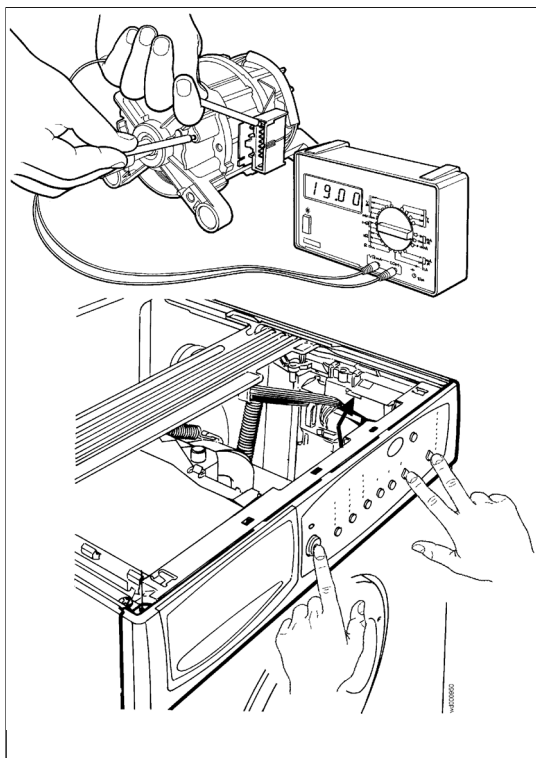




Updates and replaces publication no. 599 33 70-06/2

© ELECTROLUX ZANUSSI S.p.A.
Corso Lino Zanussi, 30
I - 33080 PORCIA /PN (ITALY)
Tel +39 0434 394850
Fax +39 0434 394096

Publication-No.
599 34 05-08
000114
EN/SERVICE/EB

**WASHING MACHINES
WITH EWM2000
ELECTRONIC CONTROL
SYSTEM**

**DIAGNOSTICS AND
CONFIGURATION**

**Stylings:
Ellipse, Alpha,
New Multipanel**

INDEX

Access to the diagnostics and configuration systems	page 4/24
Diagnostics system	page 5/24
Display board diagnostics	page 5/24
Diagnostics cycle	page 6/24
Programme selector	page 8/24
Alarms	page 9/24
Reading the last alarm	page 10/24
Alarm codes	page 11/24
Cancelling the last alarm condition	page 16/24
Configuration of the main PCB	page 17/24
Configuration codes	page 18/24
Examples of configuration	page 19/24
Exiting the diagnostics/configuration system	page 20/24
Basic circuit diagram	page 21/24

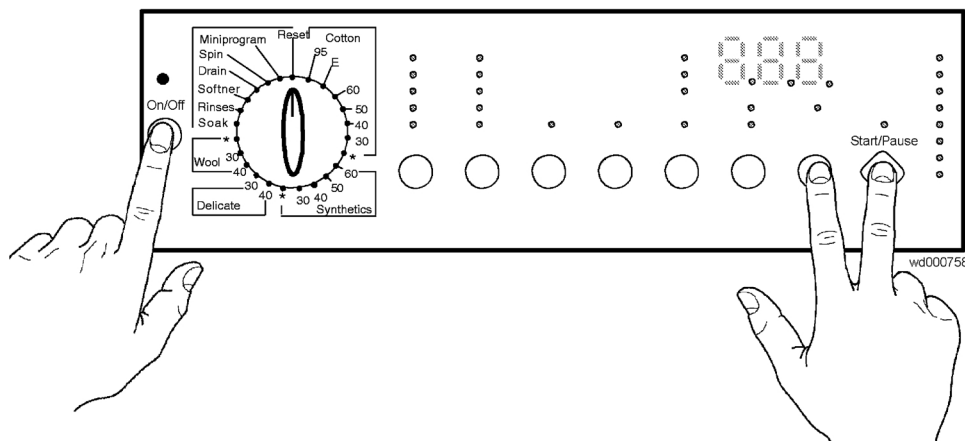
ACCESS TO THE DIAGNOSTICS / CONFIGURATION SYSTEM

Using a single procedure, it is possible to access both the diagnostics and configuration systems. After accessing this function, the following operations can be performed:

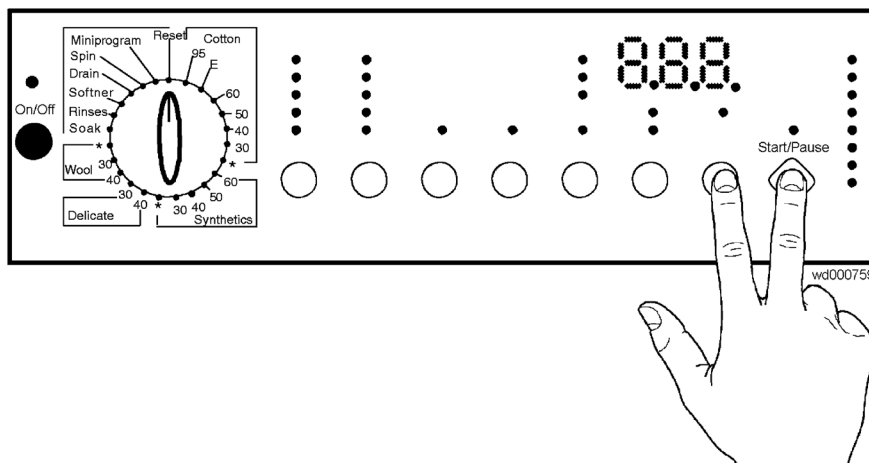
- configuration of the main PCB
- analysis of alarm conditions
- control of the operation of each of the components in the appliance.

To access the system:

- switch off the appliance and turn the programme selector knob to RESET.
- press the START/PAUSE button together with one of the other buttons and then, holding down both buttons, press the ON/OFF button to switch on the appliance.



- hold both buttons down until the buzzer (if featured) sounds and the LEDs begin to flash (about 4 seconds)



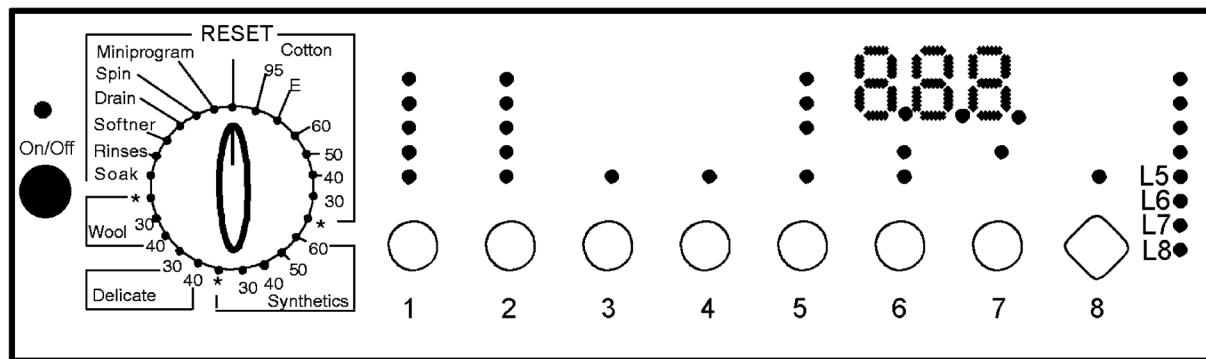
At this point, the display board is checked and the LEDs (and, if featured, the display window) light in sequence.

