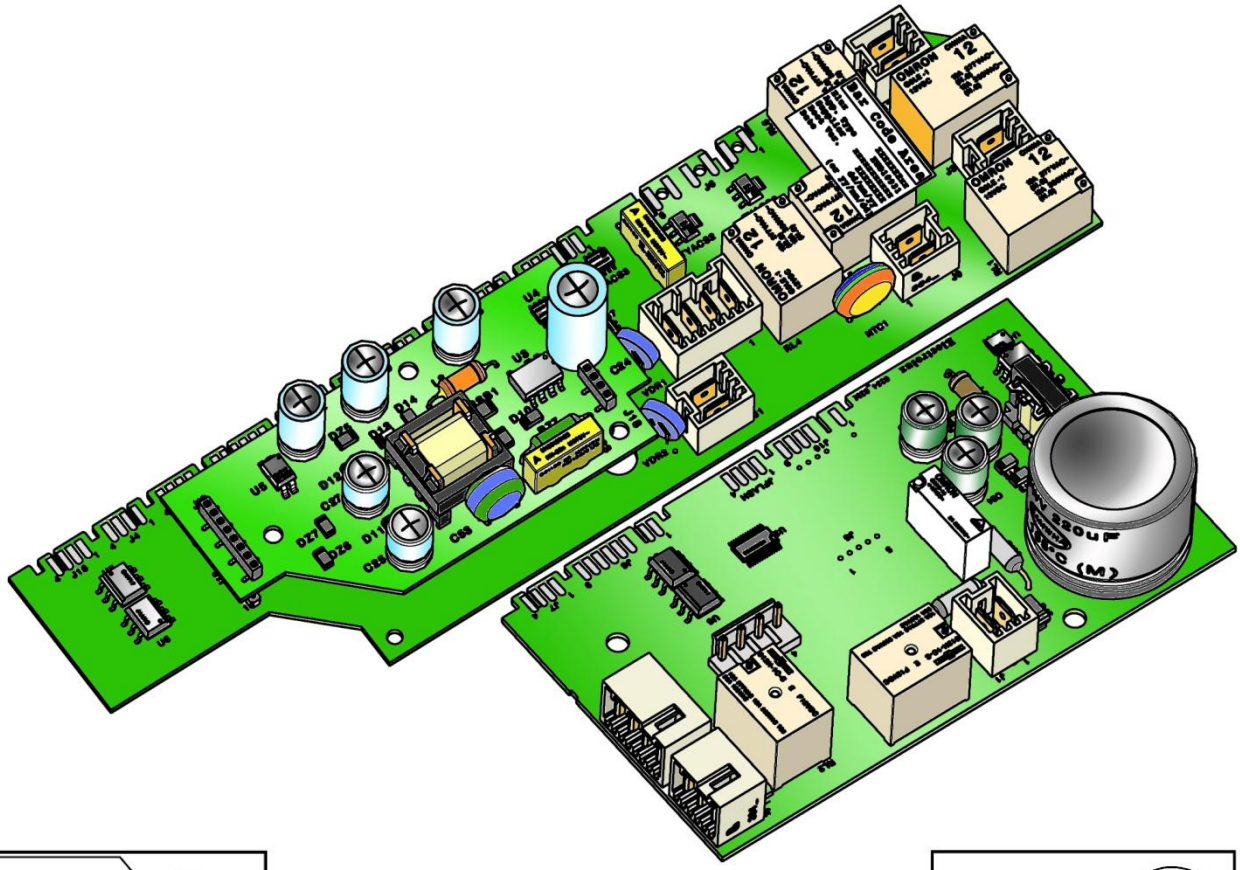
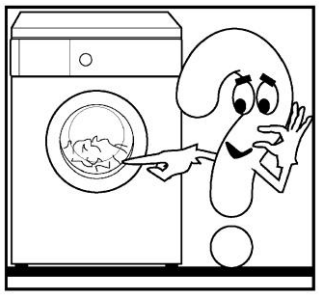
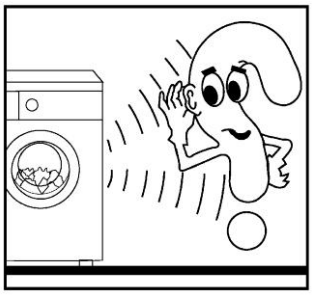
Electrolux

SERVICE MANUAL

WASHING







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Washer dryers

guide to diagnostics of electronic controls

EWD10931

NEW COLLECTION

SERIES

7 / 8

Index

1 INTRODUCTION

1.1 Purpose of this manual

The purpose of this manual is to explain, simply and schematically, the steps any Technician should take when faced with the problems indicated by the various alarm codes on appliances with electronic control in the EWD10932 series, NEW COLLECTION SERIES 7/8 version.

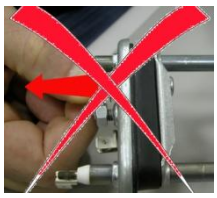
Depending on the appliance configuration, the alarms may be entirely or partially displayed to the user: the latter solution is usually adopted.
The diagnostics system is used by Service Technicians to:

- Read alarms
- Delete the alarm stored
- Test the appliance operation.

1.2 Cautions

- **Any work on electrical appliances must only be carried out by qualified personnel.**
- **Before servicing an appliance, check the efficiency of the electrical system in the home using appropriate instruments. For example: refer to the indications provided/illustrated in the <<metratester>> course at the address (http://electrolux.edvantage.net) on the Electrolux Learning Gateway portal.**

  When the work is finished check that the equipment's safety conditions have been reinstated, as though it were straight off the assembly line.
- **If the circuit board has to be handled/replaced, use the ESD kit (Cod. 405 50 63-95/4) to avoid static electricity from damaging the circuit board, see S.B. No. 599 72 08-09 or consult the course "Electrostatic charges" at the address (http://electrolux.edvantage.net) on the Electrolux Learning Gateway portal.**
- **This platform is not fitted with an ON/OFF switch. Before you access internal components, take the plug out of the socket to cut the power supply.**
- **Make resistance measurements, rather than direct voltage and current measurements**
- **Warning the sensors located on the display board could be at a potential of 220 Volts.**
- **When replacing the heating element, replace it with one that has the same characteristics (2 thermal fuses) in order not to compromise the safety of the appliance. Do not remove/switch the NTC sensors between heating elements.**



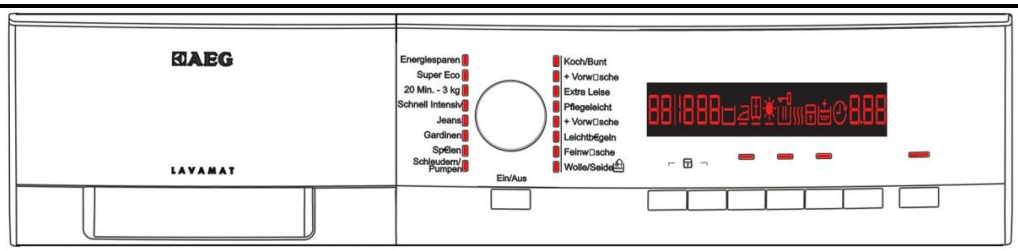
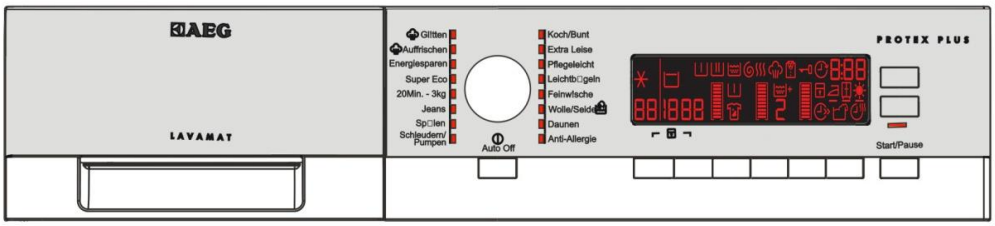
- **Always empty the appliance of all the water before laying it on its side.**
- **Never place the appliance on its right side (electronic control system side): some of the water in the detergent dispenser could leak onto the electrical/electronic components and cause these to burn.**
- **When replacing components, please refer to the code shown in the list of spare parts relating to the appliance.**
- **The resistance values of the components shown in this S.M. are purely indicative (relating to a sample appliance with new components).**
  For the actual value of the component, please refer:
  to S.B. 599706597 for motors, and for the other components, please consult S.M. 599728903 "Component Characteristics".

1.3 How to proceed

1. Identify the type of control in question **(page 6)** and access the diagnostic cycle **(see page 7)**.
2. Read the alarm stored **(page 11)** and consult the instructions regarding the “alarm codes”, **(pag. 12÷16)**.
3. Delete the alarms stored **(page 11)**.
4. If you are unable to access the diagnostic mode, consult the chapter entitled “The diagnostics system cannot be accessed” **(page 18)**.
5. Should the main electronic circuit board need to be replaced, make sure there are no burns **(see page 94-95)**.
6. After all intervention, check the appliance is operating correctly using the diagnostic cycle **(page 8)**.
7. Delete any alarm that may have been stored during the diagnostics operations **(page 11)**.

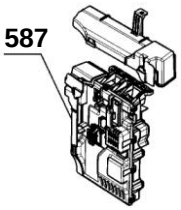
2 WD APPLIANCE CONTROL PANELS

These are the stylings available at the time of printing of this Service Manual. Others may be developed in future.

NEW COLLECTION	SERIES 7	
	SERIES 8	

3 Programming/Updating the main circuit board

In the Service Notes the main circuit board (587) is identified with two spare parts codes:



- Code 973 914… identifies the pre-programmed board.
- Code 132… identifies the unprogrammed board.

The circuit board can be programmed/updated using the **Sidekick** application.
For further information please refer to the indications provided/illustrated in the course << **Guide to Sidekick** >> at the website (http://electrolux.edvantage.net) on the Electrolux Learning Gateway portal.

In order to update / programme the main board, insert the **Sidekick** connector in the position indicated by the red arrow:

- The WASHER DRYER is activated from the WD Satellite board on the upper part of the appliance (see Fig. a), or directly from the main board (see Fig. b).

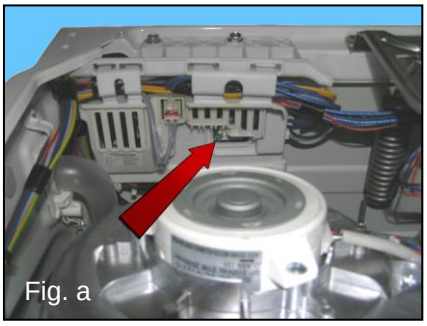


Fig. a

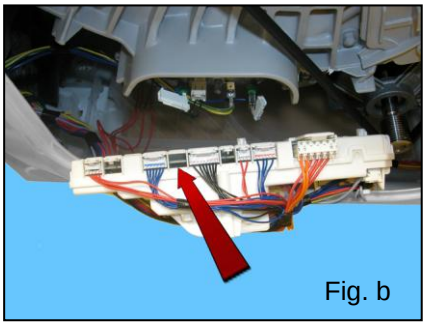


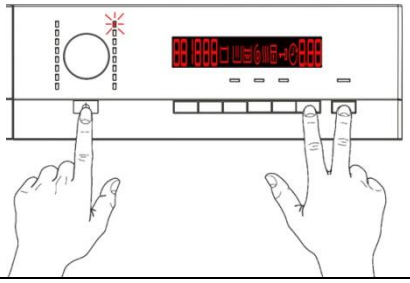
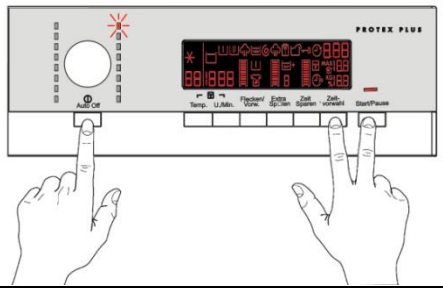
Fig. b

4 DIAGNOSTICS SYSTEM

4.1 Accessing diagnostics

All versions

The operations listed below must be carried out within 7 seconds.

SERIES 7	SERIES 8
	

Do not start the procedure with the combination buttons pressed

1. Switch on the appliance using the ON/OFF button. The first LED in the right hand row will light up.
2. Press the **START/PAUSE** button and the nearest **option button** simultaneously (as shown in the figure).
3. Hold the buttons/sensors down/pressed until the LEDs and symbols begin to flash in sequence (approximately 3 seconds).

In the first position, the operation of the buttons, of the related LEDs and of the groups of symbols shown on the LCD screen is checked; turn the programme selector dial **clockwise** to run the diagnostic cycle for the operation of the various components and to read any alarms (see diagnostic testing on the following page).
During this phase, if any combination of keys (except the one for diagnosis) is pressed, all the option combinations stored will be deleted (Extra rinse, Buzzer disable, etc.)

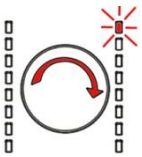
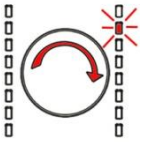
4.2 Quitting the diagnostics system

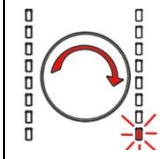
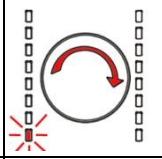
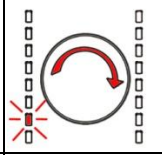
→ To exit the diagnostic cycle, switch the appliance off, then back on and then off again.

4.3 Phases of the diagnostics test

Irrespective of the type of electronic board and of the selector configuration, once the diagnostics system has been activated, turn the selector dial **clockwise** to run a check of the various components and read the alarms.
Concurrently, a selector control code is shown on the LCD display, which indicates for **two** seconds the description in the last column of the table below.
(all alarms are enabled in the diagnostic cycle).

TABLE 1

Selector position		Components activated	Working conditions	Function tested	LCD display
1		- The LEDs, groups of symbols in the LCD screen and the backlight of the display are turned on in sequence, - Press a button/sensor to turn on the group of icons in the LCD screen or the corresponding LED and the buzzer sounds at the same time.	Always active	User interface functioning	
2		- Door safety interlock - Washing solenoid valve	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to wash compartment	 Water level in the tub (mm)
3		- Door safety interlock - Pre-wash solenoid valve	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill directly to tub	 Water level in the tub (mm)
4		- Door safety interlock - Solenoid valve pre-wash and wash	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to conditioner compartment	 Water level in the tub (mm)
5		- Door safety interlock - Condensation solenoid valve	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to third solenoid valve compartment	 Water level in the tub is displayed (mm)
6		- Door safety interlock - Hot water solenoid valve (If there is one)	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to fourth solenoid valve compartment	 Water level in the tub is displayed (mm)
7		- Door safety interlock - Wash solenoid valve, if the water in the tub is not enough to cover the heating element - Heating element - Weight sensor (if there is one, an extra litre of water is loaded) - Circulation pump	Door closed Water level above the heating element. Maximum time 10 mins up to 90°C. **(*)**	Reheating	 Temperature in °C measured using the NTC probe.

8		- Door safety interlock - Wash solenoid valve if the water level in the tub does not cover the heating element - Motor (55 rpm clockwise, 55 rpm anticlockwise, pulse at 250 rpm)	Door closed Water level above the heating element	Check for leaks from the tub.	 Drum speed in rpm/10
9		- Door safety interlock - Drain pump - Motor up to 650 rpm then at maximum spin speed (**)	Door closed Water level lower than anti-boiling level for spinning	Drain, calibration of analogue pressure switch and spin.	 Drum speed in rpm/10
10		- Door safety interlock - Drain pump - Power fan - Condensation solenoid valve - Drying heating element	Door closed Water level below anti-boiling level Maximum time 10 minutes.	Drying	
11		- Reading/Deleting the last alarm	-------	-------	
12 ÷ 16		- The LEDs, groups of symbols in the LCD screen and the backlight of the display are turned on in sequence. - Press a button/sensor to turn on the group of icons in the LCD screen or the corresponding LED and the buzzer sounds at the same time.	Always active	User interface functioning	

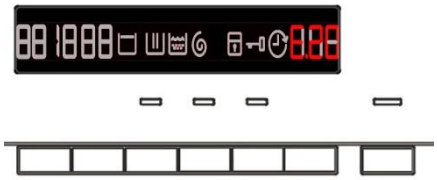
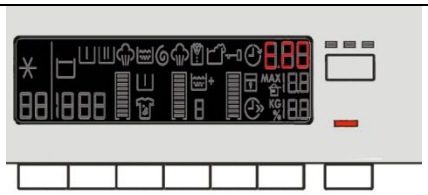
(*) In most cases, this time is sufficient to check the heating. However, the time can be increased by repeating the phase without draining the water: pass for a moment to a different phase of the diagnostic cycle and then back to the heating control phase (if the temperature is higher than 80°C, heating does not take place).

(**) The check at the maximum speed occurs without control of the AGS and no garments must be inside the appliance.

5 ALARMS

5.1 Displaying the alarms to the user

When a problem occurs in the appliance and a “WARNING” or “ALARM” is triggered, this is shown in the three digit display (where the time left to the end of the cycle is shown), this information ceases to be displayed when the problem is repaired/solved. The buzzer then emits a sound for 5 minutes. This does not occur for alarm EH0

Series 7	Series 8
	

The alarms displayed to the user are listed below:

- ***E10 - Water fill difficulty (tap closed)***
- ***E20 - Drain difficulty (filter dirty)***
- ***E40 - Door open***

The alarms listed below:

- ***EF0 – Water leakage (Aqua Control System)***

The intervention of a service engineer is required

For the alarm on the other hand:

- ***EH0 – Voltage or frequency outside normal values***

It is necessary to wait for power supply voltage and/or frequency to restore normal conditions.

The alarms are enabled during the execution of the washing programme. With the exception of alarms associated with the configuration and the power supply voltage/frequency, which are also displayed during the programme selection phase.

The door can normally be opened (except where specified) when an alarm condition has occurred, on condition that:

- The level of the water in the tub is below a certain level.
- The water temperature is lower than 55°C.
- The motor has stopped.

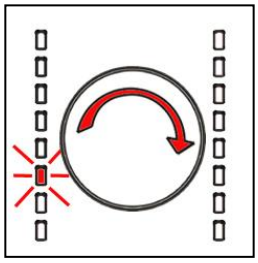
Certain alarm conditions require a drain phase to be performed before the door can be opened for safety reasons:

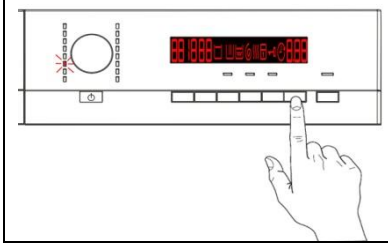
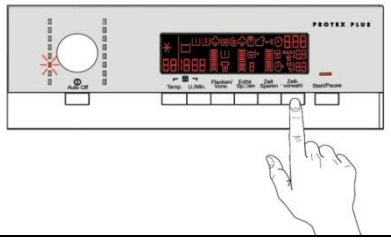
- Cooling water fill if the temperature is greater than 65°C.
- Drain until the analogue pressure switch is on empty, during a max. 3 minute interval.

5.2 Reading the alarms

The last three alarms stored in the FLASH memory of the PCB can be displayed:

- Enter the diagnostic mode (para. 3.1)
- Irrespective of the type of PCB and configuration, turn the programme selector knob **clockwise** to the **eleventh position -** the last alarm is displayed.
- To display previous alarms, press/touch the button/sensor to the left of the START/PAUSE button in sequence (as shown in the figure)
- To return to the last alarm, press/touch the START/PAUSE button/sensor.



SERIES 7	SERIES 8
	

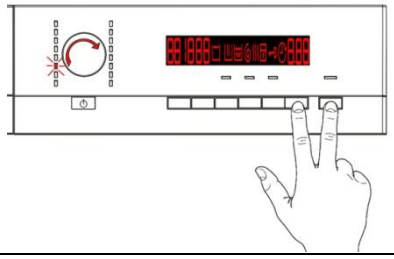
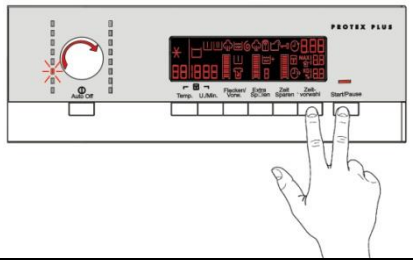
5.3 Rapid reading of alarms

The last alarm can even be displayed if the selector is not in the tenth diagnostic position or if the appliance is in normal operating mode (for example when performing a wash programme):
→ Press the **START/PAUSE** button and the nearest **option button** simultaneously (as if you were entering DIAGNOSTIC mode) for at least 2 seconds: the LCD display shows the last alarm.
→ The alarm continues to be displayed until a button is pressed.
→ During the time that the alarm is displayed, the appliance continues to perform the cycle or, if you are in the programme selection phase, it retains the options selected previously in memory.

5.4 Deleting the last alarm

It is good practice to cancel the alarms stored:

- after reading the alarm codes, to check whether the alarm re-occurs during the diagnostic cycle
- after repairing the appliance, to check whether it re-occurs during testing

Series 7	Series 8
	

1. Enter the diagnostic mode,
2. Turn the selector dial clockwise until the eleventh LED is turned on (in the left-hand alarm reading row)
3. Press/touch the **START/PAUSE** button/sensor and the nearest **option button/sensor** simultaneously (as shown in the figure).
4. Hold down the buttons until the LCD display shows “E00” (at least 5 seconds).

N.B. With this operation all the alarms stored are deleted.

5.5 ALARM SUMMARY TABLE

Alarm	Description	Possible fault	Machine status/action	Reset	Page
E00	----------				-------
E11	**Water fill difficulty during washing**	Tap closed or water pressure too low; drain pipe improperly positioned; water fill solenoid valve faulty; leaks from water circuit on pressure switch; pressure switch faulty; wiring faulty; main PCB faulty.	Cycle is paused with door locked	START/RESET	20
E12	**Water fill difficulty during drying**	Tap closed or water pressure too low; drain pipe improperly positioned; water fill solenoid valve faulty; leaks from water circuit on pressure switch; pressure switch faulty; wiring faulty; main PCB faulty.	Cycle is paused with door locked	START/RESET	22
E13	**Water leaks**	Drain pipe improperly positioned; water pressure too low Water fill solenoid valve faulty; water circuit on pressure switch is leaking/clogged; pressure switch faulty.	Cycle is paused with door locked	START/RESET	24
E21	**Drain difficulty during washing**	Drain pipe kinked/clogged/improperly positioned; drain filter clogged/dirty; wiring faulty; pressure switch faulty; drain pump rotor blocked; drain pump faulty; main PCB faulty.	Cycle is paused (after 2 attempts)	START ON/OFF RESET	26
E22	**Drain difficulty during drying**	Drain tube kinked/clogged/improperly positioned; drain filter clogged/dirty; wiring faulty; drain pump faulty; pressure switch faulty; main PCB faulty.	Cycle is paused	START/RESET	28
E23	**Faulty triac for drain pump**	Wiring faulty; drain pump faulty; main PCB faulty.	Safety drain cycle - Cycle stops with door open.	RESET	30
E24	**Drain pump triac "sensing" circuit faulty.**	Main circuit board faulty.	Safety drain cycle - Cycle stops with door unlocked	RESET	32
E31	**Malfunction in electronic pressure switch circuit**	Wiring; faulty pressure switch; main PCB;	Cycle stops with door locked	RESET	32
E32	**Calibration error of the electronic pressure switch**	Drain pipe kinked/clogged/improperly positioned; solenoid valve faulty; drain filter clogged/dirty; drain pump faulty; leaks from pressure switch hydraulic circuit; pressure switch faulty; Wiring; main PCB.	Cycle is paused	START/RESET	33
E35	**Overflow**	Water fill solenoid valve faulty; leaks from water circuit on pressure switch; wiring faulty; pressure switch faulty; main PCB faulty.	Cycle interrupted. Safety drain cycle. Drain pump continues to operate (5 mins. on, then 5 mins. off, and so on)	RESET	34
E38	**Internal pressure chamber is clogged (water level does not change for at least 30 sec. of drum rotation)**	Motor belt broken; water circuit on pressure switch clogged.	Heating phase is skipped	RESET	35
E41	**Door open**	Check whether the door is closed properly; Wiring faulty; Door safety interlock faulty; Main circuit board faulty.	Cycle is paused	START/RESET	36

Alarm	Description	Possible fault	Machine status/action	Reset	Page
E42	**Problems with door lock**	Wiring faulty; door safety interlock faulty; Electrical current leak between heating element and ground; main PCB faulty.	Cycle is paused	START/RESET	38
E43	**Faulty triac supplying power to door delay system**	Wiring faulty; door safety interlock faulty; Main circuit board faulty.	(Safety drain cycle) Cycle blocked	RESET	40
E44	**Faulty sensing by door delay system**	Main circuit board faulty.	(Safety drain cycle) Cycle blocked	RESET	41
E45	**Faulty sensing by door delay system triac**	Main circuit board faulty.	(Safety drain cycle) Cycle blocked	RESET	41
E52	**No signal from motor tachometric generator**	Motor-inverter wiring faulty; faulty motor; Inverter board faulty.	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET	42
E57	**Inverter is drawing too much current (>15A)**	Wiring faulty on inverter for motor; inverter PCB faulty; motor faulty.	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET	46
E58	**Inverter is drawing too much current (>4.5A)**	Motor malfunction (overload); Wiring faulty on inverter faulty; motor faulty; inverter PCB faulty	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET	48
E59	**No signal from tachometric generator for 3 seconds**	Wiring faulty on inverter for motor; inverter PCB faulty; motor faulty.	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET	50
E5A	**Overheating on heat dissipator for Inverter**	Overheating caused by continuous operation or ambient conditions (let appliance cool down); Inverter PCB faulty.	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET	52
E5C	**Input voltage is too high**	Input voltage is too high (measure the grid voltage); inverter PCB faulty	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET	53
E5d	**Data transfer error between Inverter and main PCB**	Line interference; wiring faulty; faulty main PCB or inverter PCB.	----------	ON/OFF RESET	54
E5E	**Communication error between Inverter and main PCB**	Wiring faulty; Control/display PCB faulty, Inverter board faulty, Weight sensor board faulty, ED PCB faulty, Main PCB faulty.	Cycle blocked (after 5 attempts)	ON/OFF RESET	55
E5F	**Inverter PCB fails to start the motor**	Wiring faulty; Inverter PCB faulty; Main PCB faulty.	Cycle stops with door open (after 5 attempts)	ON/OFF RESET	55
E5H	**Input voltage is lower than 175V**	Wiring faulty; Inverter PCB faulty.	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET	56
E61	**Insufficient heating during washing**	Wiring faulty; NTC probe for wash cycle faulty; Heating element faulty; Main PCB faulty.	The heating phase is skipped	START/RESET	57
E62	**Overheating during washing (temperature higher than 88°C for more than 5 min.)**	Wiring faulty; NTC probe for wash cycle faulty; Heating element faulty; Main PCB faulty.	Safety drain cycle Cycle stops with door open	RESET	58
E66	**Heating element power relay faulty (inconsistency between sensing and K2 relay status)**	Earth-leakage between heating element and earth; Main PCB faulty.	Safety water fill Cycle stops with door closed.	ON/OFF RESET	59
E68	**Current leak to the ground**	Earth leakage between washing heating element and earth.	The heating phase is skipped	START/RESET	60

Alarm	Description	Possible fault	Machine status/action	Reset	Page
E69	**Heating element interrupted**	Wiring faulty; Heating element for washing interrupted (thermal fuse open); Main PCB faulty.	----------	START ON/OFF RESET	61
E6A	**Heating relay sensing faulty**	Main circuit board faulty.	Cycle stops with door locked	RESET	62
E6H	**Heating element power relay faulty (inconsistency between sensing and K1 relay status)**	Wiring faulty; Earth-leakage between washing heating element and earth; Main PCB faulty.	Safety water fill Cycle stops with door closed.	ON/OFF RESET	62
E71	**NTC probe for wash cycle faulty (short-circuited or open)**	Wiring faulty; NTC probe for wash cycle faulty Main circuit board faulty.	The heating phase is skipped	START/RESET	63
E72	**Fault in NTC sensor on drying condenser (voltage out of range, short-circuit or open circuit)**	Wiring faulty; Drying NTC sensor (condenser) improperly positioned or faulty; WD PCB faulty.	The heating and drying phase is skipped.	START/RESET	64
E73	**Fault in NTC sensor on drying duct (voltage out of range, short-circuit or open circuit)**	Wiring faulty; Drying NTC sensor (duct) improperly positioned or faulty; Main WD PCB faulty.	The heating and drying phase is skipped.	START/RESET	65
E74	**NTC probe for wash cycle improperly positioned**	Wiring faulty; NTC probe for wash cycle improperly positioned; NTC probe faulty; Main PCB faulty.	The heating phase is skipped	RESET	66
E83	**Error in reading selector**	Main PCB faulty (Incorrect configuration data).	Cycle cancelled	START/RESET	67
E86	**Selector configuration error**	Display board.	----------	START ON/OFF RESET	67
E87	**Display board microprocessor faulty**	If this continues, replace the display board.	No action to be performed, if continues, replace the display board	START ON/OFF RESET	67
E91	**Communication error between main PCB and display**	Wiring faulty; Control/display PCB faulty, Inverter board faulty, Weight sensor board faulty, ED PCB faulty, Main PCB faulty.	----------	RESET	68
E92	**Communication inconsistency between main PCB and display (incompatible versions)**	Incorrect control/display PCB Incorrect PCB (does not correspond to the model).	Cycle blocked	ON/OFF	69
E93	**Appliance configuration error**	Main PCB faulty (incorrect configuration data).	Cycle blocked	ON/OFF	69
E94	**Incorrect configuration of washing cycle**	Main PCB faulty (incorrect configuration data).	Cycle blocked	ON/OFF	69
E97	**Inconsistency between programme selector and cycle configuration**	Main PCB faulty (incorrect configuration data).	Cycle blocked	RESET	69
E98	**Communication error between main PCB - Inverter**	Incompatibility between main PCB and Inverter.	Cycle blocked	ON/OFF	79

Alarm	Description	Possible fault	Machine status/action	Reset	Page
E9C	**Display board configuration error**	Display board faulty.	----------	START ON/OFF RESET	70
E9E	**Display board sensor/touch key faulty**	Display board faulty.	----------	ON/OFF	70
EC1	**Electronically controlled valve blocked with operating flowmeter**	Faulty cabling; Faulty/blocked solenoid, PCB faulty.	Cycle stops with door locked Drain pump continues to operate (5 mins. on, then 5 mins. off, and so on)	RESET	71
EC2	**Data transfer error between Weight sensor and main PCB.**	Wiring faulty; Weight sensor faulty, PCB faulty.	----------	START/RESET	72
EC3	**Problems with the weight sensor (communication error with the weight sensor, no signal or outside the limits)**	Wiring faulty; Weight sensor faulty; Main PCB faulty.	----------	START/RESET	73
Ed1	**Data transfer error between WD PCB and main PCB**	Wiring faulty; Control/display PCB faulty, Inverter board faulty, Weight sensor board faulty, ED PCB faulty, Main PCB faulty.	Cycle blocked	START ON/OFF RESET	74
Ed2	**Drying heating element relay 1 faulty**	Wiring between WD PCB and thermostats faulty; Thermostats faulty; WD PCB faulty; Main PCB faulty.	Drying phase skipped	START ON/OFF RESET	74
Ed3	**Drying heating element relay 1 sensing faulty**	WD PCB faulty.	Drying phase skipped	START ON/OFF RESET	75
Ed4	**Drying heating element relay 2 faulty**	Wiring between WD PCB and thermostats faulty; Thermostats faulty; WD PCB faulty; Main PCB faulty.	Drying phase skipped	START ON/OFF RESET	75
Ed5	**Drying heating element relay 2 sensing faulty**	WD PCB faulty.	Drying phase skipped	START ON/OFF RESET	76
Ed6	**Thermostat sensing faulty**	WD PCB faulty.	----------	START ON/OFF RESET	76
Ed7	**Thermostats faulty**	Wiring between WD PCB and thermostats faulty; thermostats faulty; WD PCB faulty.	----------	----------	77
Ed8	**No tachometric signal from power fan**	Wiring faulty; Power fan faulty; WD PCB faulty.	Drying phase skipped	START ON/OFF RESET	78
Ed9	**Inconsistency between the power fan status and the piloting sensing signal**	WD PCB faulty.	Drying phase skipped	START ON/OFF RESET	79
EdA	**WD PCB power supply outside the limits**	Problem with the power supply network (incorrect/disturbed); WD PCB faulty.	Wait for nominal frequency conditions	START ON/OFF RESET	79

Alarm	Description	Possible fault	Machine status/action	Reset	Page
EdC	**Drying heating elements interrupted**	Drying heating elements disconnected; Wiring faulty; Drying heating elements interrupted.	----------	START ON/OFF RESET	80
Edd	**Current leak to the ground**	Earth leakage between drying heating elements and earth.	Drying phase skipped	START ON/OFF RESET	82
EdH	**WD PCB microprocessor faulty**	WD PCB faulty.	No action to be performed, if continues, replace the WD PCB	START ON/OFF RESET	84
EF1	**Drain filter clogged (drain phase too long)**	Drain filter clogged/dirty. Drain hose blocked/kinked/too high.	Warning displayed at the end of cycle.	START/RESET	84
EF2	**Overdosing of detergent (too much foam during drain phases)**	Excessive detergent dosing; Drain hose kinked/blocked; Drain filter clogged/dirty.	Warning displayed after 5 attempts	RESET	84
EF3	**Aqua control system intervention**	Water leaks onto base frame; Aqua control system faulty; Drain pump winding interruption/overheating.	Appliance drains	ON/OFF RESET	84
EF4	**Water fill pressure too low, no signal from flowmeter and electronically controlled valve is open**	Tap closed, water fill pressure too low.	----------	RESET	85
EF5	**Unbalanced load**	Final spin phases skipped.	----------	START/RESET	85
EF6	**Reset**	If it continues, replace the main board.	No action to be taken	----------	85
EH1	**Supply frequency of appliance outside the limits**	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal frequency conditions	ON/OFF	85
EH2	**Supply voltage too high**	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal voltage conditions.	ON/OFF	86
EH3	**Supply voltage too low**	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal voltage conditions.	ON/OFF	86
EHC	**WD line relay faulty (inconsistency between relay status and relay sensing)**	Main circuit board faulty.	Safety drain cycle Cycle stops with door open	ON/OFF RESET	86
EHD	**WD line relay sensing faulty**	Main circuit board faulty.	Cycle stops with door locked	RESET	87
EHE	**Inconsistency between FCV relay (in the main board) and safety "sensing" circuit**	Faulty cabling; Main circuit board faulty.	Safety drain cycle Cycle stops with door open	RESET	87
EHF	**Safety sensing circuit faulty (wrong input voltage to microprocessor)**	Main circuit board faulty.	Safety drain cycle Cycle stops with door open	RESET	87

5.6 Notes on the behaviour of certain alarms

- **Configuration alarm E93:** when this alarm rings (when turned on) the machine blocks and the alarm code appears on the display provided the relevant configuration part is intact.
  It will not be possible to access diagnostics mode and the only available option is to turn the appliance off.

