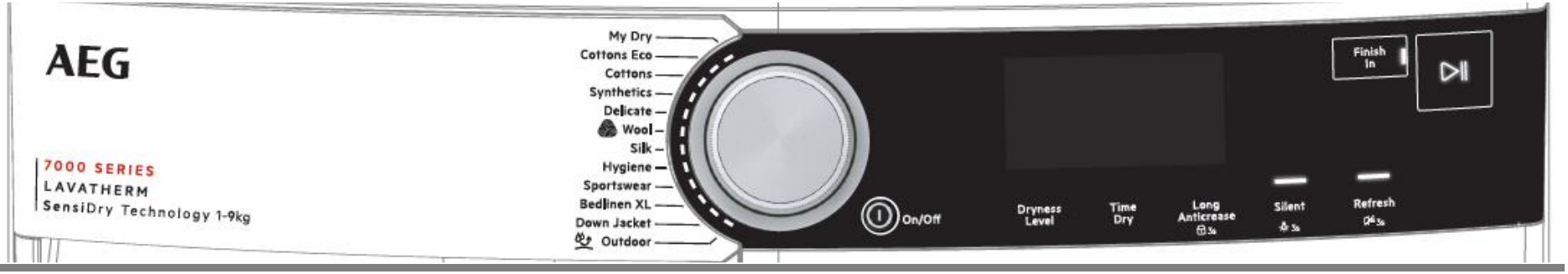
Selection errors are signalled by a specific buzzer melody and the cycle time digits show "---" for 1 s. They are given in following cases:
- when an incompatible option button with selected drying program has been pressed;
- when an option button is pressed or the selector is moved during the cycle execution.

9 RUBY

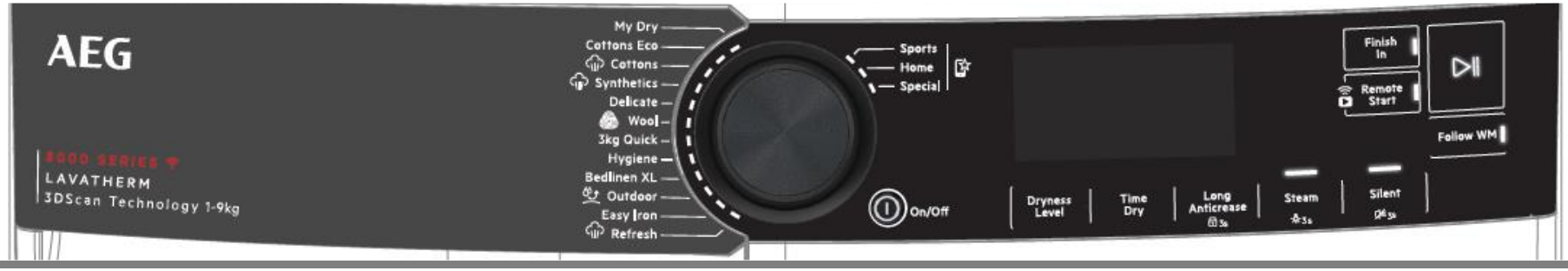
9.1 CONTROL PANEL

Here are the application pictures:

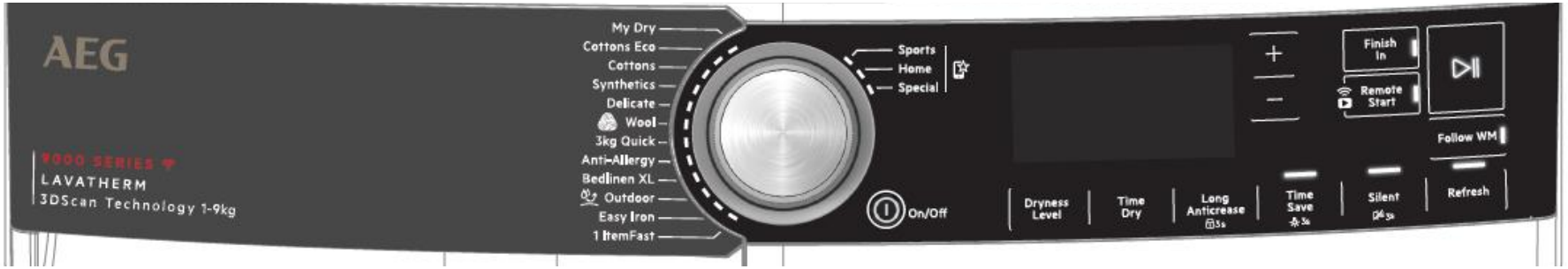
GOOD



GOOD HIGH

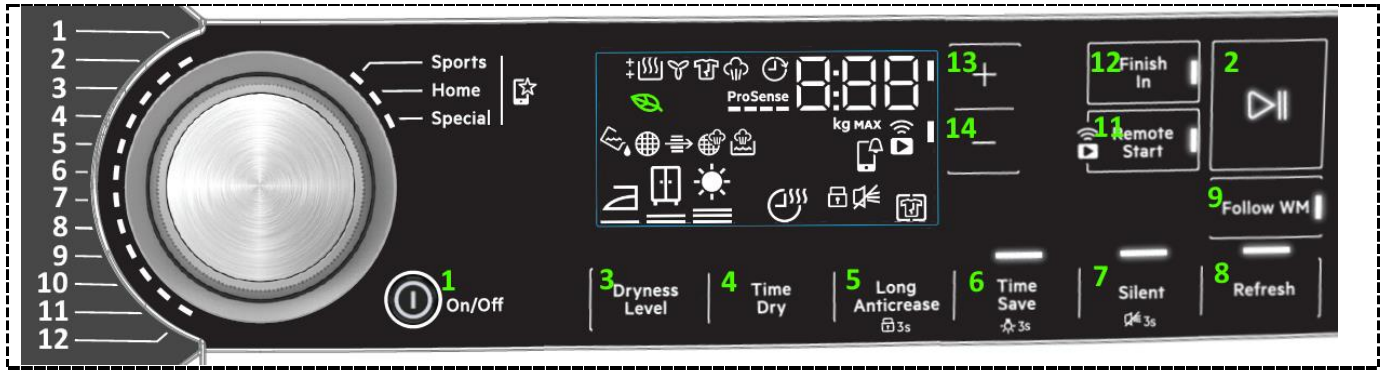


BETTER



9.1.1 BUTTON COMBINATIONS

Supplementary functions and use modes are provided using key combinations. The following key combinations are available In this user interface:



Remark: the above picture has to be considered only for buttons order/position reference, not for buttons function and display content that changes according to model.

Function	Button 1	Button 2	Additional information
Child Lock	5	5	3 seconds long press
Conductivity setting	5	4	
Cycle end Jingle	7	7	3 seconds long press
Tank warning	6	4	
Drum light	6	6	3 seconds long press
Demo mode	12	2	Require selector position 3, within 10 seconds from power on
Diagnostic mode	12	2	Require selector position 1, within 10 seconds from power on
Hours counter	4	3	
Factory defaults	6	5	

9.2 COMMON FUNCIONALITIES

9.2.1 ON/OFF BUTTON

All the aesthetics levels of Ruby range have a dedicated mechanical tact-switch button for On/Off function.

Depending on the main board features of the machine, this button could completely disconnect the machine from the mains, or alternatively put the machine in a special low power consumption mode. When the main board mounts the 0 Watt power consumption circuit the machine is automatically and completely disconnected from the mains; without 0 Watt circuit, the user has to unplug machine to disconnect mains power. In any case the user interface behaviour is the same.

To **switch on** the appliance press and hold briefly (about 250 msec) the On/Off button. The user interface plays the dedicated jingle, switches the lights and display on according to default selected programme and the Start/Pause button LEDs pulses smoothly.

To **switch off** the appliance, press and hold briefly the On/Off button, not before 2 seconds after the switch on. The user interface plays the dedicated jingle and all lights and display are switched off. All previously selected options and the possible program in progress are reset, so that at next machine switching on the default washing program is selected.

9.2.2 LOW POWER COMSUPTION MODES

The machine enters low power consumption mode to avoid wasting energy when the cycle is not running, in accordance with international standards in terms of energetic consumption normative.

The minimum level of consumption depends if appliance works standalone or it is connected to WiFi network.

In this document, for simplicity, low power state in standalone mode is referenced as **Stand-Off**, while when connected to WiFi network the state is referenced as **Network Standby**.

9.2.3 STAND OFF MODE

The appliance goes in Stand-Off mode when the user presses On/Off button or does not interact with control panel for at least 5 minutes during program setting up or after that cycle has finished (auto stand-off). The machine is "virtually switched off" that is all LEDs and display are lighted off and buttons are disabled, but the electronic boards are supplied anyway.

To cut out mains supply the appliance needs to be unplugged or mount the so called 0-Watt circuit to provide the auto-off feature.

The appliance exits Stand-Off mode when the user presses the On/Off button to switch machine on.

The Stand-Off mode works in two ways:

- **when pushing the Off button**, the electronics goes in stand-by after some time, after having set machine in safety conditions (motor stops, ...). Cycle is reset, previously selected options are cleared so that next machine switching on the default programme is prompt;
- **after 5 minutes without interaction with the customer**, the user interface lights completely off and the electronics goes automatically in stand-by for energy saving purposes in accordance with power consumption norms. The selected programme and options are kept so that the next machine switching on the same programme is prompt, provided that the knob hasn't been moved in the meantime. In this way, if auto

stand-by occurs in cycle end phase, the customer is aware the cycle finished normally and can restart it if desired. If auto stand-by occurs during programme setup, the cycle and options are kept anyway, in case customer takes more than 5 minutes to load and start the cycle. Automatic stand-by is disabled in case an alarm code is displayed.

9.2.4 NETWORK STAND BY MODE

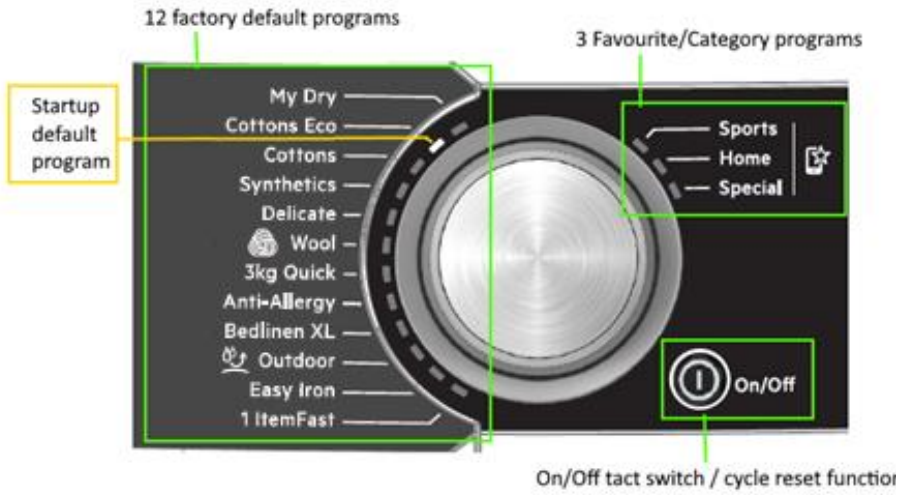
The WiFi connected appliance goes in **Network Standby** mode when the user does not interact with machine, via control panel or via APP, for at least 5 minutes during program setting up or after that cycle has finished (auto stand-by). The machine is "virtually switched off" with all LEDs and display off and the electronic boards supplied, but the WiFi/Remote symbols are lit to indicate that the machine can be operated remotely via APP or locally since knob and buttons are enabled to allow exit stand-by.