If the main PCB has not been configured, it is possible only to perform the test on the display board and the configuration procedure.

DIAGNOSTICS SYSTEM

The diagnostics system is used to check the operation of all the components of the washing machine. After accessing the diagnostics routine (see "Access to the diagnostics / configuration system"), the correct operation of each component can be checked by turning the programme selector knob clockwise.

CHECKING THE DISPLAY BOARD



When the knob is in the first position (RESET) (after accessing the diagnostics system), the system checks the display board.

The programme selector code is displayed for the first two seconds on the wash phase indicator LEDs, after which all the LEDs light in sequence (as well as the display, if featured).

When each button is pressed, the corresponding LED lights; the wash phase LEDs (and the display) show the binary code corresponding to the code relative to the button pressed.

Table of button codes

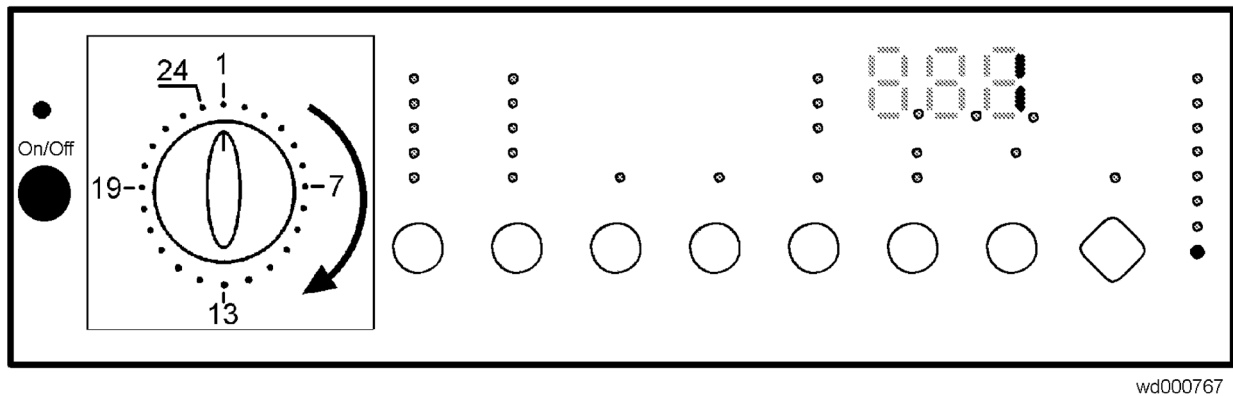
BUTTON NO.		1	2	3	4	5	6	7	8
LED	L5	☐	☐	☐	☐	☐	☐	☐	☒
	L6	☐	☐	☐	☒	☒	☒	☒	☐
	L7	☐	☒	☒	☐	☐	☒	☒	☐
	L8	☒	☐	☒	☐	☒	☐	☒	☐

☐ LED OFF

☒ LED ON

The display board test is performed automatically even if the board is powered while not connected to the main PCB and the programme selector.

DIAGNOSTICS CYCLE



Correct operation of all the components in the appliance can be checked by turning the programme selector knob clockwise.

The diagnostics cycles can be performed only if there is correct communication (connection) between the main PCB and the display board; also, the configuration of the appliance must be correct.

The wash phase LEDs (and the display, if featured) show the binary code representing the closure of the programme selector contacts for two seconds.

After two seconds, all the LEDs switch off and the diagnostics cycle corresponding to the position of the knob is performed.

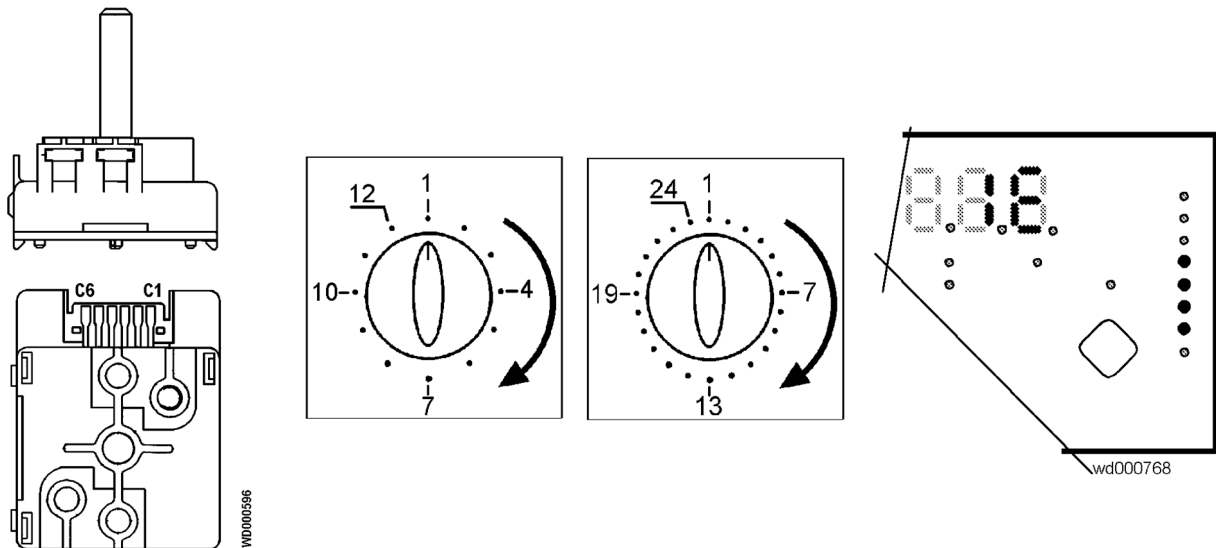
If an alarm condition occurs during the diagnostics cycle, operation of the appliance is interrupted, and the LEDs (and display) show the corresponding alarm code (flashing).

To exit the diagnostics cycle, switch the appliance off, on, and then off again.