- **Configuration alarm E94:** The code can be viewed from the display.
  The diagnostics mode cannot be accessed and the “quick alarm viewing” mode cannot be used.

- **Alarms EH1-EH2-EH3:** in the event of problems with the supply voltage, the appliance remains in alarm status until the mains frequency or voltage returns to acceptable values or the appliance is switched off. The display only shows the **“H”** alarm family.

- **Alarms E51- E52:** all the alarms are displayed during diagnostic testing: normally, when shifting from one control phase to another, the appliance quits the alarm mode and executes the selected phase. This is not the case for alarms E51 (motor power supply TRIAC short-circuiting) and E52 (no signal from motor tachometric generator): the only possibility to get out of the alarm situation is to turn the appliance off then turn it on again with the ON/OFF button or disconnect the plug from the socket.

6 CANNOT ACCESS THE DIAGNOSTICS PROGRAMME

6.1 None of the LEDs on the circuit board light up

Checks to perform:

Check that all the connectors are correctly inserted

Are the power supply cable and the connection on the main board (**J1**connector) working?

NO → Replace/repair the power supply cable, check the connection

YES

Is the communication wiring between the main board (**J15** connector) and WD satellite board (**J6** connector) and between the WD satellite board (**J7** connector) and display board (**J3** connector) working properly? (insert and remove)

NO → Replace/repair wiring

YES

Does the ON/OFF button function mechanically?

NO → Replace/repair the button or replace the display board

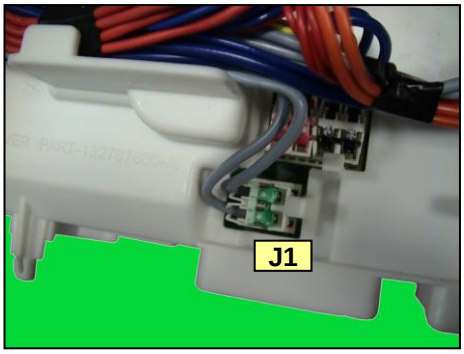
YES

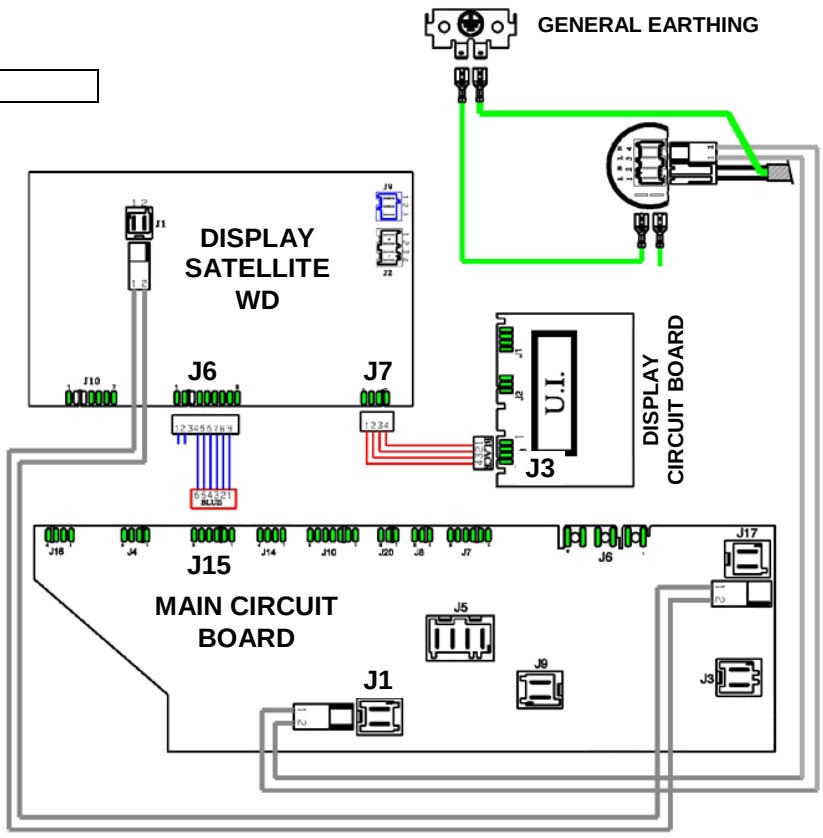
Change the main circuit board
Is the appliance working correctly?

NO → Replace display board

YES

Run the diagnostics programme.





If there are burns on the circuit board, see page 94/95

6.2 Some LEDs come on, on the display board

Checks to perform:

Check that all the connectors are correctly inserted

Are the keys unobstructed through the control panel slots and do they activate the various buttons correctly?

NO

Sort out any mechanical problems (control panel/buttons/pins)

YES

Change the display board and run the diagnostics programme

If there are burns on the circuit board, see page 94/95

7 TROUBLESHOOTING BASED ON ALARM CODES

E11	E11: Water fill difficulty during washing Maximum water fill time for every level of the pressure switch (the time is reset every time the level is achieved)	E11

Checks to perform:

Check that all the connectors are correctly inserted

Run the diagnostic cycle and fill all the trays with water **(phases 2,3,4,5,6)**
Are all the trays filling with water?

NO

YES

Is the drain tube positioned correctly and not causing the siphon effect? **(fig. 1)**

NO → Repair the drain circuit and repeat the diagnostic cycle to check for any further alarms.

YES

Is the washing machine's water circuit efficient (leaking)?

NO → Repair the water circuit and repeat the diagnostic cycle to check for any further alarms.

YES

Is the pressure switch's water circuit efficient (leaking/clogged)? **(fig. 2)**

NO → Repair the water circuit of the pressure switch and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

Is one or are all the solenoid valves not working?

NO → Check whether the tap is open, if the water pressure is too low and make sure the tubes are connected and not kinked.

YES

Is the resistance measurement of the solenoid valve approximately 3.5÷4.5KΩ? (Measure it directly on the solenoid valve without wiring) -(see **fig. 3)**-

NO → Replace the solenoid valve and repeat the diagnostic cycle to check for any further alarms.

YES

Reconnect the connector and measure approximately 3.5÷4.5 KΩ on the solenoid valve wiring connector on the circuit board side **(fig.4):**
Between J7-1 and J7-3 wash
Between J7-4 and J7-6 pre-wash
Between J8-1 and J8-3 water steam
Between J20-1 and J20-3 hot water
Is the solenoid valve wiring ok?

NO → Replace/repair the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E11

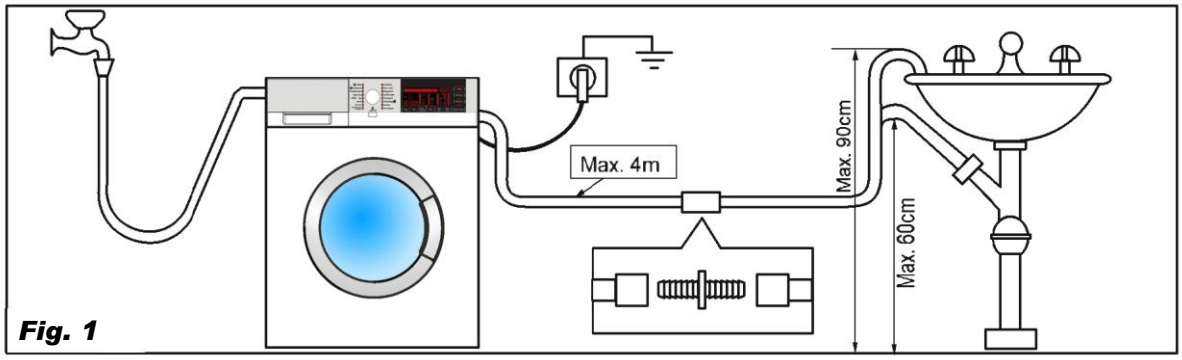


Fig. 1

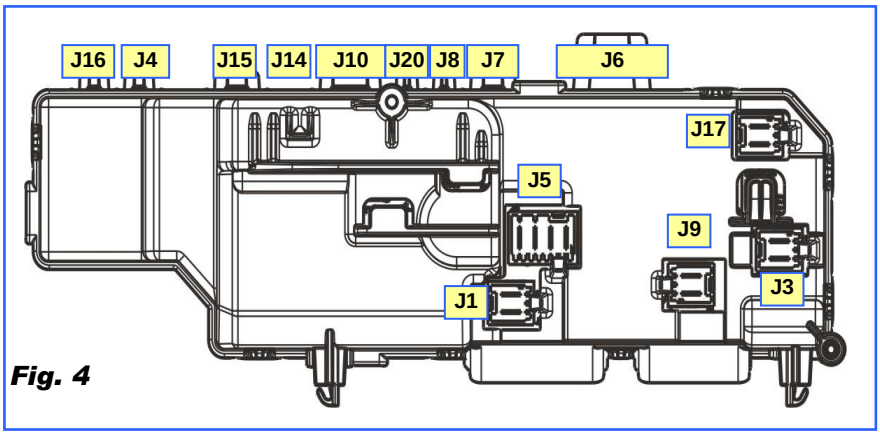


Fig. 4

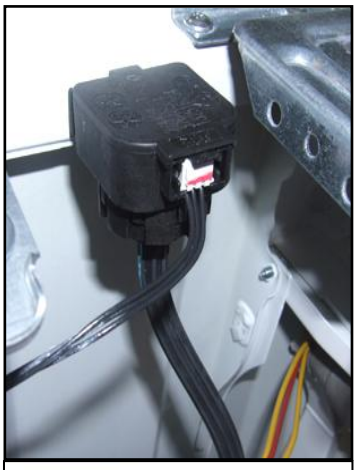


Fig. 2

Fig. 3

If there are burns on the circuit board, see page 94/95

E12	E12: Water fill difficulty during drying	E12
	In order to check if the condensation solenoid valve works, the appliance measures the increase in the level of water at the start of the drying phase. (The alarm appears after 10 mins. of load without the level having been reached).	

Checks to perform:

Check that all the connectors are correctly inserted

Run the diagnostic cycle and set the **phase 10** drying.

YES

By removing the detergent dispenser drawer, does water leak out of the conveyor? (see **fig. 27**)

NO

Do the tap and piping allow the water to load? (tap open, pipes connected and not kinked).

NO

Open the tap / set the piping and restart the diagnostic cycle to check for any further alarms.

YES

Repeat the diagnostic cycle to check for any further alarms.

YES

Is the resistance measurement of the solenoid valve approximately 3.5÷4.5KΩ? (Measure it directly on the solenoid valve without wiring) (see **fig. 26**)

NO

Replace the solenoid valve and repeat the diagnostic cycle to check for any further alarms.

YES

Reconnect the connector and measure approximately 3.5÷4.5KΩ on the solenoid valve wiring connector (on the circuit board side)**:** between J8-1 and J8-3. Is the solenoid valve wiring okay?

NO

Replace/repair the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

E12

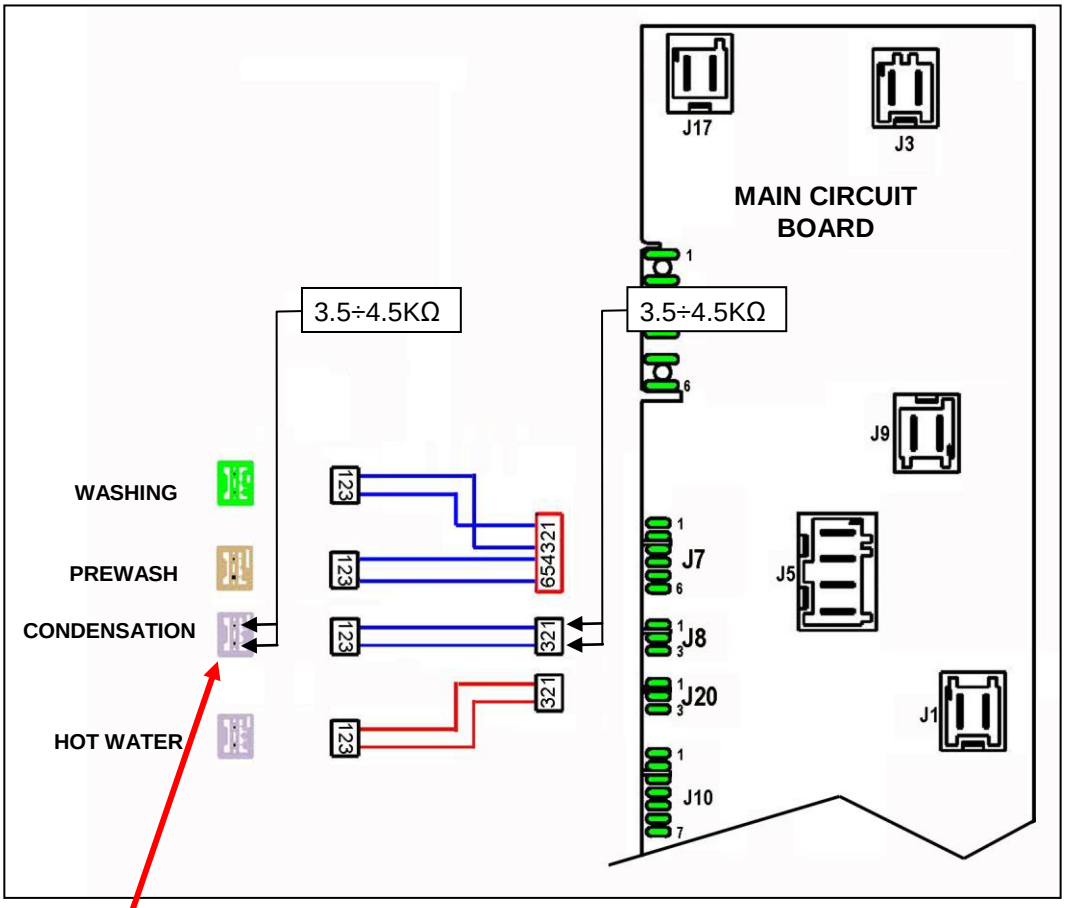


Fig. 26

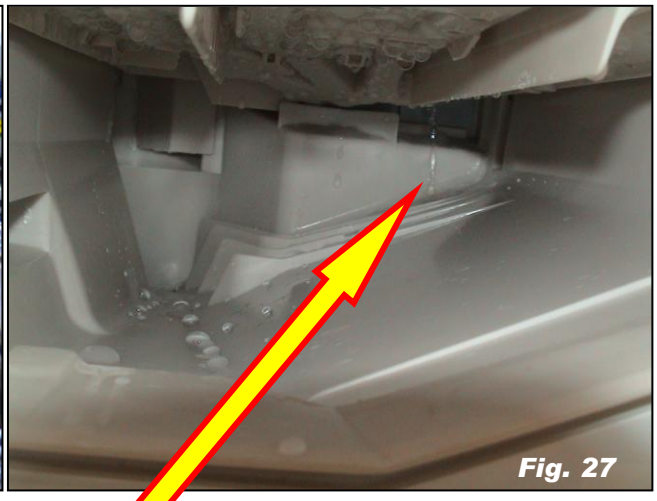


Fig. 27

Water that flows from the condensation solenoid valve.

E13	E13: Water leaks	E13
	Maximum overall water fill time exceeded (sum of all water fills between one drain phase and the next to avoid exceeding the maximum volume)	

Checks to perform:

Check that all the connectors are correctly inserted

Run the diagnostic cycle and fill all the trays with water **(phases 2,3,4,5,6)**
Are all the trays filling with water?

NO

Is the drain tube positioned correctly and not causing the siphon effect? **(fig. 1)**
NO → Repair the drain circuit and repeat the diagnostic cycle to check for any further alarms.
YES

Is the washing machine's water circuit efficient (leaking)?
NO → Repair the water circuit and repeat the diagnostic cycle to check for any further alarms.
YES

Is the pressure switch's water circuit efficient (leaking/clogged)? **(fig. 2)**
NO → Repair the water circuit of the pressure switch and repeat the diagnostic cycle to check for any further alarms.
YES

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

Is one or are all the solenoid valves not working?
NO → Check whether the tap is open, if the water pressure is too low and make sure the tubes are connected and not kinked
YES

Is the resistance measurement of the solenoid valve approximately 3.5÷4.5KΩ? (Measure it directly on the solenoid valve without wiring) -(see **fig. 3)**-
NO → Replace the solenoid valve and repeat the diagnostic cycle to check for any further alarms.
YES

Reconnect the connector and measure approximately 3.5÷4.5KΩ on the solenoid valve wiring connector on the circuit board side **(fig.4):**
Between J7-1 and J7-3 wash
Between J7-4 and J7-6 pre-wash
Between J8-1 and J8-3 water steam
Between J20-1 and J20-3 hot water
Is the solenoid valve wiring ok?
NO → Replace/repair the wiring and repeat the diagnostic cycle to check for any further alarms.
YES

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E13

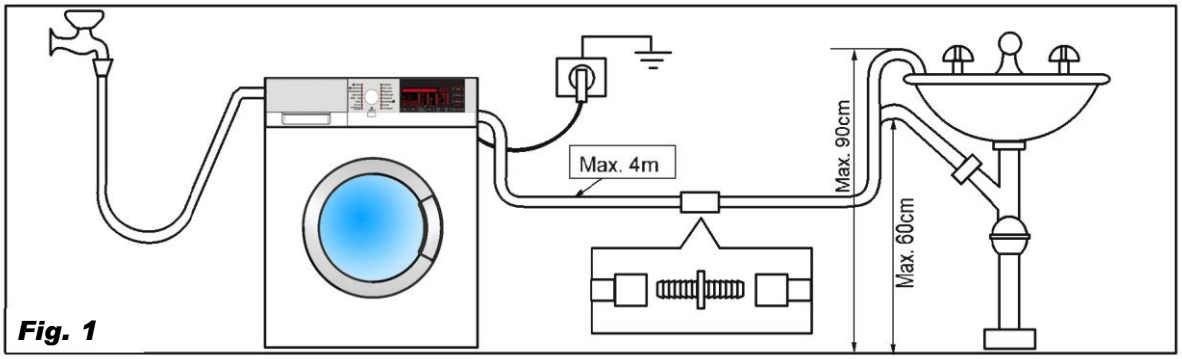


Fig. 1

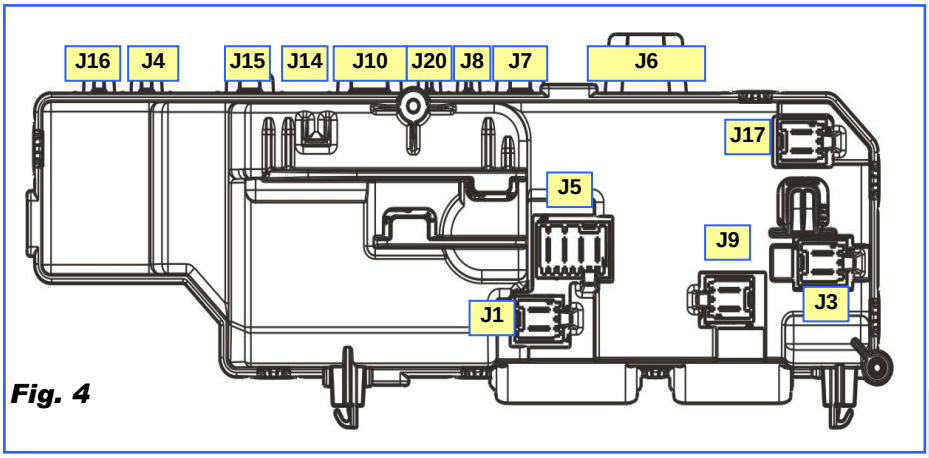
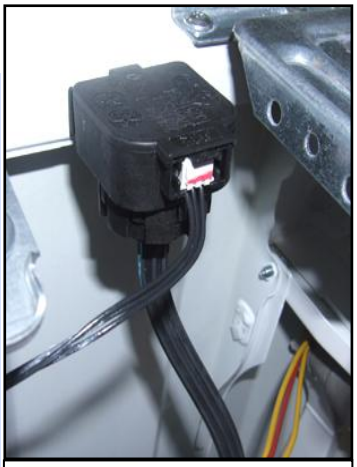


Fig. 4



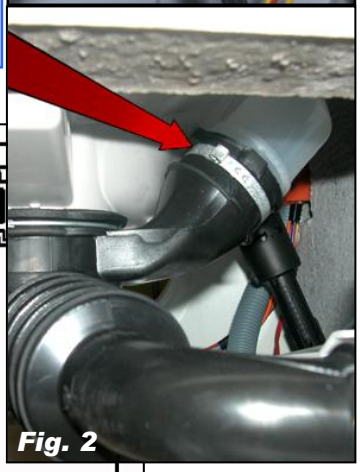


Fig. 2

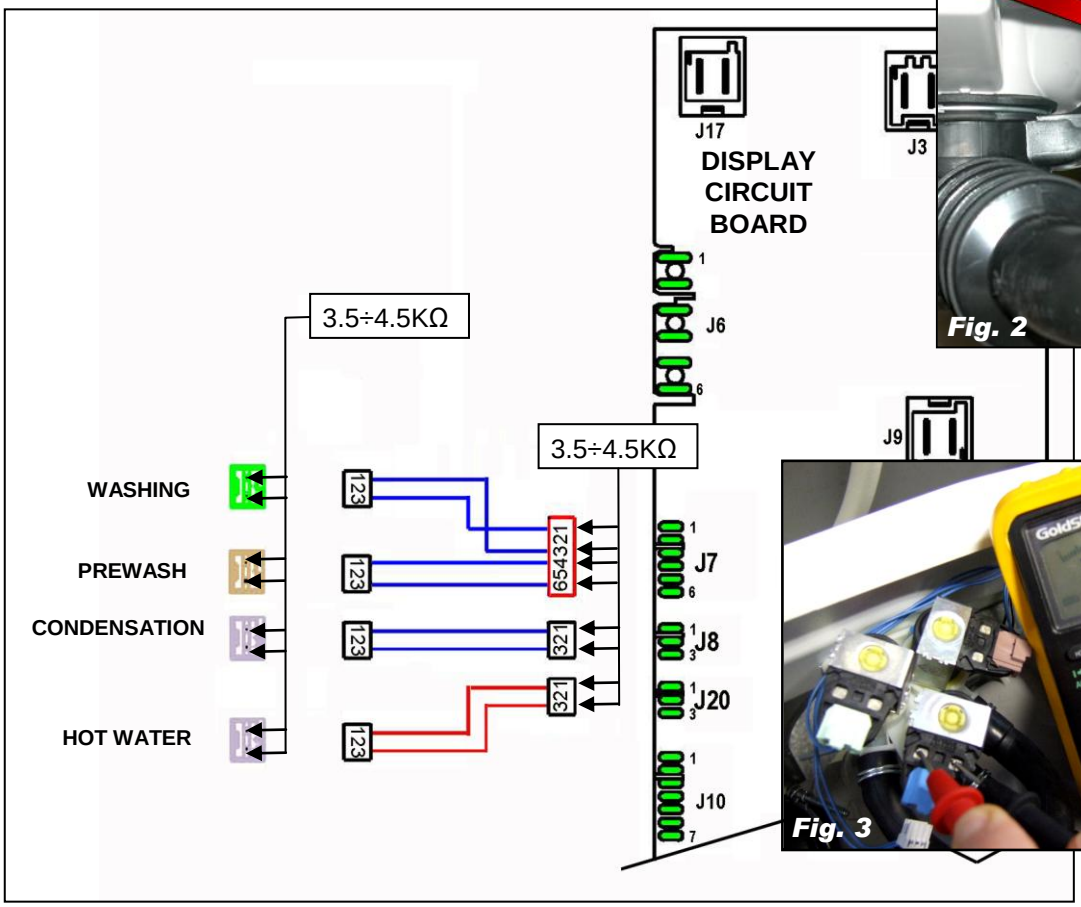


Fig. 3

If there are burns on the circuit board, see page 94/95

E21	E21: Drain difficulty	E21
	Maximum drain time exceeded (measured for every cycle phase)	

Checks to perform:

Check that all the connectors are correctly inserted

Is the drain filter clean?
- NO → Clean the filter and repeat the diagnostic cycle to check for any further alarms.
- YES ↓

Is the drain system ok? (drain pipe and domestic water system) (see **fig. 1)**
- NO → Disconnect and check the drain system and repeat the diagnostic cycle to check for any further alarms.
- YES ↓

Is the drain pump working? (in the diagnostic cycle, select **phase 2** fill and **phase 9** drain) (noise from the pump)
- NO → Is the resistance measurement of the pump approximately 230÷270Ω? (Measure it directly on the connector on the board side between J6-3 and J6-4) -(see **fig. 4**)-
  - NO → Is the resistance measurement of the pump approximately 230÷270Ω? (Measure it directly on the pump) -(see **fig. 5)**-
    - NO → Replace the pump and repeat the diagnostic cycle to check for any further alarms.
    - YES → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.
  - YES → Is the pump rotor mechanically blocked or broken?
    - NO → Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.
    - YES → Clean/replace the drain pump and repeat the diagnostic cycle to check for any further alarms.
- YES ↓

Is the pressure switch's water circuit efficient? (no clogging)
- NO → Repair the water circuit of the pressure switch and repeat the diagnostic cycle to check for any further alarms.
- YES ↓

Replace the pressure switch and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E21