The energy consumption is reduced to minimum level needed to supply WiFi board and communication with external home router.

The appliance exits Network Standby mode when the user interacts with knob and buttons on control panel or send any command from APP.

The Stand-Off mode works in two ways.

9.3 SELECTOR HI-FI



The selector knob is used to select the desired washing programme among the 12 ones available as factory defaults and printed on detergent drawer side. For connected machines, further 3 positions are available to setup any favourite program by means of Electrolux APP.

The selector knob moves both in clockwise and counter-clockwise directions, the selected position is indicated by the related program LED lighted-on.

The number of positions is not configurable and it is always 12 (+3), since it is strictly linked to the program LEDs, while programmes layout around the knob is configurable.

Compared to a traditional absolute selector, the Hi-Fi knob has no index pointing to any position in the control panel and it has not Off/Reset position, hence to reset a cycle in progress just press the On/Off tact-switch button.

Programmes layout around the knob is configurable with the following constraints:

- Dryness Levels are always selected separately via dedicated button;
- The programme **Cottons Eco** for Energy Label declaration is compulsory and can be configured in any of the first 12 positions;
- The supplementary 3 positions for Favourite/Category programs are available only for connected models;

When the machine is powered on, the LED position corresponding to Cottons Energy label program is selected by default (if case no "special" modes active, e.g. diagnostic, return from power fails, demo mode etc...) following the Energy Label standard requirement, option LEDs and display digits are updated accordingly with related program info.

9.4 BUZZER

A multi-tone buzzer is provided to sound in following cases:

- switching machine on and off, with 2 different short jingles;
- pressing a button, with a short "click" sound;
- when a selection error occurs, included trying to start machine with door porthole open, with three short "click" sounds;
- when the cycle is finished, for about 2 minutes with a specific sequence of beeps;
- when alarms/warnings occur, for about 5 minutes with a specific sequence of short beeps;
- when laundry overload is detected during Optisense phase, double beep played once.

The buzzer can be active or not by configuration; anyway, **the default factory setting has to be active** to meet the norms regarding eyesight handicap people.

To deactivate/activate it the specific buttons combination shall be used (see "Buttons Combinations" paragraph).

When deactivated the buzzer doesn't play the anti-crease start and the cycle end melody, while sounds anyway in all other cases.

Volume level is pre-fixed and can't be changed by user. The behaviour is the same for all UI levels.

9.5 FAULTS / WARNING SIGNALS

The selection errors are noticed to customer by a specific buzzer melody; refer to "Buzzer" paragraph.

The selection errors are given in following cases:

- when an incompatible option button with selected washing program has been pressed;
- when an option button is pressed or the selector is moved during the cycle execution;
- when start/pause key is pressed with door porthole open or steam tank empty.

10 CONDUCTIVITY SETTING

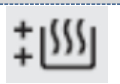
Water Conductivity feature is used to have better drying performances by setting the correct degree of water hardness. The less conductive is the water, the more intense is the drying performed.

Used to set the water conductivity degree among three levels: low, medium, high, to adjust humidity algorithm parameters for more precise final drying result (default level is medium).

Water contains, a variable quantity of limestone and mineral salts of which quantities vary according to geographical locations thus varying its conductivity values. Relevant variations of the conductivity of the water compared to those prefixed by the factory could slightly influence the residual humidity of the laundry at the end of the cycle. The dryer allows to regulate the sensitivity of the drying sensor based on conductivity values of the water.

To signal the entrance into this special mode, the user interface changes his behaviour as soon as the key combination has been accepted (in 5-Series all LEDs over options key blink):

- BLUE FIRE INSPIRATION
  the display shows on time digits the present setting of water conductivity
- AEG PERFEKT 10
  If present, the display shows the present setting of water conductivity
- PILOT 2
  For TC2-TC4 levels, the display shows on time digits the current setting of water conductivity
- POne
  all options LEDs go off and display shows the following info:
  - the selected water conductivity/hardness degree level on time digits;
  - drying phase and ++ symbols to indicate the selected dryness level:
    ++ maximum, + extra, standard
- DIAMOND / INDIGO CORE
  all options LEDs go off and the display shows the new value:
  - the selected water conductivity/hardness degree level on time digits;
- Ruby
  all options LEDs go off and display shows the following info:
  - the selected water conductivity/hardness degree level on time digits;
  - drying phase and ++ symbols to indicate the selected dryness level:
    ++ maximum, + extra, standard

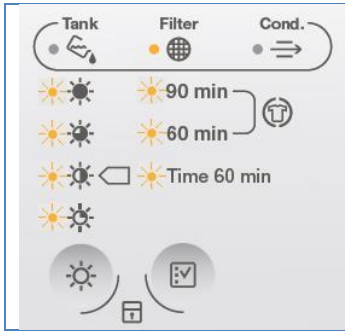
Settings of water conductivity/hardness degree level					
Water Conductivity		Display		Drying phase icon (shown during automatic drying)	
Setting	Value	Inspiration, Perfekt 10, Pilot2, Pone, Ruby	Diamond / Indigo Core	POne	Diamond, Indigo Core, Ruby
Low	<300 µS/cm				
Medium (factory default)	300-600 µS/cm				
High	>600 µS/cm				

This setting could be also seen on phase LEDs over Start/Pause push button, to allow the correct usage of this function also on machine without display:

- **AEG PERFEKT 10 Series 5** level:

Water Conductivity Setting	Phase Led Status
Low	
Medium (factory default)	
High	

- **Pilot 2 TC5** level, option key LEDs blink while the warning LEDs show the current setting of water conductivity:



Water Conductivity Setting	Warning LED
Low	Tank
Medium (factory default)	Filter
High	Condenser

It's possible to modify current setting pressing:

- START push button (PILOT 2: Start/Pause key), until the display shows the desired conductivity level; PILOT 2: the conductivity level loops from Low to Very High.
- At every pressure of the related button combination (DIAMOND) the water conductivity increases to the next level

Information
Memorize "Water conductivity/hardness degree level"

To exit and memorize current water setting, some different actions are allowed:
- press the same key combination for water conductivity setting mode activation for 3 seconds (not in Diamond/Indigo Core)
- move selector knob on another position; in case of PILOT 2 select another program position with program key
- switch off the machine

11 EDR10, EDR12, EDR14 EU, EDR 16

11.1 INTRODUCTION

EDR10, EDR12, EDR14, EDR 16 is an electronic platform based on a double board architecture: a power board (MB) to manage all sensors/loads and a separate user interface board (UI).

UI supported:
- Perfekt 10 (aesthetic levels from S5 to S9)
- Blue Fire (TC1-TC2-TC3-TC4)
- Pilot2
- POne*
- Diamond / Indigo Core*
- Ruby*

**supported only by EDR 14 EU and EDR 16*

The **Power Board** electronic control have the purpose to:

- drive all the machine loads (motor control board, pumps, heating element, drum light, drying fan).
- read the several inputs necessary to control the functionality (water tank full/empty status, door status, motor speed, air temperature, power supply status).
- manage a serial port to connect the machine to external devices for testing, configuration, remote control purpose (EAP protocol).

The **User Interface Board** electronic control has the purpose to:

- manage the user selections and the machine status display by driving Leds and LCDs, and by reading buttons and/or rotary knobs,
- manage a serial port to allow connection to external devices for testing, remote control purpose (EAP protocol).

The purpose of this document is to describe the diagnostic architecture implemented on this electronic platform.

11.2 SYSTEM ARCHITECTURE

The machine can work in several functional modes:

- User mode
- Demo mode
- Electric test mode
- Special function mode
- Diagnostic mode
- Remote controlled mode

The last one can be set only by serial port using specific tools.

All the other modes are available using the machine itself.

User mode is the normal way to use the machine to execute normal cycles (used by the end customer).

Demo mode is used in the shops to show to the customer how to set and execute a cycle without drying.

Special function mode is used to show special parameters of the machine (for example the cycles/working hours counter – pay per dry architecture).

Electric test mode is used, on assembly line, to perform the electric safety tests according the International Standards.

Diagnostic mode is used by service/lab people to test the machine, read/reset alarms.

Remote control mode apart, the other functional modes can be set by configurable buttons combinations.