DIAGNOSTICS CYCLE PHASES

Knob position	Function tested	Components actioned	Operating conditions	Parameters displayed
1	Operation of the display board	All the LEDs light in sequence. When a button is pressed, the corresponding LED lights and the code is displayed.	Always operative.	----
2	Water fill to wash compartment	- door interlock - wash solenoid	Door closed, water fill to anti-overflow level for max. 10 min	Water level in mm
3	Water fill to pre-wash compartment	- door interlock - pre-wash solenoid	Door closed, water fill to anti-overflow level for max. 10 min	Water level in mm
4	Water fill to conditioner compartment	- door interlock - pre-wash solenoid - wash solenoid	Door closed, water fill to anti-overflow level for max. 10 min	Water level in mm
5	Hot water fill or fill to bleach compartment (certain models only)	- door interlock - hot water or bleach solenoid	Door closed, water fill to anti-overflow level for max. 10 min	Water level in mm
6	Heating (and, in Jetsystem models, circulation)	- door interlock - (wash solenoid if level is lower than the anti-boiling device) - circulation pump (Jetsystem models) - heating element	Door closed, water fill to above anti-boiling level if not yet reached, heating for max. 10 min or to 90°C	Water temperature in °C
7	Check for leaks from tub	- door interlock - (wash solenoid if level is <150mm) - motor	Door closed, water fill above 150mm level if not yet reached, motor until the drum reaches 250 rpm	Motor speed (rpm)
8	Drain and spin, check for pressure switch congruency (DPS drum positioning system for top-loaders)	- door interlock - drain pump - motor - (DPS motor)	Door closed, water drain, motor movement (from lower level to anti-foam level), until maximum spin speed is reached	Motor speed (rpm ÷ 10)
9	Drying (washer/dryers only)	- door interlock - drain pump - drying heater (full power) - fan motor - condensation solenoid	Door closed, water drain to a level lower than the anti-boiling device, drying heater for max. 10 min or until the drying temperature sensor (fitted to the duct) detects a temperature of 150°C	NTC drying temperature sensor and humidity check (in °C, displayed alternately for 2 sec)

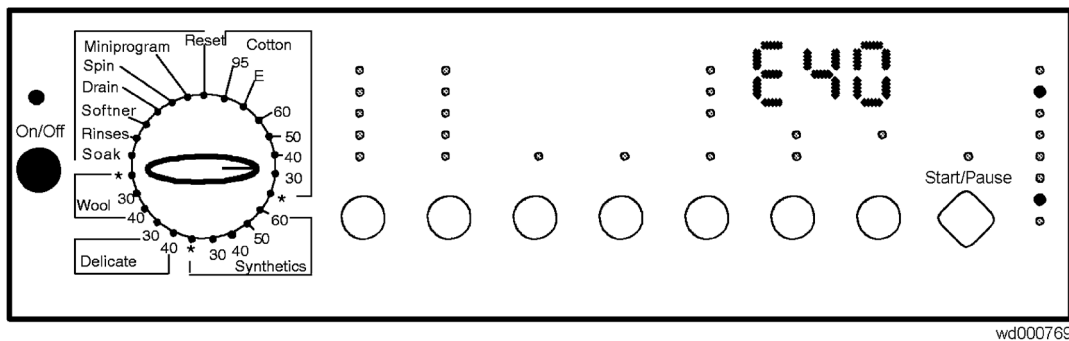
PROGRAMME SELECTOR



The table below shows the closure sequence of contact C6 (common) and the other contacts (C1 - C5) of the programme selector in the various positions, as well as the light-up sequence of the wash phase LEDs.

24-position selector knob	12-position selector knob (C1 not present)	Closure of selector contacts (C6 = common)					Display code
		C1	C2	C3	C4	C5	
1 - Reset	1 - Reset	0	1	1	1	1	1 E
2	2	0	1	0	0	1	0 6
3	-	0	1	1	0	0	1 4
4	3	0	1	0	1	0	0 C
5	-	0	1	1	1	0	1 C
6	4	0	0	0	1	1	0 A
7	-	1	0	0	0	0	0 1
8	-	1	0	0	0	1	0 3
9	-	1	0	0	1	0	0 9
10	5	0	1	0	1	1	0 E
11	-	0	0	1	0	1	1 2
12	-	1	0	0	1	1	0 b
13	-	1	0	1	0	0	1 1
14	-	0	0	1	1	0	1 8
15	6	1	0	1	0	1	1 3
16	-	0	0	1	1	1	1 A
17	7	1	0	1	1	0	1 9
18	8	1	0	1	1	1	1 b
19	-	1	1	0	0	0	0 5
20	9	0	1	1	0	1	1 6
21	-	0	0	0	0	1	0 2
22	10	0	1	0	0	0	0 4
23	11	0	0	0	1	0	0 8
24	12	0	0	1	0	0	1 0

ALARMS



The electronic control unit detects and recognizes any malfunctions in the operation of the appliance, in which case an alarm condition is generated. Alarm conditions may be of three types:

- cycle pause
- cycle blocked
- current phase skipped

Only four alarm conditions are displayed to the user:

- problems with water fill
- problems with drain
- door open
- communication error between the electronic boards, or configuration error.

In the first three cases, the cycle is paused so that the user can, if possible, solve the problem.

The seventh wash phase LED (alarm) flashes; the code relative to the type of alarm flashes on the first four LEDs (and on the display).

For example, in the case of alarm **E41** (door open), the display will show **E40** and, at the same time, the second LED will flash, indicating **4** in binary code. As can be seen from the general alarm code table, **E4..** alarm conditions include all alarms relative to door closure problems:

- **E41:** door open
- **E42:** door interlock malfunction
- **E43, E44, E45:** problems with main PCB or wiring

In the case of communication or configuration errors, the alarm is displayed immediately when the appliance is switched on; in the event of configuration errors, the only possible action is to access the diagnostics system.

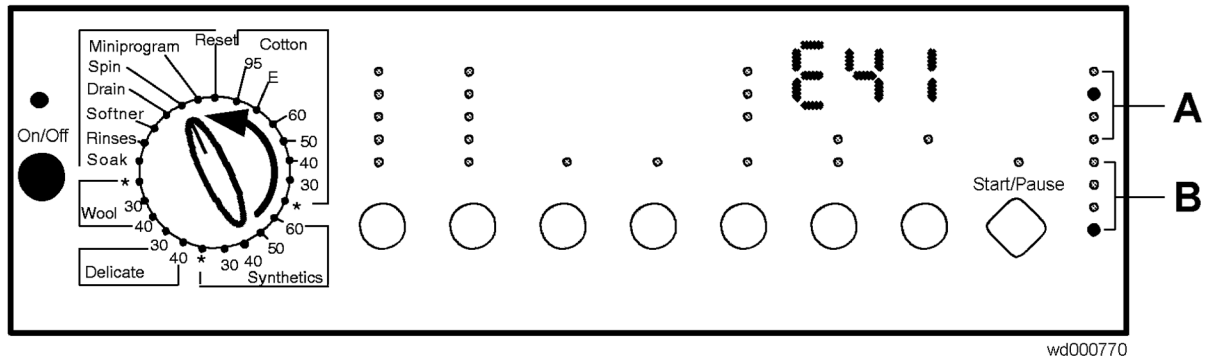
The FILTER BLOCKED alarm is signalled by the corresponding LED (if featured) only at the end of the cycle; **EF0** flashes on the display.

To exit the alarm condition, press START/PAUSE if the cycle is paused (this enables the appliance to attempt to complete the operation under the control of the user) or, if the cycle has been interrupted, switch off the appliance.

READING THE LAST ALARM CONDITION

The diagnostics system makes it possible to identify the last alarm condition which occurred during the operation of the appliance.

To read this alarm condition, after accessing the diagnostics system, **turn the programme selector knob** to the last position but one (20 or 23).



The alarm condition is shown on the display, or the corresponding binary code flashes on the wash phase LEDs.

⇒ The first four LEDs indicate the first digit of the alarm code

⇒ The second four LEDs indicate the second digit of the alarm code

For example, if an **E41** alarm condition (door open) is generated, the display will show **E41** or (if the appliance does not feature the display window) the second LED in the first group (equivalent to **4** in binary code) and the fourth LED in the second group (equivalent to 1 in binary code) will flash.