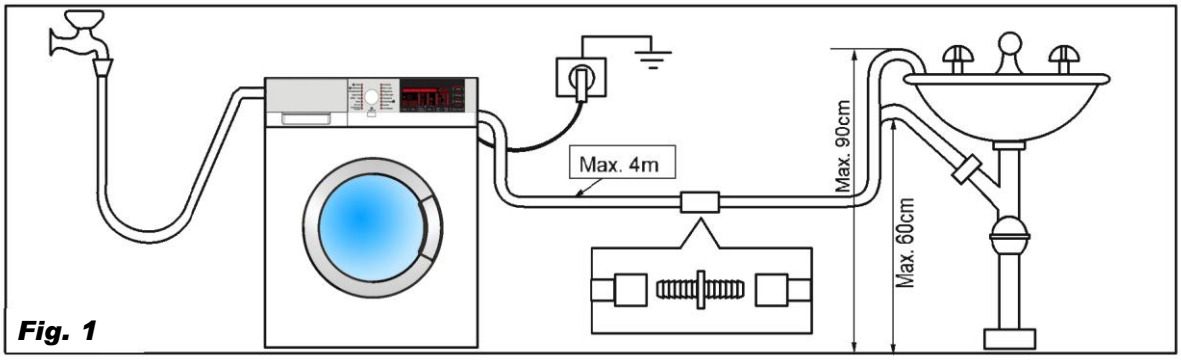


Fig. 1

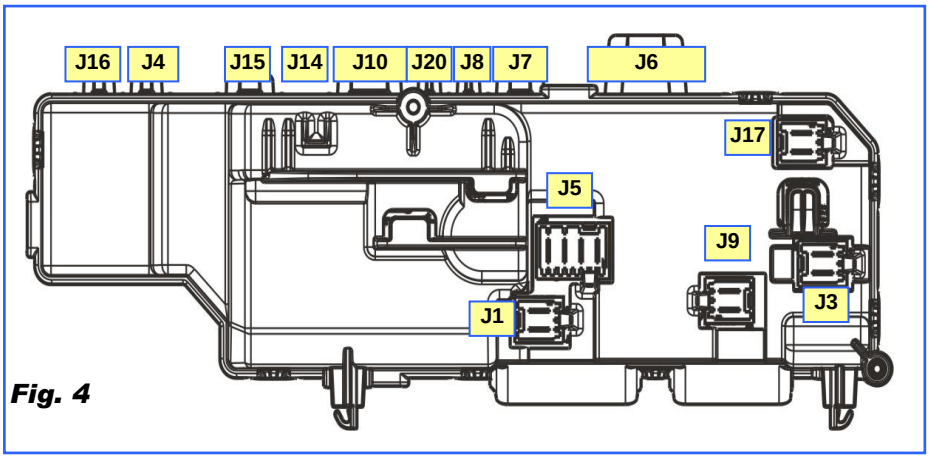
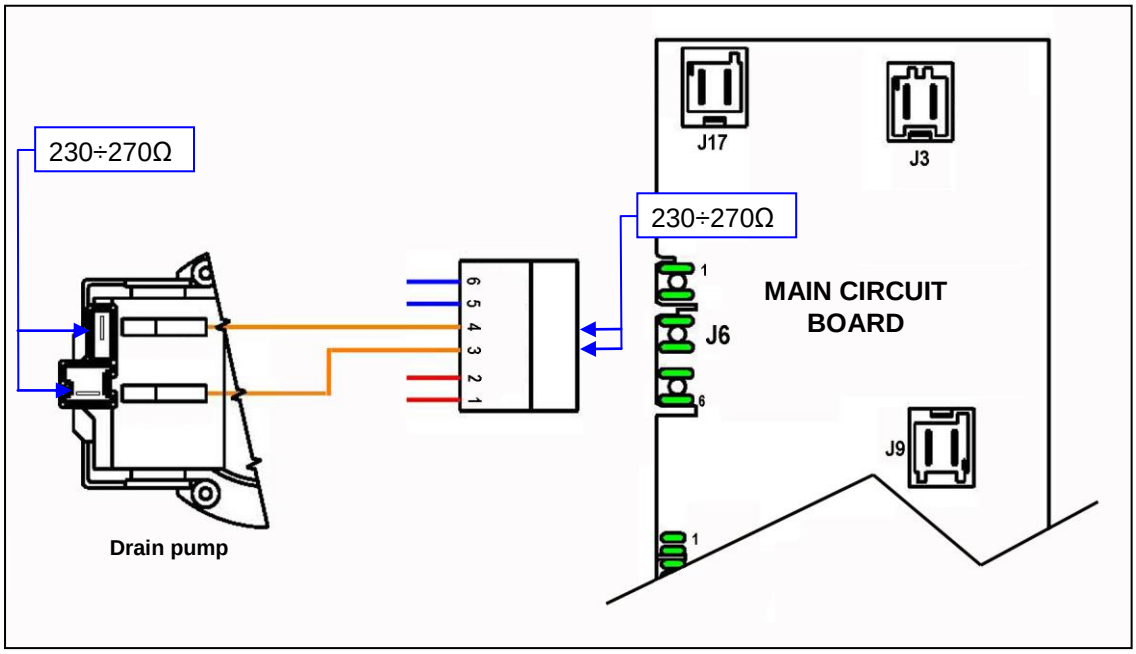


Fig. 4



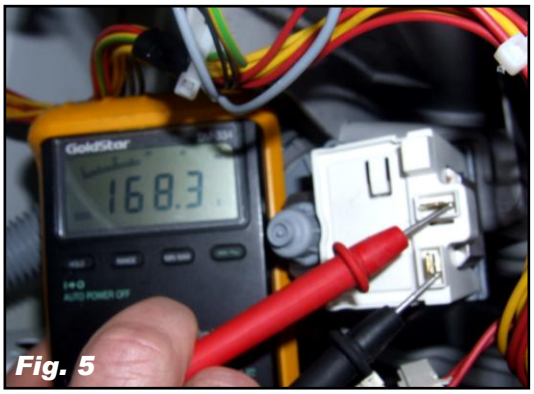


Fig. 5

If there are burns on the circuit board, see page 94/95

E22 | E22: Water drainage difficulty during drying | E22

Checks to perform:

! Check that all the connectors are correctly inserted

Is the drain filter clean?
- NO → Clean the filter and repeat the diagnostic cycle to check for any further alarms.
- YES ↓

Is the drain system ok? (drain pipe and domestic water system) (see **fig. 1)**
- NO → Disconnect and check the drainage system.
- YES ↓

Is the drain pump working? (in the diagnostic cycle, select **phase 2** fill and **phase 9** drain) (noise from the pump)
- NO → Is the resistance measurement of the pump approximately 230÷270Ω? (Measure it directly on the connector on the board side between J6-3 and J6-4) - (see **fig. 4**)
  - NO → Is the resistance measurement of the pump approximately 230÷270Ω? (Measure it directly on the pump) (see **fig. 5)**
    - NO → Replace the pump and repeat the diagnostic cycle to check for any further alarms.
    - YES → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.
  - YES ↓ Is the pump rotor mechanically blocked or broken?
    - NO → Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.
    - YES → Clean/replace the drain pump and repeat the diagnostic cycle to check for any further alarms.
- YES ↓

Is the pressure switch's water circuit efficient? (no clogging)
- NO → Repair the water circuit of the pressure switch and repeat the diagnostic cycle to check for any further alarms.
- YES ↓

Replace the pressure switch and repeat the diagnostic cycle to check for any further alarms.

! If there are burns on the circuit board, see page 94/95

E22

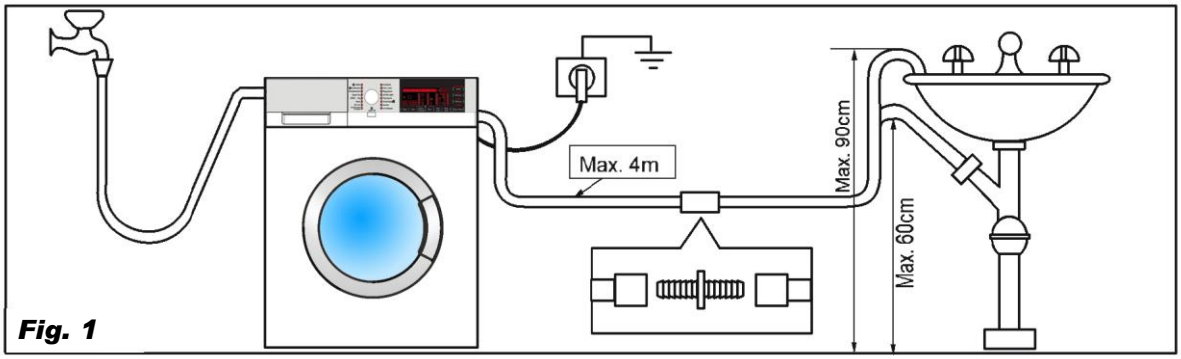


Fig. 1

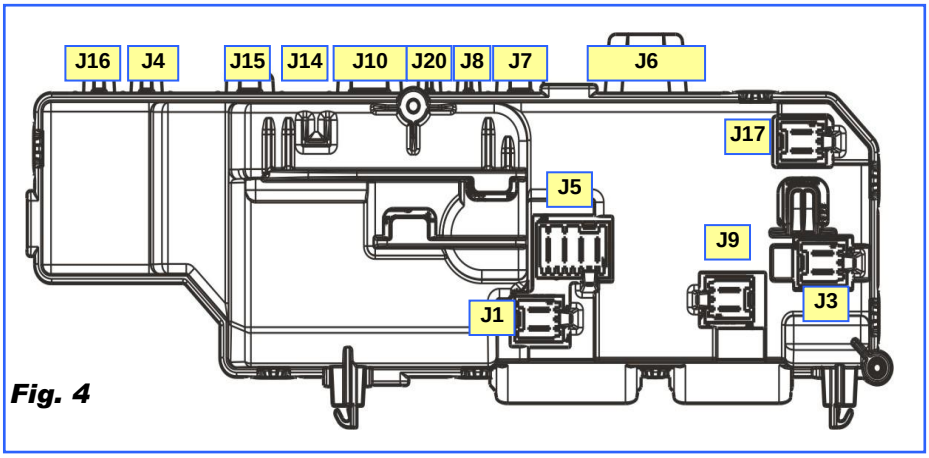
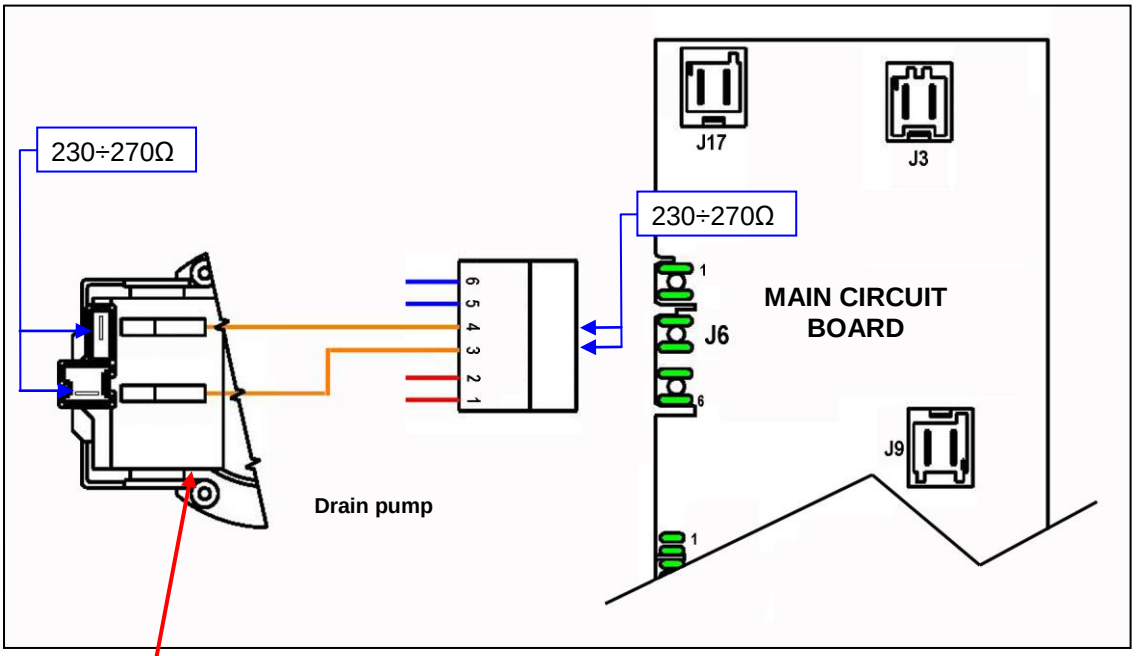


Fig. 4



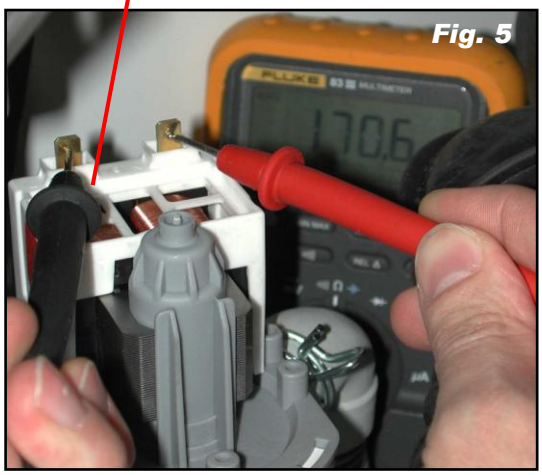


Fig. 5

If there are burns on the circuit board, see page 94/95

E23	E23: Problems with the component (triac) controlling the drain pump	E23

Checks to perform:

Check that all the connectors are correctly inserted

Is the resistance measurement of the pump approximately 230÷270Ω? (Measure it between connectors J6-3 and J6-4 on the board side) (see **fig. 4**)

NO

Is the resistance measurement of the pump approximately 230÷270Ω? (Measure directly on the pump) (see **fig. 5**)

NO

Replace the pump and repeat the diagnostic cycle to check for any further alarms.

YES

Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Measure it between connectors J6-3 / J6-4 and the appliance body. (see **fig. 6**) Is there any dispersion?

NO

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

YES

Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E23

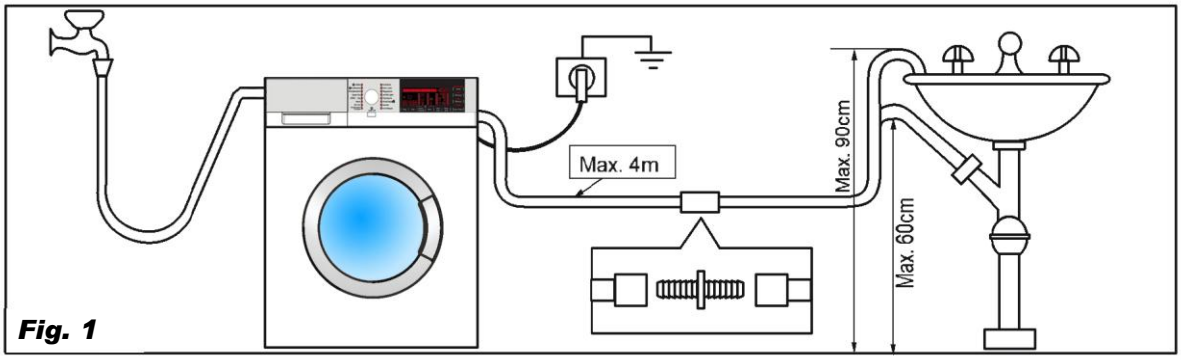


Fig. 1

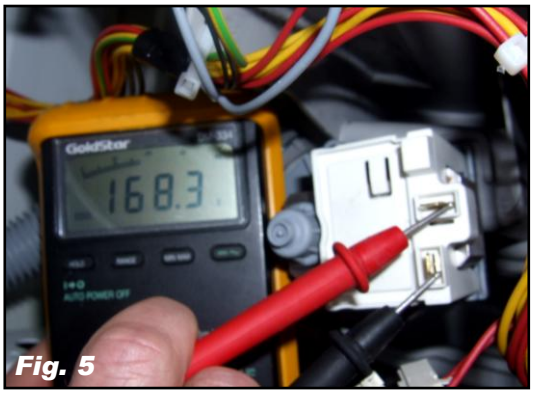


Fig. 5

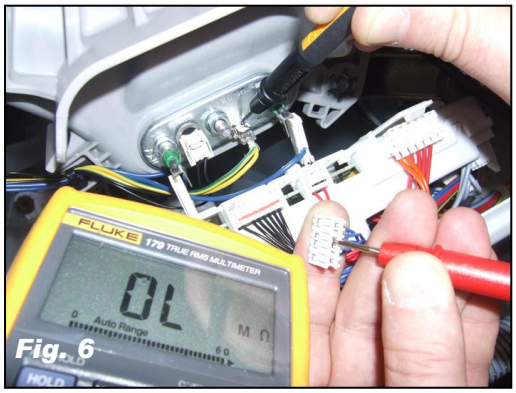
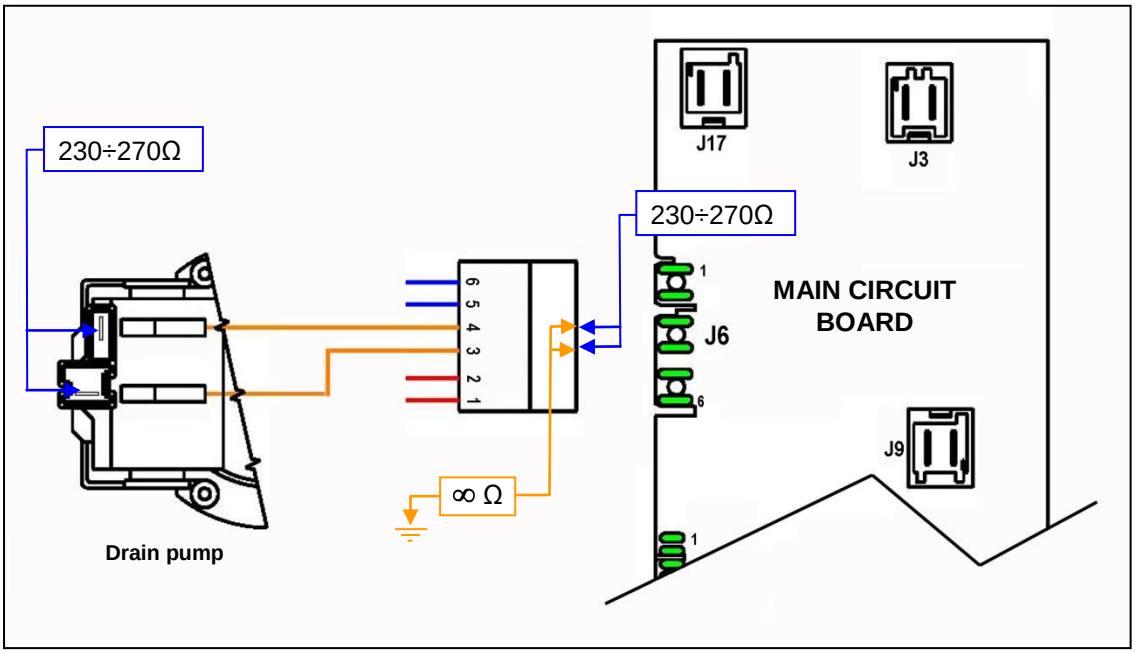


Fig. 6



If there are burns on the circuit board, see page 94/95

E24	E24: Sensing circuit of the component (triac) controlling the drain pump faulty	E24

Checks to perform:

! *Check that all the connectors are correctly inserted*

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

! *If there are burns on the circuit board, see page 94/95*

E31	E31: The analogue pressure switch provides the main circuit board with a signal outside the limits	E31

Checks to perform:

! *Check that all the connectors are correctly inserted*

Measure that the circuit is closed between J10-1, J10-2, J10-3 and the connector of the analogue pressure switch (they are three independent wires) (see **fig. 7**). is the wiring between the main circuit board and the analogue pressure switch ok and is it connected correctly on both sides?

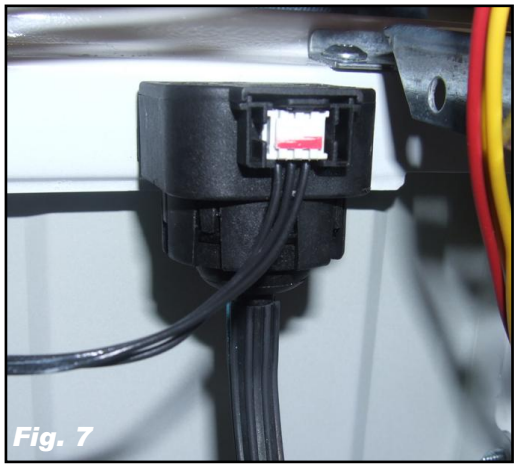
NO → Reconnect and/or replace the wiring and repeat the diagnostic cycle to check for any further alarms.

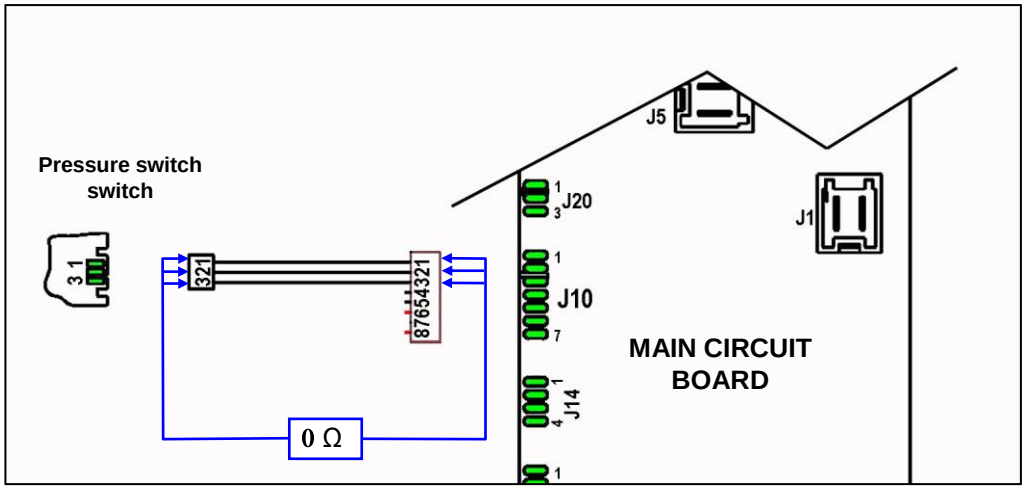
YES

Replace the analogue pressure switch and repeat the diagnostic cycle to check for any further alarm codes. Is the appliance displaying the same alarm code again?

YES

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarm codes.





! *If there are burns on the circuit board, see page 94/95*

E32	**E32: The analogue pressure switch causes an error during calibration** (At the start of every cycle, the appliance drains to empty the tub and creates a level 0 to check the calibration of the analogue pressure switch)	E32

Checks to perform:

Check that all the connectors are correctly inserted

Drain the water from the tub. Are the pressure switch tube and pressure chamber unobstructed? (disconnect the tube and blow into it to make sure the system is unobstructed) (see **fig. 2** and **8)**

NO → Clean/replace the tube and/or the pressure chamber and repeat the diagnostic cycle completely to check for any further alarms.

YES

Check the drain system (filter, drain pump, drain tube). Is the appliance draining correctly?

NO → Repair the drain circuit.

YES

Select a washing cycle. After a few minutes, has the appliance filled with water and is the motor running?

NO → Replace the analogue pressure switch and repeat the diagnostic cycle to check for any further alarms.

YES

Appliance ok

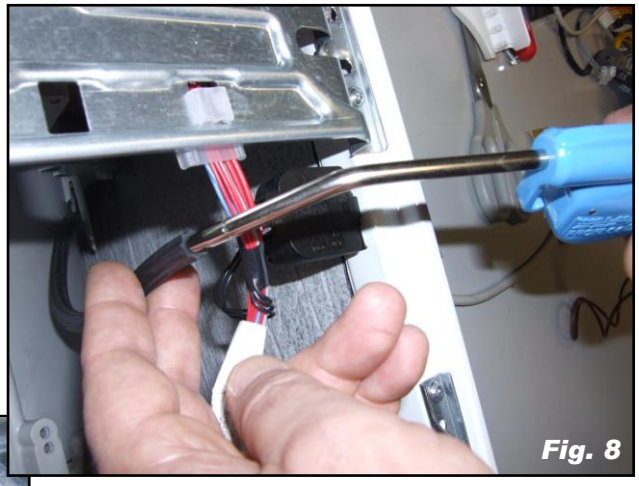


Fig. 8

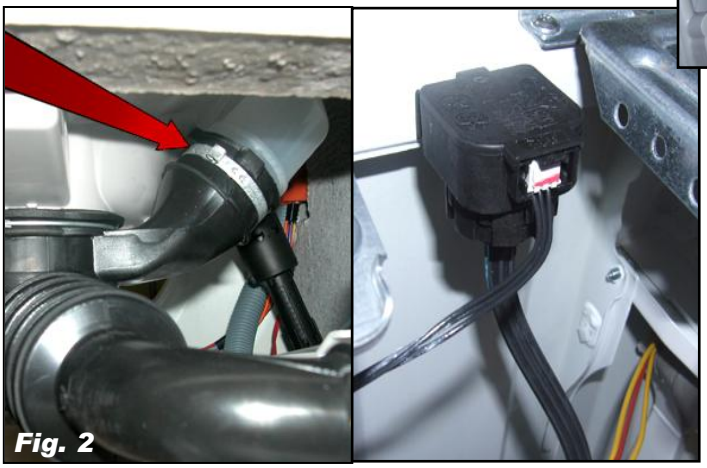


Fig. 2

If there are burns on the circuit board, see page 94/95

E35	E35: Water level too high	E35
	The main circuit board measures a water level, using the electronic pressure switch, of more than 300 mm for longer than 15 secs.	

Checks to perform:

Check that all the connectors are correctly inserted

Drain the water from the tub. Are the pressure switch tube and pressure chamber unobstructed? (disconnect the tubes and blow into them to make sure the system is unobstructed) (see **fig. 2 and 8**)

NO → Clean/change the tube and/or the pressure chamber and repeat the diagnostic cycle completely to check for any further alarms.

YES

Does the appliance continue to fill with water even when it is switched off?

NO → Run the diagnostic cycle at **phase 9**. Once the door has locked, does the appliance start to fill with water?

NO → Is the wiring between the main circuit board and the analogue pressure switch connected correctly on both sides?

NO → Reconnect and/or replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the water fill solenoid valve and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

YES

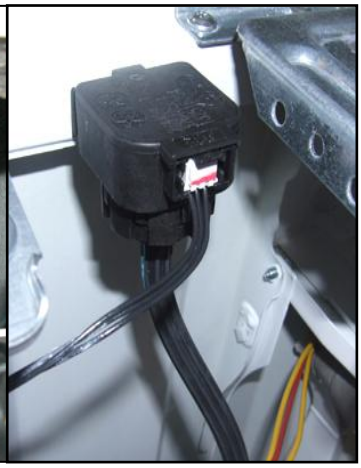
Replace the analogue pressure switch. Run a rinse cycle. Is alarm E35 shown again?

NO → Repeat the diagnostic cycle to check for any further alarms.

YES

Replace the solenoid valve. Repeat the diagnostic cycle to check for any further alarms.

Fig. 2



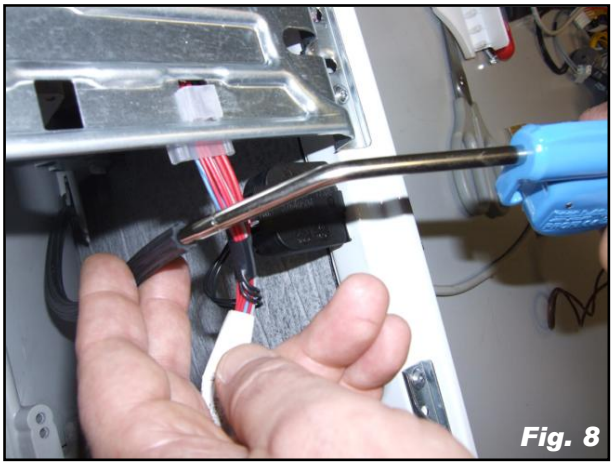


Fig. 8

If there are burns on the circuit board, see page 94/95

E38	E38: Internal pressure chamber is clogged	E38
	The analogue pressure switch is not able to measure any variation in the water level for at least 30 secs during drum rotation.	

Checks to perform:

Check that all the connectors are correctly inserted

Run the diagnostic cycle and set **phase 8**.
Is the motor running and the drum not moving?

NO

Drain the water from the tub and check the internal pressure chamber and the pressure switch tube.
Is the system unobstructed?
(see **fig. 2**)

NO

Clean the internal pressure chamber and/or the pressure switch tube (disconnect the tube and blow into it to make sure the system is unobstructed).
(see **fig. 8**)
Repeat the diagnostic cycle to check for any further alarms.

YES

Replace/reposition the belt and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the analogue pressure switch and repeat the diagnostic cycle to check for any further alarms.

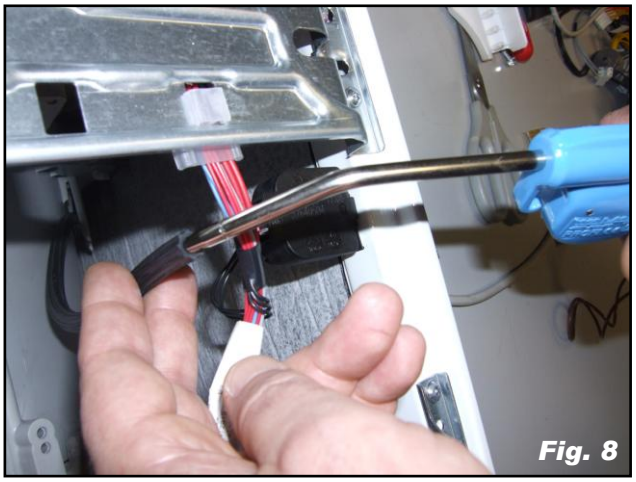


Fig. 8

Fig. 2

If there are burns on the circuit board, see page 94/95

E41	E41: Door open (device with 4 connections) Maximum time exceeded (5 pulses per instant)	E41

Checks to perform:

Check that all the connectors are correctly inserted

To check the wiring, keep the door open and measure between the following wiring connectors (see **fig. 4**):
- between J5-1 and J5-3, the circuit **MUST NOT** be open (measure the resistance value of the PTC).
- between J5-1 and J5-4, the circuit **MUST NOT** be open (measure the resistance value of the PTC).
- between wire J5-1 and J5-2, the circuit must be OPEN.

Is the system ok?

NO → Disconnect the door lock connectors and measure on the component:
- between connectors 3 and 4, the circuit must NOT be open (measure the resistance value of the PTC).
- between connectors 2 and 4, the circuit must NOT be open (measure the resistance value of the PTC).
- on the other hand, between connectors 4 and 5, the circuit must be OPEN (the numbers are printed on the component).

Is the door lock ok? (see **fig. 9**)

NO → Replace the door lock and repeat the diagnostic cycle to check for any further alarms.

YES → Measure the continuity between connector J5 (main circuit board) and the door lock connector.
Is the wiring ok?

NO → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES → Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

YES → Check the mechanical coupling between the door lock and the door latch. Is the system efficient?

NO → Replace the door latch/the door

YES → Replace the door lock.
Is the appliance working correctly?

NO → Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

YES → Repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E41 (device with 4 connections)

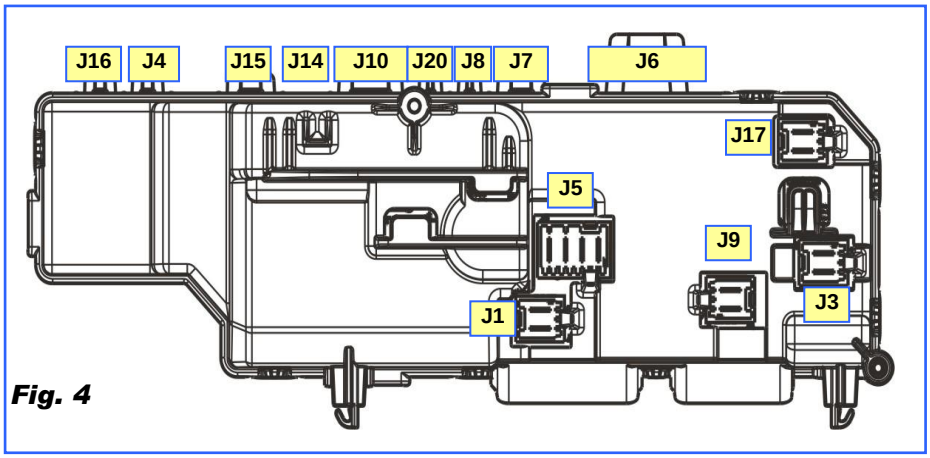


Fig. 4

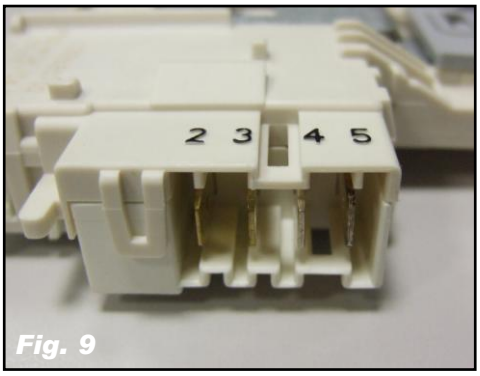


Fig. 9

If there are burns on the circuit board, see page 94/95

E42	E42: Problems opening door (device with 4 connections) Maximum time exceeded (5 pulses per instant)	E42

Checks to perform:

Check that all the connectors are correctly inserted

To check the wiring, keep the door open and measure between the following wiring connectors (**fig. 4**):
- between J5-1 and J5-3, the circuit must NOT be open (measure the resistance value of the PTC).
- between J5-1 and J5-4, the circuit must NOT be open (measure the resistance value of the PTC).
- between wire J5-1 and J5-2, the circuit must be OPEN.