Information
Standardisation

For standardisation reasons following the used configuration for buttons combination:

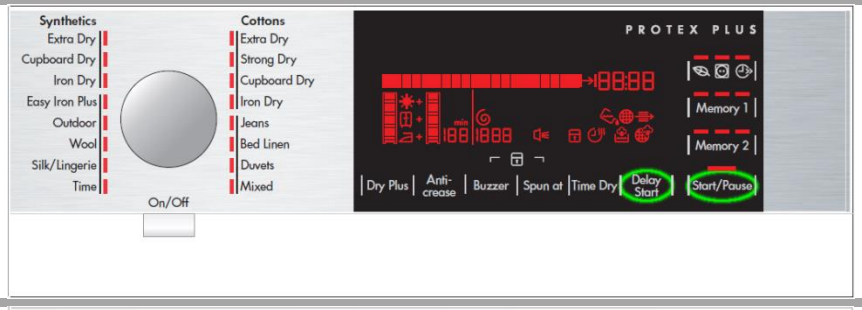
- For each user interface it is START/PAUSE button and the closest one:
  - Delay Start or Delay 6h button — AEG Perfekt 10 aesthetic levels
  - Buzzer or Delay button — all Blue Fire levels,
  - Option or Time — Pilot 2 levels.
  - Anticrease — POne
  - Time Dry or Delay Start (TC5) — Diamond / Indigo Core

- If the key combination is recognised within 10 seconds since the machine was switched on (via On/Off button), a specific mode is entered according to the position of the main knob or according the program selected in case of TC1 Blue Fire or Pilot 2 levels:
  - Position 1: Diagnostic mode set
  - Position 3: Demo mode set
  - Position 5: Working hours counter (not valid for Ruby, since it has a specific key combination)

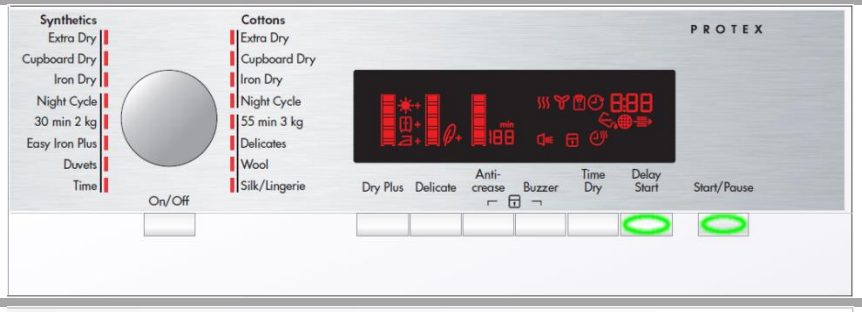
11.3 DIAGNOSTIC/DEMO MODE, WORKING HOURS COUNTER KEY COMBINATION

AEG Perfekt 10 - DIAGNOSTIC/DEMO MODE key combination highlighted in green

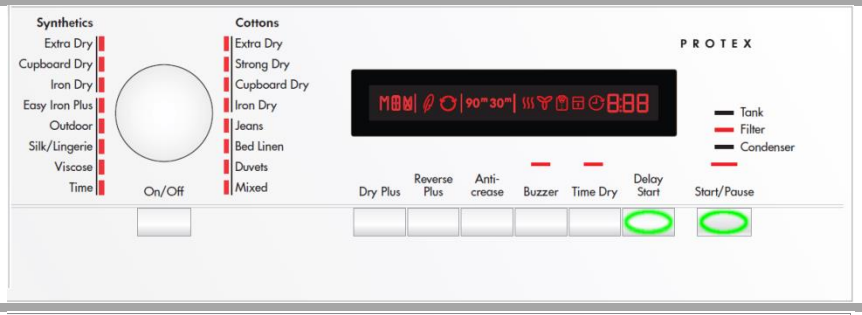
SERIES 9



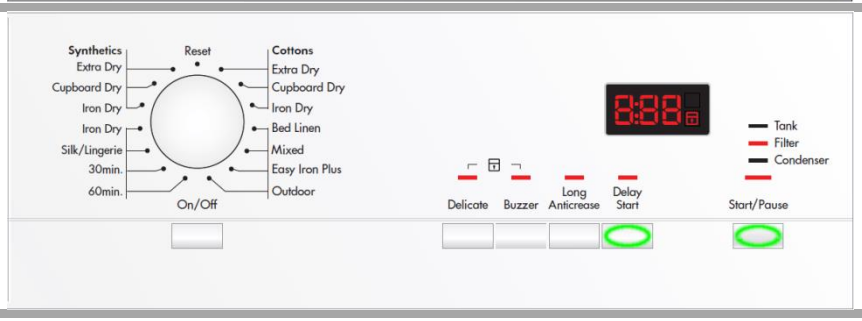
SERIES 8



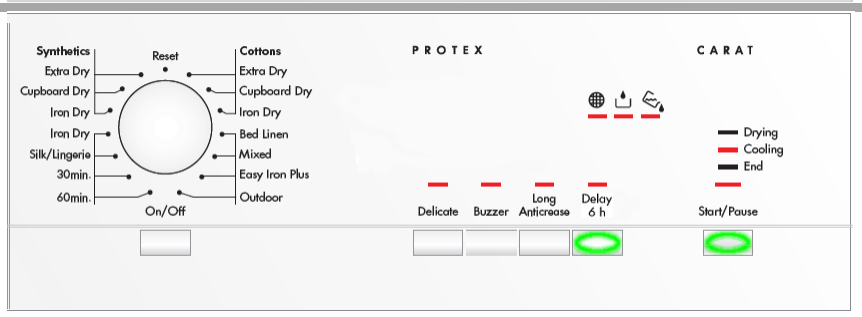
SERIES 7



SERIES 6



SERIES 5



Blue Fire - DIAGNOSTIC/DEMO MODE key combination highlighted in green

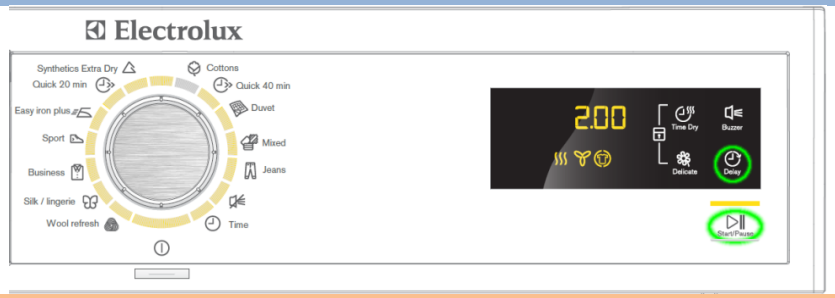
TC1



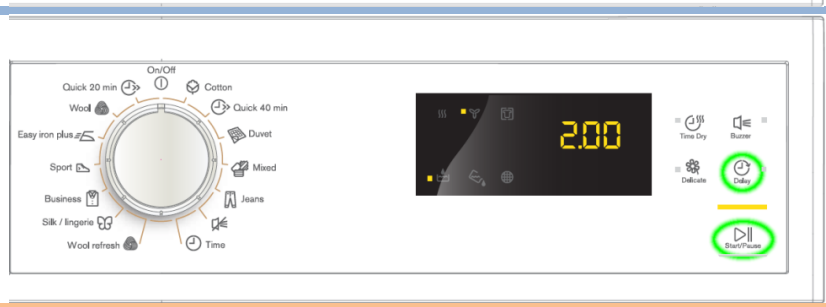
TC2



TC3



TC4

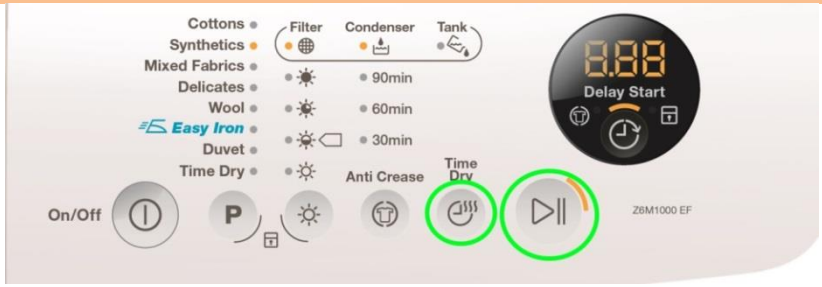


Pilot 2 - DIAGNOSTIC/DEMO MODE key combination highlighted in green

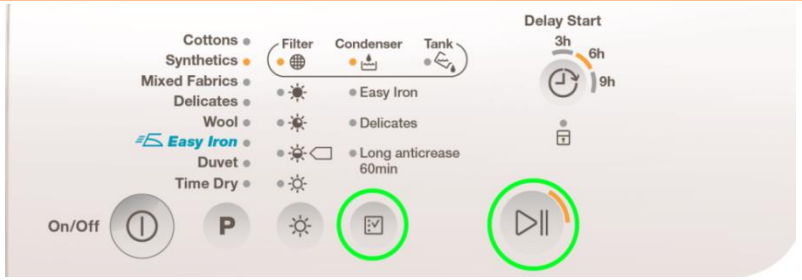
TC2



TC4



TC5



POne - DIAGNOSTIC/DEMO MODE key combination highlighted in green

LEVEL A



LEVEL C



LEVEL E



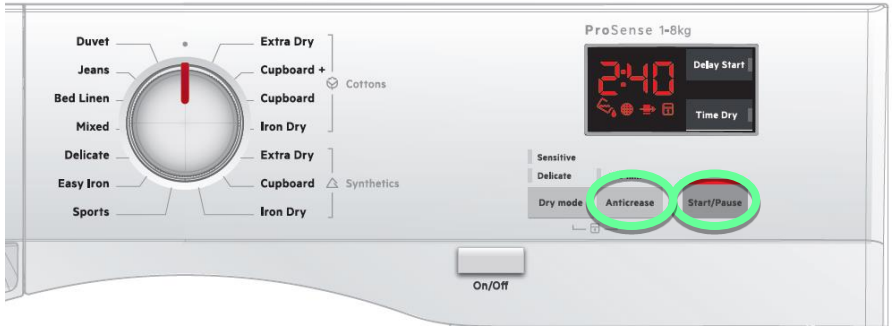
LEVEL G



LEVEL I

Not available

LEVEL K



Diamond / Indigo Core - DIAGNOSTIC/DEMO MODE key combination highlighted in green

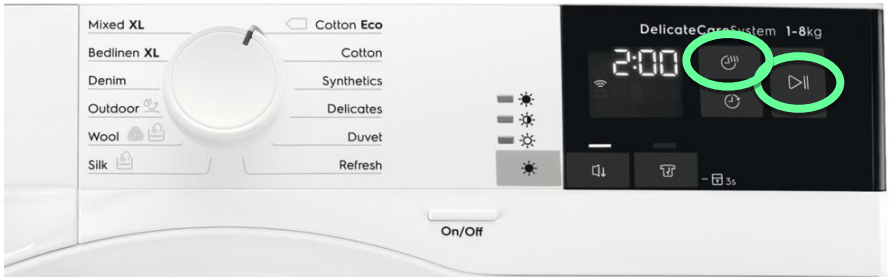
TC2



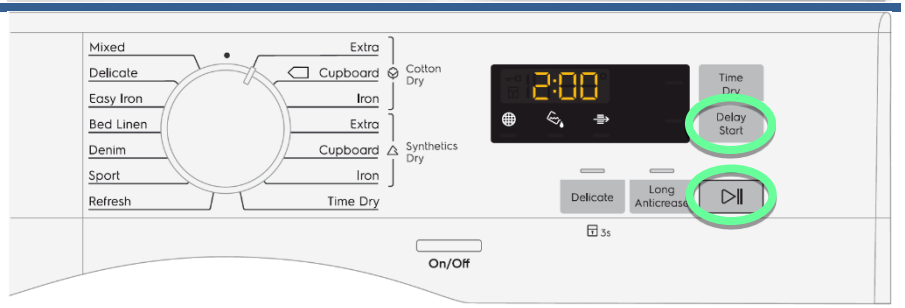
TC3



TC4



TC5



Ruby - DIAGNOSTIC / DEMO MODE key combination in highlighted in green



Specific mode is entered according to the position of the main knob or according the program selected + DIAGNOSTIC MODE key combination pressed