If no alarm condition has occurred, **E00** is displayed.

DIAGNOSTICS CYCLE ALARMS

If a malfunction should occur during the course of the diagnostics cycle, the relative alarm codes are displayed. In this case, too, the wash phase LEDs (or the display) show the error code (flashing).

BINARY CODES

The table below shows how to convert the binary code displayed by the LEDs into the corresponding decimal number.

0	1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	●	●
○	○	○	○	●	●	●	●	○	○
○	○	●	●	○	○	●	●	○	○
○	●	○	●	○	●	○	○	○	●

○ LED OFF
● LED ON

ALARM CODES

0: LED off

1: LED flashing

Alarm code	LED A	LED B	Description of fault	User code	Effect	Possible causes
E11	0 0 0 1	0 0 0 1	Problems with water fill in wash phase (maximum 10 minutes for each fill phase)	E10	Cycle PAUSED	Tap closed or mains pressure insufficient; solenoid valve; hydraulic circuit of pressure switches; pressure switches; wiring; main PCB
E12	0 0 0 1	0 0 1 0	Problems with water fill in drying phase (maximum 10 minutes for each fill phase during in the wash load untangling phase)	E10	Cycle PAUSED	Tap closed or mains pressure insufficient; solenoid valve; hydraulic circuit of pressure switches; pressure switches; wiring; main PCB
E21	0 0 1 0	0 0 0 1	Problems with water drain in wash phase (maximum 10 minutes for each drain phase)	E20	Cycle PAUSED	Drain hose obstructed; filter blocked; drain pump; pressure switches; wiring; main PCB
E22	0 0 1 0	0 0 1 0	Problems with water drain during drying or drying condenser blocked (anti-boiling pressure switch closed on "full")	E20	Heating phase skipped	Drain hose obstructed; filter blocked; drying condenser blocked; drain pump; pressure switches; wiring; main PCB
E31	0 0 1 1	0 0 0 1	Electronic pressure switch circuit faulty (frequency of pressure switch signal out of limits)	---	Cycle blocked with door closed	Electronic pressure switch; wiring; main PCB
E32	0 0 1 1	0 0 1 0	Incorrect calibration of electronic pressure switch (electronic pressure switch level different from 0-66 mm after initial calibration drain and anti-boiling pressure switch on "empty")	---	Cycle PAUSED	Tap closed or mains pressure insufficient; solenoid valve; hydraulic circuit of pressure switches; pressure switches; wiring; main PCB
E33	0 0 1 1	0 0 1 1	Incongruency between level of electronic pressure switch and level of anti-boiling pressure switch 1 (duration of fault at least 60 seconds)	---	Cycle blocked with door closed	Hydraulic circuit of pressure switches; electronic pressure switch; pressure switch; wiring; main PCB
E34	0 0 1 1	0 1 0 0	Incongruency between level of electronic pressure switch and level of anti-boiling pressure switch 2 (duration of fault at least 60 seconds)	---	Cycle blocked with door closed	Hydraulic circuit of pressure switches; electronic pressure switch; pressure switch; wiring; main PCB
E35	0 0 1 1	0 1 0 1	Water level too high (level of electronic pressure switch higher than 300mm for more than 15 seconds)	---	Cycle blocked with door closed and water drain to 120mm	Solenoid valve; hydraulic circuit of pressure switches; pressure switches; wiring; main PCB

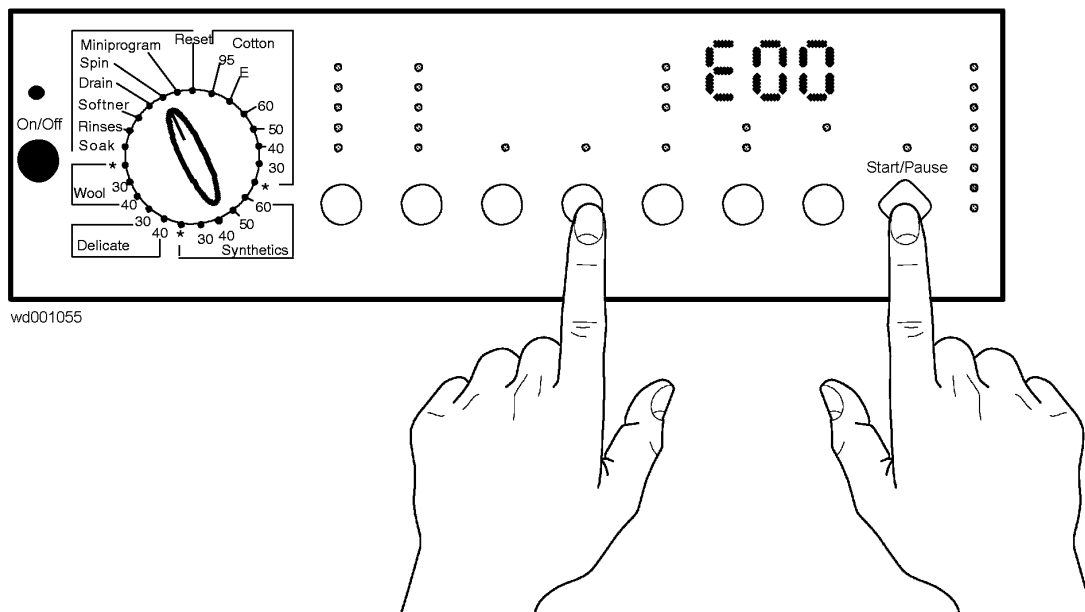
E36	0 0 1 1	0 1 1 0	"Sensing" circuit of anti-boiling pressure switch 1 faulty (input signal to microprocessor always 0V or 5V)	---	Cycle blocked with door closed	Main PCB
E37	0 0 1 1	0 1 1 1	"Sensing" circuit of anti-boiling pressure switch 2 faulty (input signal to microprocessor always 0 - 5V)	---	Cycle blocked with door closed	Main PCB
E38	0 0 1 1	1 0 0 0	Pressure chamber blocked (water level does not vary for at least 30 sec. during drum rotation)	---	Heating phase skipped	Pressure switch hydraulic circuit; pressure switches, motor drive belt broken
E41	0 1 0 0	0 0 0 1	Door open (door delay interlock does not close after 15 seconds)	E40	Cycle paused	Door open; door delay interlock; wiring; main PCB
E42	0 1 0 0	0 0 1 0	Problems with door closure (door open during cycle for more than 15 sec. or door closed after cycle for more than 3 min.)	E40	Cycle paused	Door delay interlock; wiring; main PCB
E43	0 1 0 0	0 0 1 1	TRIAC which powers the door interlock faulty (incongruency between status of door interlock "sensing" circuit and status of TRIAC)	E40	Cycle paused	Wiring; main PCB
E44	0 1 0 0	0 1 0 0	"Sensing" circuit of door delay interlock faulty (input signal to microprocessor always 0V or 5V)	---	Cycle blocked	Main PCB
E45	0 1 0 0	0 1 0 1	"Sensing" circuit of door delay interlock triac faulty (input signal to microprocessor always 0V or 5V)	---	Cycle blocked with door closed	Main PCB
E51	0 1 0 1	0 0 0 1	TRIAC which powers the motor short-circuited (TRIAC short-circuit cut-out activated or motor speed more than maximum speed)	---	Cycle blocked with door closed (after 5 attempts)	Loss of insulation on motor winding/wiring; main PCB
E52	0 1 0 1	0 0 1 0	No signal from tachymetric generator on motor (no signal after maximum time)	---	Cycle blocked with door closed (after 5 attempts, the last after 20 sec)	Motor; tachymetric generator; wiring; main PCB