Is the system ok?

NO → Disconnect the door lock connectors and measure on the component:
- between connectors 3 and 4, the circuit must NOT be open (measure the resistance value of the PTC).
- between connectors 2 and 4, the circuit must NOT be open (measure the resistance value of the PTC).
- on the other hand, between connectors 4 and 5, the circuit must be OPEN (the numbers are printed on the component).

Is the door lock ok? (see **fig. 9**)

NO → Replace the door lock and repeat the diagnostic cycle to check for any further alarms.

YES → Measure the continuity between connector J5 (main circuit board) and the door lock connector. Is the wiring ok?

NO → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES → Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

YES → Check the mechanical coupling between the door lock and the door latch. Is the system efficient?

NO → Replace the door latch/the door

YES → Replace the door lock. Is the appliance working correctly?

NO → Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

YES → Repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E42 (device with 4 connections)

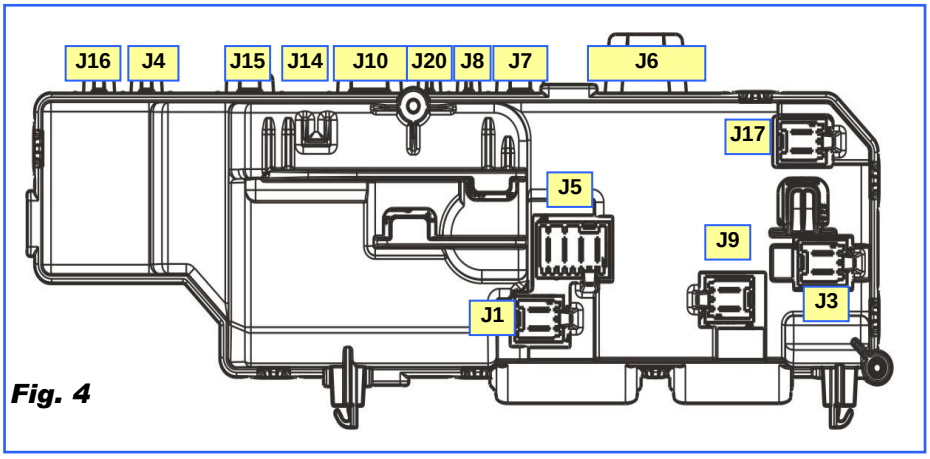


Fig. 4

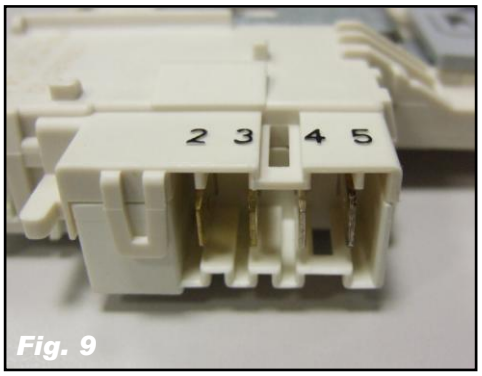


Fig. 9

If there are burns on the circuit board, see page 94/95

E43	E43: Problems with the component (triac) controlling the door delay system (device with 4 connections)	E43

Checks to perform:

! ***Check that all the connectors are correctly inserted***

To check the wiring, keep the door open and measure between the following wiring connectors (**fig. 4**):
- between J5-1 and J5-3, the circuit must NOT be open (measure the resistance value of the PTC).
- between J5-1 and J5-4, the circuit must NOT be open (measure the resistance value of the PTC).
- between wire J5-1 and J5-2, the circuit must be OPEN.

Is the system ok?

NO

Disconnect the door lock connectors and measure on the component:
- between connectors 3 and 4, the circuit must NOT be open (measure the resistance value of the PTC).
- between connectors 2 and 4, the circuit must NOT be open (measure the resistance value of the PTC).
- on the other hand, between connectors 4 and 5, the circuit must be OPEN (the numbers are printed on the component).

Is the door lock ok? (see **fig. 9**)

NO

Replace the door lock and repeat the diagnostic cycle to check for any further alarms.

YES

Measure the continuity between connector J5 (main circuit board) and the door lock connector.
Is the wiring ok?

NO

Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

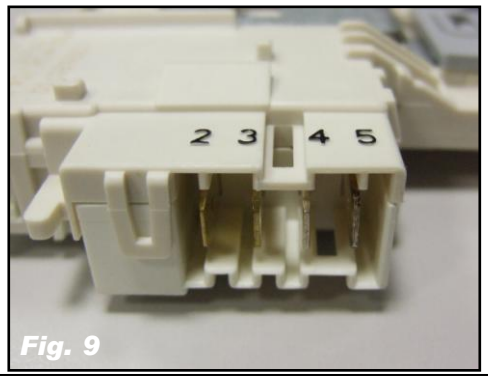
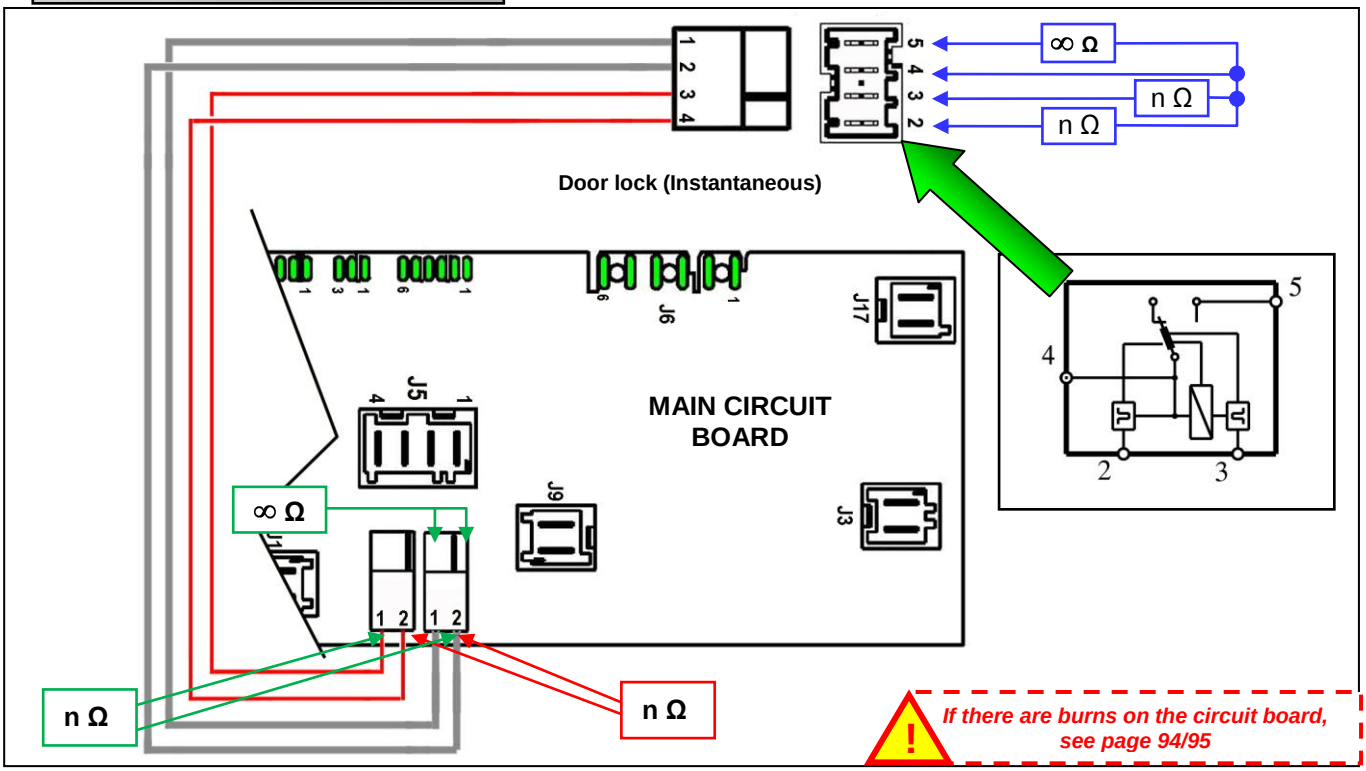


Fig. 9



! ***If there are burns on the circuit board, see page 94/95***

E44	E44: Door closed “sensing” circuit faulty	E44

Checks to perform:

Check that all the connectors are correctly inserted

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

E45	E45: Problems with the “sensing” circuit of the component (triac) controlling the door delay system	E45

Checks to perform:

Check that all the connectors are correctly inserted

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E52	**E52: No signal from motor tachometric generator *(first part)***	E52
	Cycle interrupted after 5 attempts during the cycle, immediately if recognised at the start of the cycle or during diagnostics.	

Checks to perform:

Check that all the connectors are correctly inserted

Access **phase 8** of the diagnostic cycle (The drum rotates at 55 rpm clockwise 55 rpm anticlockwise with pulse at 250 rpm). Is the motor running correctly?

NO → The motor never runs **- see page 44-**

YES →

Measure between the terminals of the wiring connector J2-3 and J2-4. Are the values (Ω) of the tachometric generator correct? (as on **page 45** - Point 4 - phase "A").

NO → Detach the connector from the motor and measure (Ω) the tachometric generator coil, (see **fig. 11**) Is the value correct? (as on **page 45** Point 4 – phase "A").

NO → Replace the motor or tachometric generator and repeat the diagnostic cycle to check for any further alarms.

YES → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES →

Measure between the same terminals of the wiring connector (J2-3 and J2-4) and the appliance body. Is there any dispersion? (see **fig. 13**)

NO → Check the positioning of the tachometric generator. Is it correct? (see **fig. 12**)

NO → Replace the motor/generator and repeat the diagnostic cycle to check for any further alarms.

YES → Replace the motor control board and repeat the diagnostic cycle to check for any further alarms.

YES →

Detach the connector from the motor and measure between the terminals and the motor casing. (see **fig. 10**). Is there any dispersion?

NO → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES → Replace the motor and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E52

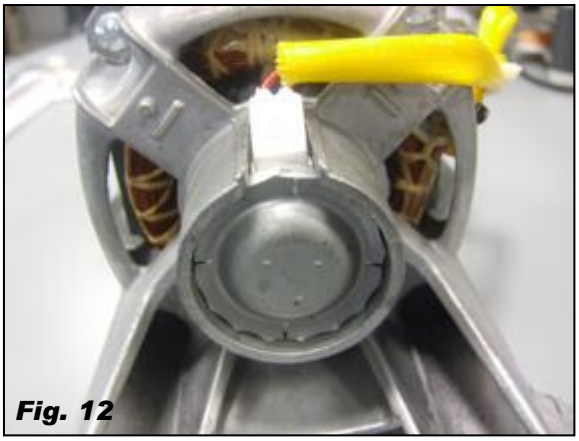


Fig. 12

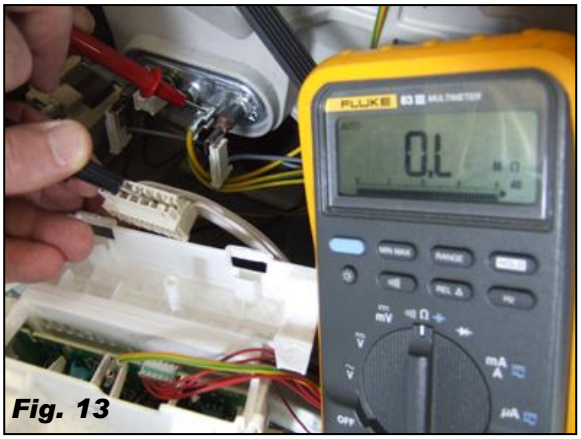


Fig. 13

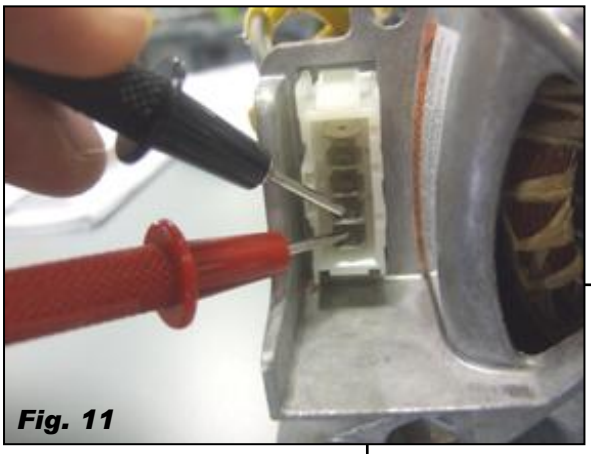


Fig. 11

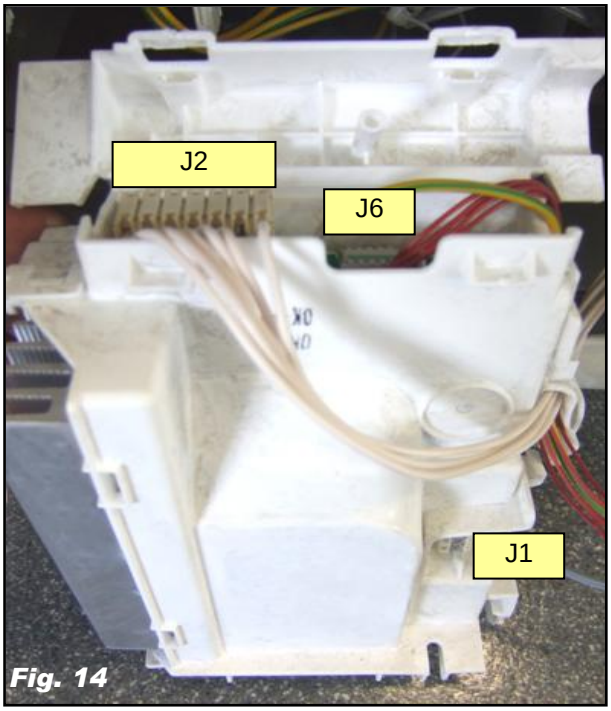
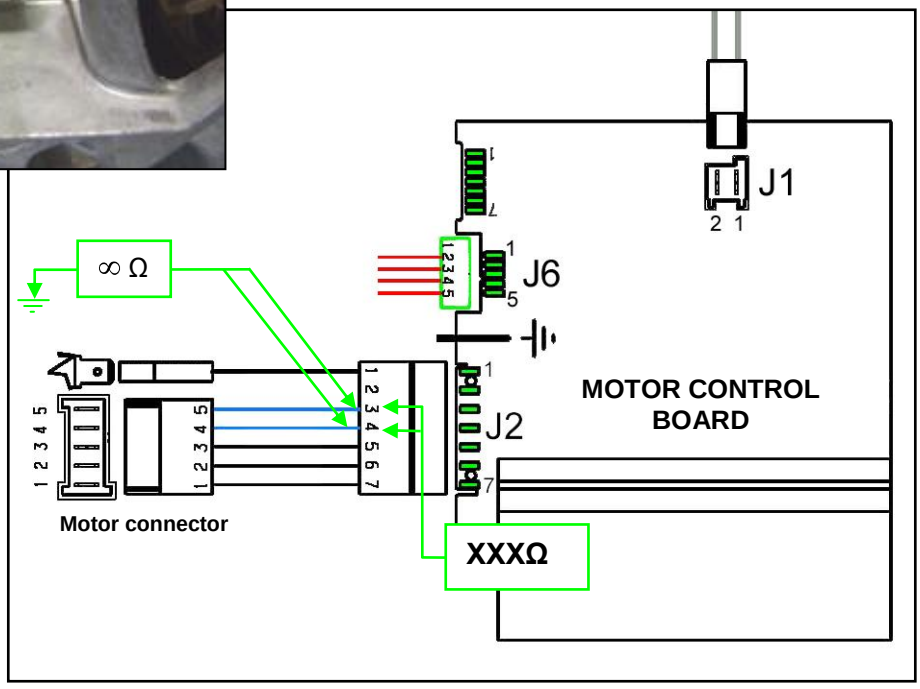


Fig. 14


Fig. 10



If there are burns on the circuit board, see page 94/95

E52	**E52: No signal from motor tachometric generator *(second part)***	E52
	Cycle interrupted after 5 attempts during the cycle, immediately if recognised at the start of the cycle or during diagnostics.	

Checks to perform:

check that all the connectors are correctly inserted

The motor never runs

To check the wiring, measure (Ω) between the following wiring connectors of the motor control board (see **fig. 14**) and compare them with the correct values (**see page 45**: point 4 - motor parameters)
- between J2-6 and J2-7, a value as in point 4 - **B** (Stator) must be found
- between J2-5 and J2-6, a value as in point 4 - **C** (Stator) must be found
- between J2-5 and J2-7, a value as in point 4 - **D** (Stator) must be found

Are the values correct?

NO

Check the motor as on **page 45**. Is the motor ok?

NO

Replace the motor and repeat the diagnostic cycle to check for any further alarms.

YES

Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the motor control board and repeat the diagnostic cycle to check for any further alarms.

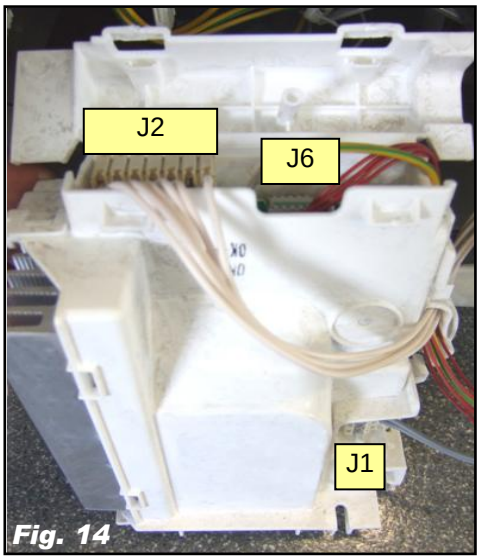


Fig. 14

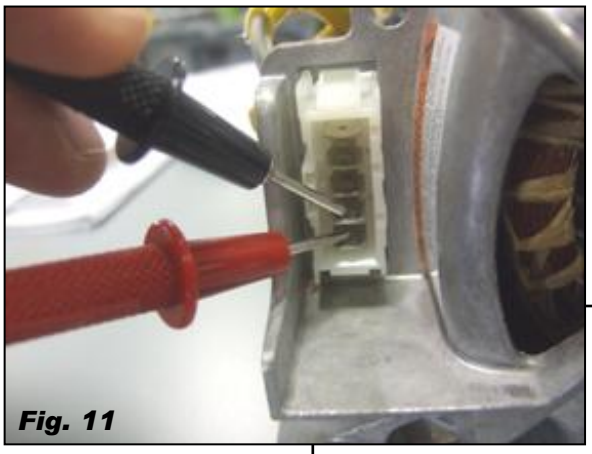
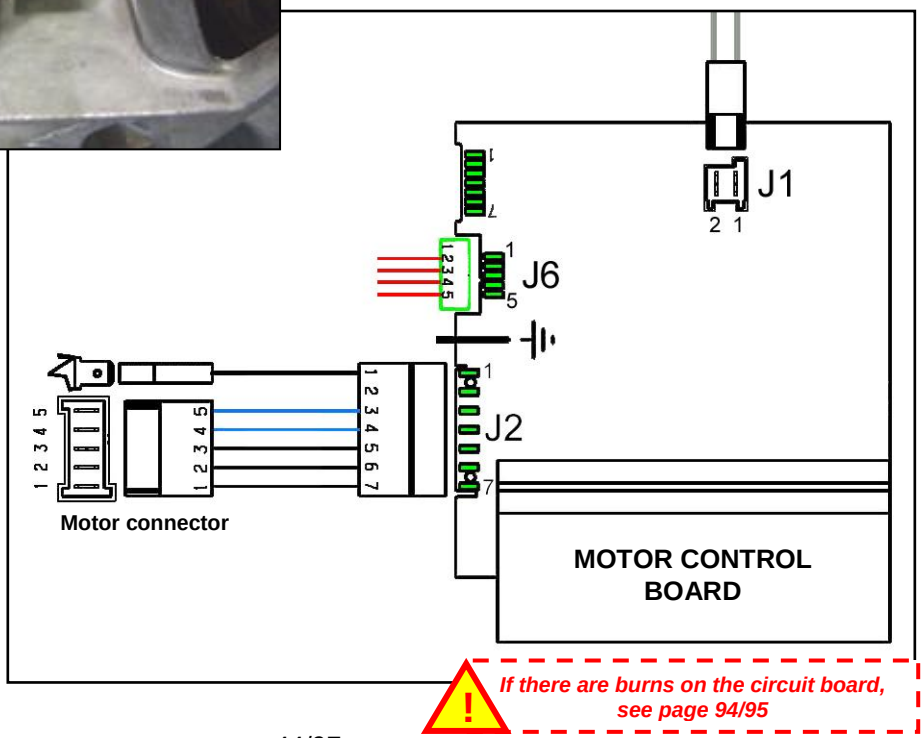


Fig. 11



If there are burns on the circuit board, see page 94/95

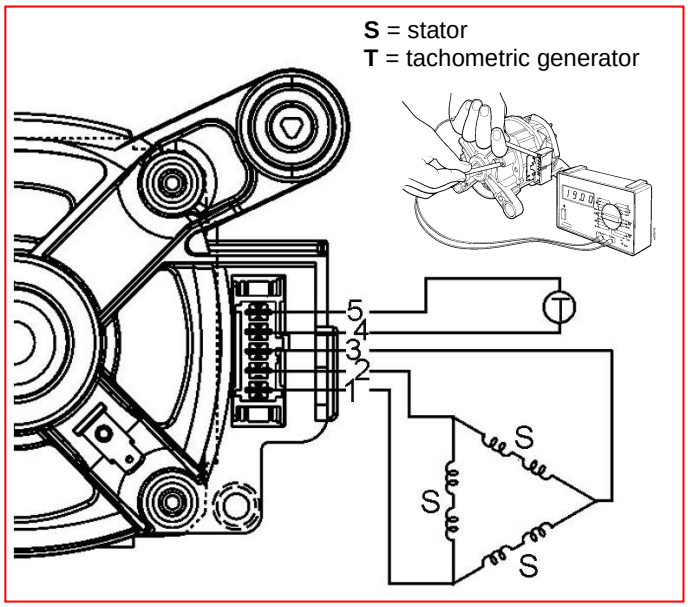
How to check three-phase motors

1) Check the connection blocks (wiring) and for the presence of any protruding/kinked terminals.

2) Check for the presence of any marks / residue / water or detergent deposits on the motor an where these come from.

3) Proceed by checking for any windings / earthed parts or parts with poor earthing insulation. Use a tester with a minimum capacity of 40MΩ: between each individual terminal and the motor casing, read ∞ **(fig. 10)**

4) Proceed by checking each individual winding according to the following table **(fig. 11).**



	MOTOR TERMINAL BOARD TERMINALS	CHECK:	MOTORS C.E.SET.	MOTORS ACC (SOLE) NIDEC	MOTORS ECM
A	4-5	Tachometric generator winding	108÷133	169÷207	85÷98
B	1-2	Stator winding	5.0÷5.8	5.0÷5.8	5.0÷5.8
C	2-3	Stator winding	5.0÷5.8	5.0÷5.8	5.0÷5.8
D	3-1	Stator winding	5.0÷5.8	5.0÷5.8	5.0÷5.8

Fig. 10

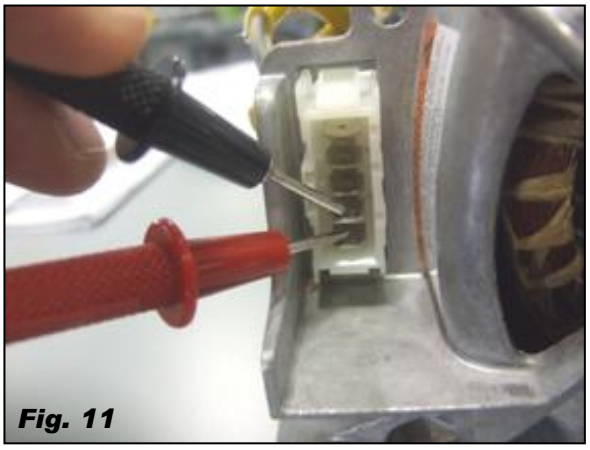


Fig. 11

If there are burns on the circuit board, see page 94/95

E57	E57: Inverter is drawing more than 16A current	E57
	Abnormal current absorption by Motor	

Checks to perform:

Check that all the connectors are correctly inserted

Measure between the terminals of wiring connector J2-5, J2-6, J2-7 (motor control board) and the appliance body: is there any dispersion? **-** (see **fig. 13**)

NO → Replace the motor control board and repeat the diagnostic cycle to check for any further alarms.

YES

Detach the connector from the motor and measure between the terminals and the motor casing.(see **fig. 10**)
Is there any dispersion?

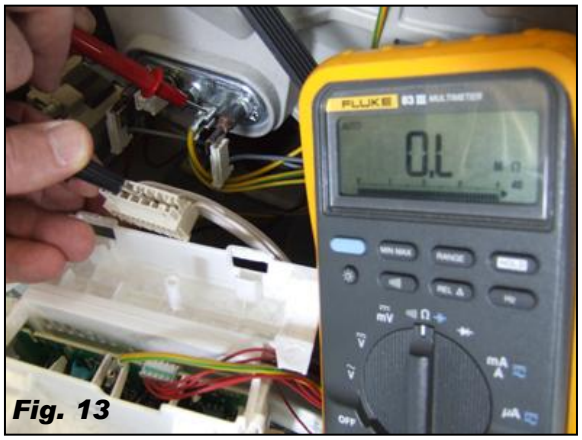
NO → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

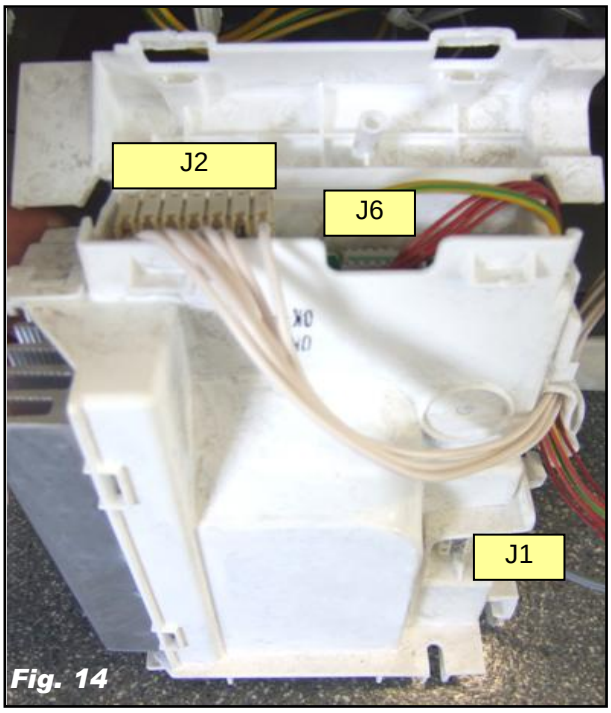
YES

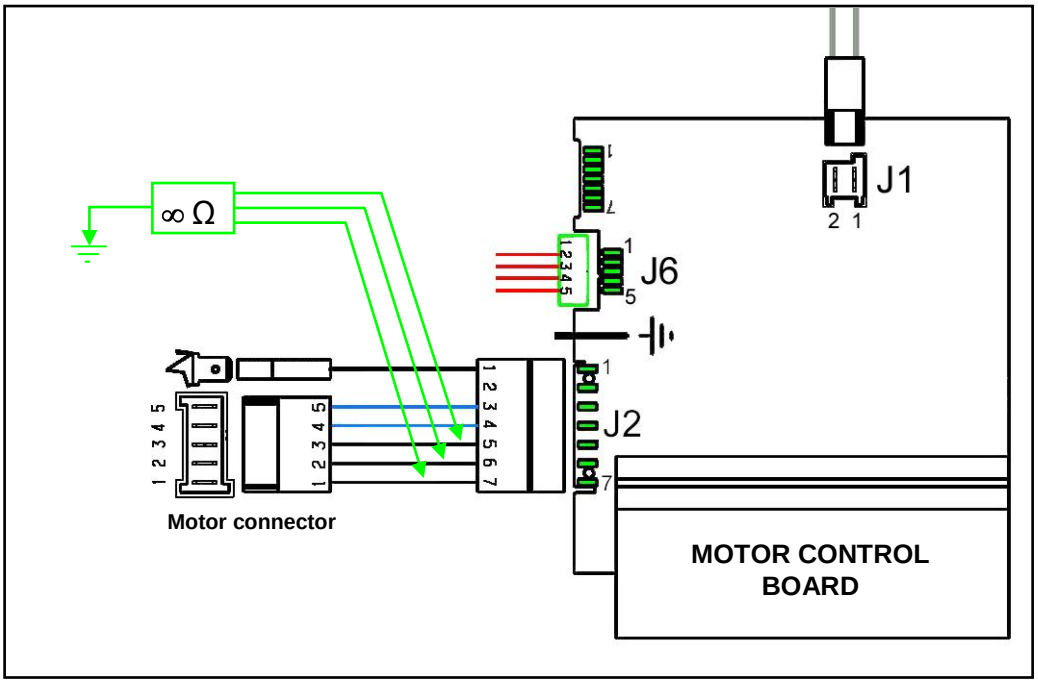
Replace the motor and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E57







If there are burns on the circuit board, see page 94/95

E58	E58: Inverter is drawing more than 4A current Abnormal current absorption by Motor	E58

Checks to perform:

Check that all the connectors are correctly inserted

Was the wash cycle performed with too large a laundry load?
- ***YES*** → Reduce the laundry load in the drum and restart the wash cycle.
- ***NO*** ↓

Check whether the drum turns freely without posing any resistance (see **fig. 15**).
Is the drum having difficulty rotating?
- ***YES*** → Check whether the friction is caused by the motor (see **fig. 17**) or by the tub bearings (see **fig. 16**). Replace the defective component. Repeat the diagnostic cycle to check for any further alarms.
- ***NO*** ↓

Measure between the terminals of wiring connector J2-5, J2-6, J2-7 (motor control board) and the appliance body: is there any dispersion? **-** (see **fig. 13**)
- ***NO*** → Replace the motor control board and repeat the diagnostic cycle to check for any further alarms.
- ***YES*** ↓

Detach the connector from the motor and measure between the terminals and the motor casing. (see **fig. 10**)
Is there any dispersion?
- ***NO*** → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.
- ***YES*** ↓

Replace the motor and repeat the diagnostic cycle to check for any further alarms.