BLUE FIRE INSPIRATION

TC4 / TC3 / TC2

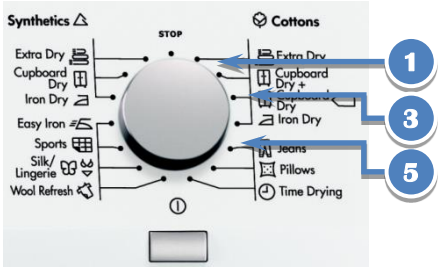


TC1



AEG PERFEKT 10

SERIES 5 / 6

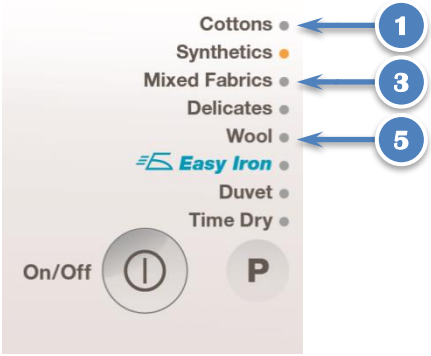


SERIES 7 / 8 / 9



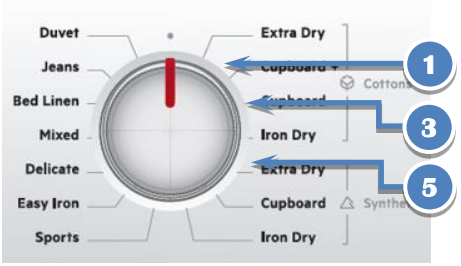
PILOT 2

TC5 / TC4 / TC2



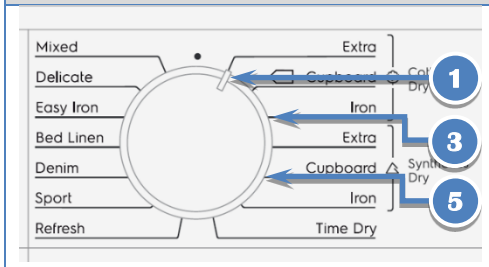
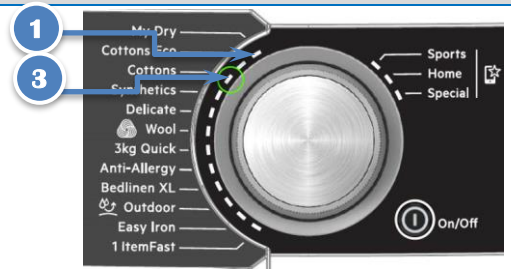
POne

SERIES 6B (LEVEL K)



SERIES 7B(G) 7(E) 8(C)



DIAMOND / Indigo Core		Ruby
TC5	TC4 / TC3 / TC 2	
		

Position 1	Position 3	Position 5
DIAGNOSTIC MODE	**DEMO MODE**	**WORKING HOURS COUNTER**
Is selected by default at machine switching on, hence to enter in Diagnostic mode just press the diagnostic buttons combination.	To enter Demo mode: ▪ press the related button in TC1 ▪ rotate the Hi-fi selector and wait for 3rd position related LED feedback before pressing keys combination ▪ press Program button in Pilot 2 and wait for related LED feedback before pressing diagnostic key combination	To enter Working Hours Display mode: ▪ press the related button in TC1 ▪ rotate the Hi-fi selector and wait for 5th position related LED feedback before pressing keys combination ▪ press Program button in Pilot 2 and wait for related LED feedback before pressing diagnostic key combination. (Not valid for Ruby, since it has a specific key combination.)

12 WORKING HOURS COUNTER

Using a specific procedure, the operator can display the total operating time for the appliance, which is counted from the moment it is first switched on. The unit can count up to a maximum of **6 550** hours of operating time.

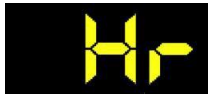
- Only the operating time of normal programmes (and not diagnostic cycles) is counted
- The actual operating time for the cycle is counted (which does not include pauses, delayed start time, rinse hold time and soaking phases)
- The precision of the counter is 30 seconds per programme.
- Only whole hours of operation are counted (1hr and 59 min = 1hr)



Working hours
Dispplay

- The thousands digit is showed only when value is over 999, the rule is valid for all platforms
- Examples:
  15 = Hr 0 15
  150 = Hr 1 50
  1550 = Hr 15 50

This time is displayed with a sequence of two digits at a time: the first two digits indicate thousands and hundreds, the second two digits indicate tens and units for the **Blue Fire TC4, TC3, TC2**; **Pilot 2 TC4**; **AEG Perfekt 10 SERIES 7,SERIES 8, Pone, DIAMOND, INDIGO CORE and Ruby** while the time is displayed in a single sequence for **Blue Fire TC1, Pilot2 TC2** and **AEG Perfekt 10 SERIES 9**. For example, if the operating time is 6,550 hours, the display will show the following sequence:

	Phase 1	Phase 2	Phase 3
	For 2 sec it displays **Hr**	For 2 sec the following digits are displayed: • Thousands - 6 • Hundreds - 5	For the next 2 sec the following digits are displayed: • Tens - **5** • Units - **0**
BLUE FIRE TC4 TC 3 TC 2			
AEG PERFEKT 10 SERIES 7 SERIES 8			
SERIES 9			
PILOT 2 TC 4			
POne			
Diamond Indigo Core Ruby			

At the end of phase three (after the tens and units are displayed), the cycle is repeated.
To return to normal mode, either: switch the appliance off or press a button or turn the selector knob.

13 DEMO MODE

In the shops and exhibitions sometime it could be necessary to show to the customer the machine behaviour in set-up condition and also during cycle execution. The duration of a cycle execution is in any case too long for a brief show.

The Demo works in two ways: one **interactive mode** and one **automatic loop**.

Interactive mode allows the user, by selecting programs and options, to experience the interface without activating the appliance.

If no one has interacted with the interface for 3 minutes, or Start button hasn't been pushed, it proceeds to display an automatic loop instead, simulating the cycle execution only on display.

DEMO mode alters the execution of a cycle in such a way that these problems are avoided:
- In set-up state the machine behaviour is the same of the user mode one.
- During cycle execution all times are shorter.
- No drying is executed. All the user interface functionality is shown as in the normal condition (time to end …).

13.1 ENTERING DEMO MODE

As described before, to enter in this mode the procedure is the following:
- Switch on the machine via On/Off button if present or turn program selector knob out of Off position (POne SERIES 6B – LEVEL K), and **do not press any other button**;
- Turn the selector in the 3rd position CW; (*CCW for Ruby*)
  in case of Hi-Fi type selector, the 3rd upper light of right side program LEDs switches on;
  in case of TC1 or Pilot 2 levels, the program in position 3 has to be set and wait for related LED feedback;
- Press and hold for some seconds the defined key combination (START/PAUSE and the closest one);
  - Within about 3 seconds the acknowledge of the operation is given by:
    - the message "Demo mode" (steady) on text row in case of Series 9 level or TC1 levels;
    - the text "dEM" blinking 3 times on cycle time digits in case of all other levels except Series 5 / TC5;
    - by all option LEDs flashing in Series 5 / TC5 levels.
- In no acknowledge, switch machine off and repeat sequence from the beginning.

Information
Time to set "DEMO mode"

Time	Aesthetic levels
7 seg	AEG Perfekt 10 Blue Fire
10 seg	Pilot 2 Pone Diamond Ruby

Information
"DEMO mode"

- Once the DEMO mode is set, after each machine switching on DEMO mode is automatically recalled; this occurrence is signalled after some seconds from the start-up by the steady text "Demo; mode" (S9 or TC1), by text "dEM" flashing 3 times (S6-S8, TC2, TC3, TC4, POne, Diamond, Indigo Core) or by all option LEDs flashing in Series 5 / TC5 levels.
- To exit the DEMO mode the machine has to be unplugged from mains net.

14 DIAGNOSTIC MODE

This mode is used in several conditions:
- In factory assembly line to perform a manual test of the machine functionality (final assembly test).
- By service people to check for faults and repair the machine.
- In the labs to check the right machine functionality.

14.1 ENTERING DIAGNOSTIC MODE

As described before, to enter in this mode the procedure is the following:
- Switch on the machine via On/Off button if present or turn program selector knob out of Off position (POne SERIES 6B – LEVEL K), and **do not press any other button**;
- Turn the selector in the 1st position CW; (*CCW for Ruby*)
  in case of Hi-Fi type selector, the 1st upper light of right side program LEDs switches on;
  in case of TC1 or Pilot 2 levels the program in position 1 is selected by default at machine switching on;
- Press and hold for about 3 seconds the defined key combination (START/PAUSE and the closest one);
  - Within about 3 seconds the UI shall enter the diagnostic mode; the acknowledge of the operation is given by all LEDs and groups of display icons switching on sequentially; otherwise, switch machine off and repeat sequence from the beginning.

Information
Time to set "DIAGNOSTIC mode"

Time	Aesthetic levels
7 seg	AEG Perfekt 10 Blue Fire
10 seg	Pilot 2 Pone Diamond Indigo Core Ruby

Information
"DIAGNOSTIC mode"

- If the key combination is recognised within 10 seconds since the machine was switched on (via On/Off button), a DIAGNOSTIC mode is entered

- To exit from DIAGNOSTIC mode it's sufficient to switch off the machine.
- According to the machine configuration, at the next machine switching on the electric test cycle may be activated. To stop it, switch off again the machine.
- After exit DIAGNOSTIC mode check that the Wifi status (on or off) is setup according to consumer expectations, or according to the previous settings defined by the consumer.