E53	0 1 0 1	0 0 1 1	"Sensing" circuit of motor TRIAC faulty (input signal to microprocessor always 0V or 5V)	---	Cycle blocked with door closed	Main PCB
E54	0 1 0 1	0 1 0 0	Relays contacts sticking (voltage on "sensing" circuit when the relays should be open)	---	Cycle blocked with door closed (after 5 attempts)	Loss of insulation on motor windings/wiring; main PCB
E55	0 1 0 1	0 1 0 1	Motor circuit open	---	Cycle blocked with door closed (after 5 attempts)	Motor; wiring; main PCB
E61	0 1 1 0	0 0 0 1	Insufficient heating during washing (maximum heating time exceeded)	---	Heating phase skipped	NTC sensor incorrectly calibrated; heating element; wiring; main PCB
E62	0 1 1 0	0 0 1 0	Overheating during washing (temperature >88°C for more than 5 minutes)	---	Drain, cycle blocked	Heating element (earthed); NTC sensor faulty; wiring; main PCB
E64	0 1 1 0	0 1 0 0	Overheating during drying (drying temperature >180°C detected by NTC temperature sensor on duct)	---	Heating phase for drying skipped	Drying NTC sensor (duct); drying heater; wiring; main PCB
E66	0 1 1 0	0 1 1 0	Power relay to heating element faulty (incongruency between closure of anti-boiling pressure switch 2 and status of relay K3)	---	Drain, cycle blocked	Anti-boiling pressure switch 2; wiring; main PCB
E71	0 1 1 1	0 0 0 1	NTC wash sensor faulty (voltage not within limits = short-circuit or open)	---	Heating phase skipped	Wash NTC sensor; wiring; main PCB
E72	0 1 1 1	0 0 1 0	NTC sensor on drying condenser faulty (voltage out of limits = short-circuit or open)	---	Heating phase for drying skipped	Drying NTC sensor (condenser); wiring; main PCB
E73	0 1 1 1	0 0 1 1	NTC sensor on drying duct faulty (voltage out of limits = short-circuit or open)	---	Heating phase for drying skipped	Drying NTC sensor (duct); wiring; main PCB

E84	1 0 0 0	0 1 0 0	"Sensing" circuit on circulation pump triac faulty (input signal to microprocessor always 0V or 5V)	---	Drain, cycle blocked (door open)	Main PCB
E85	1 0 0 0	0 1 0 1	Circulation pump faulty (incongruency between status of "sensing" circuit on circulation pump and status of TRIAC)	---	Drain, cycle blocked (door open)	Circulation pump; wiring; main PCB
E91	1 0 0 1	0 0 0 1	Communications error between main PCB and display board	E90	---	Wiring; main PCB; display board
E92	1 0 0 1	0 0 1 0	Communications incongruency between main PCB and display board (versions not compatible)	E90	---	Main PCB; display board
E93	1 0 0 1	0 0 1 1	Configuration error (incongruency of configuration values when appliance is switched on)	E90	Cycle blocked	Configuration error; main PCB
E94	1 0 0 1	0 1 0 0	Incorrect configuration of washing cycle	E90	Cycle blocked	Cycle software error; main PCB
EA1	1 0 1 0	0 0 0 1	"Sensing" circuit on DPS drum positioning system faulty (top-loaders)	---	---	Reed sensor; motor/drum drive belt; wiring; main PCB
EA2	1 0 1 0	0 0 1 0	"Sensing" circuit on DPS drum positioning system faulty (input signal to microprocessor always 0V)	---	Cycle blocked	Main PCB
EA3	1 0 1 0	0 0 1 1	DPS drum positioning system fails to block the drum (max. time exceeded during positioning of the pulley)	---	---	Motor/drum drive belt; wiring; main PCB; DPS actuator
EA4	1 0 1 0	0 1 0 0	DPS drum positioning system faulty (max. time exceeded during operation of DPS motor)	---	Cycle paused	Wiring; main PCB; DPS actuator

EA5	1 0 1 0	0 1 0 1	Power TRIAC for DPS motor short-circuited	---	Cycle blocked	Main PCB
EF1	1 1 1 1	0 0 0 1	Drain filter blocked (drain phase too long)	Specific LED (EF0)	---	Drain hose obstructed/kinked; drain filter dirty/blocked
EF2	1 1 1 1	0 0 1 0	Excessive detergent (too much foam during drains)	Specific LED (EF0)	---	Excessive detergent introduced; drain hose obstructed/kinked; drain filter dirty
EF3	1 1 1 1	0 0 1 1	Water leakage: intervention of Acqua Control system	---	Water drain to 120mm, cycle blocked	Leaks from base; drain pump; wiring; main PCB

CANCELLING THE LAST ALARM CONDITION



To cancel the last memorized alarm condition, press the button **4** and the start/pause button at the same time during the course of the diagnostics cycle.

The alarm is cancelled also when a new configuration is given to the main PCB.

CONFIGURATION OF THE MAIN PCB

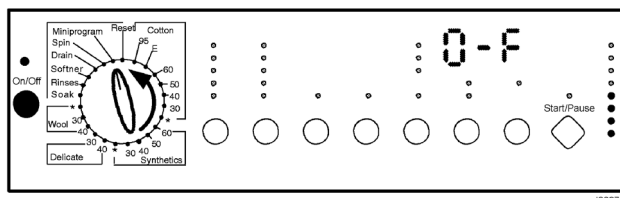
A standard main PCB is available as a spare part. This PCB contains only data relative to the wash cycle.

After replacing the main PCB, it is necessary to perform the configuration procedure in order to operate the washing machine.

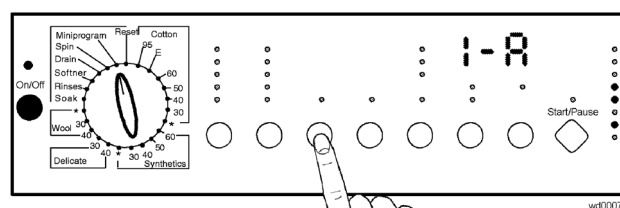
Configuration of the board consists of entering a 16-digit code which contains information which varies from model to model (type of washing system, type of tub, type of appliance, spin speed, etc.).

