ENV 06

Update Electronics
Service Mode and Alarms

Electrolux

ENV 06 Introduction

- ENV 06 = Electrolux New Vision 2006

- New electronic platform for washing machines and tumble dryers

- New design for all Electrolux household appliances

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The ENV06 platform involves mainly 5 electronics boards:

- Main electronic board
- Inverter motor control board
- User Interface electronic board
- Wash-Dryer control board
- Steam generator control board

Functional Modes

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The machine can work in several functional modes:

- User mode

- Demo mode

- Electric test mode

- Special function mode

- Diagnostic mode

- Remote controlled mode

Functional Modes

Remote controlled mode 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

Demo mode is used in the shops to show to the customer how to set and execute a cycle without load/draining water.

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

Electric test mode is used, on assembly line, to perform the electric safety tests according the International Standards.
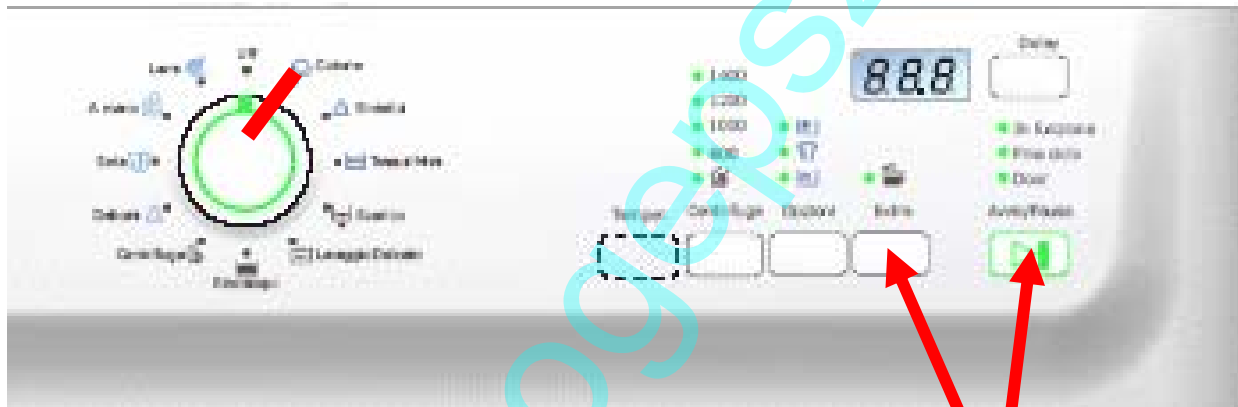
Diagnostic mode is used by service/lab people to test the machine, read/reset alarms.

The key combination to enter in these functional modes can be configured.

Diagnostic Mode

Program selector
In position 1

Standard key combination

Demo Mode

**Program selector
In position 3**

**Standard key
combination**

Attention: To end the demo mode switch off the machine.
For Top loaders: Deactivate demo mode in same way like it
was activated or start diagnostic mode.

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**Program selector
In position 5**

**Standard key
combination**

Diagnostic Mode

Diagnostic program definition:

In the 1st selector position the User Interface test is performed; all LEDs are lighted sequentially, and pressing any key the corresponding LED column is lighted.
For LCD user interfaces a special sequence is performed in order to test all icons and other symbols. The TTE digits show the "C" letter followed by the HW knob code unless a key is being pressed; in such case, the key code is shown instead of the knob code.

Diagnostic Mode

Moving in clockwise direction, for any position there is a different test:

Position 1: User interface test
Position 2: Water load from wash compartment.
Position 3: Water load from prewash compartment.
Position 4: Water load from softener compartment.
Position 5: Water load from 3rd valve.
Position 6: Wash heater activation.
Position 7: Spin phase at 250 rpm with water in the tub
            (leakage test).
Position 8: Drain and spin phase at maximum spin speed.
Position 9: Level sensor calibration and drying phase or drum
            positioning (for top-loaders).
Position 10: Last alarm display and possible reset.

Alarm Memory With Last 3 Alarms

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It is possible to read the last 3 happened alarms in the service mode.

Default in this alarm memory selector position is the last happened alarm.

With pressing the left key of the standard key combination, the second last happened alarm will be shown.
And after pressing this left key again, then the third last happened alarm will be shown.

Pressing the right key of the standard key combination at any time will immediately show the last happened alarm again.
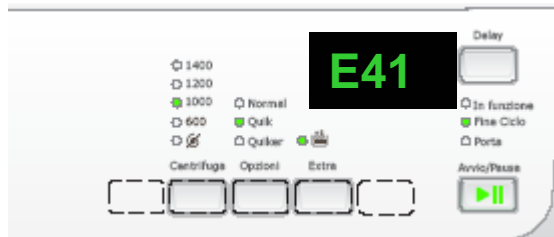
Pressing both keys simultaneously will delete the alarm memory.