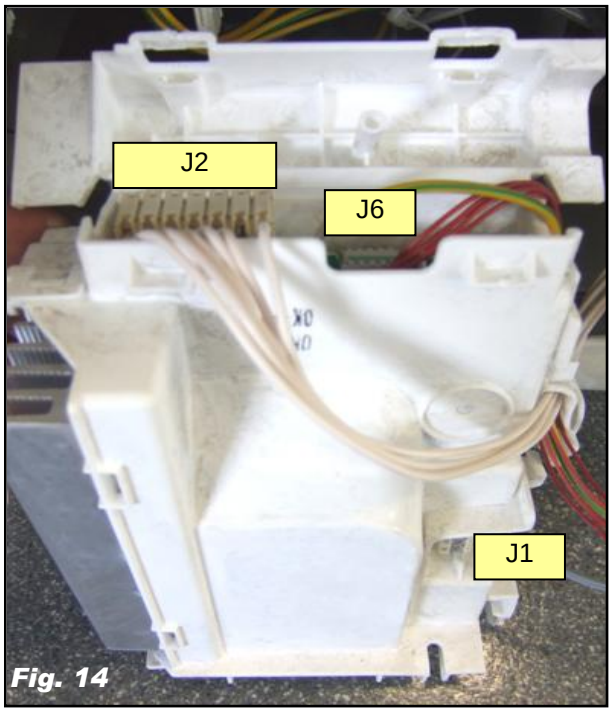


Fig. 14

If there are burns on the circuit board, see page 94/95

E58


Fig. 15

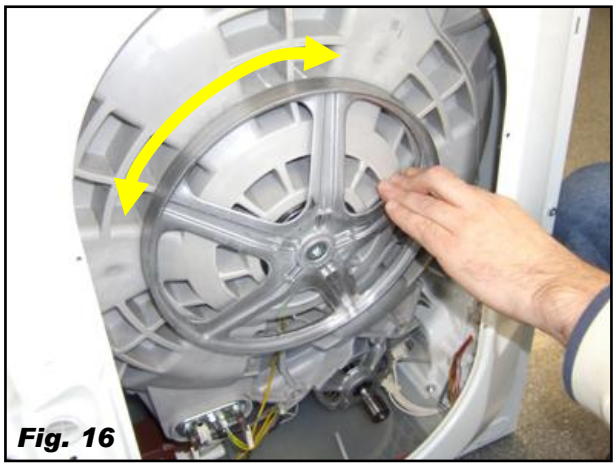


Fig. 16

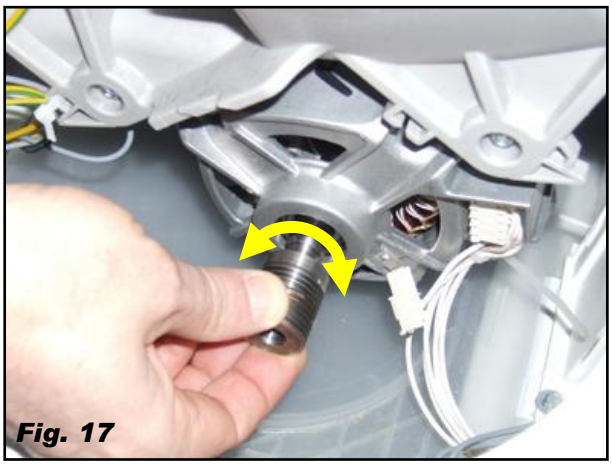


Fig. 17

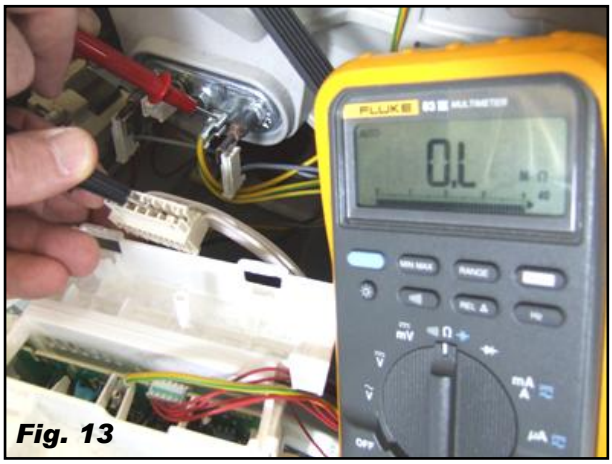
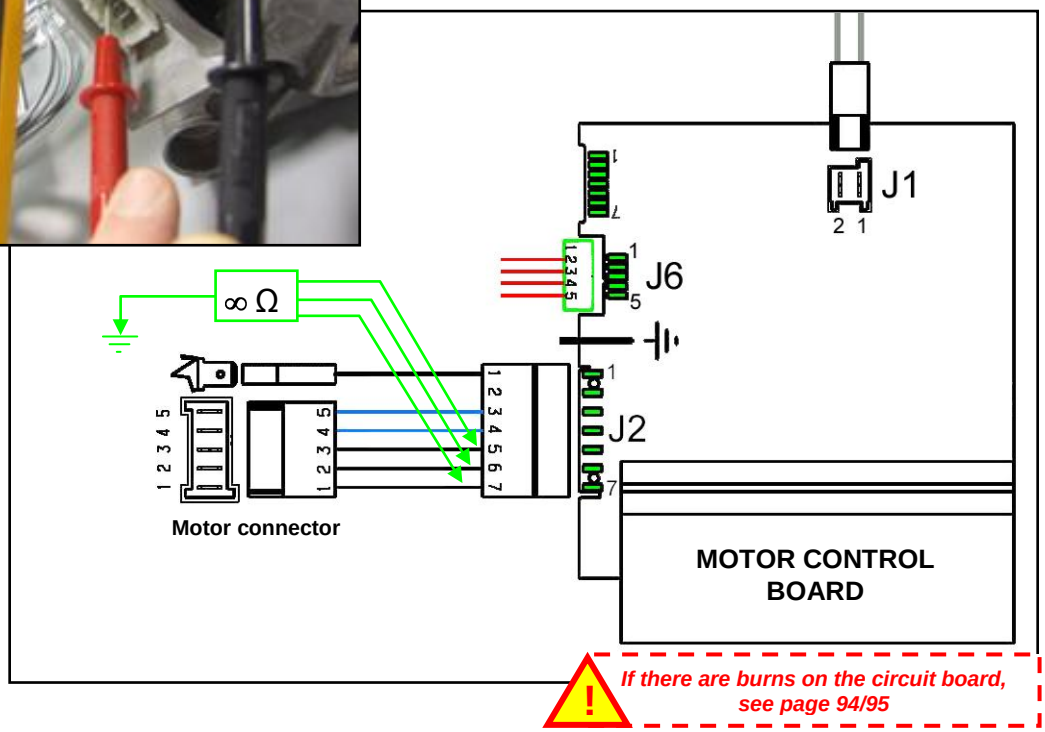


Fig. 13


Fig. 10



If there are burns on the circuit board, see page 94/95

E59	E59: No signal from the tachometric generator	E59
	The lack of signal should last at least 3 seconds	

Checks to perform:

Check that all the connectors are correctly inserted

Measure between the terminals of the wiring connector J2-3 and J2-4 (motor control board), (Point 4, phase "A" **page 45**). Are the values (Ω) of the tachometric generator correct?

NO

Detach the connector from the motor and measure (Ω) the tachometric generator coil, (Point 4, phase "A" **page 45**) (see **fig. 11**) Is the value correct?

NO

Replace the motor or tachometric generator and repeat the diagnostic cycle to check for any further alarms.

YES

Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Measure between the same terminals of the wiring connector (J2-3 and J2-4 motor control board) and the appliance body. Is there any dispersion? -(**see fig.13)**-

NO

Check the positioning of the tachometric generator. Is it correct? (see **fig. 12**)

NO

Replace the motor/generator and repeat the diagnostic cycle to check for any further alarms.

YES

Detach the connector from the motor and measure between the terminals and the motor casing. (see **fig. 10**) Is there any dispersion?

NO

Replace the motor control board and repeat the diagnostic cycle to check for any further alarms.

YES

Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the motor and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E59


Fig. 12

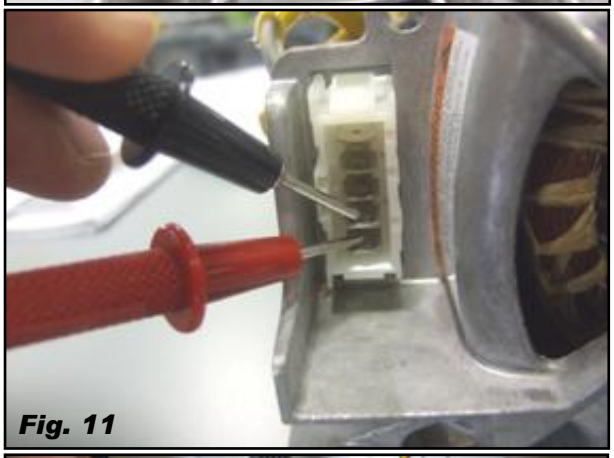


Fig. 11

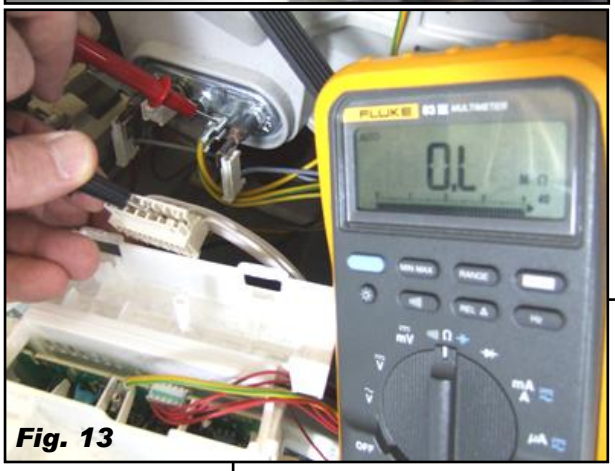


Fig. 13

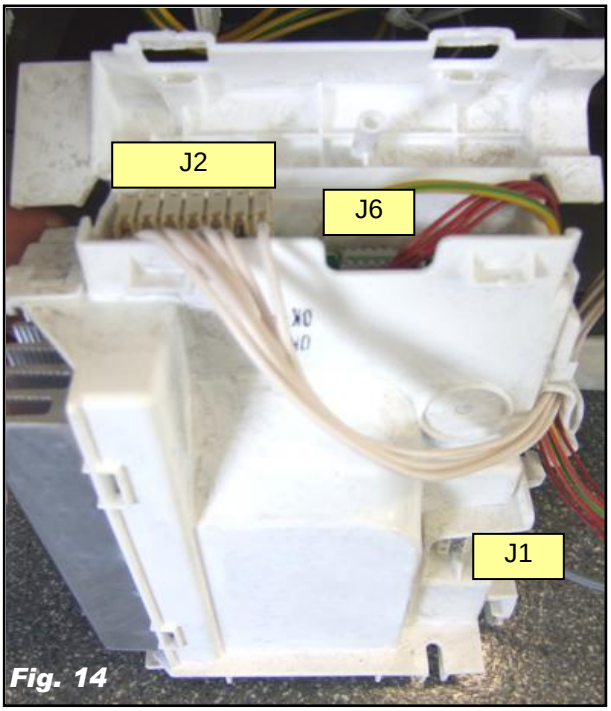
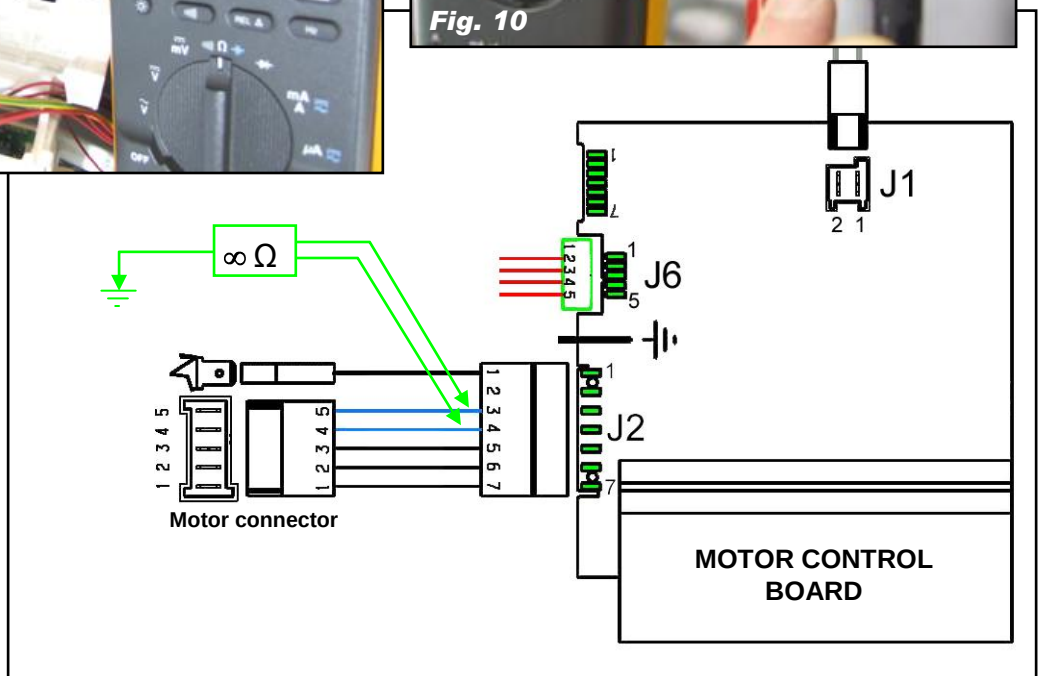


Fig. 14


Fig. 10



If there are burns on the circuit board, see page 94/95

E5A	E5A: Overheating on Inverter board heat dissipator	E5A
	The dissipator exceeds a temperature of 88°C	

Checks to perform:

Check that all the connectors are correctly inserted

Have continuous wash cycles been performed, or has the wash cycle been performed with too heavy a laundry load?

YES → Leave pauses between one cycle and the next or reduce the laundry load inside the drum.

NO

Check whether the drum turns freely without posing any resistance (see **fig. 15**).
Is the drum having difficulty rotating?

YES → Check whether the friction is caused by the motor (see **fig. 17**) or by the tub bearings (see **fig. 16**). Replace the defective component. Repeat the diagnostic cycle to check for any further alarms.

NO

Replace the motor control board and repeat the diagnostic cycle to check for any further alarms.


Fig. 15

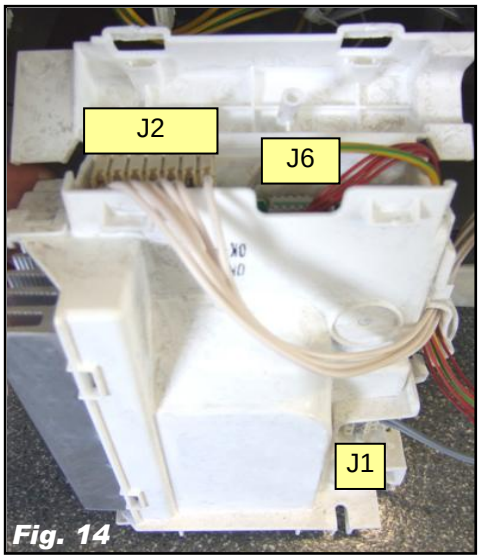


Fig. 14

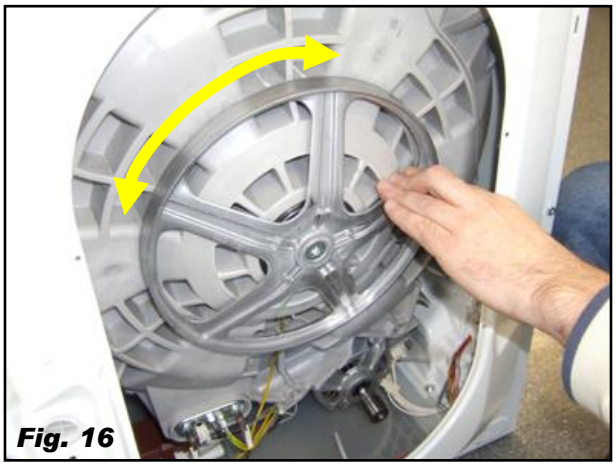


Fig. 16

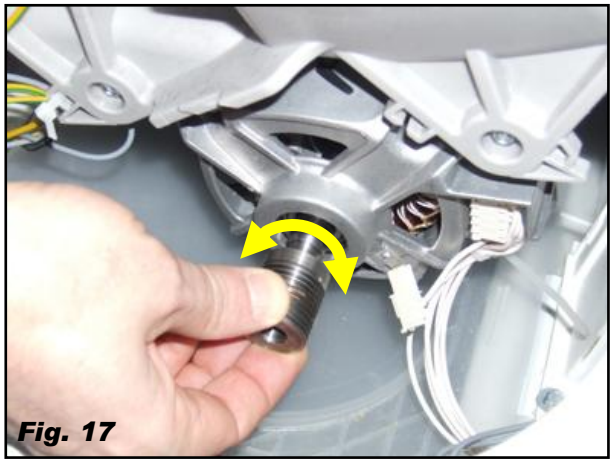


Fig. 17

If there are burns on the circuit board, see page 94/95

E5C	E5C: The Inverter board input voltage is too high (beyond 430V)	E5C
	The voltage should stay above 430V for at least 5 seconds	

Checks to perform:

Check that all the connectors are correctly inserted

Measure the mains voltage and make sure it is within the nominal range.
Is the mains voltage correct?

NO → Wait for the mains voltage to return to nominal conditions and repeat the diagnostic cycle to check for any further alarms.

YES ↓

Replace the motor control board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E5d	E5d: Data transfer error between Inverter board and main circuit board	E5d
	The lack of communication must last at least 2 sec.	

Checks to perform:

Check that all the connectors are correctly inserted

Are connectors J16 (main circuit board) and J6 (motor control board) properly inserted?

NO → Repair the connectors and repeat the diagnostic cycle to check for any further alarms.

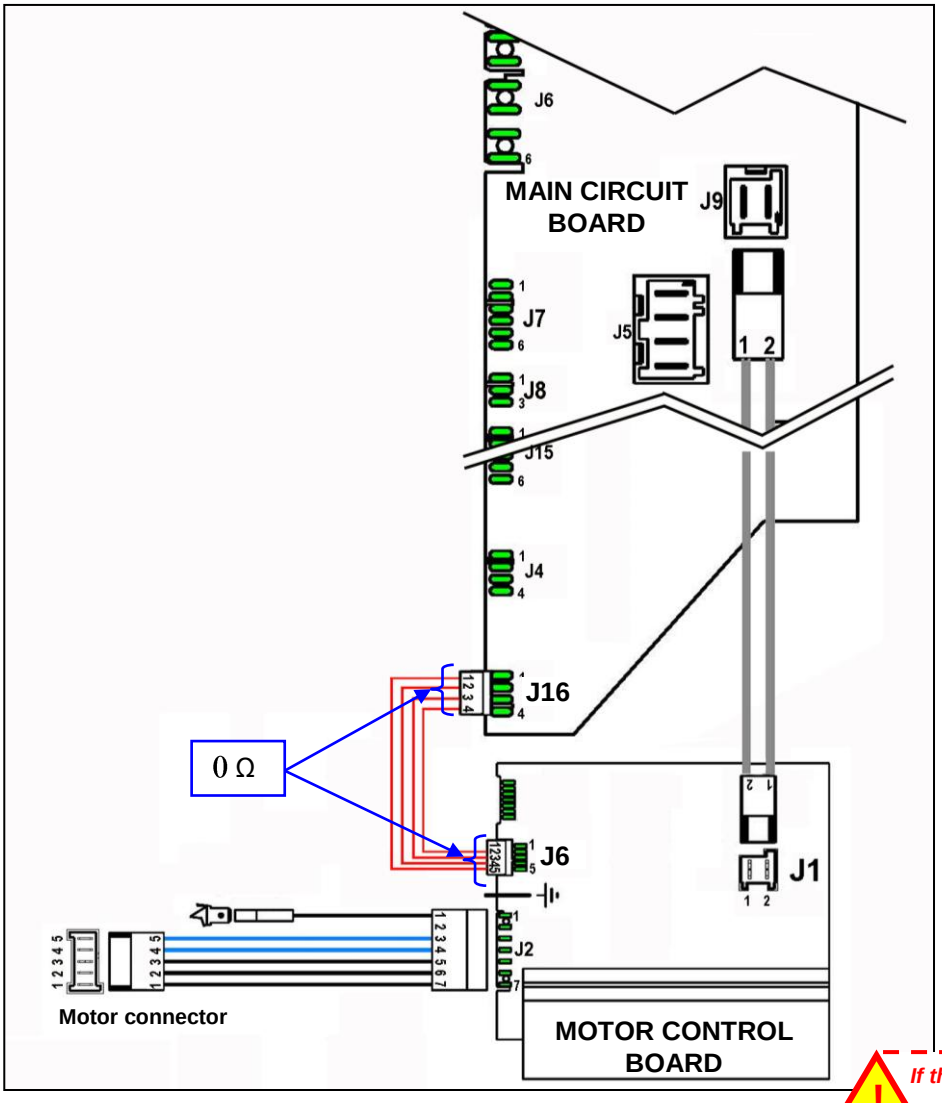
Measure the continuity between connector J16-1, J16-4 (main circuit board) and connector J6-2, J6-5 (motor control board).
Is the wiring ok?

NO → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the motor control board and repeat the diagnostic cycle to check for any further alarms.
Is the appliance working?

NO → Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.



If there are burns on the circuit board, see page 94/95

E5E	**E5E: Communication error between Inverter PCB and main PCB**	E5E
	Communication protocol between the two boards not aligned	

Checks to perform:

Check that all the connectors are correctly inserted

Replace the motor control board and repeat the diagnostic cycle to check for any further alarms.

E5F	**E5F: Inverter board fails to start the motor**	E5F

Checks to perform:

Check that all the connectors are correctly inserted

Replace the motor control board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E5H	E5H: The Inverter board input voltage is too low (less than 175V)	E5H
	The voltage should stay below 175V for at least 5 seconds	

Checks to perform:

Check that all the connectors are correctly inserted

Are connectors J9 (main circuit board) and J1 (motor control board) properly inserted?

NO → Repair the connectors and repeat the diagnostic cycle to check for any further alarms.

YES

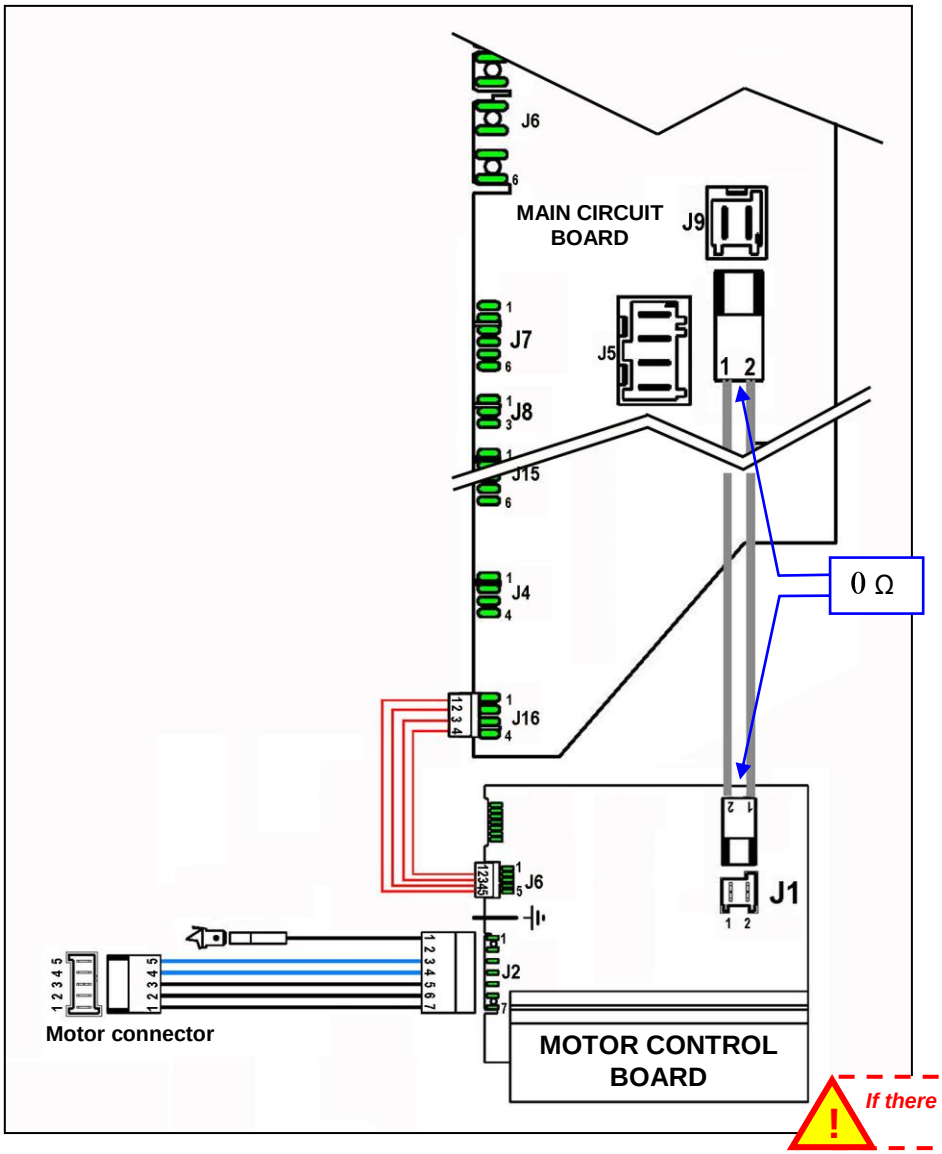
Measure the continuity between connectors J9-1, J9-2 (main circuit board) and J1-1, J1-2 (motor control board). Is the wiring ok?

NO → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the motor control board and repeat the diagnostic cycle to check for any further alarms. Is the appliance working?

NO → Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.



If there are burns on the circuit board, see page 94/95

E61	E61: Insufficient heating during washing	E61
	Maximum heating time exceeded ➲ ***SOMETIMES THE ALARM CAN BE CAUSED BY EXCESSIVELY LOW SUPPLY VOLTAGE!***	

Checks to perform:

! Check that all the connectors are correctly inserted

Measure the value of the NTC probe between the contacts J10-4 and J10-5 of the main circuit board connector. Is the value correct? (between 5.7 and 6.3KΩ at 20°C)

NO → Detach the connector and measure the value directly on the NTC probe. Is the value correct? (see **fig. 14**) (between 5.7 and 6.3KΩ at 20°C)

NO → Replace the washing heating element and repeat the diagnostic cycle to check for any further alarms.

YES → Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

YES → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

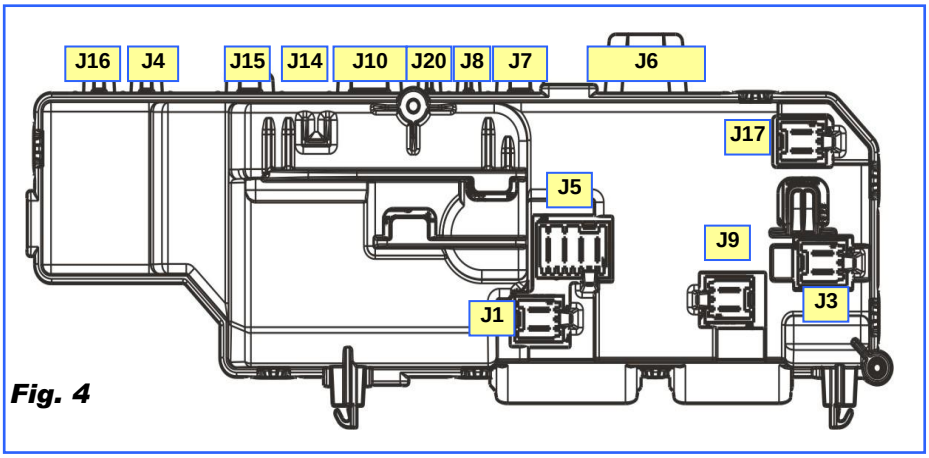
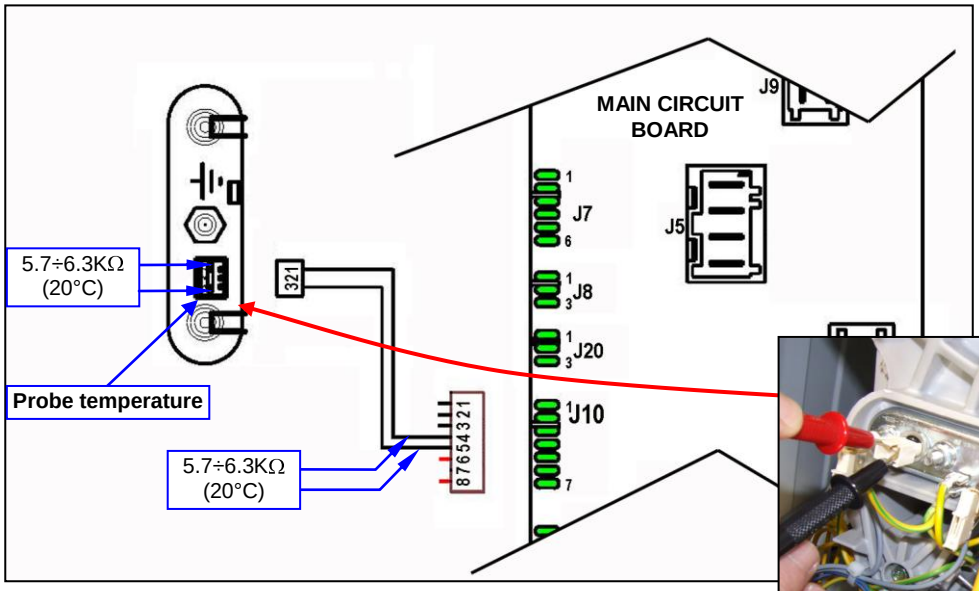
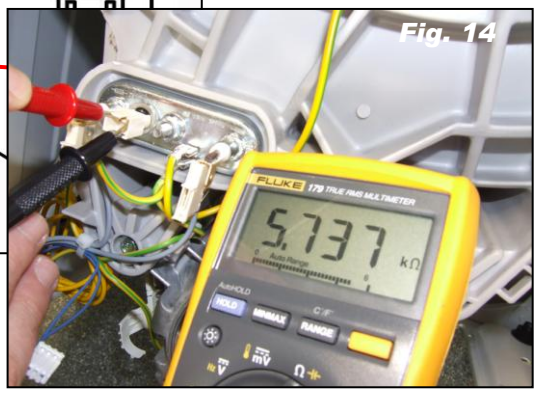


Fig. 4





! If there are burns on the circuit board, see page 94/95

E62	E62: Overheating during washing	E62
	The temperature of the NTC probe exceeds 88°C for more than 5 mins.	