To access the machine configuration procedure, first enter the diagnostics system, and then:

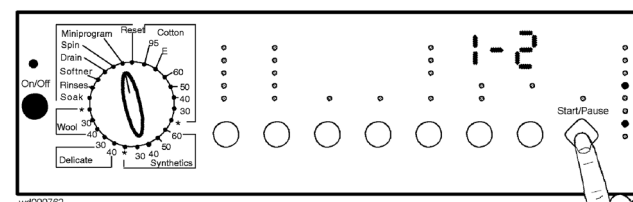
- turn the programme selector one position counter-clockwise; the display window shows the code relative to the position of the programme selector and, after two seconds, the code relative to the first of the 16 digits of the configuration code (i.e. position 0).



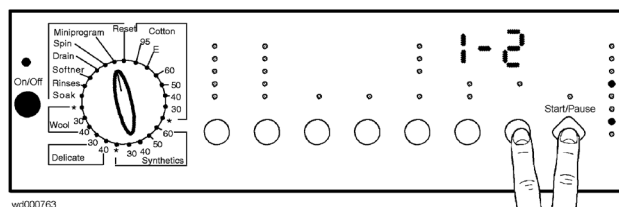
- when one of the option buttons is pressed (with the exception of the START/PAUSE button), all the digits which make up the configuration code are displayed in sequence.



- press the START/PAUSE button to modify the configuration code (digit by digit).



- when all 16 digits have been entered, check that the code is correct, then memorize the code by pressing the START/PAUSE button and one of the option buttons at the same time; these buttons should be held down until the buzzer (if featured) sounds.



If the configuration is not entered correctly, the wash cycle will not start when the START button is pressed.

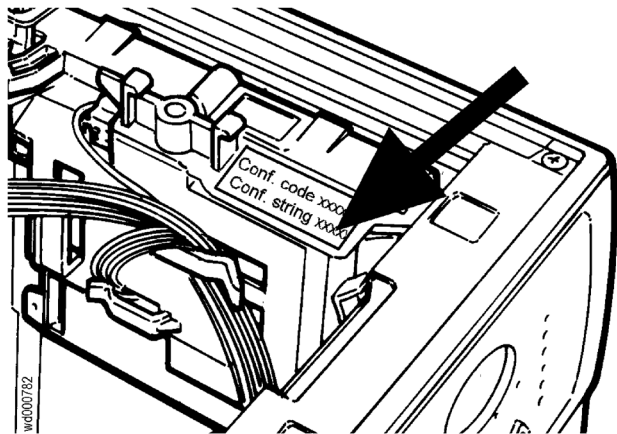
*When configuration has been completed, perform the diagnostics routine in order to check that the appliance functions correctly. In case of an error, the display window will show error code **E93**.*

To exit the diagnostics system, switch the appliance off, on, and then off again.

CONFIGURATION CODE

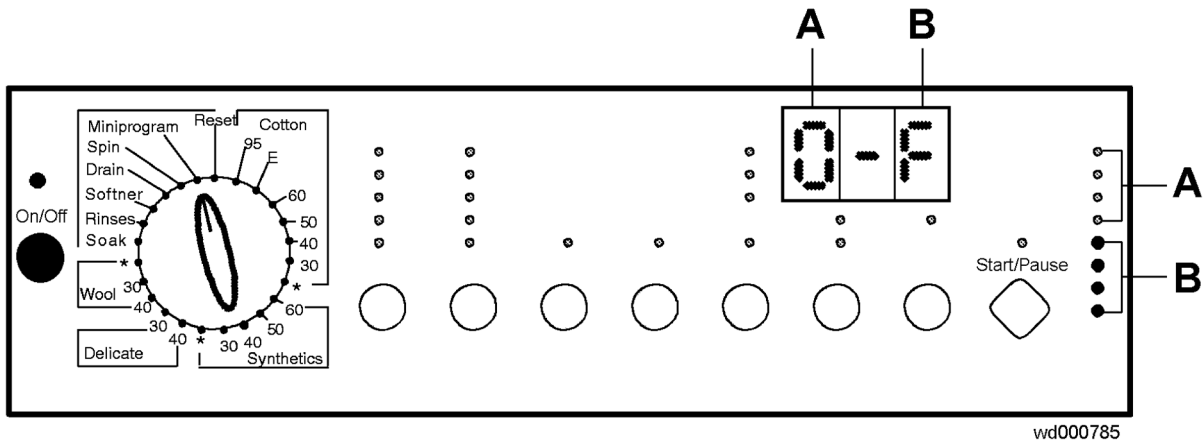
The configuration code (16 alphanumeric digits) is shown on a label affixed to the casing of the main PCB and in the Service Notes describing the various models.

It is advisable to note the configuration code on the casing of the new PCB fitted to the washing machine.



READING THE CONFIGURATION CODE

The configuration code is shown, one character at a time, on the display (if featured) and is indicated by the washing phase display LEDs.



A = The first digit shown on the display (if featured) indicates the **position** of the value to be entered. The same information is also displayed in binary format on the first four washing phase LEDs. To **read** the various positions, press one of the wash cycle option buttons (the first position displayed is "0").

B = The last digit on the display (if featured) indicates the **value** of the configuration character to be entered in a given position. The same information is also displayed in binary format on the second set of four washing phase LEDs. To **modify** the value of the character displayed, press the START/PAUSE button.

BINARY CODES

The table below can be used to convert the binary code shown by the LEDs into the corresponding letter or decimal number.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
										A	b	C	d	E	F
○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●
○	○	○	○	●	●	●	●	○	○	○	○	●	●	●	●
○	○	●	●	○	○	●	●	○	○	●	●	○	○	●	●
○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●

○ LED off
● LED lit

Configuration code: **A2A7808080E691F2**

0	1	2	3	4	5	6	7	8	9	10 (A)	11 (B)	12 (C)	13 (D)	14 (E)	15 (F)
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
A	2	A	7	8	0	8	0	8	0	E	6	9	1	F	2

By converting the characters into binary code, it is possible to create a table of the values to be entered (the positions are not modified):

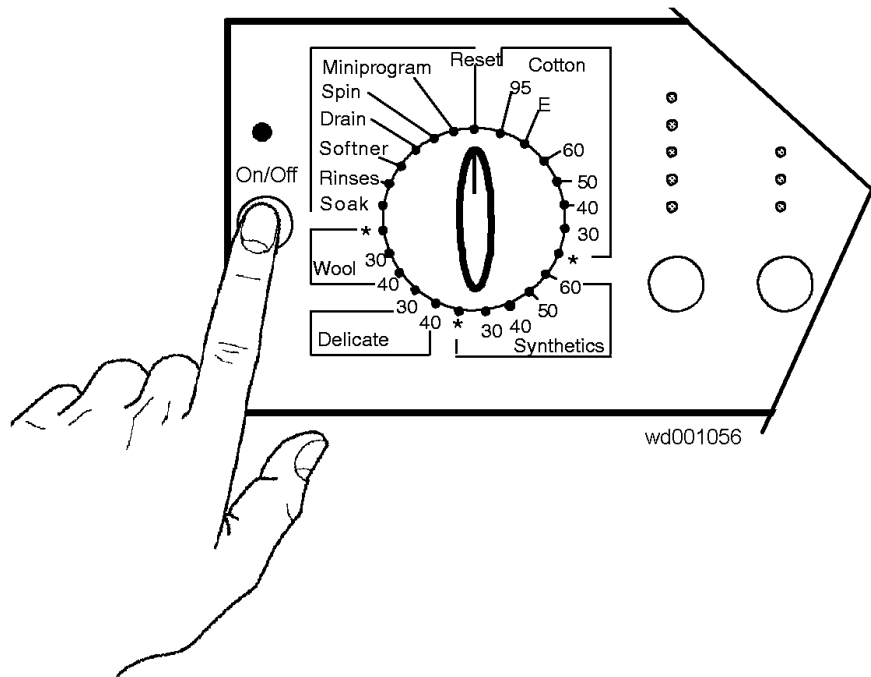
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
										A	b	C	d	E	F
○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●
○	○	○	○	●	●	●	●	○	○	○	○	●	●	●	●
○	○	●	●	○	○	●	●	○	○	●	●	○	○	●	●
○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●