Alarm Memory With Last 3 Alarms
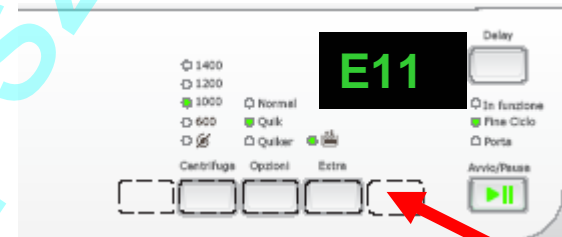
Programme selector is in alarm memory position in diagnostic mode!

last happened alarm

E41

second last happened alarm

E11

Press button left of Start/Pause

third last happened alarm

E52
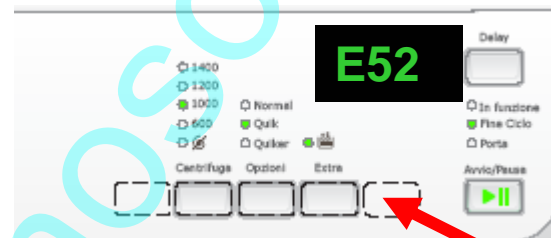
Press button left of Start/Pause

Alarm Memory With Last 3 Alarms

Programme selector is in alarm memory position in diagnostic mode!

Press button Start/Pause
Then the last happened
alarm will be displayed
again
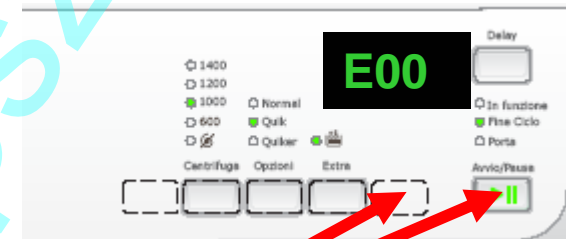
Press standard key combination
to delete all alarms

Programme Selector Position For Alarm Memory

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Washing machines and washer&dryers: Selector position **10**

Tumble dryers: Selector position **11**

Heat pump dryers: Selector position **10**

Clothes refreshment machine:　Selector position **12**

Alarm Table

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The present alarm table for ENV06 washing machines is added in this presentation.

Attention:

On the time to end displays of the appliances the alarm family **EB0** will be shown as **EH0**

This is a reaction of the reading errors **E60** because **EB0** was shown as **Eb0**

Alarm Family E10

E11: Water load problems during **washing** cycle
E12: Water load problems during **drying** cycle
E13: Water leakage

Possible fault:

Water tap closed	**E11**, **E12**
Water flow too low	**E11**, **E12**, **E13**
Wrong drain pipe position	**E11**, **E12**, **E13**
Water inlet valve defective	**E11**, **E12**, **E13**
Air trap system leaking	**E11**, **E12**, **E13**
Air trap system clogged	**E13**
Pressure sensor defective	**E11**, **E12**, **E13**
Wiring or main board defective	**E11**, **E12**

Alarm Family E20

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E21: Water drain problems during **washing** cycle
E22: Water drain problems during **drying** cycle
E23: Drain pump triac failure
E24: Drain pump triac sensing failure

Possible fault:

Drain pipe blocked up	**E21, E22**
Blocked/dirty filter	**E21, E22**
Drain pump defective	**E21, E22, E23**
Pressure sensor defective	**E21, E22**
Current leakage to earth on heater	**E21, E22**
Wiring or main board defective	**E21, E22, E23, E24**

Alarm Family E30

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E31: Electronic pressure sensor failure
E32: Electronic pressure sensor calibration problems
E35: Water overload
E38: Air trap system clogged
E3A: Heating relais sensing failure
Possible fault:

Pressure sensor defective	**E31**, **E32**, **E35**
Wiring or main board defective	**E31**, **E32**, **E35**, **E3A**
Water tap closed or water flow too low	**E32**
Water inlet valve defective	**E22**, **E35**
Air trap system leaking	**E32**, **E35**
Air trap system or pressure sensor pipe clogged	**E38**
Motor belt broken	**E38**

Alarm Family E40

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E41: Door opened
E42: Door lock device failure
E43: Door lock device triac failure
E44: Door closed sensing failure
E45: Door triac sensing failure

Possible fault:

Door lock device defective	**E41**, **E42**, **E43**
Wiring or main board defective	**E41**, **E42**, **E43**
Current leakage to earth on heater	**E42**
Main board defective	**E44**, **E45**