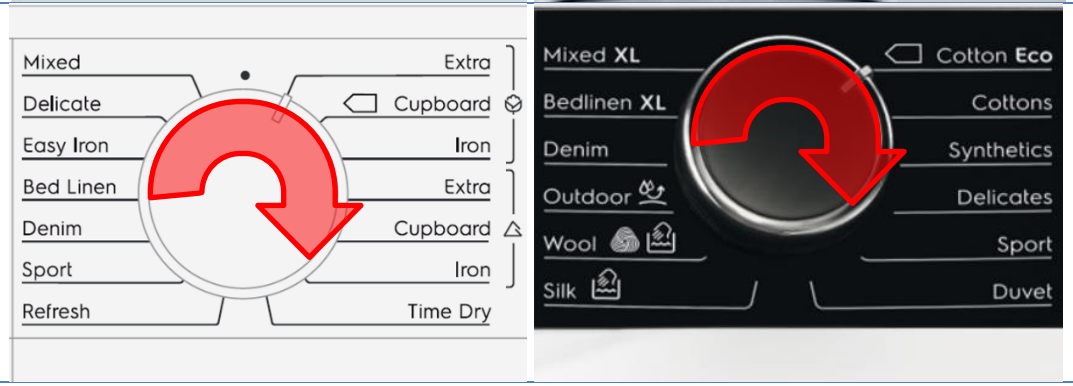
14.2 DIAGNOSTIC PROGRAM DEFINITION

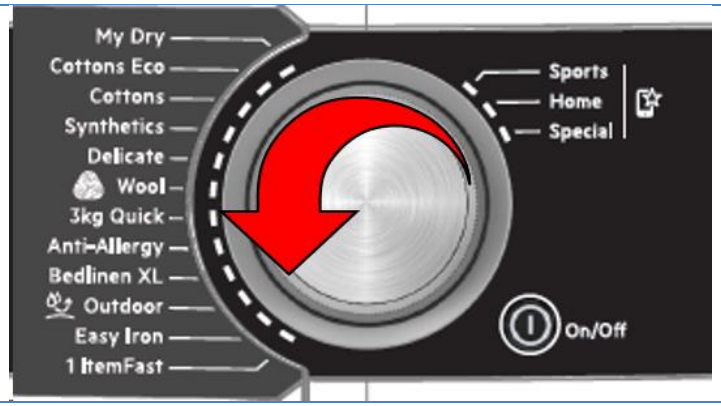
In the 1st selector or program position (TC1 or Pilot 2) the User Interface test is performed; all LEDs or LCD symbols are lighted on sequentially to allow checking the outputs. For each LCD display a specific sequence of screens is performed in order to test all icons and backlight LEDs.

Pressing any button the associated LEDs and display icons are lighted on and the related position number is shown on cycle time (TTE) digits if present, till button is released; besides, the buzzer plays a single "beep" sound (mechanical switch) or "click" sound (touch sensor).

When the selector knob is moved (not present in Blue Fire TC1 or Pilot 2) the TTE digits show the "C" letter followed by the knob position code for about 2 seconds; Series 9 level shows also "Knob position" on text row while Series 5 / TC5 levels displays it with LEDs "weight" (see description below).

Selecting the factory test cycles			
BLUE FIRE INSPIRATION			In case of Blue Fire levels, to select the factory test cycles: ▪ rotate the Hi-fi selector and wait for related LED feedback for selected position. ▪ in case of TC1 level, to select the factory test cycles press button in position 1 to increase from 1 to 10 (where 10 is position for last 3 alarms visualization), press button in position 2 to decrease from 10 to 1.
AEG PERFEKT 10			In case of Aeg Perfekt 10 levels, to select the factory test cycles: ▪ turn program selector dial to a position. ▪ rotate the Hi-fi selector and wait for related LED feedback for selected position.

PILOT 2		In case of Pilot 2 levels, to select the factory test cycles press Program button to increase from 1 to 10 (where 10 is position for last 3 alarms visualization), press Dryness button to decrease from 10 to 1.
POne		In case of POne levels, to select the factory test cycles: ▪ turn program selector dial to a position ▪ rotate the Hi-fi selector and wait for related LED feedback for selected position.
DIAMOND / INDIGO CORE		In case of Diamond / Indigo Core levels, to select the factory test cycles: ▪ turn program selector dial to a position

Ruby		In case of Ruby, to select the factory test cycles: ▪ turn program selector to a position. ▪ rotate the Hi-fi selector and wait for related LED feedback for selected position.

Information

Enter "last alarm display" or "electric test"

After the diagnostic mode was entered, the same combination has the following functions:

- In "last alarm display" selector position (the 10th counting clockwise) the last alarms are cleared.
- In all other positions it sets the "electric test" mode at the next machine switching-on.

Information

Enter "Extended diagnostic program" (**ext**)

- Extended diagnostic programs can be activated in each selector position simply by pressing the Start/Pause button.
  TTE digits show the "d" letter followed by the knob position code for about 2 seconds.
- To switch from extended to normal diagnostic programs and vice versa is enough to press the Start/Pause button.

FOR ANY POSITION THERE IS A DIFFERENT TEST:				
POSITION	VERSION			DESCRIPTION
1	Traditional	HP Vario	HP Niagara	User Interface Test
2	Traditional	HP Vario	HP Niagara	Condense Tank Switch + Condense Tank Pump
3	Traditional	HP Vario		Counter Clockwise drum rotation
			HP Niagara	Counter Clockwise drum rotation + Steamer Heat up
4	Traditional			Clockwise drum rotation (for visual check of the drum)
		HP Vario		Compressor Cooling Fan
			HP Niagara	Compressor Cooling Fan + Steam Generation
5	Traditional			Heater ½ power + Clockwise drum rotation
		HP Vario	HP Niagara	Clockwise drum rotation
6	Traditional			Heater full power + Clockwise drum rotation
		HP Vario	HP Niagara	Compressor ON + Clockwise drum rotation
7	Traditional	HP Vario	HP Niagara	Moisture (Conductive or capacitive) sensor: drum open circuit
8	Traditional	HP Vario	HP Niagara	Moisture (Conductive or capacitive) sensor: drum short circuit
9	Traditional	HP Vario		Condense Tank Switch
			HP Niagara	Condense Tank Switch + Steamer Emptying + Steam Tank Level
9 ext	Traditional	HP Vario	HP Niagara	Niux/WI-FI test
10	Traditional	HP Vario	HP Niagara	Last alarm display and possible reset

Information
Test cycles

The test cycles are working only if:
- There is no communication error between main board and user interface.
- The machine is configured with a valid configuration (no configuration alarm).

- In case of MB-UI communication alarm, the only test available is the user interface test, because the user interface can be tested alone only supplying the 12 Volts.
- Pressing together the key combination during one of the diagnostic cycles (from position 2 to 9) the machine will set in electric test mode at the next power on.
- Pressing together the key combination in the last alarm display position (10), the alarm codes that were stored in memory will be reset.
- Pressing another valid key combination (the ones configured for Child Lock, Conductivity level, Tank warning...) during one of the diagnostic cycles (from position 2 to 9) the factory default settings are restored, that is:
  - disable permanent modes/options such as Child Lock, Buzzer;
  - clear memories for Series 9 level or TC1/TC2 levels.

During the test the LCD will show some data concerning the cycle being performed. The details are explained in the following tables, which also specify, for each selector position, the purpose of the associated test, the components activated and the conditions under that the test is performed. In Series 5 / Pilot 2 TC5 levels the time digits are not present, so some information may not be displayed.

C01 USER INTERFACE TEST	
Selector-test position:	**Position 1** in clockwise direction or in test sequence (TC1). - Counter clockwise direction for Ruby
Purpose of test:	To test the functionality of all lights, switches and buzzer.
Activated components:	All LEDs, LCD display (if present) and buzzer
UI behaviour with display:	All led in sequence, pushing a button correspondent led is lighted on, the key number is showed on LCD and the buzzer sound. All LCD icons blink together ☝ *See the descriptions below*
UI behaviour for S5 / TC5	All led in sequence, pushing a button correspondent led is lighted on and the buzzer sound. ☝ *See the descriptions below*
Working conditions:	There isn't any control to run the test (always active).

14.3 TEST OF OUTPUTS

All visible LEDs are switched on singularly and sequentially for about 300 milliseconds.

In the same way also the 7 segments of the three digits for Series 6 or TC4 displays are lighted on sequentially and then all together to have "8.88".

In POne S6/7/8 and Diamond the display is lit entirely (not in groups) unless a key is pressed.

The icons of LCD displays (not in S5 / TC5, POne S6/7/8 and Diamond) instead are grouped in 5 pre-defined screens switched on sequentially for about 2 seconds; dividing vertically the LCD in 3 areas, the sequence is:

Screen	LCD icons	Associated buttons
1	left side icons on	1 - 6
2	central icons on	2 - 7 (where present)
3	right side icons on	3 - 8 (where present)
4	all icons on	4 - 9 (where present)
5	all icons off	5 - 10 (where present)

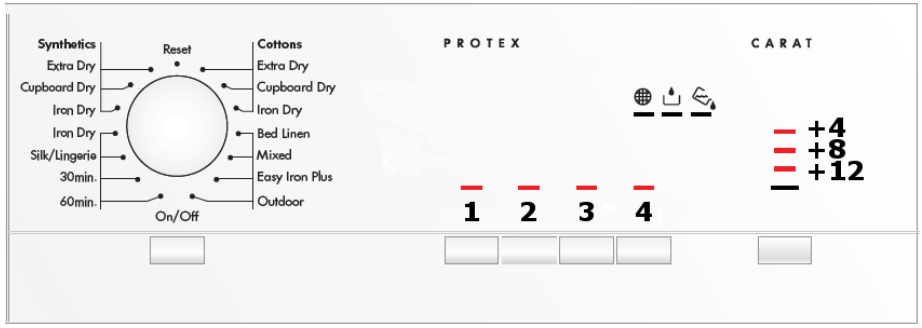
This procedure allows testing the LCD glass, but also the backlight LEDs under the display. The buzzer plays a "beep" sound each time a button is pressed. Test of inputs

Pressing a button the LEDs/LCD icons sequence stops, the associated button LEDs are lighted on, the associated LCD screen is displayed (see table above), the button position is displayed on time digits if screens 1

and 2 (not in Series 5 / TC5); if program LEDs present (Hi-Fi selector), also the light corresponding to button position is switched on (e.g. button 1 – top right LED, button 8 – bottom right LED, button 9 - bottom left LED...).

Moving the selector (not present in TC1 or Pilot 2) the LEDs/LCD icons sequence stops, the display clears and shows only on TTE digits the "C" letter followed by the knob position code (in Series 5 the position is shown for 3 seconds on buttons and status LEDs with a specific coding explained below), and if program LEDs present (Hi-Fi selector), also the light corresponding to knob position is switched on; after about 2 seconds the LEDs/LCD icons sequence restarts if knob left in position 1 or after the 10th, diagnostic info is showed if other position selected.

KNOBS POSITION CODING SYSTEM ON LEDS (SERIES 5)



Each LED has a numeric "weight" as shown on following picture:

Summing the buttons LEDs weight (1,2,3,4) to the weight of one of Status LEDs (4,8,12), the resulting number corresponds to the just selected knob position of main or second selector.

Following table summarizes the LEDs combinations lighted on for each knob position.