Checks to perform:

! *Check that all the connectors are correctly inserted*

Run the diagnostic cycle and fill with water up to the door level to make sure the heating element is completely submerged. Measure between the wiring connector J10-4/J10-5 and the appliance body (see **fig. 6**). Is the circuit open?

NO → Detach the connector and measure between the heating element and the earth contact (see **fig. 19**). Is the circuit open?

NO → Replace the heating element and repeat the diagnostic cycle to check for any further alarms.

YES → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

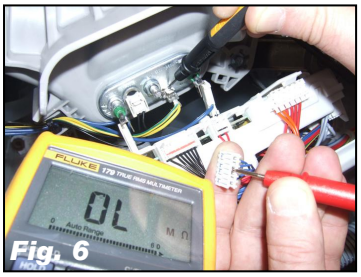
YES → Measure the NTC probe between terminals J10-4 and J10-5 of the main circuit board connector. Is the value correct? (between 5.7 and 6.3KΩ at 20°C)

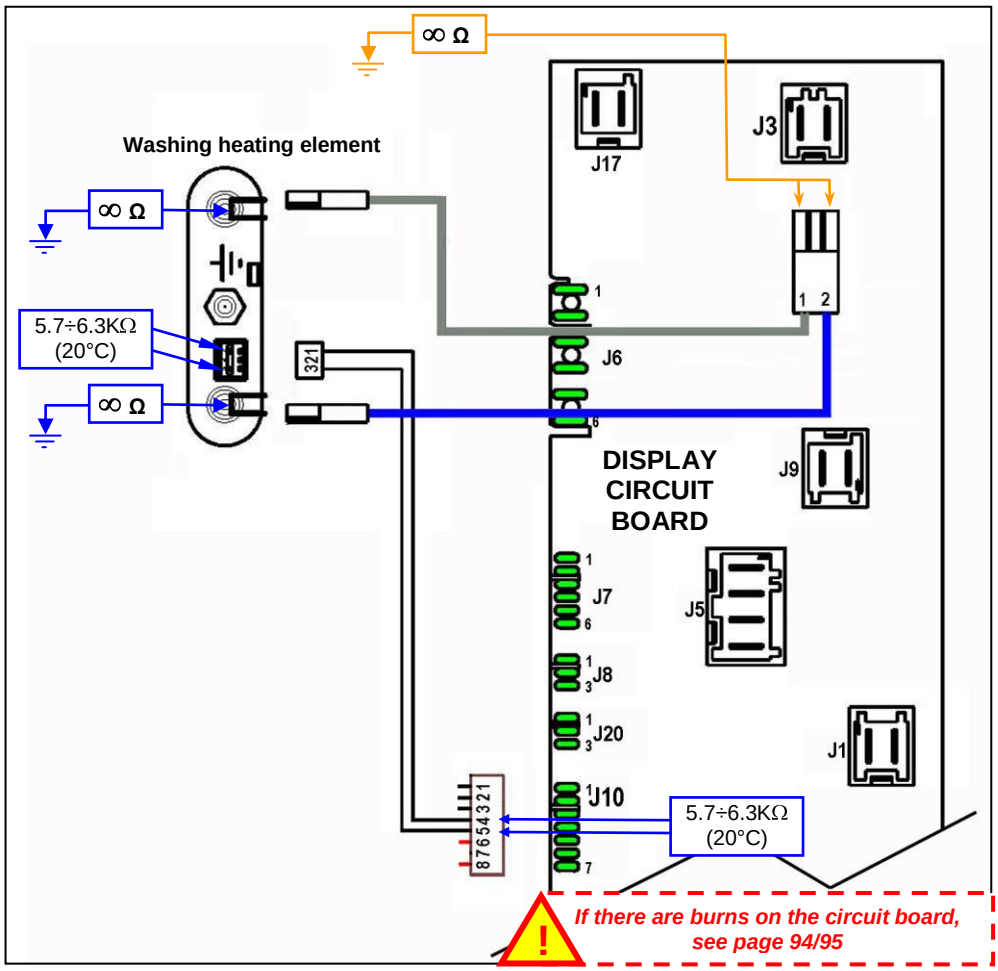
NO → Detach the connector and measure the value directly on the NTC probe. (see **fig. 18**) Is the value correct? (between 5.7 and 6.3KΩ at 20°C)

NO → Replace the heating element and repeat the diagnostic cycle to check for any further alarms.

YES → Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

YES → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.





! *If there are burns on the circuit board, see page 94/95*

E66	E66: Heating element power supply relay faulty	E66

Checks to perform:

Check that all the connectors are correctly inserted

Measure between the connector J3-1/J3-2 of the main circuit board and the appliance body. (see **Fig. 6**) Is there any dispersion?

NO → Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

YES

Detach the connectors and measure between the heating element and the earth contact. (see **fig. 19**) Is the circuit open?

NO → Replace the heating element and repeat the diagnostic cycle to check for any further alarms.

YES

Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

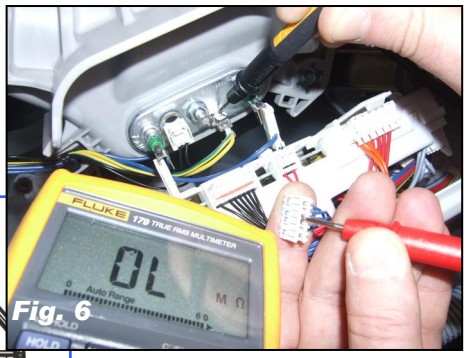


Fig. 6

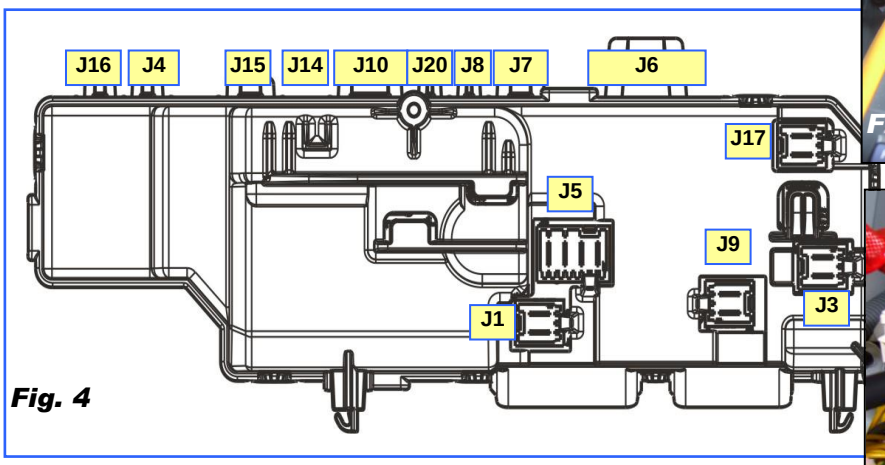


Fig. 4

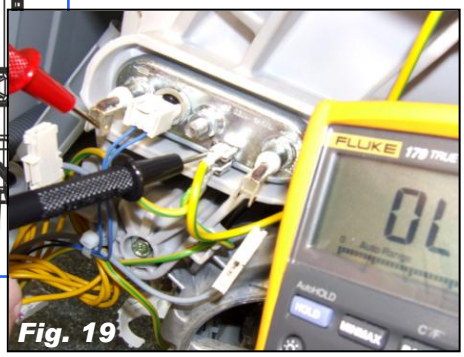
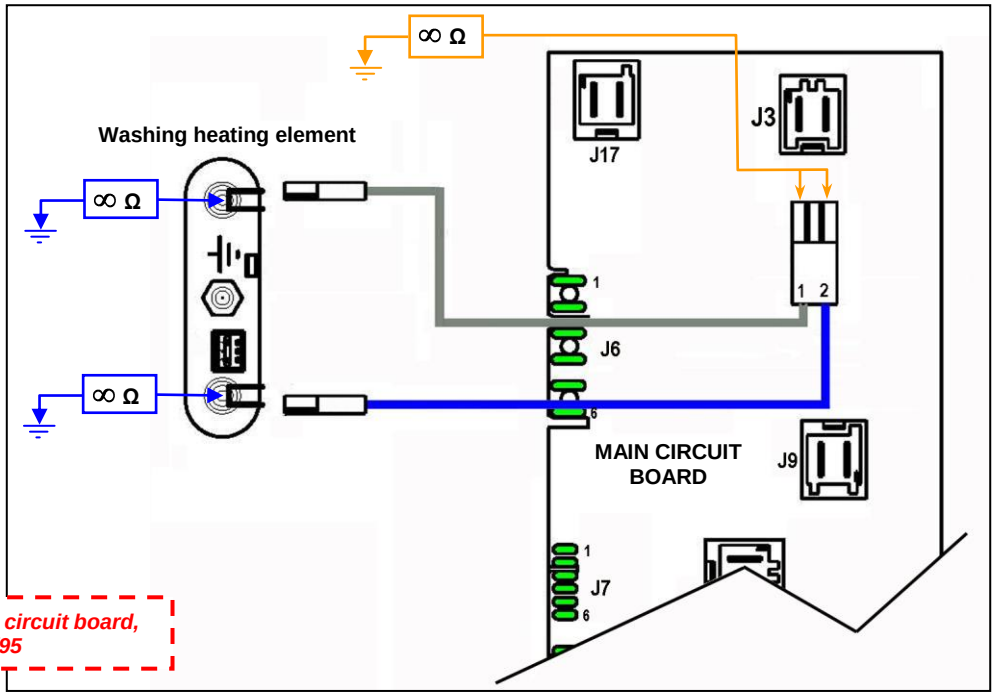


Fig. 19



If there are burns on the circuit board, see page 94/95

E68	E68: Washing heating element leakage	E68

Checks to perform:

Check that all the connectors are correctly inserted

Run the diagnostic cycle and fill with water up to the door level to make sure the heating element is completely submerged. Measure between the wiring connector J3-1/J3-2 and the appliance body. (see **fig. 6**) Is the circuit open?

NO

Detach the connectors and measure between the heating element and the earth contact. (see **fig. 19**) Is the circuit open?

NO

Run **phase 9** of the diagnostic cycle, drain water from the tub. Replace the heating element and repeat the diagnostic cycle to check for any further alarms.

YES

Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

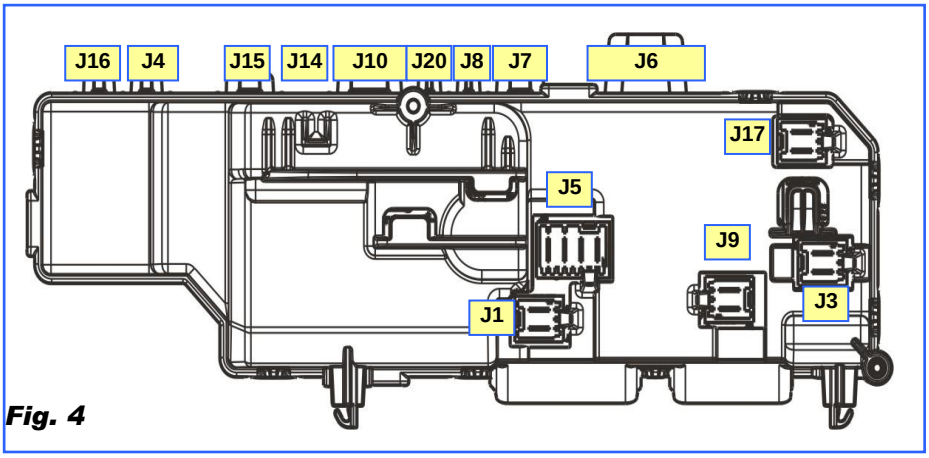
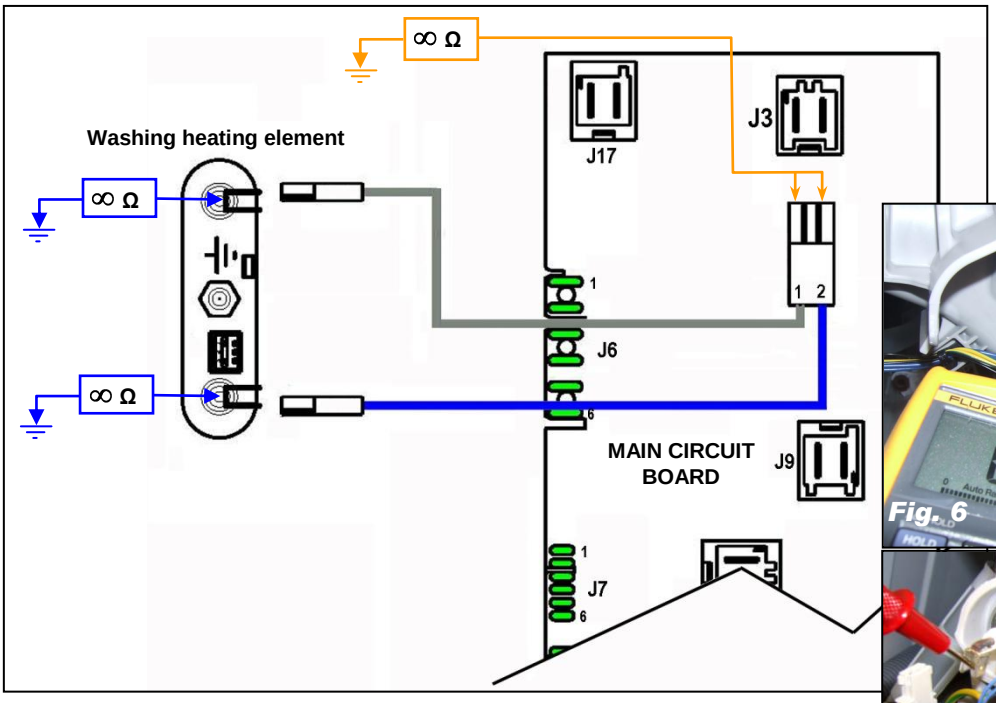


Fig. 4



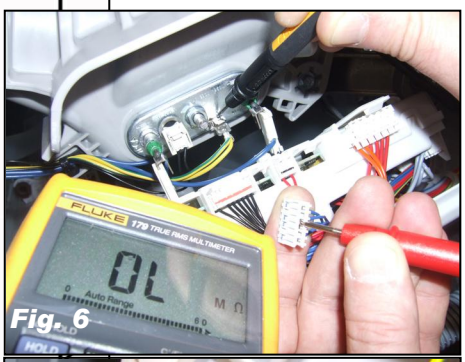


Fig. 6

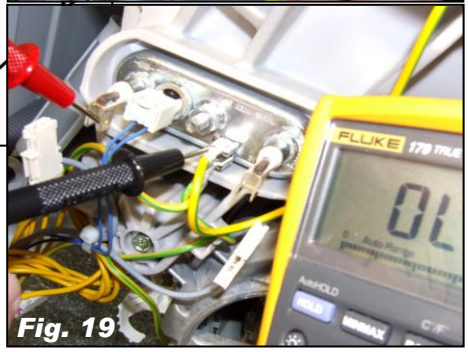


Fig. 19

If there are burns on the circuit board, see page 94/95

E69	E69: Washing heating element damaged	E69

Checks to perform:

! ***Check that all the connectors are correctly inserted***

Measure the resistance value of the heating element (Ω) between terminals J3-1 / J3-2 of the wiring connector (see **fig. 4**). Is the value correct? (25÷28Ω for 230V/1950W)

NO → Measure the resistance value directly on the terminals of the heating element (detach the connectors) (see **fig. 20**). Is the value correct? (25÷28Ω for 230V/1950W)

NO → Replace the heating element and repeat the diagnostic cycle to check for any further alarms.

YES → Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

YES → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

Fig. 4

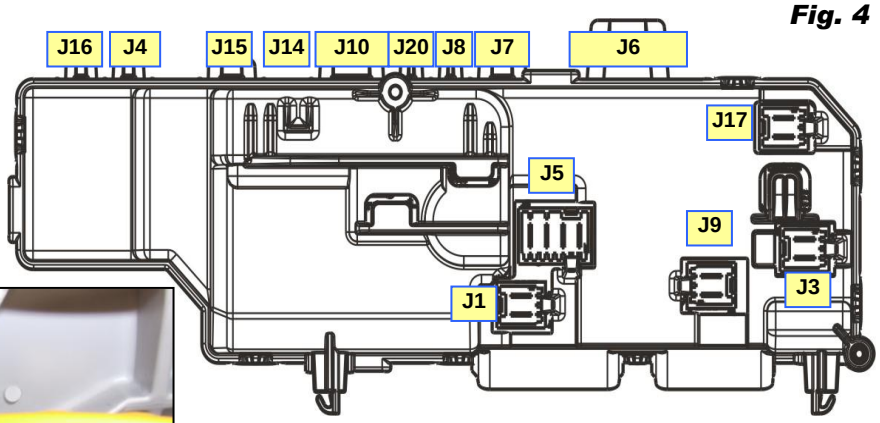
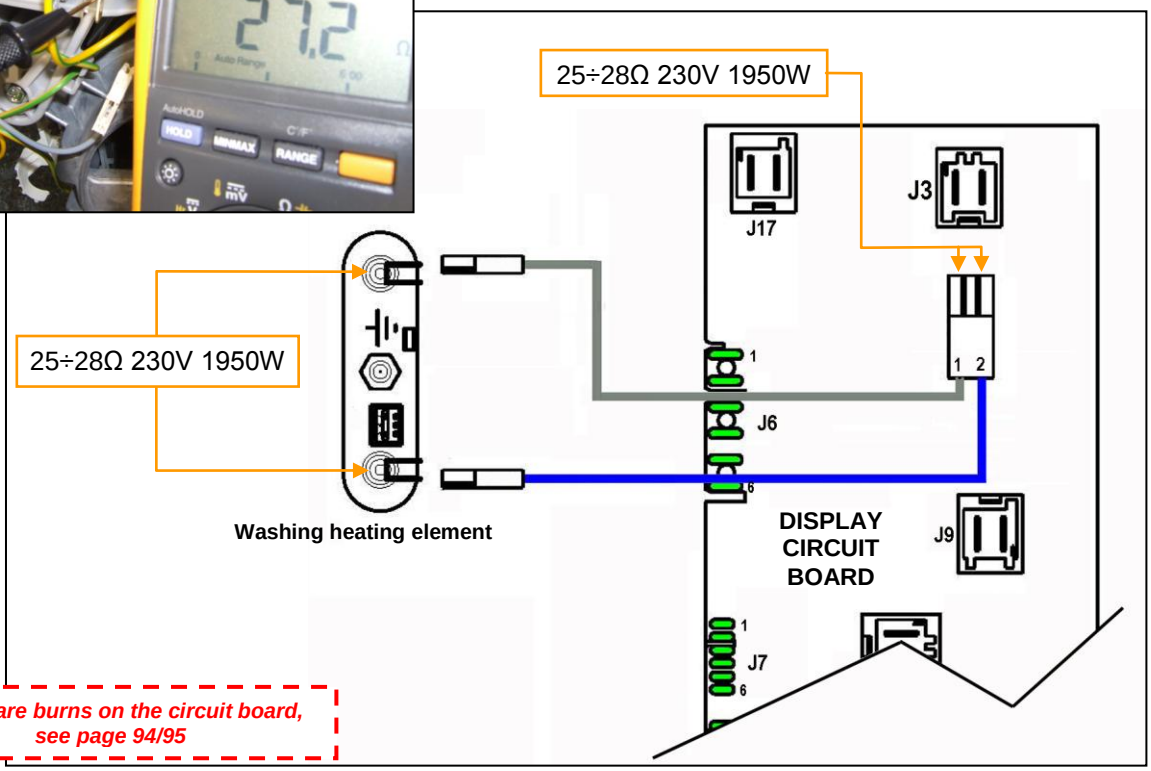


Fig. 20



! ***If there are burns on the circuit board, see page 94/95***

E6A: Heating relay sensing faulty

Checks to perform:

Check that all the connectors are correctly inserted

Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E6H: Heating element power relay faulty (incongruence between sensing and relay status)

Checks to perform:

Check that all the connectors are correctly inserted

Run the diagnostic cycle and fill with water up to the door level to make sure the heating element is completely submerged. Measure between the wiring connector J3-1/J3-2 and the appliance body (see **fig. 6**). Is the circuit open?

NO

Detach the connectors and measure between the heating element and the earth contact (see **fig. 19**). Is the circuit open?

NO

Run **phase 9** of the diagnostic cycle, drain water from the tub. Replace the heating element and repeat the diagnostic cycle to check for any further alarms.

YES

Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

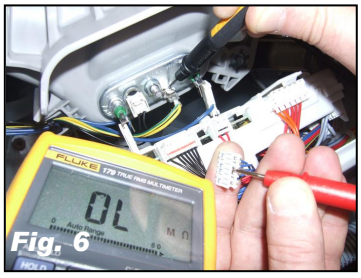
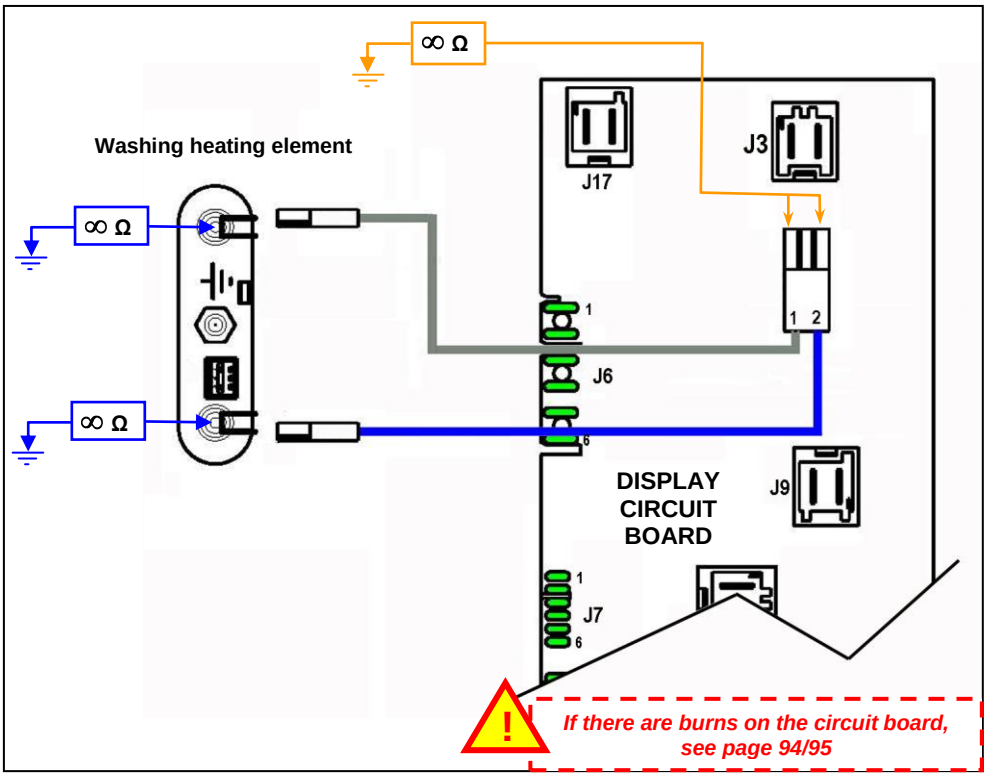


Fig. 6

Fig. 19



E71	E71: Washing NTC probe faulty Voltage value out of range (short-circuit or open circuit)	E71

Checks to perform:

Check that all the connectors are correctly inserted

Run **phase 7** of the diagnostic cycle and wait for the water to fill. Switch the appliance off and measure the value of the NTC probe between contacts J10-4 and J10-5 of the wiring connector (see **fig. 4**). Is the value correct? (between 5.7÷6.3KΩ at 20°C)

NO → Detach the connector and measure directly on the NTC probe. (see **fig. 18**) Is the value correct? (5,7÷6.3KΩ at 20°C)

NO → Run **phase 9** of the diagnostic cycle, drain water from the tub. Replace the washing heating element and repeat the diagnostic cycle to check for any further alarms.

YES → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES → Measure between terminals J10-4, J10-5 of the NTC connector and the appliance body (see **fig. 6**) Is there any dispersion?

NO → Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

YES → Detach the connector and measure directly between the terminals of the NTC probe and the appliance body. ***There must be water in the tub.*** Has the dispersion been measured?

NO → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES → Run **phase 9** of the diagnostic cycle, drain water from the tub. Replace the washing heating element and repeat the diagnostic cycle to check for any further alarms.

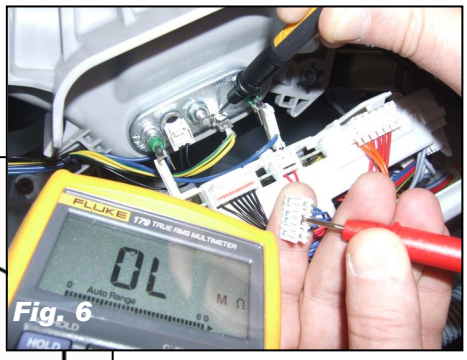
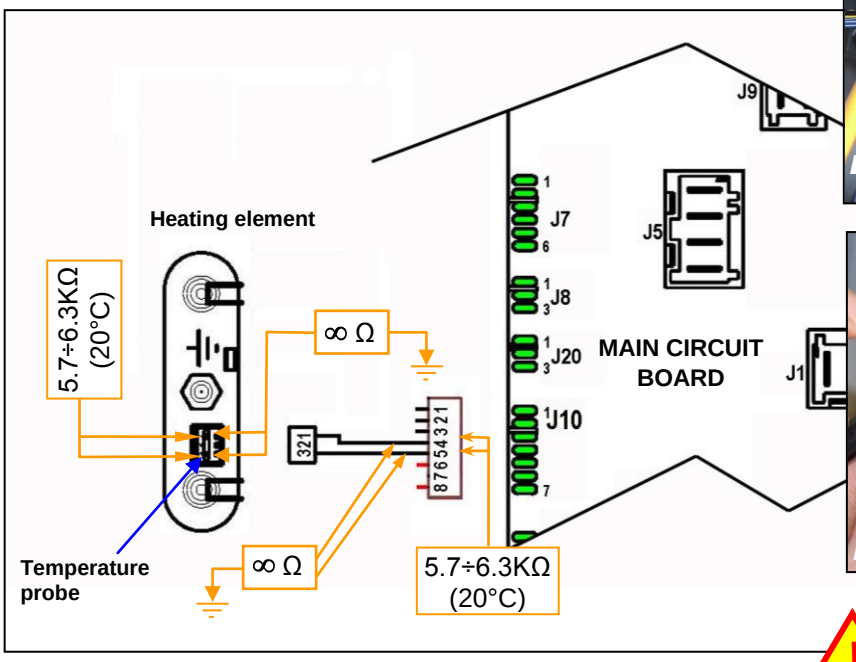


Fig. 6

Fig. 18



If there are burns on the circuit board, see page 94/95

E72	E72: NTC probe defective dryer (outer casing condenser)	E72
	The NTC resistance measurement is beyond limits	

Checks to perform:

Check that all the connectors are correctly inserted

Measure the NTC probe value between the J6-1 and J6-2 contacts of the WD connector board. (see **fig. 32**) Is the value correct? (between 5.7 and 6.3KΩ at 20°C)

NO → Disconnect the connector. and measure the NTC probe directly. Is the value correct? (see **fig. 33**)

NO → Replace the probe NTC temperature and restart the cycle diagnostic for further check possible alarms.

YES → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES → Measure between the terminals J6-1, J6-2 of the connector and the structure of the appliance (see **fig. 6**). Is there any dispersion?

NO → Replace the WD circuit board and repeat the diagnostic cycle to check for any further alarms.

YES → Check / replace the the wiring and repeat the diagnostic cycle to check for any further alarms.

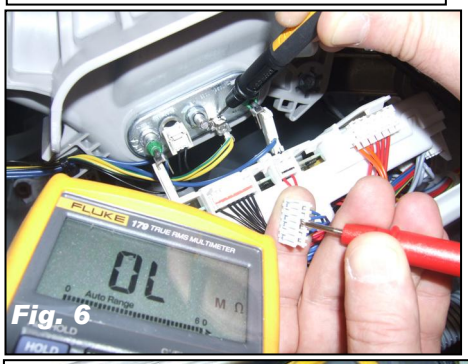


Fig. 6

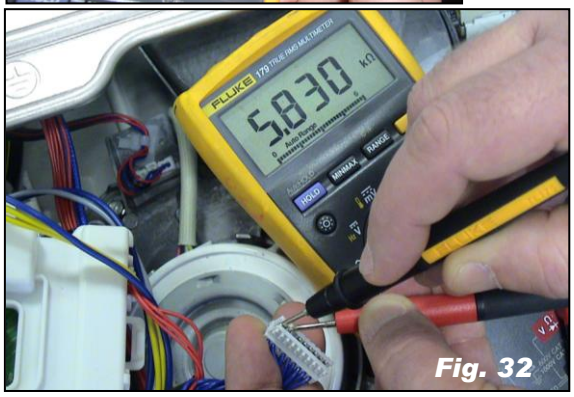
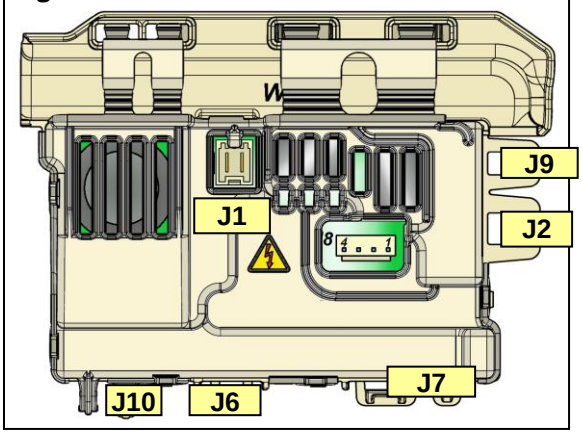
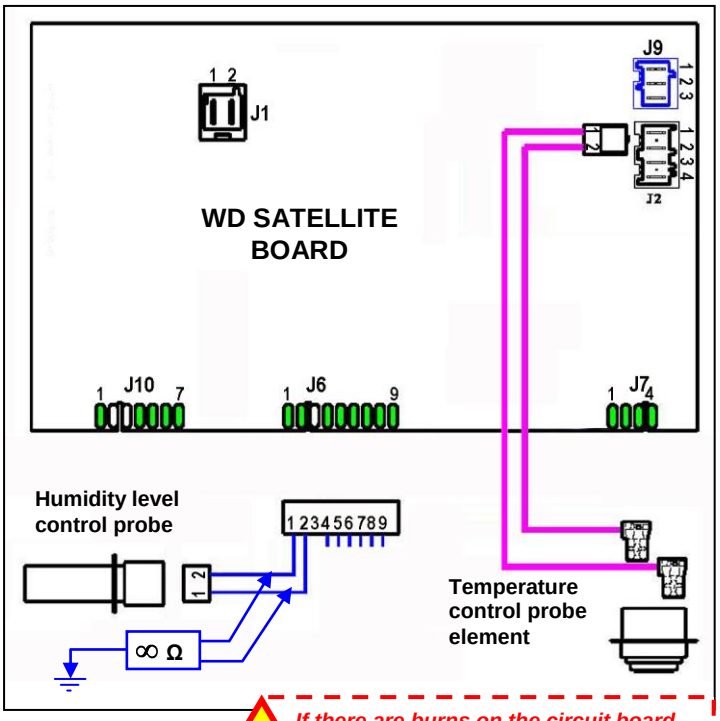


Fig. 32

Fig. 33

Fig. 29





If there are burns on the circuit board, see page 94/95

E73	E73: Faulty NTC dryer probe (on the outlet)	E73
	The NTC resistance measurement is beyond limits	

Checks to perform:

Check that all the connectors are correctly inserted

Measure the NTC probe value between the J2-1 and J2-2 contacts of the WD connector board. (see **fig. 30**) Is the value correct? (between 4.7 and 5.7KΩ at 20°C)

NO → Disconnect the connectors. and measure the NTC probe directly. Is the value correct? (see **fig. 31**)

NO → Replace the NTC temperature probe and repeat the diagnostic cycle to check for any further alarms.