●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○
○	○	○	●	○	○	○	○	○	○	●	●	○	○	●	○
●	●	●	●	○	○	○	○	○	○	●	●	○	○	●	●
○	○	○	●	○	○	○	○	○	○	○	○	●	●	●	○
A	2	A	7	8	0	8	0	8	0	E	6	9	1	F	2

○ LED OFF
● LED ON

1. Access the diagnostics system.
2. Turn the programme selector counter-clockwise by one position.
3. Press the START/PAUSE button sequentially to enter the letter **A** in position **0**. If the appliance features a display window, this will show **0-A**; if not, the wash cycle LEDs should light as shown in column 0 of the table (i.e. the fifth and seventh LEDs).
4. Press one of the option buttons (with the exception of START/PAUSE) to pass to the second position, and enter **2** by pressing START/PAUSE. The display should now show **1-2**, and the LEDs should light as shown in column 1 of the table (fourth and seventh).
5. Repeat this procedure to enter the remaining configuration digits. When all the digits have been entered, press one of the option buttons (with the exception of START/PAUSE) to check that the configuration code is correct.
6. Memorize the configuration code by pressing START/PAUSE and one of the option buttons at the same time for at least 4 seconds, so that the configuration code is memorized by the main PCB.

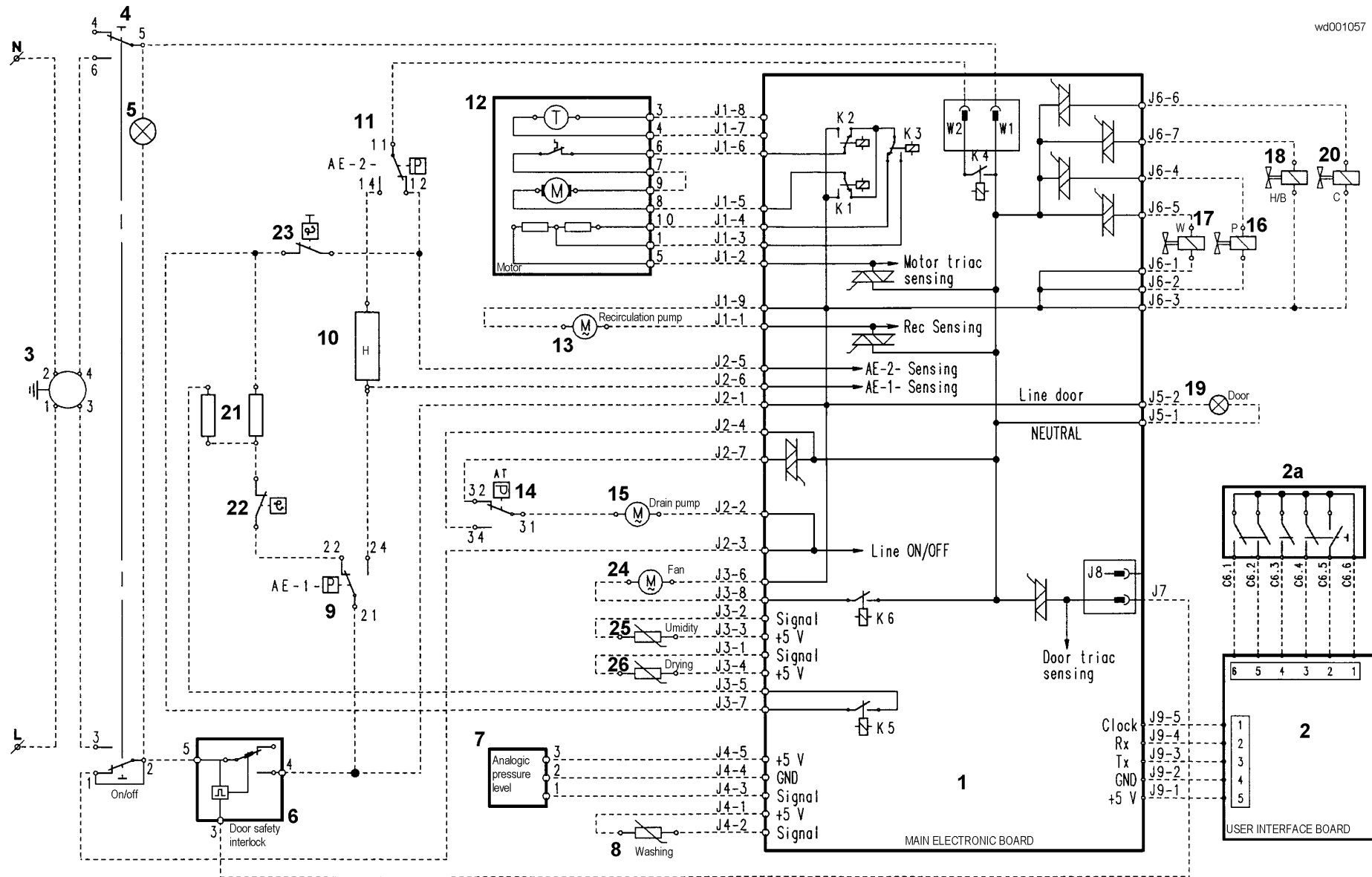
EXITING THE DIAGNOSTICS CYCLE



To exit the diagnostics cycle, switch the appliance off, on, and then off again.