Position	OFF	1	2	3
LEDs Lighted on				
Position	**4**	**5**	**6**	**7**
LEDs Lighted on				
Position	**8**	**9**	**10**	**11**
LEDs Lighted on				
Position	**12**	**13**	**14**	
LEDs Lighted on				

C02	CONDENSE TANK SENSOR + PUMP
Selector-test position:	**Position 2** or in test sequence
Purpose of test:	Test condense tank sensor and pump.
Activated components:	Line Safe Relay + if the basement is full of water and the tank sensor recognises the condition, the pump is switched on.
UI behaviour with display:	Water level high: **000** Blinking Water level low: **111** Steady
UI behaviour for S5 / TC5	Water level high: Tank, Condenser, Filter warning LEDs blink Water level low: warning LEDs remain off Phase LEDs are lighted on steady to indicate service mode.
Working conditions:	Door closed (Time out 10 min.).

C03	CCW drum
Selector-test position:	**Position 3** or in test sequence
Purpose of test:	Test drum motor in counter-clockwise direction.
Activated components:	Line Safe Relay + CCW Motor Relay + Tank Pump
UI behaviour with display:	---
UI behaviour for S5:	Only phase LEDs are lighted on steady to indicate service mode.
Working conditions:	Door closed (Time out 10 min.).

C03	CCW drum + Steamer Heat up
Selector-test position:	**Position 3** or in test sequence
Purpose of test:	Test drum motor in counter-clockwise direction.
Activated components:	Line Safe Relay + FCV Power Relay + Tank Pump + Steamer Heater
UI behaviour with display:	**Steamer NTC** temperature Steam phase icon steady on
Working conditions:	Door closed (Time out 10 min.).

C04	CW drum
Selector-test position:	**Position 4** or in test sequence
Purpose of test:	Test drum motor in clockwise direction.
Activated components:	Line Safe Relay + CW Motor Relay
UI behaviour with display:	---
UI behaviour for S5:	Only phase LEDs are lighted on steady to indicate service mode.
Working conditions:	Door closed (Time out 10 min.).

C04	Fan Cooling
Selector-test position:	**Position 4** or in test sequence
Purpose of test:	Test compressor cooling fan
Activated components:	Line Safe Relay + Cooling Fan Triac
UI behaviour with display:	---
Working conditions:	Door closed (Time out 10 min.).

C04	Fan Cooling + Steam Generation
Selector-test position:	**Position 4** or in test sequence
Purpose of test:	Test compressor cooling fan
Activated components:	Line Safe Relay + Cooling Fan Triac + Steamer Heater + Steam Pump
UI behaviour with display:	**Steamer NTC** temperature Steam phase icon steady on
Working conditions:	Door closed (Time out 10 min.).

C05	Heater ½ power + CW drum
Selector-test position:	**Position 5** or in test sequence
Purpose of test:	Test Higher Power Heater Element
Activated components:	Line Safe Relay + CW Motor Relay + Heater 1 (Higher Power Heater Element)
UI behaviour with display:	digits on LCD show **NTC1 (drum outlet)** drying temperature.
UI behaviour for S5:	Only phase LEDs are lighted on steady to indicate service mode.
Working conditions:	Door closed (Time out 10 min).

C05	CW drum
Selector-test position:	**Position 5** or in test sequence
Purpose of test:	Test drum motor in clockwise direction
Activated components:	Line Safe Relay + FCV Power
UI behaviour with display:	digits on LCD show **NTC2 (drum outlet)** drying temperature. if the NTC2 is not mounted the **NTC1(compressor)** temperature is displayed.
Working conditions:	Door closed (Time out 10 min).

C06	Heater full power + CW drum
Selector-test position:	**Position 6** or in test sequence
Purpose of test:	Test both Power Heater Elements
Activated components:	Line Safe Relay + CW Motor Relay + Heater 1 (Higher Power Heater Element) + Heater2 (Lower Power Heater)
UI behaviour with display:	digits on LCD show **NTC2 (heater)** drying temperature.
UI behaviour for S5:	Only phase LEDs are lighted on steady to indicate service mode.
Working conditions:	Door closed (Time out: 10 min).

C06	Compressor + CW drum
Selector-test position:	**Position 6** or in test sequence
Purpose of test:	Test Compressor
Activated components:	Line Safe Relay + FCV Power + Compressor Relay (Compressor Driven at 750W)
UI behaviour with display:	digits on LCD show **NTC1 (compressor)** drying temperature.
Working conditions:	Door closed (Time out: • models produced before 2019: 30sec • models produced after 2019: 20min).

C07	Conductive/Capacitive open circuit
Selector-test position:	**Position 7** or in test sequence
Purpose of test:	Verify conductimetric sensor in open circuit condition.
Activated components:	Conductive/capacitive sensor reading
UI behaviour with display:	Test Running: **000** Blinking Test Completed: **1 1 1** Steady
UI behaviour for S5:	Test Running: Tank, Condenser, Filter warning LEDs blink Test Completed: Warning LEDs turn off Phase LEDs are lighted on steady to indicate service mode.
Working conditions:	Conductive: Open Circuit between two sensor bars Capacitive: empty drum, no items in front of the sensor

C08	Conductive/Capacitive short circuit
Selector-test position:	**Position 8** or in test sequence
Purpose of test:	Verify conductive/capacitive sensor (short circuit condition for conductive sensor).
Activated components:	Conductive/capacitive sensor reading
UI behaviour with display:	Test Running: **000** Blinking Test Completed: **1 1 1** Steady
UI behaviour for S5:	Test Running: Tank, Condenser, Filter warning LEDs blink Test Completed: warning LEDs turn off Phase LEDs are lighted on steady to indicate service mode.
Working conditions:	Conductive: Short Circuit between two sensor bars Capacitive: empty drum, no items in front of the sensor.

C09	Condense Tank Sensor
Selector-test position:	**Position 9** or in test sequence
Purpose of test:	Test the tank switch (for assembly line only).
Activated components:	Line Safe Relay + if the basement is full of water and the tank sensor recognises the condition, the pump is switched on
UI behaviour with display:	Water level high: **000** Blinking Water level low: **1 1 1** Steady
UI behaviour for S5:	Water level high: Tank, Condenser, Filter warning LEDs blink Water level low: warning LEDs remain off Phase LEDs are lighted on steady to indicate service mode.
Working conditions:	Door closed (Time out 10 min).

C09	Condense Tank Sensor + Steamer Emptying + Steam Tank Level
Selector-test position:	**Position 9** or in test sequence
Purpose of test:	Test the tank switch (for assembly line only).
Activated components:	If the basement is full of water and the tank sensor recognises the condition, the pump is switched on + Steamer Heater
UI behaviour with display:	Water level high: **000** Blinking Water level low: **1 1 1** Steady Steam phase icon steady on
Working conditions:	Door closed (Time out 10 min).

D09	Niux/WI-FI test
Selector-test position:	**Position 9** or in test sequence + "start/pause" button pressure.
Purpose of test:	To test the Niux board (if present)
Activated components:	Niux board (Wi-fi On/Off).
UI behaviour with display:	The display shows "---" ✐ *Refer to document number 599 81 19-37 paragraph 11. WIFI TEST IN DIAGNOSTIC MODE*
Working conditions:	In the Diagnostic Mode it is possible for the Service to test the Wi-Fi module.

C10	Last alarm display and possible reset
Selector-test position:	**Position 10** or in test sequence
Purpose of test:	Display last alarm and possible reset
UI behaviour with display:	Alarm complete code is showed in the format Exx (E 4 2) on Time to End digits
UI behaviour for S5:	🔴 Red and 🟡 yellow LEDs above Start/Pause button blink alternated according to alarm code

Steamer Empty Tank	
Selector-test position:	**Position 2-9** or in test sequence
Detailed description:	If the reed of steam tank is on void position, related icon on LCD blinks

15 WARNINGS

In electronic platforms: **EDR12, EDR14, EDR 16** in normal functioning mode, **to final user are shown only those warnings that he is able to manage** without the attendance of after sales service personnel. In case of **EDR10** all alarms codes are shown.

These warnings are not considered permanent machine faults, but normally temporary faults due to carelessness of the user.
Such warnings are highlighted by using LED, turning on an icon on the display:

-  - **fill the water container for steam system**
-  - **clean the steam system filter**
-  - **drain the water container**
-  - **clean filter**
-  - **do the check of the heat exchanger**

or displayed with a specific message in the text line:

- ***"Close the door"*** **- cycle started with door opened**
- ***"Check the load"*** **- cycle started without laundry**
- ***"Unstable mains supply"*** **+ *"EH0"* on time digits**
- ***"See user manual"*** **+ specific alarm code on time digits**

There are also other alarms that stop machine and cannot be managed by the final user, that are requested to be shown:

- *E5A* - FCV Board overheating
- *E6A* - VSC Board overheating
- *E97* - Missing Program on CTF Alarm
- *EH1 (EB1)* - Power Supply Frequency out of Range
- *EH2 (EB2)* - Power Supply Amplitude out of Range (too HIGH)
- *EH3 (EB3)* - Power Supply Amplitude out of Range (too LOW)
- *EC6* - Steamer Heater Sensing Alarm
- *ECA* - Possible Empty Steam Tank

All the other warnings are not showed to final user because in many cases they are "false alarms" due to temporary abnormal conditions that the user sometimes neither notices and that could be simply solved switching off the machine.

The complete set of alarms is showed only in diagnostic mode for final test in factory assembly line or for after sales service personnel.

Information
Warnings

- Buzzer sounds (regardless of configuration) on alarm presence only for warnings that are shown to final user, mains supply alarms excluded (EH0).
- Buzzer sounds (also if deactivated by customer via buttons combination) with a specific sequence of 3 short beeps about every 20 seconds for maximum 5 minutes.
- Stand-by mode is disabled on alarm presence only for warnings that are shown to customer.
- Warning code is displayed as long as the fault condition is present.
- For the these codes EH1(EB1), EH3(EB3), the alarm puts the machine in pause state:
  - **DIGITS DISPLAY**
    the Start/Pause button **yellow** / **white** (Blue Fire); **red LED** (AEG Perfekt 10); **yellow** (Pilot2) **LED** blinks continuously.
  - **NO DISPLAY**
    the **yellow** (Blue Fire, Pilot2) / **red** (AEG Perfekt 10) **LED** is off, while the **alarm red LED** (Blue Fire, Pilot2) **/ yellow LED** (Perfekt 10) under Start/Pause button blinks continuously for almost all warnings, except for "Software Configuration", "Boards Communication" and "Mains Supply"alarms.

  The blinking times for the LED are: 0.5 sec lighted on, 0.5 sec lighted off.