YES → Check/replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES → Measure between the J2-1 / J2-2 terminals of the connector and the structure of the appliance. (see **fig. 6**) Is there any dispersion?

NO → Replace the WD board and repeat the diagnostic cycle to check for any further alarms.

YES → Check / replace the the wiring and repeat the diagnostic cycle to check for any further alarms.

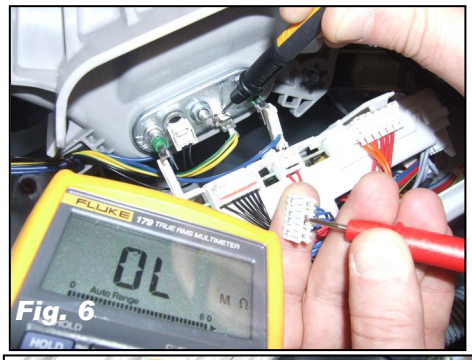


Fig. 6

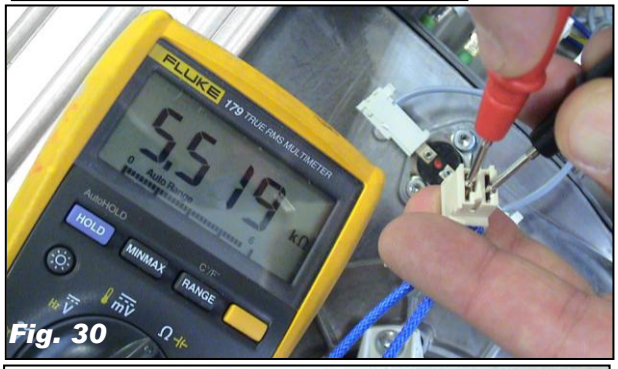
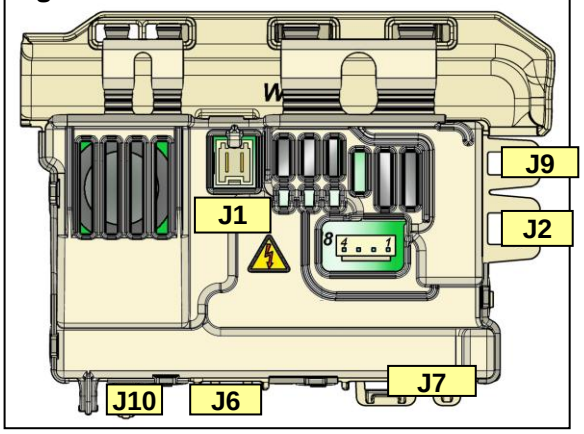
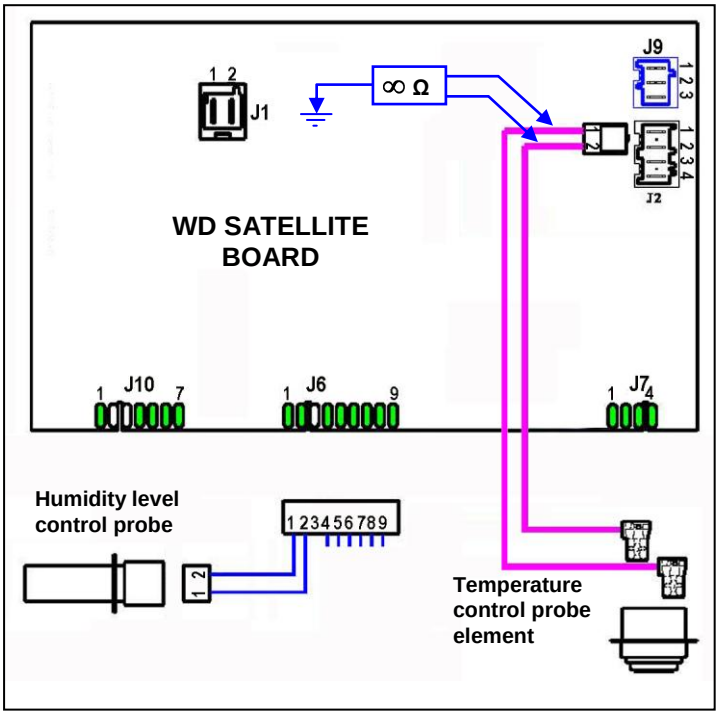


Fig. 30

Fig. 31

Fig. 29





If there are burns on the circuit board, see page 94/95

E74	E74: NTC probe for wash cycle improperly positioned	E74

Checks to perform:

Check that all the connectors are correctly inserted

Is the probe visibly positioned correctly in its seat?
(see **fig. 21**)

NO → Reposition the probe in its seat and repeat the diagnostic cycle to check for any further alarms.

YES

Measure the value of the NTC probe (5.7÷6.3KΩ at 20°C)between contacts J10-4 and J10-5 of the wiring connector (see **fig. 4**).
Is the value correct?
(between 5.7 and 6.3 KΩ at 20°C)

NO → Replace the washing heating element and repeat the diagnostic cycle to check for any further alarms.

YES

Run **phase 7** of the diagnostic cycle and wait for the water to fill. Wait in this phase for five minutes. Switch the appliance off and measure the value of the NTC probe between contacts J10-4 and J10-5 of the wiring connector (see **fig. 4**).
Is the value below 5KΩ?

NO → Run phase **9** of the diagnostic cycle, drain water from the tub.

!!CAUTION: THE WATER COULD BE SCALDING HOT!!

Replace the washing heating element and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

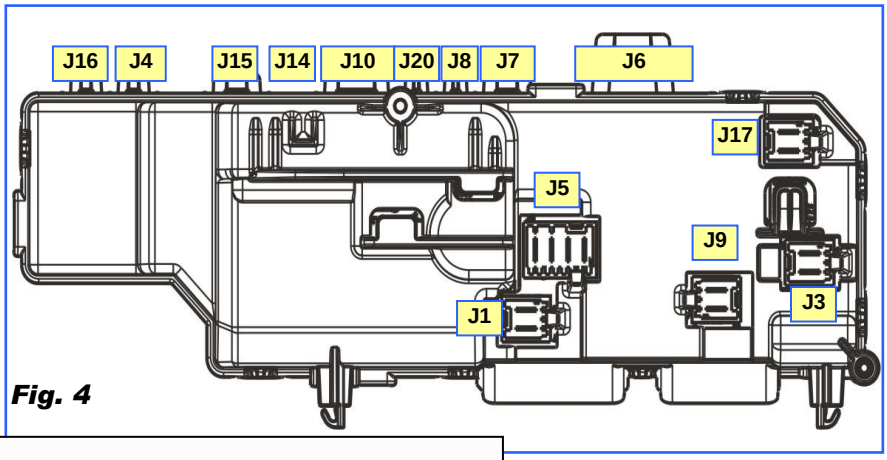
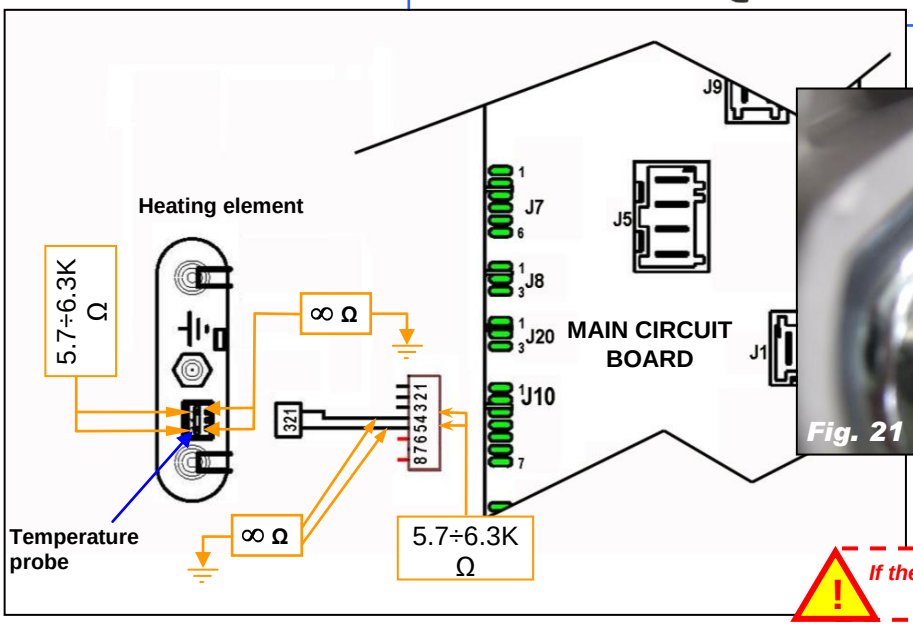


Fig. 4



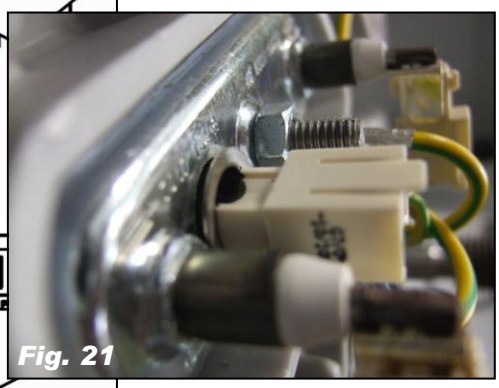


Fig. 21

If there are burns on the circuit board, see page 94/95

E83	E83: Error reading the programme selector code	E83
	Selector position code not envisaged by the configuration data or configuration error	

Checks to perform:

Check that all the connectors are correctly inserted

Turn the appliance on, turn the programme selector to every setting: wait at least 10 seconds on each of the settings before moving on to the next one. Is alarm E83 shown again?

NO → Repeat the diagnostic cycle to check for any further alarms.

YES

Check for any friction between the control panel and the knob.
Is it difficult to turn the knob?

NO → Replace the display board and repeat the diagnostic cycle to check for any further alarms.

YES

Repair the coupling between the control panel/selector knob.
Repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E86	E86: Programme selector configuration error	E86

Checks to perform:

Check that all the connectors are correctly inserted

Replace the display board and run the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E87	E87: Display board microprocessor faulty	E87

Checks to perform:

Check that all the connectors are correctly inserted

Replace the display board and run the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

E91	E91: Communication error between the display board and the main circuit board (1st part)	E91

Checks to perform:

Check that all the connectors are correctly inserted

Disconnect the connectors:
J16 and J4 of the main board that respectively connect the motor control board and the weight sensor board (if there is one)
Does the E91 alarm appear again?

YES → See page 70

NO

Connect the wiring
J16 main board
Does the E91 alarm appear again?

NO → See page 69

YES

Check the wiring between the main circuit board and the Inverter board.

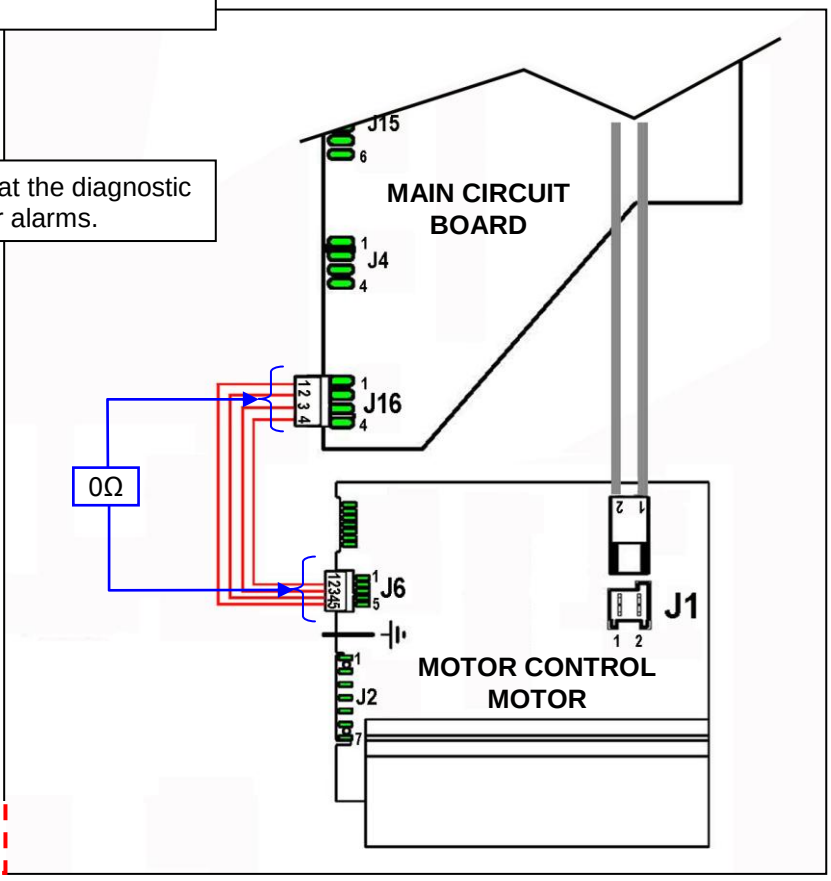
Connect and disconnect the connector on both boards several times.
Measure the continuity between connector J16 (main circuit board) and J6 (motor control board).

Is the wiring ok?

NO → Replace / repair the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the Inverter board and repeat the diagnostic cycle to check for any further alarms.



If there are burns on the circuit board, see page 94/95

E91	E91: Communication error between the display board and the main circuit board (2nd part)	E91

Checks to perform:

Check that all the connectors are correctly inserted

Follow from pag. 68

Connect the J4 main circuit board wiring

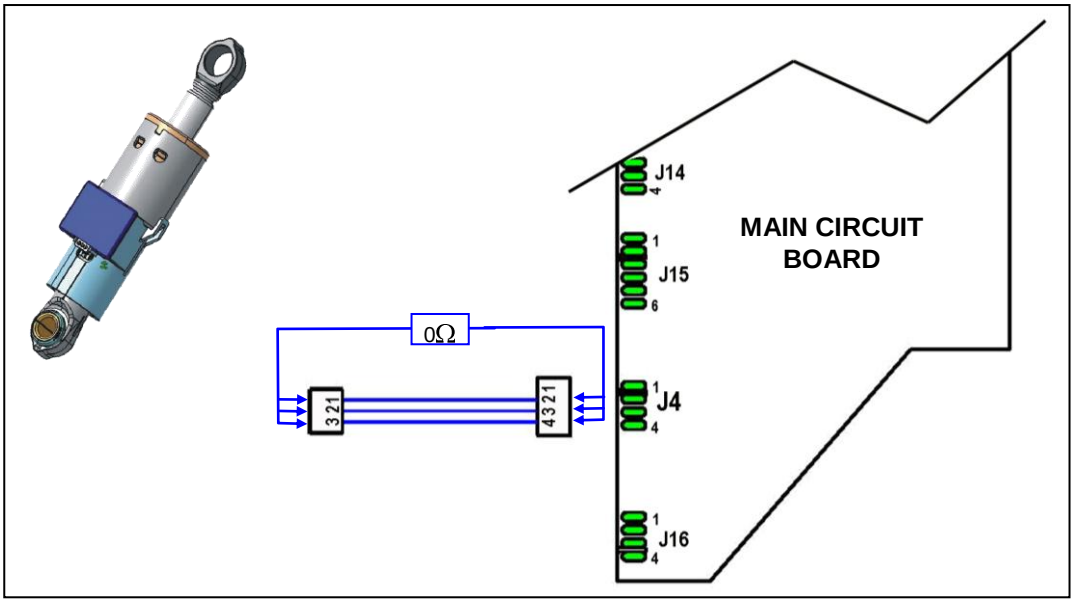
Check the wiring between the main circuit board and the weight sensor board.

- Connect and disconnect the connector on both boards several times.
- Measure the continuity between connector J4 (main circuit board) and the weight sensor board.

Is the wiring ok?

NO → Replace / repair the wiring and repeat the diagnostic cycle to check for any further alarms.

YES → Replace the weight sensor board and repeat the diagnostic cycle to check for any further alarms.



If there are burns on the circuit board, see page 94/95

E91	E91: Communication error between the display board and the main circuit board (3rd part)	E91

Checks to perform:

Check that all the connectors are correctly inserted

Follow from pag. 68

Check the wiring between the main circuit board and the WD board.

Check the wiring between the WD circuit board and the main circuit display board:

- ► Detach and reconnect the connectors on both boards several times.
- ► Measure the continuity between connector J15 (main circuit board) and J6 (WD satellite board).
- ► Measure the continuity between the J7 connector (WD satellite board) and J3.

Is the wiring okay?

NO → Replace / repair the wiring and repeat the diagnostic cycle to check for any further alarms.

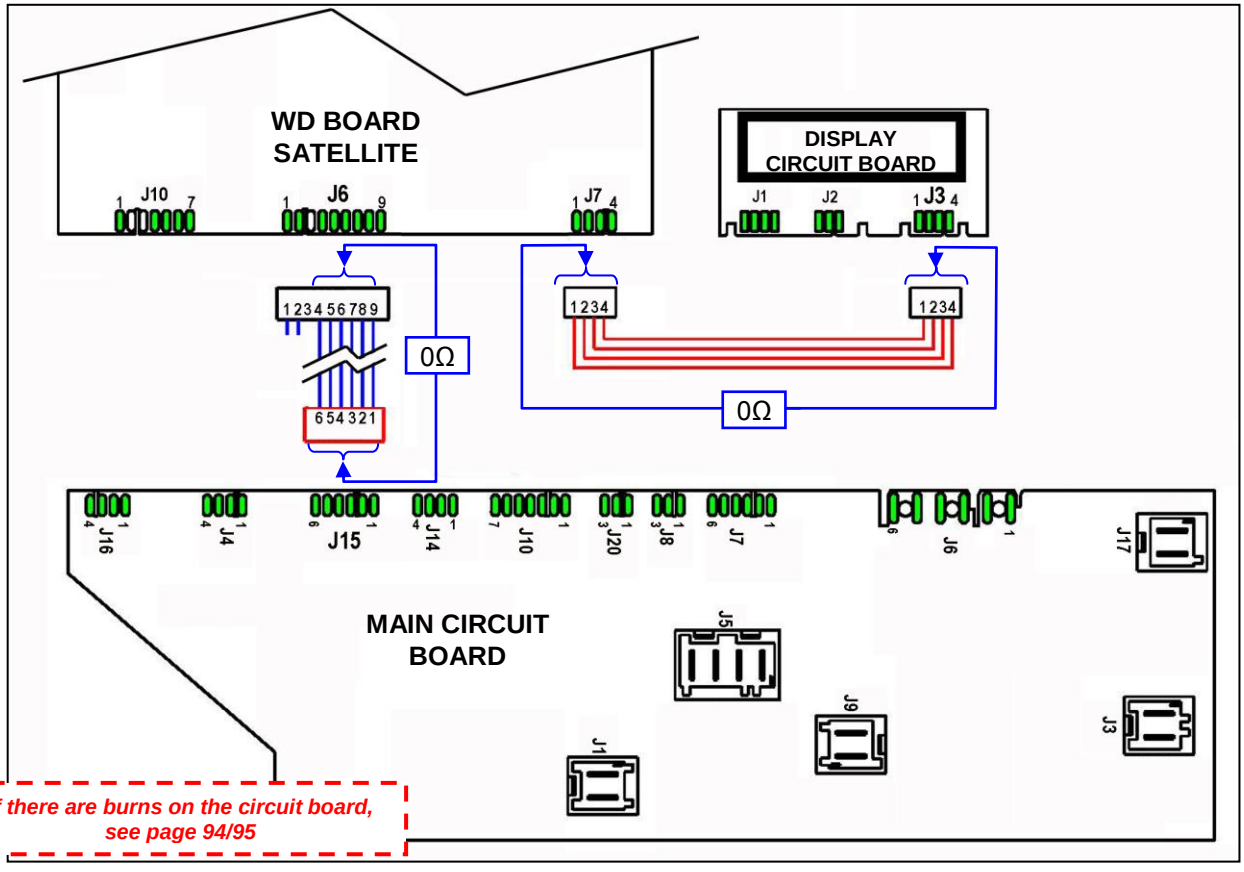
YES

Replace the display board and repeat the diagnostic cycle to check for any further alarms.
Does the E91 alarm appear again?

NO → Appliance ok

YES

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.



If there are burns on the circuit board, see page 94/95

E92	**E92: protocol incongruence**	E92
	Inconsistency between configuration values on starting the appliance	

Checks to perform:

! ***Check that all the connectors are correctly inserted***

Incorrect configuration possible.
Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

E93	**E93: Appliance configuration error**	E93
	Inconsistency between configuration values on starting the appliance	

Checks to perform:

! ***Check that all the connectors are correctly inserted***

Incorrect configuration possible.
Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

E94	**E94: Incorrect configuration of washing cycle**	E94
	Inconsistency between configuration values on starting the appliance	

Checks to perform:

! ***Check that all the connectors are correctly inserted***

Incorrect configuration possible.
Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

E97	**E97: Inconsistency between control selector version and configuration data**	E97
	Discrepancy between programme configuration data and selector recognition data	

Checks to perform:

! ***Check that all the connectors are correctly inserted***

Incorrect configuration possible.
Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

E98	**E98: Communication error between main PCB and Inverter board**	E98
	Incompatibility between the main circuit board and the Inverter board	

Checks to perform:

! ***Check that all the connectors are correctly inserted***

Incorrect configuration possible.
Replace the main circuit board / Inverter board and repeat the diagnostic cycle to check for any further alarms.

! ***If there are burns on the circuit board, see page 94/95***

E9C	E9C: Display board configuration error	E9C

Checks to perform:

Check that all the connectors are correctly inserted

Incorrect configuration possible.
Replace the circuit board and repeat the diagnostic cycle to check for any further alarms.

E9E	E9E: Display board sensor/touch key faulty	E9E

Checks to perform:

Check that all the connectors are correctly inserted

Display board faulty
Replace the display board and repeat the diagnostic cycle to check for any further alarms

If there are burns on the circuit board, see page 94/95

EC1	EC1: Water fill solenoid valves blocked	EC1
	The flowmeter has to fill water even with the solenoid valve not piloted	

Checks to perform:

Check that all the connectors are correctly inserted

Does the appliance fill with water when the appliance is turned off?

NO

Does the solenoid valve start filling with water as soon as the appliance is turned on?

NO

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

YES

Open the drawer where the solenoid valve leaks to check and measure between the wiring connectors of the respective solenoid valve and the appliance body if there are dispersions (see **fig. 6 and table 1**).
Is there any dispersion?

NO

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

YES

Open the drawer to check which solenoid valve is leaking and replace it.
Repeat the diagnostic cycle to check for any further alarms.

YES

Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

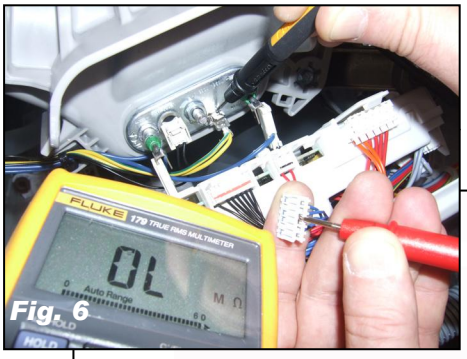
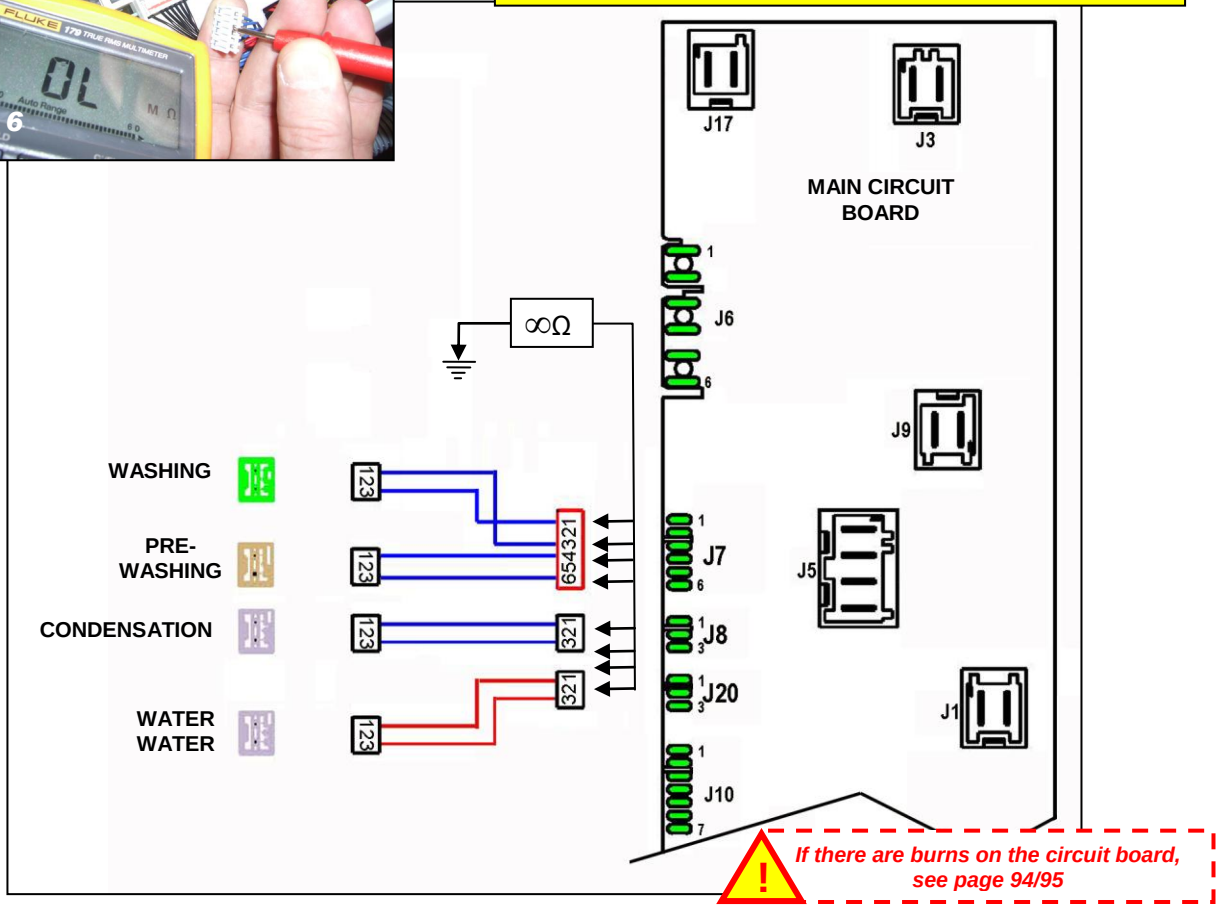


Fig. 6

Tab. 1

Between J 7-1 and J 7-3 wash solenoid valve
Between J 7-4 and J 7-6 prewash solenoid valve
Between J 8-1 and J 8-3 condensation solenoid valve
Between J20-1 and J20-3 hot water solenoid valve



If there are burns on the circuit board, see page 94/95

EC2	EC2: Problem with weight sensor	EC2

Checks to perform:

Check that all the connectors are correctly inserted

Turn the appliance off and back on again, enter the diagnostic cycle. Does the EC2 alarm appear again?

NO → Appliance ok

YES

Measure the continuity between connector J4 (main circuit board see **fig. 4**) and the weight sensor connector. Is the wiring ok?

NO → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the shock absorber and repeat the diagnostic cycle to check for any further alarms.

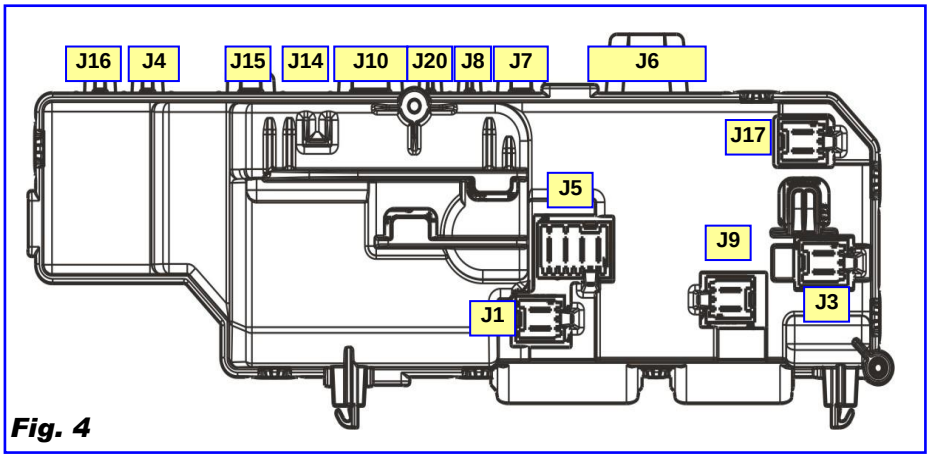
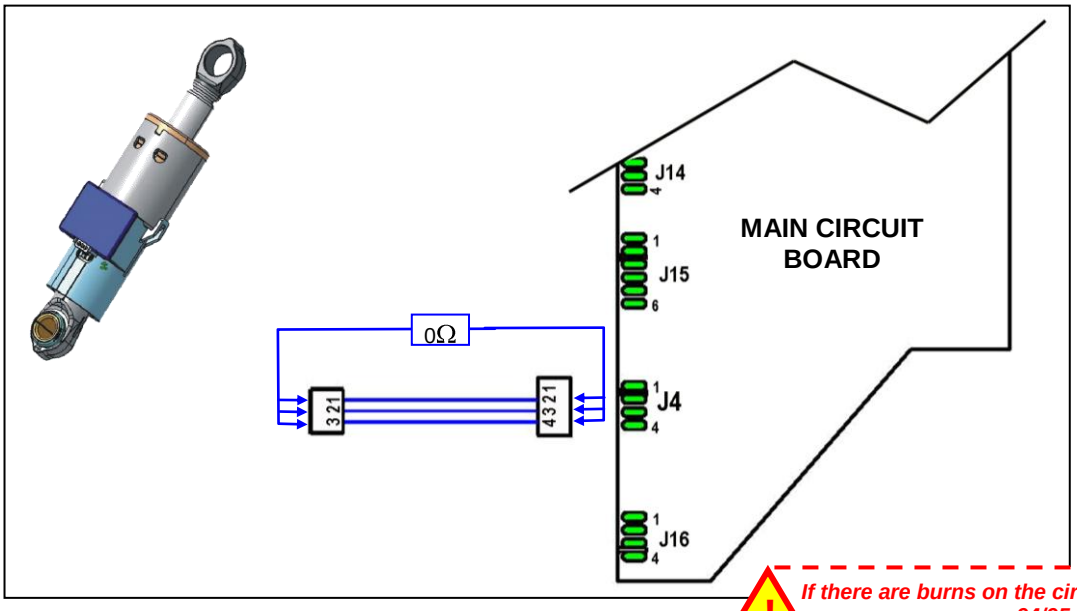


Fig. 4



If there are burns on the circuit board, see page 94/95

EC3	EC3: Problem with weight sensor	EC3
	No signal or outside the limits	

Checks to perform:

Check that all the connectors are correctly inserted

Turn the appliance off and back on again, enter the diagnostic cycle. Does the EC3 alarm appear again?