BASIC CIRCUIT DIAGRAM

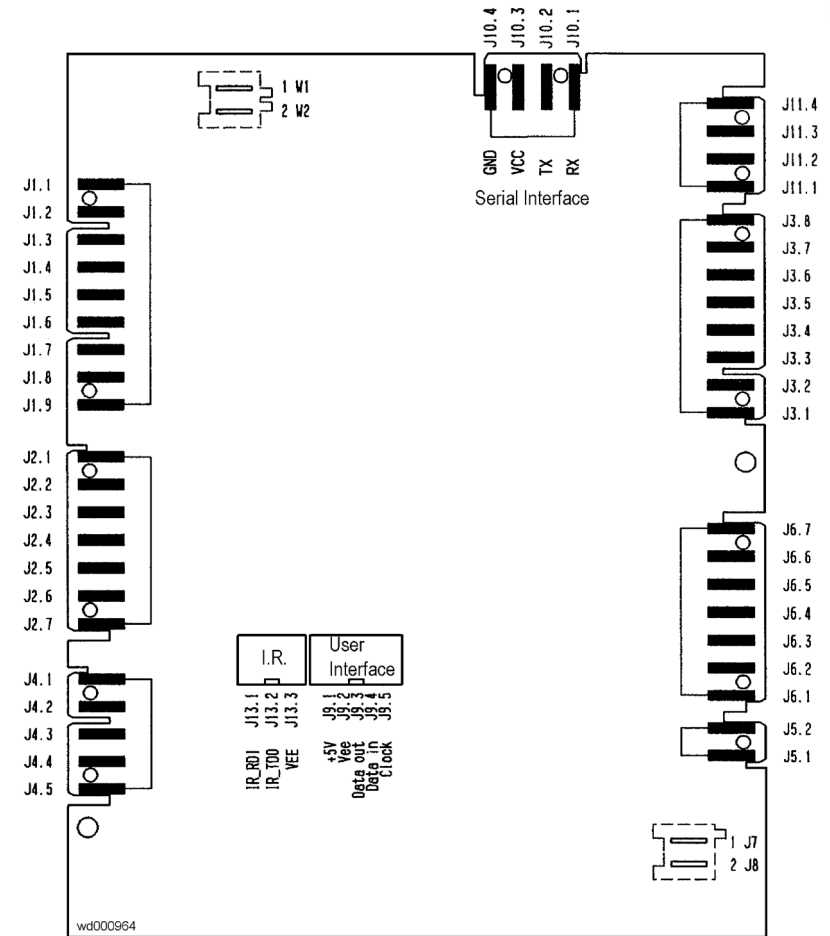
wd001057



Key to circuit diagram	
1. Main PCB 2. Control/display board 2a. Programme selector 3. Suppressor 4. Main switch 5. Pilot lamp 6. Door interlock 7. Electronic pressure switch 8. NTC temperature sensor (washing) 9. Anti-boiling pressure switch 1 10. Heating element (washing) 11. Anti-boiling pressure switch 2 12. Motor 13. Circulation pump (Jetsystem models) 14. Anti-overflow pressure switch 15. Drain pump 16. Pre-wash solenoid 17. Wash solenoid 18. Bleach solenoid or hot water solenoid (certain models only) 19. Door open lamp	<i>Washer/dryers only</i> 20. Condensation solenoid 21. Heating element (drying) 22. Safety thermostat 23. Manual-reset safety thermostat 24. Fan motor 25. NTC temperature sensor (humidity control) 26. NTC temperature sensor (drying)

Connectors on main PCB (AC power to motor)

W1 ON/OFF (neutral)	J10.4 Serial interface (GND)
W2 Heating element (relays)	J10.3 Serial interface (Vcc)
	J10.2 Serial interface (TX)
	J10.1 Serial interface (RX)
J1.1 Circulation pump (triac)	J11.4 DPS drum positioning (sensing)
J1.2 Motor (triac)	J11.3 DPS motor (sensing)
J1.3 Motor (stator - 1/2 range)	J11.2 DPS motor (line)
J1.4 Motor (stator - full range)	J11.1 DPS motor (triac)
J1.5 Motor (rotor)	
J1.6 Motor (protection)	
J1.7 Motor (tachymetric generator)	J3.8 Fan motor (relay)
J1.8 Motor (tachymetric generator)	J3.7 Drying heater
J1.9 Circulation pump (line)	J3.6 Fan motor (line)
	J3.5 Drying heater
J2.1 Door safety device (line-sensing)	J3.4 NTC drying sensor (5 V)
J2.2 Drain pump (line)	J3.3 NTC humidity sensor (5 V)
J2.3 ON/OFF (line)	J3.2 NTC drying sensor
J2.4 Anti-overflow pressure switch (neutral)	J3.1 NTC humidity sensor
J2.5 Safety pressure switch 2 (sensing)	
J2.6 Safety pressure switch 1 (sensing)	J6.7 Bleach/hot water solenoid
J2.7 Drain pump (TRIAC)	J6.6 Condensation solenoid
	J6.5 Washing solenoid
J4.1 NTC sensor (washing)	J6.4 Pre-wash solenoid
J4.2 NTC sensor (washing)	J6.3 Solenoid (line)
J4.3 Electronic pressure switch (output)	J6.2 Solenoid (line)
J4.4 Electronic pressure switch (GND)	J6.1 Solenoid (line)
J4.5 Electronic pressure switch (+5V)	
J13.1 Infrared (IR_RDI)	J5.2 "Door closed" pilot lamp
J13.2 Infrared (IR_TDD)	J5.1 "Door closed" pilot lamp
J13.1 Infrared (VEE)	
J9.1 Display board (+5 V)	J7 Door safety device
J9.2 Display board (Vee)	J8 ON/OFF (sensing)
J9.3 Display board (Data Out)	
J9.4 Display board (Data In)	
J9.5 Display board (Clock)	



Connectors on main PCB (DC power to motor)

W1 ON/OFF (neutral)	J10.4 Serial interface (GND)
W2 Heating element (relays)	J10.3 Serial interface (Vcc)
	J10.2 Serial interface (TX)
	J10.1 Serial interface (RX)
J1.1 Circulation pump (triac)	J11.4 DPS drum positioning (sensing)
J1.2 Motor (triac)	J11.3 DPS motor (sensing)
J1.3 Motor (stator - 1/2 range)	J11.2 DPS motor (line)
J1.4 Motor (rotor)	J11.1 DPS motor (triac)
J1.5 Motor (stator - full range)	
J1.6 Motor (rotor)	
J1.7 Motor (line)	
J1.8 Motor (tachymetric generator)	J3.8 Fan motor (relay)
J1.9 Motor (tachymetric generator)	J3.7 Drying heater
J1.10 Circulation pump (line)	J3.6 Fan motor (line)
	J3.5 Drying heater
J2.1 Door safety device (line-sensing)	J3.4 NTC drying sensor (5 V)
J2.2 Drain pump (line)	J3.3 NTC humidity sensor (5 V)
J2.3 ON/OFF (line)	J3.2 NTC drying sensor
J2.4 Anti-overflow pressure switch (neutral)	J3.1 NTC humidity sensor
J2.5 Safety pressure switch 2 (sensing)	
J2.6 Safety pressure switch 1 (sensing)	J6.7 Bleach/hot water solenoid
J2.7 Drain pump (TRIAC)	J6.6 Condensation solenoid
	J6.5 Washing solenoid
J4.1 NTC sensor (washing)	J6.4 Pre-wash solenoid
J4.2 NTC sensor (washing)	J6.3 Solenoid (line)
J4.3 Electronic pressure switch (output)	J6.2 Solenoid (line)
J4.4 Electronic pressure switch (GND)	J6.1 Solenoid (line)
J4.5 Electronic pressure switch (+5V)	
J13.1 Infrared (IR_RDI)	J5.2 "Door closed" pilot lamp
J13.2 Infrared (IR_TDD)	J5.1 "Door closed" pilot lamp
J13.1 Infrared (VEE)	
J9.1 Display board (+5 V)	J7 Door safety device
J9.2 Display board (Vee)	J8 ON/OFF (sensing)
J9.3 Display board (Data Out)	
J9.4 Display board (Data In)	
J9.5 Display board (Clock)	