- In some rare cases, other warning codes could be displayed to the customer, such as E91 – communication failure between electronic boards; in this case if failure repeats after unplugging/plugging machine, after sales service needs to be contacted.
- Alarm complete code is shown if the alarm belongs to the "Software Configuration" family, that includes also "Boards Communication" alarm, and "Mains Supply" family; this is in order to give the final user a valid indication of the alarm even if the configuration itself (needed to operate LEDs and Display) is damaged or missing.

DIGITS DISPLAY

For **Blue Fire TC4, TC3, TC2 ; Perfekt 10 SERIES 6 7 8 ; Pilot2 TC4 TC2 ; POne , Diamond,** Indigo Core warnings are displayed on the **7-segments digits** display used to show the cycle time.

A specific code appears on digits while the buzzer sounds (also if deactivated by customer via buttons combination) with a specific sequence of 3 short beeps about every 20 seconds for maximum 5 minutes.

After the problem has been solved, pressing Start/Pause push button the warning code is not showed anymore, buzzer stops sequence and cycle restarts.

Standard warnings codes that can be showed to final user, with related actions to perform, are the following:

Displayed code	Warning condition
E5A	*FCV Board overheating*
E6A	*VSC Board overheating*
E97	*Missing Program on CTF Alarm*
EH1 (EB1)	*Power Supply Frequency out of Range*
EH2 (EB2)	*Power Supply Amplitude out of Range (too HIGH)*
EH3 (EB3)	*Power Supply Amplitude out of Range (too LOW)*
EC6	*Steamer Heater Sensing Alarm*
ECA	*Possible Empty Steam Tank*

Alarm example	
Blue Fire / Pilot2	Perfekt 10 / POne
	

For **Blue Fire TC1** ; **Perfekt 10 SERIES 9** warnings are displayed with a specific message in the text line and, like other UI levels, the buzzer sounds (also if deactivated by customer via buttons combination) with a specific sequence of 3 short beeps about every 20 seconds for maximum 5 minutes.

The displayed text messages are:

Warning code	Displayed Text message	Fault condition
	"Check the load"	*Cycle started without laundry*
	"Close the door"	*Cycle started with door opened*
EH0	*"Unstable mains supply" + "EH0" on time digits*	*Irregular net mains voltage/frequency*
	"See user manual" + specific alarm code on time digits	

For the first two codes, after the problem has been solved, pressing Start/Pause push button the warning message is not showed anymore, buzzer stops sequence and cycle restarts.

NO DISPLAY

All foreseen warnings are showed by flashing of **alarm red LED** 🔴 (Blue Fire, Pilot2) **/ yellow LED** 🟡 (AEG Perfekt 10) integrated on Start/Pause push button: **it starts flashing when the alarm occurs and blinks continuously as long as the fault condition is present.**

The blinking times for the LED are: **0.5 sec** lighted **on**, **0.5 sec** lighted **off**.

The warnings of faults that can be solved by final user are highlighted by using also status LEDs, to facilitate recognizing the fault type: the **status LED associated to warning code blinks together with red alarm LED** 🔴 (Blue Fire, Pilot2) **/ yellow alarm LED** 🟡 (AEG Perfekt 10).

Alarm complete code is shown if the alarm belongs to the "Software Configuration" family, that includes also "Boards Communication" alarm, and "Mains Supply" family. In case of **Blue Fire** TC5, **Perfekt 10** Series 5 or **Pilot2** TC5 levels, red and yellow LEDs above Start/Pause button blink alternated according to alarm code, for example:

🔴 **Red LED** (Blue Fire, Pilot2) **/** 🟡 **Yellow LED** (AEG Perfekt 10) : 9 blinks - that is "Configuration" family standard number

🟡 **Yellow LED** (Blue Fire, Pilot2) **/** 🔴 **Red LED** (AEG Perfekt 10) : many times as alarm number (E 9 **1** → one time, E 9 **3** → three times)

After the problem has been solved, pressing Start/Pause push button the warning is not showed anymore, alarm LED is lighted off, status LEDs go back to normal function and Start/Pause button **yellow LED** 🟡 (Blue Fire, Pilot2) **/ red LED** 🔴 (AEG Perfekt 10) goes on again.

16 ALARMS

One of the main requirements of the diagnostic system is to be transparent to the final user except for some most common warnings.

To increase the flexibility of the system it was introduced the possibility to enable/disable the alarms display by the machine configuration in order to cover requirement as field test context, particular countries requirement …

All alarms display is enabled during diagnostic test/cycles. They are displayed on the TTE digits of the display (if available) and on the red/yellow LEDs mounted beside the START key.

If the TD is in normal mode and an alarm must be displayed:

- The START Led (🟡 yellow for all Perfekt 10 or 🔴 red for all others) blinks (not in POne, Diamond and Indigo Core) regularly with a cadence of 0.5 s on – 0.5 s off.
- If a display is present the error code is drawn in the TTE digits using the format "E" + alarm family digit + "0".
  In case of Series 9 or TC1, some alarms considered as final customer warnings are shown only with a specific message on text line.

If the TD is in diagnostic mode and an alarm is raised, its code is always shown regardless of the configuration.

On Perfekt 10 Series 5 or TC5 Pilot 2 the indication is given by following blinks of both yellow and red START Leds:

🟡 the yellow one blinks as many times as the family digit of the alarm,

🔴 then the red one blinks as many times as the family code. The cadence is led on for 0.5 s – led off for 0.5 s; the sequences on the two leds are separated by a short pause. On platforms provided with a LCD the "Exx" (E20, E30, etc) indication is shown as well in the TTE digits area.



Information

"Eb3" is shown like "EH3"

Please note that writing an alarm code on the LCD panels, all occurrences of "b" are replaced by "H" in order to avoid mistaking the "6" symbol, so for instance "Eb3" is shown like "EH3".

16.1 LAST ALARM READING AND RESET

The alarm indication is also used when the user interface (UI) enters LAST ALARM mode, that is when the user pushes the "special key" combination while the board is in normal mode or when the main knob is set to the 10th position while the board is in diagnostic mode.

Information
"last alarm reading and reset"

- While this mode is set in diagnostic mode, it's possible to read the code of the three latest alarms, starting from the most recent.
- Each time the leftmost key (Perfekt 10 or Pilot 2 levels) or upper button (Blue Fire levels) in the "special key" combination is pressed, the UI starts displaying the following alarm code among those stored in memory. So, if this button is pressed once while the last alarm was being displayed, the last but one alarm is displayed instead; after the key is pressed again, the last but two alarm code is shown.
- Pressing at any time the START/PAUSE button in the "special key" combination the displayed sequence comes back at once to the latest alarm.
- If the mode is entered by pressing the "special key" while the board is in normal mode, the UI displays only the last alarm. The mode exits if any of the keys from "special key" combination is pressed.
- It's possible to reset Last alarm pressing the defined key combination (START/PAUSE and the closest one for every UI) when in Diagnostic mode with selector in 10th position.

17 ALARMS TABLE

The alarm codes listed in the table below are divided by platform: **EDR10**, **EDR12**, **EDR14 EU**, **EDR16**.

Information
"Enable in setup", "Enable", "Display"

- Enable in setup – an alarm can be active during cycle selection
- Enable – an alarm can be available or not
- Display – an alarm can be displayed to end user or not

Enable in setup	Enable	Display	Description
YES			an alarm is active also when machine is in idle (during cycle selection, before cycle start) not only during cycle execution
	NO		an alarm is not available, it is not saved neither shown to both end user and service
		NO	▪ end user - an alarm is not shown ▪ service - if alarm is enabled it is saved in the history and shown in service mode
	YES	NO	an alarm is available: ▪ end user - an alarm is not shown ▪ service - an alarm is saved in the history and shown in service mode
	YES	YES	an alarm is available, saved in the history and shown to both end user and service

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	
E21	Condense Pump Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	1. Tank Pump Disconnected (Wiring or Connector Failure) 2. Tank Pump Failure 3. Tank Pump Triac Failure (Short Circuit, Diode Mode, Open Circuit) (Main Board Failure)
E22	Condense Pump Sensing Alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Pump Triac Sensing Circuit Failure (Main Board Failure)
E23	Capacitive level sensor alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	-	-	-	Capacitive Level Sensor frequency out of range. 1. Sensor Disconnected (Wiring or Connector Failure) 2. Level Sensor Failure 3. Main Board Failure
E24	HP Fan Sensing Alarm	No Action	-	-	-	YES	YES	NO	-	-	-	-	-	-	Compressor Cooling Fan Sensing Circuit Failure (Main Board Failure)
E31	Conductimetric Sensor Frequency too HIGH	No Action		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	Active only during HUMIDITY SENSOR SHORT CIRCUIT diagnostic. The oscillation Frequency is out of Range (Main Board Failure)
E32	Conductimetric Sensor Frequency too LOW	No Action		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	Active only during HUMIDITY SENSOR SHORT CIRCUIT diagnostic. 1. The Drum is not Shortcutted 2. Wiring Failure 3. The oscillation Frequency is out of Range (Main Board Failure)
E33			-	-	-	-	-	-		YES	NO	-	-	-	Not implemented
E34	Signal read by the sensor is out of range	No Action	-	-	-	-	-	-	NO	YES	NO	NO	YES	NO	The alarm is set if values read by the sensor exceed the thresholds configured in the GCF. Possible causes: 1. sensor board failure 2. wrong assembly of the sensor board
E35	Capacitive moisture sensor board communication alarm	No Action	-	-	-	-	-	-	NO	YES	NO	NO	YES	NO	The alarm is set when the communication between power board and sensor is interrupted for more than 2 seconds. Possible causes: 1. sensor board Failure 2. power board Failure 3. harness/connector failure
E36	Capacitive sensor version incompatible with power board version	No Action	-	-	-	-	-	-	NO	YES	NO	NO	YES	NO	wrong HW/FW version of the sensor board
E45	Door Closed Sensing Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Door Closed Sensing Circuit Failure (Main Board Failure)
E51	Drum Motor Short Circuit Alarm (only for Async Motor)	Stops cycle execution	YES	YES	YES	-	-	-	YES	YES	NO	-	-	-	With Line Safe Relay Open, motor sensing detects voltage on motor. 1. Motor Short Circuit to ground (Motor or Wiring) 2. Electrical Noise 3. Line Safe Relay Problem (Main Board Failure)