Alarm Family E50 Universal Motor

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E51: Motor triac short circuit
E52: Bad/no signal from tachometer
E53: Motor triac sensing failure
E54: Motor relay burned (always closed)

Possible fault:

Main board defective	**E51**,	**E53**,	**E54**
Current leakage on motor/wiring	**E51**,		**E54**
Motor defective	**E51**, **E52**		
Motor wiring or electronic board	**E52**		
Motor protector opened	**E52**		

Alarm family E50 Inverter Board

E57: High current on Inverter board (>15A)

E58: High current on motor phase (>4.5A)

E59: No tacho signal from tachometer for 3 seconds

E5A: High temperature on heat sink (>88°C) or NTC open

E5B: Under voltage:DC bus voltage below 175V

E5C: Over voltage: DC bus voltage higher than 430V

E5D: Unknown message received by Inverter electronic

E5E: Communication problem between main board and Inverter board

E5F: Inverter electronic defective (board continuously in reset)

Alarm family E50 Inverter Board

Possible fault:

Main board or Inverter board or wiring defective	**E5E**, **E5F**
Overload condition, NTC open, Inverter board defective	**E5A**
Motor defective	**E57**, **E58**, **E59**
Motor wiring or Inverter board	**E57**, **E58**, **E59**, **E5B**, **E5C**
Transmission line noisy/ wiring problems	**E5D**

Alarm Family E60

E61: Insufficient heating during washing cycle
E62: Overheating during washing cycle
E66: Heating element relais failure
E68: Ground current leakage

Possible fault:

Main board or wiring defective	**E61**, **E62**
Washing NTC defective	**E61**, **E62**
Heating element defective	**E61**, **E62**
Main board defective	**E66**
Current leakage to earth on heater	**E68**
Circulation pump triac in short circuit	**E66**

E71: Washing NTC failure (value out of limit)
E72: Output drying NTC failure (value out of limit)
E73: Input drying NTC failure (value out of limit)
E74: Washing NTC in wrong position (temperature does not
   increase)

Possible fault:

Main board or wiring defective   **E71**, **E72**, **E73**
Washing NTC defective   **E71**
Output drying NTC defective   **E72**
Input drying NTC defective   **E73**
Washing NTC out of its correct   **E74**
position in the tub

Alarm Family E80

E82: Wrong selector reset position detection
E83: Wrong selector code reading

Possible fault:

Main board defective   **E82, E83**
Wrong configuration data on EEPROM **E82, E83**

Alarm Family E90

E91: User interface – main board communication error
E92: User interface – main board protocol incongruence error
E93: Machine configuration error
E94: Cycle configuration error
E95: Micro processor – external EEPROM communication error
E97: Incongruence between selector and cycle configuration
E98: Inverter board – main board protocol incongruence error

Possible fault:
Main board defective   **E91**,**E93**, **E94**, **E95**
Main board incompatible with user interface **E92**
User interface defective   **E91**
Wiring defective   **E91**
Wrong configuration data on EEPROM   **E93**, **E94**, **E97**
Main board incompatible with Inverter board **E98**

Alarm Family EA0

EA1: DSP system failure
EA6: DSP door open failure

Possible fault:

Wiring or main board defective	**EA1, EA6**
DSP sensor failure	**EA1, EA6**
Motor belt broken	**EA1, EA6**

DSP = Drum Positioning System

Alarm Family EB0 (EH0 !!!)

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EB1 (EH1): Power supply frequency out of limits
EB2 (EH2): Power supply voltage too high
EB3 (EH3): Power supply voltage too low
EBE (EHE): Line safety relais failure
EBF (EHF): Line safety sensing failure

Possible fault:

Main board defective   **EB1, EB2, EB3, EBE, EBF**
Wrong or disturbed power supply   **EB1, EB2, EB3**
Safety relais defective   **EBE**

Alarm Family EC0

EC1: Electric valves blocked (Flowmeter running with valves switched off)

EC3: Weight sensor failure

Possible fault:

Wiring or main board defective	**EC1**, **EC3**
Valves defective/blocked	**EC1**
Weight sensor defective	**EC3**

Alarm Family EF0

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EF1: Filter clogged warning
EF2: Foam warning
EF3: Aqua control warning
EF4: Water load low pressure
EF5: Wash load too unbalanced

Possible fault:

Filter clogged	**EF1**
Foam detection, overdosed	**EF2**
Water in basement, leakage	**EF3**
Tap closed/low pressure of incoming water	**EF4**
Wash load unbalanced	**EF5**