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	
E52	Drum Motor Alarm (only for Async Motor)	Stops cycle execution	YES	YES	YES	-	-	-	YES	YES	NO	-	-	-	1. Drum Motor Disconnected (Wiring or Connector Failure) 2. Drum Motor Capacitor (disconnected or broken) 3. Drum Motor Failure 4. Drum Motor Triac Failure (Short Circuit, Diode Mode, Open Circuit) (Main Board Failure)
E53	Drum Motor Sensing Alarm (only for Async Motor)	Stops cycle execution	YES	YES	YES	-	-	-	YES	YES	NO	-	-	-	Drum Motor Triac Sensing Circuit Failure (Main Board Failure)
E54	Drum Motor Blocked Alarm (only for Async Motor)	Pauses cycle execution		YES	YES	-	-	-	NO	YES	NO	-	-	-	1. Too much load into the drum 2. Too low power supply voltage 3. Drum/Motor mechanical abnormal frictions 4. Drum Motor Capacitor (disconnected or broken) 5. Drum Motor Failure
E55	FCV Safety Alarm	Stops cycle execution		YES	YES		YES	NO		YES	NO	NO	YES	NO	Not implemented
E56	FCV motor plug not connected	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. Motor Wiring 2. Motor Windings 3. FCV Board
E57	FCV Current Trip Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV Board - Motor Wiring 2. Motor Connector 3. FCV Board
E58	FCV over current Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV Board - Motor Wiring 2. Motor Connector 3. Motor mechanical blockage 4. FCV Board
E59	FCV - motor not following	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV Board - Motor Wiring 2. Motor Connector 3. Motor mechanical blockage 4. FCV Board
E5A	FCV Board overheating	Stops cycle execution		YES	YES		YES	YES	NO	YES	YES	NO	YES	YES	1. Motor mechanical blockage 2. FCV Board
E5B	FCV under voltage Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. Main Board - FCV power supply wiring 2. FCV Board Failure
E5C	FCV over voltage Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV BOARD Failure
E5D	FCV Failure	No Action		YES	YES		YES	NO		YES	NO	NO	YES	NO	Not implemented

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	
E5E	FCV unknown message Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. Main Board - FCV communication wiring 2. Main Board - FCV power supply wiring 3. Motor Thermal Cutoff 4. Main Board or FCV Board Failure
E5F	FCV Failure	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV BOARD Failure
E61	Compressor Hardware Failure	Stops cycle execution	-	-	-		YES	NO		YES	NO	NO	YES	NO	VSC Board
E62	Heater/Compressor Short Circuit Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	With Line Safe Relay Open, motor sensing detects voltage on heaters. 1. Heater/Compressor Short Circuit to ground Heaters or Wiring) 2. Electrical Noise 3. Line Safe Relay Problem (Main Board Failure)
E63	Heater/Compressor Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	1. Heater/Compressor Disconnected (Wiring or Connector Failure) 2. Heater/Compressor Failure 3. Heater/Compressor Relay Failure (Short Circuit, Open Circuit)
E64	Heater/Compressor Sensing Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Heater/Compressor Sensing Circuit Failure (Main Board Failure)
E65	VSC Safety Alarm	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	
E66	VSC motor plug not connected	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. Motor Wiring 2. Motor Windings 3. VSC Board
E67	VSC Current Trip Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. VSC Board - Motor Wiring 2. Motor Connector 3. VSC Board
E68	VSC over current Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. VSC Board - Motor Wiring 2. Motor Connector 3. Motor mechanical blockage 4. VSC Board
E69	VSC - motor not following	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. VSC Board - Motor Wiring 2. Motor Connector 3. Motor mechanical blockage 4. VSC Board
E6A	VSC Board overheating	Stops cycle execution	-	-	-		YES	YES	-	-	-	NO	YES	YES	1. Motor mechanical blockage 2. VSC Board
E6B	VSC under voltage Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. Main Board - VSC power supply wiring 2. VSC Board Failure
E6C	VSC over voltage Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. VSC BOARD Failure

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	
E6D	VSC Failure	No Action	-	-	-		YES	NO	-	-	-	NO	YES	NO	
E6E	VSC unknown message Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. Main Board - VSC communication wiring 2. Main Board - VSC power supply wiring 3. Main Board or VSC Board Failure
E6F	VSC Failure	Stops cycle execution	-	-	-		YES	NO	-	-	-	NO	YES	NO	1. VSC BOARD Failure
E71	Drying NTC Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	NTC1 reading out of Range 1. Wiring Failure 2. NTC Failure 3. NTC reading circuit Failure (Main Board Failure)
E72	Heaters NTC Alarm	Stops cycle execution	-	-	-	YES	YES	NO	YES	YES	NO	YES	YES	NO	NTC2 reading out of Range 1. Wiring Failure 2. NTC Failure 3. NTC reading circuit Failure (Main Board Failure)
E73	Steamer NTC Alarm	Stops cycle execution	-	-	-	YES	YES	NO		YES	NO	YES	YES	NO	NTC3 reading out of Range 1. Wiring Failure 2. NTC Failure 3. NTC reading circuit Failure (Main Board Failure)
E82			-	-	-	-	-	-		YES	NO	-	-	-	Not implemented
E83	Selector Position Code Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	The code read on the selector is not supported by the configuration data (UI Board Failure)
E86	Selector configuration table error	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	1. Wrong selector configuration (MCF) 2. User Interface Failure
E87	UI board microcontroller self test failure	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	UI board microcontroller defective
E91	User Interface Communication Alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	1. Wiring Failure 2. User Interface Board Failure 3. Main Board Failure
E92	User Interface Protocol Incongruence Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	The User Interface mounted is not compatible with the Main Board connected
E93	MCF Checksum Alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Wrong Machine Configuration File
E94	CCF Checksum Alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Wrong Cycle Configuration File

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	
E97	Missing Program on CTF Alarm	Stops cycle execution	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	1. Wrong selector configuration (MCF) 2. Missing cycle on cycle table (CCF)
E98	FCV/Power Board protocol incongruence	Stops cycle execution		YES	YES		YES	NO	NO	YES	NO	NO	YES	NO	1. FCV Board 2. Main Board Configuration
E99	Coin meter absent (removed) alarm	Don't allow cycle execution	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	1. Wiring Failure 2. Coin meter Board Failure 3. Main Board Failure
E9C	User Interface configuration checksum alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	
E9E	User Interface touch sensor not working	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	One or more touch buttons have calibration problems. 1. Electrical noise 2. Humidity/water on UI board 3. UI board defective
EAA	NIU SSH serialization alarm	NIU board disabled	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	Missing NIU serialization: PNC/ELC/SN data missing (from Factory or Service) or manufacturing not ok: SSH protocol of NIU is not "sealed"
EAB	NIU communication alarm	No Action	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	1. Wiring between UI and NIU board defective 2. NIU Board Failure 3. UI board Failure
EAC	NIU always ON	No Action	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	NIU board always powered: - UI or NIU board failure
EAD	Serialization mismatch	Connectivity disabled	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	Serialization data not aligned between boards
EH1 (EB1)	Power Supply Frequency out of Range	Pauses Cycle execution	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	1. Power Supply Problems 2. Wrong MCF 3. Main Board failure
EH2 (EB2)	Power Supply Amplitude out of Range (too HIGH)	No Action	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	1. Power Supply Problems - Too HIGH VOLTAGE 2. Wrong MCF 3. Main Board failure
EH3 (EB3)	Power Supply Amplitude out of Range (too LOW)	Pauses Cycle execution	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	1. Power Supply Problems - TOO LOW VOLTAGE 2. Wrong MCF 3. Main Board failure
EH4 (EB4)	Zero Watt Relay Alarm	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Zero Relay does not open the power supply (Main Board Failure) The machine functionality is not affected by this fault, on the consumption in standby is higher
EHD (EBD)	Line Safe Short Circuit Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	With Line Safe Relay Open, motor sensing detects voltage coming form any load. 1. Any Load Short Circuit to ground (Motor, Heaters or Wiring) 2. Electrical Noise 3. Line Safe Relay Problem (Main Board Failure)

CODE	FULL NAME	ACTION	EDR10			EDR12			EDR14 EU			EDR16			DESCRIPTION
			Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	
EHE (EBE)	Line Safe Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Line Sage Relay Problem (Main Board Failure)
EHF (EBF)	Line Safe Sensing Alarm	Stops cycle execution	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Line Safe Sensing Circuit Failure (Main Board Failure)
EC3	Steamer Heating Timeout	No Action	-	-	-	NO	YES	NO	-	-	-	NO	YES	NO	
EC4	Steamer Heater Short Circuit Alarm	Stops cycle execution	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	
EC5	Steamer Heater Alarm	Stops cycle execution	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	
EC6	Steamer Heater Sensing Alarm	Stops cycle execution	-	-	-	YES	YES	YES	-	-	-	YES	YES	YES	Steamer Heater Sensing Circuit Failure (Main Board Failure)
EC7	Steamer Pump Alarm	Stops cycle execution	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	
EC8	Steamer Pump Diode Alarm	No Action	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	
EC9	Steamer Pump Sensing Alarm	Stops cycle execution	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	Steamer Pump Sensing Circuit Failure (Main Board Failure)
ECA	Possible Empty Steam Tank	No Action	-	-	-	YES	YES	YES	-	-	-	YES	YES	YES	
ED1	HP fan alarm (only for HP version)	Stops cycle execution	-	-	-	-	-	-	YES	YES	NO	-	-	-	
ED2	HP Fan Sensing Alarm (only for HP version)	No Action	-	-	-	-	-	-	YES	YES	NO	-	-	-	Compressor Cooling Fan Sensing Circuit Failure (Main Board Failure)
ED3	HP Fan Alarm	Stops cycle execution	-	-	-	-	-	-	-	-	-	YES	YES	NO	
ED4	HP Fan Sensing Alarm	No Action	-	-	-	-	-	-	-	-	-	YES	YES	NO	Compressor Cooling Fan Sensing Circuit Failure (Main Board Failure)
ED5	Low gas pressure in compressor circuit	No action	NO	YES	YES	NO	YES	YES	NO	YES	YES	NO	YES	YES	Possible gas leak in the compressor circuit. The alarm is active only in diagnostic mode for service test. The alarm is set during compressor test (in diagnostic mode) if the compressor or machine temperature, after about 15 minutes, doesn't increase as e
EF6	Safety Reset	No Action	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	NO	Certification protection failure.

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			Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	Enabled in setup	Enable	Display	
EF8	Coin meter communication alarm	No Action	-	-	-	YES	YES	NO	-	-	-	YES	YES	NO	1. Wiring Failure 2. Coin meter Board Failure 3. Main Board Failure

18 DEFINITION OF TERMS, ACRONYMS AND ABBREVIATIONS

CCF Cycle Configuration File
FCV Filed Controlled Vector, generally used to indicate motor control board
HP Heat Pump
MB Main board, Motherboard
MCF Machine Configuration File
NIU Network Interface Unit
NIUX NIUX is only a specific type of NIU (NIU LinuX version).
NTC Negative Temperature Coefficient
PCB Printed Circuit Board
TD Tumble Dryer
UI User Interface
VSC Variable Speed Compressor