NO → Appliance ok

YES

Measure the continuity between connector J4 (main circuit board see **fig. 4**) and the weight sensor connector. Is the wiring ok?

NO → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Replace the shock absorber and repeat the diagnostic cycle to check for any further alarms.

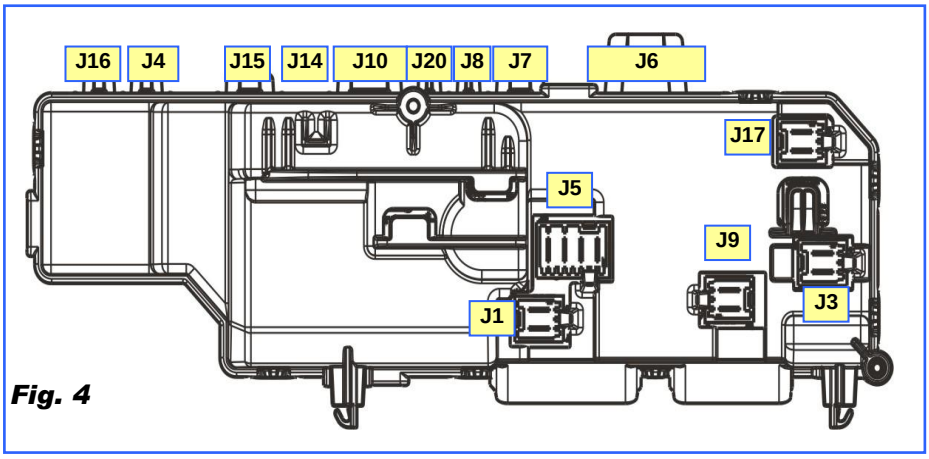
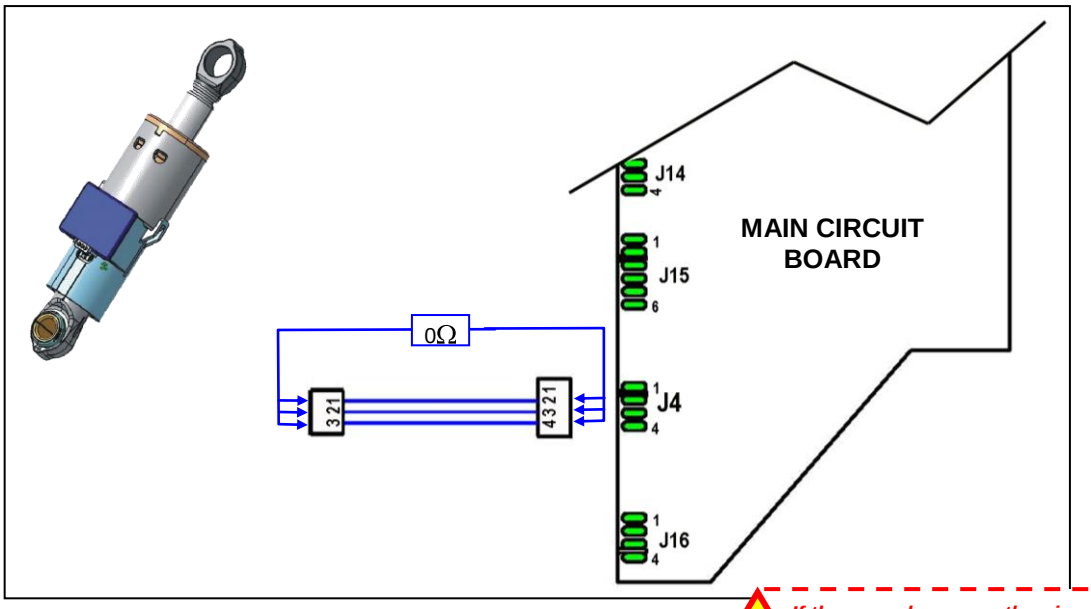


Fig. 4



If there are burns on the circuit board, see page 94/95

Ed1	Ed1: Communication problems between the main circuit board and the WD board	Ed1

Checks to perform:

Check that all the connectors are correctly inserted

Faulty WD Satellite board.
Replace the WD satellite board and repeat the diagnostic cycle to check for any further alarms

If there are burns on the circuit board, see page 94/95

Ed2	Ed2: Relay heating element dryer 1 faulty	Ed2

Checks to perform:

Check that all the connectors are correctly inserted

Measure between the terminal J9-1 of the connector and the appliance body. (see **fig. 34**) Is the circuit open?

YES → Replace the WD satellite board and repeat the diagnostic cycle to check for any further alarms.

NO

Disconnect connectors A1 and A2. Directly measure in one of the heating element terminals and the earth contact. Is the circuit open?

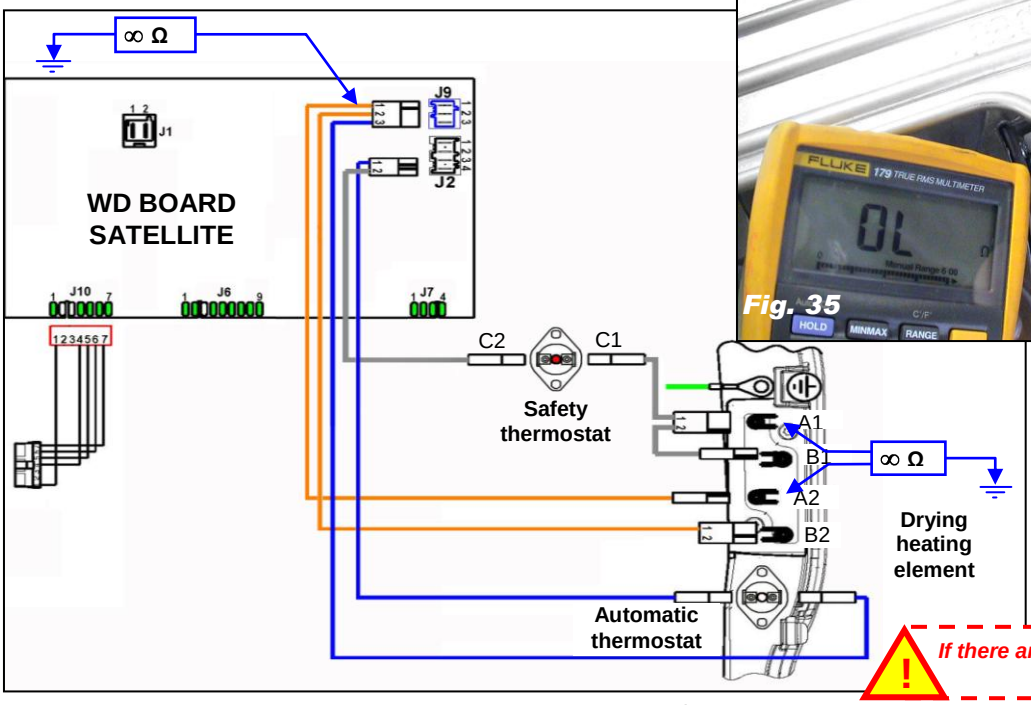
YES → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

NO

Replace the dryer heating element and repeat the diagnostic cycle to check for any further alarms.

Fig. 34

Fig. 35



If there are burns on the circuit board, see page 94/95

Ed3	Ed3: Sensing relay dryer 1 faulty	Ed3

Checks to perform:

Check that all the connectors are correctly inserted

Replace the WD satellite board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

Ed4	Ed4: Relay heating element dryer 2 faulty	Ed4

Checks to perform:

Check that all the connectors are correctly inserted

Measure between the terminal J9-2 of the connector and the appliance body. (see **fig. 34**) Is the circuit open?

YES → Replace the WD satellite board and repeat the diagnostic cycle to check for any further alarms.

NO

Disconnect connectors B1 and B2. Directly measure in one of the heating element terminals and the earth contact. **(see fig. 35)**. Is the circuit open?

YES → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

NO

Replace the dryer heating element and repeat the diagnostic cycle to check for any further alarms.

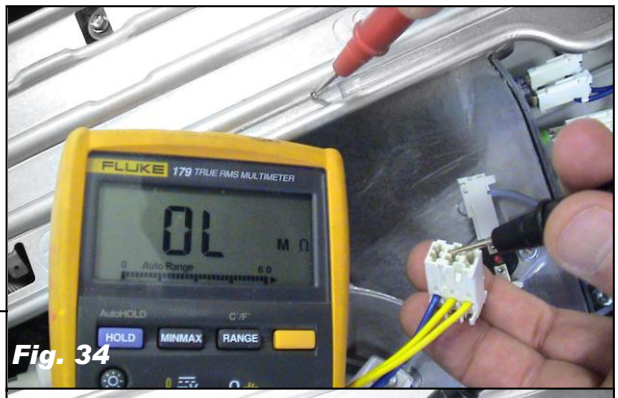
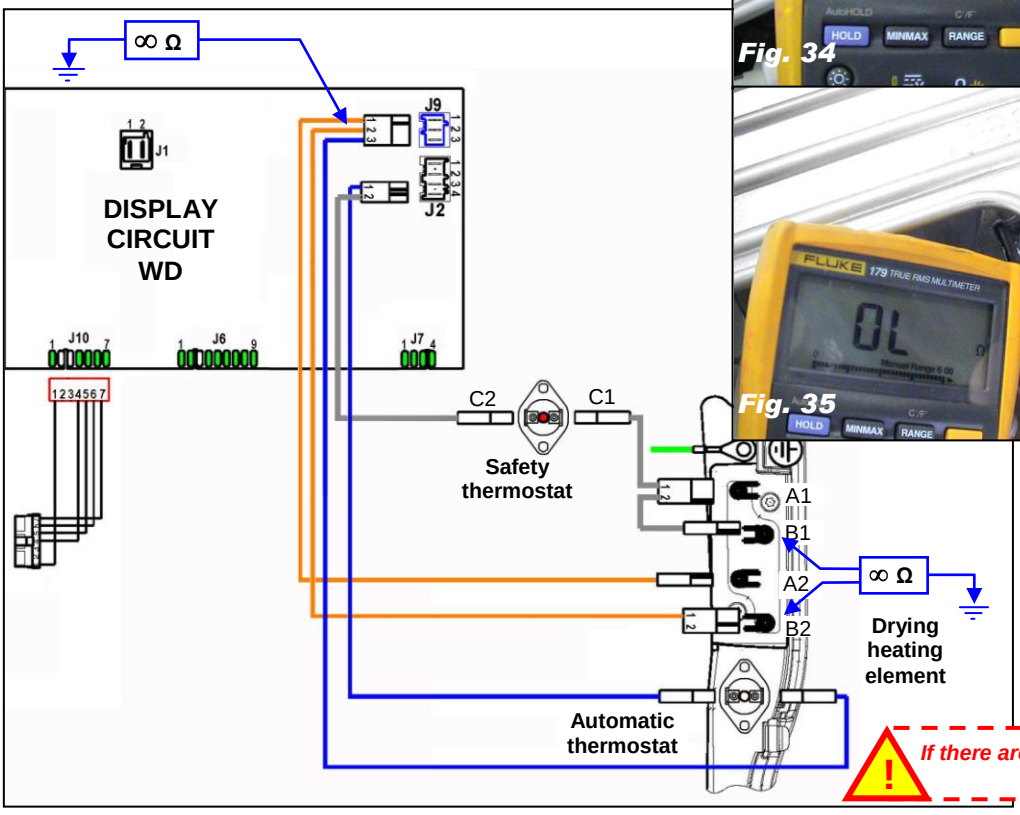


Fig. 34

Fig. 35



If there are burns on the circuit board, see page 94/95

Ed5	Ed5: Sensing relay drying 2 faulty	Ed5

Checks to perform:

Check that all the connectors are correctly inserted

Replace the WD circuit board and repeat the diagnostic cycle to check for any further alarms.

Ed6	Ed6: Faulty thermostat sensing	Ed6

Checks to perform:

Check that all the connectors are correctly inserted

Replace the WD circuit board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

Ed7	Ed7: Faulty thermostats	Ed7

Checks to perform:

Check that all the connectors are correctly inserted

Directly check between the C1 – C 2 and D1 – D2 terminals of the dei thermostats that the contact heating element is 0Ω (zero ohm) (see **fig. 36** and **37**).
Are the thermostat contacts open?

YES → Replace the thermostat/s and repeat the diagnostic cycle to check for any further alarms.

NO

Measure the continuity between the J2/4 connector (WD Satellite board) and C2 (safety thermostat terminal). Is the circuit open?

YES → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

NO

Measure the continuity between the A1 connector (drying heating element) and C1 (safety thermostat terminal). Is the circuit open?

YES → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

NO

Measure the continuity between the J2/3 connector (WD Satellite board) and D2 (automatic thermostat terminal). Is the circuit open?

YES → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

NO

Measure the continuity between the J9/3 connector (WD Satellite board) and D1 (automatic thermostat terminal). Is the circuit open?

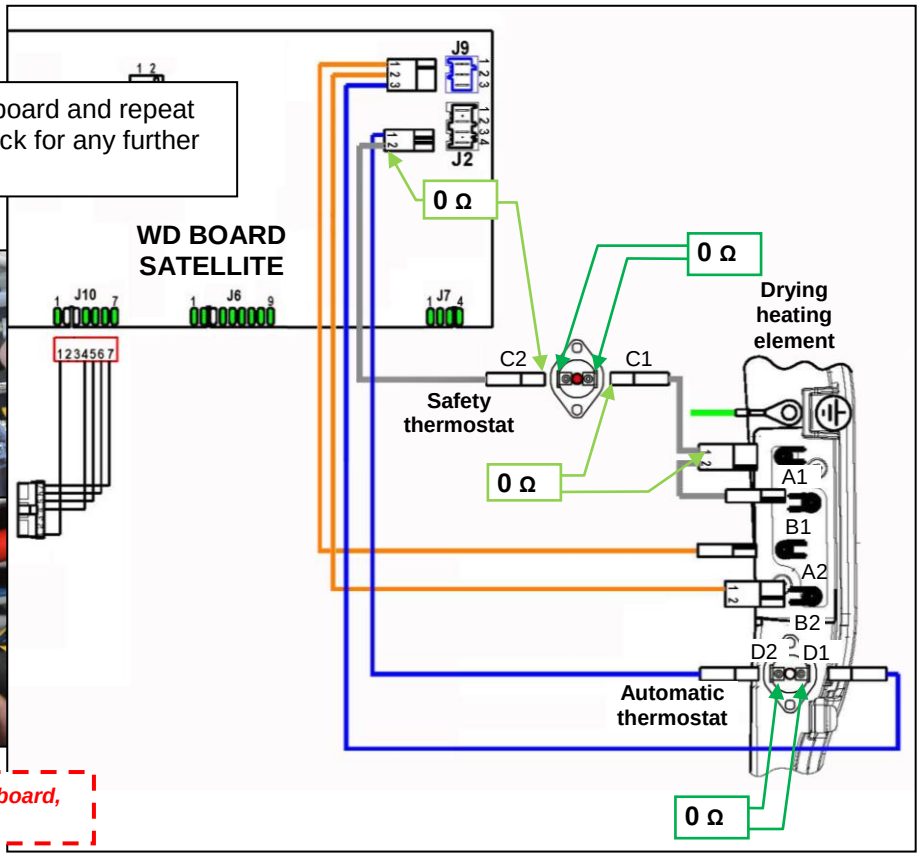
YES → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

NO

Replace the WD satellite board and repeat the diagnostic cycle to check for any further alarms.


Fig. 36


Fig. 37



If there are burns on the circuit board, see page 94/95

Ed8	Ed8: No tachometric signal from power fan	Ed8

Checks to perform:

Check that all the connectors are correctly inserted

Check the efficiency of the power fan between the motor connector contacts by measuring the values shown in **Tab. 2**. (see **fig. 38**).
Is the power fan ok?

NO → Replace the power fan and repeat the diagnostic cycle to check for any further alarms.

YES

Measure the continuity between the J10 connector (WD Satellite board) and the power fan connector.
Is the circuit open?

YES → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

NO

Replace the power fan and follow **phase 10** of the diagnostic cycle, does the ED8 alarm still appear?

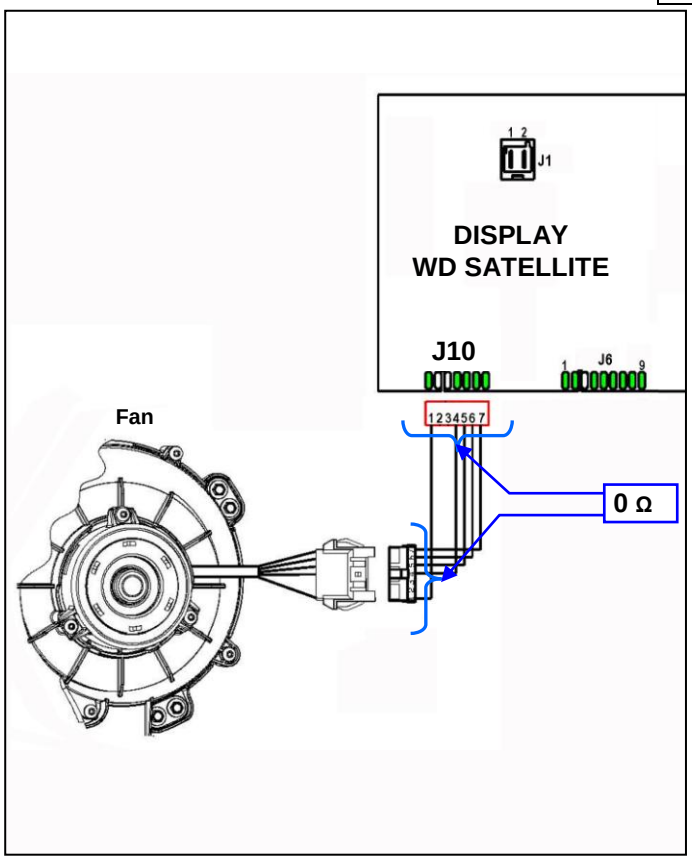
YES → Replace the WD satellite board and repeat the diagnostic cycle to check for any further alarms.

NO

Repeat the diagnostic cycle to check for any further alarms.

Tab. 2

Terminals	1-4	5-4	6-4	7-4
Resistance	∞	37.58KΩ	226.8KΩ	∞



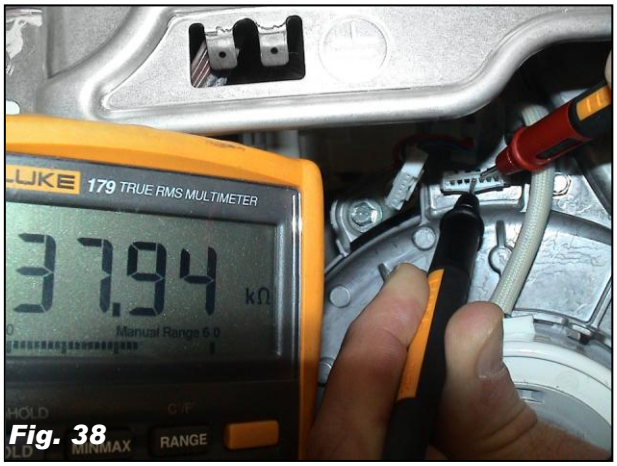


Fig. 38

If there are burns on the circuit board, see page 94/95

Ed9	Ed9: Inconsistency between the power fan status and the piloting sensing signal	Ed9

Checks to perform:

Check that all the connectors are correctly inserted

Replace the WD circuit board and repeat the diagnostic cycle to check for any further alarms.

EdA	EdA: WD board power supply beyond the limits	EdA

Checks to perform:

Check that all the connectors are correctly inserted

Caution!
The appliance remains in alarm status until the mains voltage/frequency returns to the correct values or the appliance is switched off (programme selector set to “0”). Only the family of the alarm is displayed and the diagnostics mode cannot be accessed. The complete alarm can only be read when the situation has normalised.

Is the supply line disturbed or the mains voltage out of range?

NO

Measure the continuity between J17 connector (main circuit board and satellite WD board J1 connector). Is the wiring ok?

NO

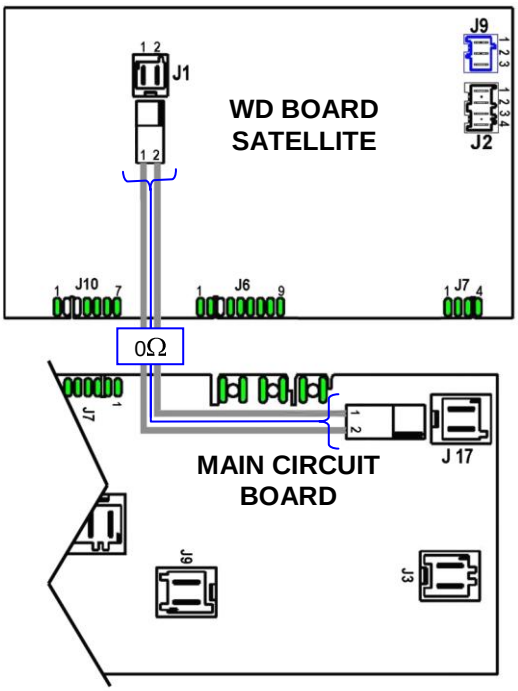
Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

YES

Have the electrical system of the home checked / repaired by the proper Body.

YES

Replace the drying circuit board and repeat the diagnostic cycle to check for any further alarms.



If there are burns on the circuit board, see page 94/95

EdC	EdC: Drying heating elements interrupted	EdC

Checks to perform:

Check that all the connectors are correctly inserted

Check the efficiency of the two drying heating element branches by measuring between the J9/1 and J9/2 connectors a value of 127Ω ± 5%. (see **fig. 39**). Is the value correct?

YES → Replace the WD satellite board and repeat the diagnostic cycle to check for any further alarms.

NO ↓

Disconnect the connectors and measure the value of the two drying heating element branches. The value corresponds with those shown in **Tab. 3**.

NO → Replace the dryer heating element and repeat the diagnostic cycle to check for any further alarms.

YES ↓

Measure the continuity between J9/1 (WD Satellite board) and A2 connector (drying heating element) (see **fig. 40**). Is the circuit open?

YES → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

NO ↓

Measure the continuity between J9/2 (WD Satellite board) and B2 connector (drying heating element) (see **fig. 41**). Is the circuit open?

YES → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

NO ↓

Replace the wiring that connects B1, A1 and C1 and repeat the diagnostic cycle to check for any further alarms.

Tab. 3

Drying heating element

Branch A
Between A1 and A2 you need to measure a value of between:
60.3Ω÷66.7Ω.

Branch B
Between B-1 and B-2 you need to measure a value of between:
60.3Ω÷66.7Ω.

n.b. The measurements must be carried out in a surrounding temperature of 25°C.

If there are burns on the circuit board, see page 94/95

EdC

Fig. 39

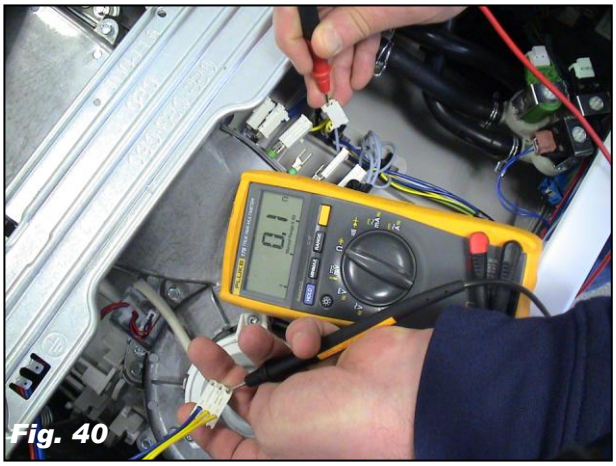
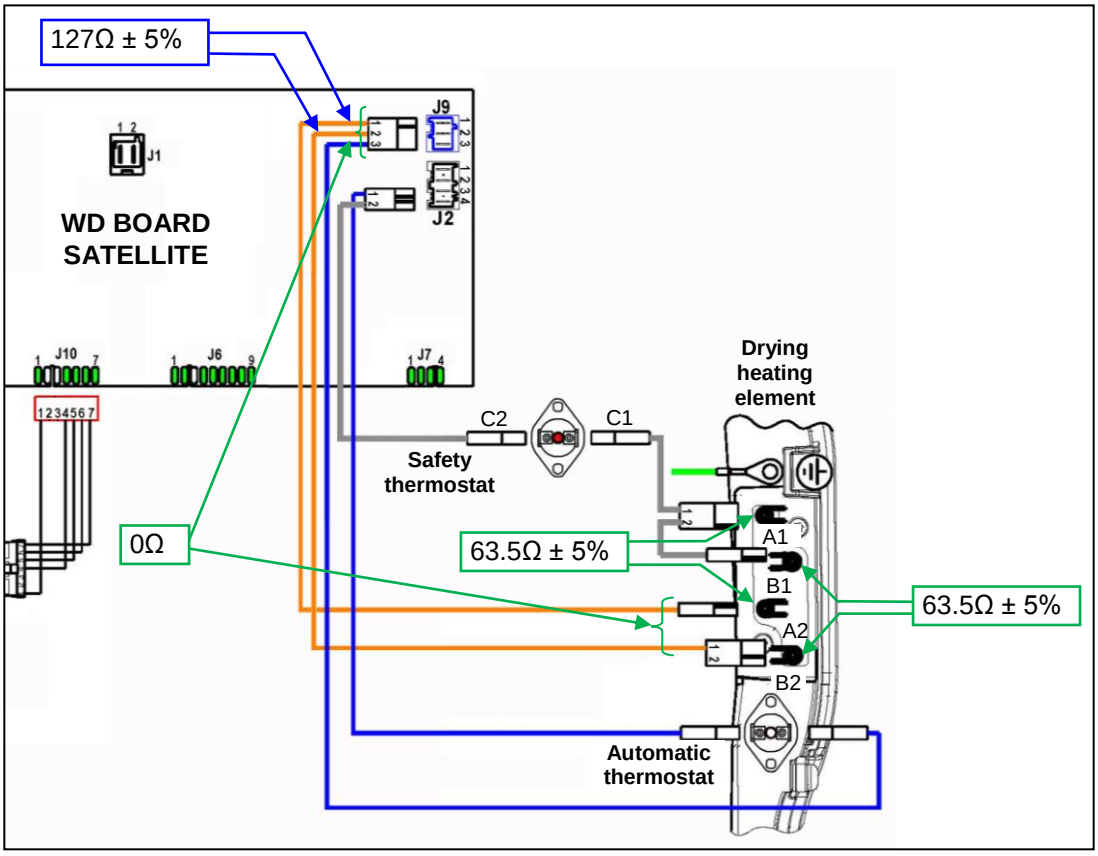


Fig. 40


Fig. 41



If there are burns on the circuit board, see page 94/95

Edd	Edd: Current leak to the ground	Edd

Checks to perform:

Check that all the connectors are correctly inserted

Measure the continuity between the J17 connector (main circuit board) and J1 (Satellite WD board).
Is the circuit open?

YES → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

NO ↓

Disconnect the connectors and measure between the two branches of the drying heating element and the earth contact.
(see **fig. 42**)
Is there any dispersion?

YES → Replace the dryer heating element and repeat the diagnostic cycle to check for any further alarms.

NO ↓

Disconnect the connectors and measure between the terminals (C1 - C2) of the safety thermostat and the earth contact.
(see **fig. 43**)
Is there any dispersion?

YES → Replace the safety thermostat and repeat the diagnostic cycle to check for any further alarms.

NO ↓

Disconnect the connectors and measure between the terminals (D1 - D2) of the automatic thermostat and the earth contact.
(see **fig. 44**)
Is there any dispersion?

YES → Replace the automatic thermostat and repeat the diagnostic cycle to check for any further alarms.

NO ↓

Check the J9/1-B1, J9/2-B2, J9/3-D1, J2/3-D2, J2/4-C2 and C1/A1-B1 wiring.
Is there any dispersion?

YES → Replace the wiring and repeat the diagnostic cycle to check for any further alarms.

NO ↓

Replace the WD satellite board.
Restart the diagnostic cycle,
does the Edd alarm appear again?

YES → Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

NO ↓

Appliance okay

If there are burns on the circuit board, see page 94/95

Edd

Fig. 42

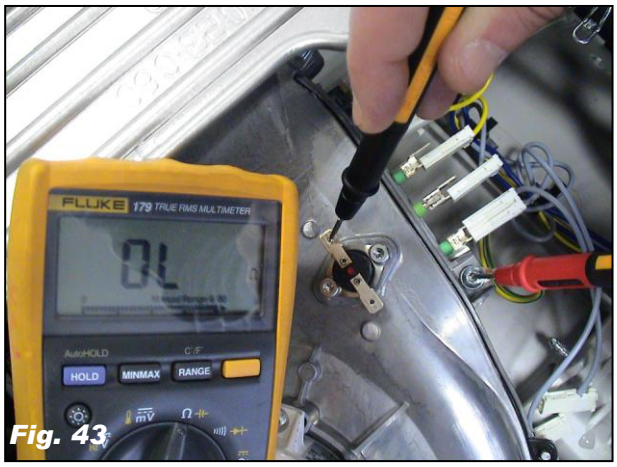


Fig. 43

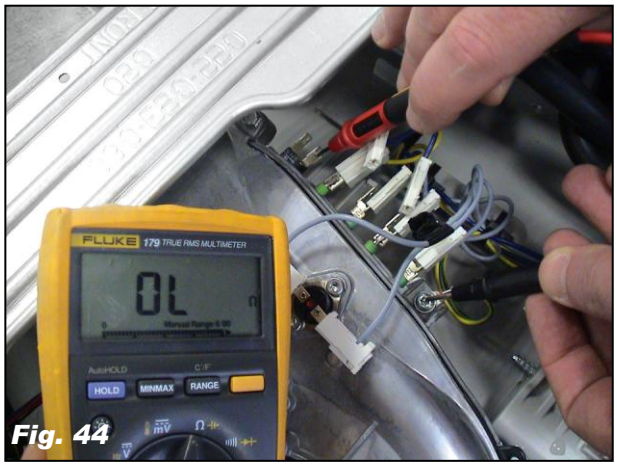
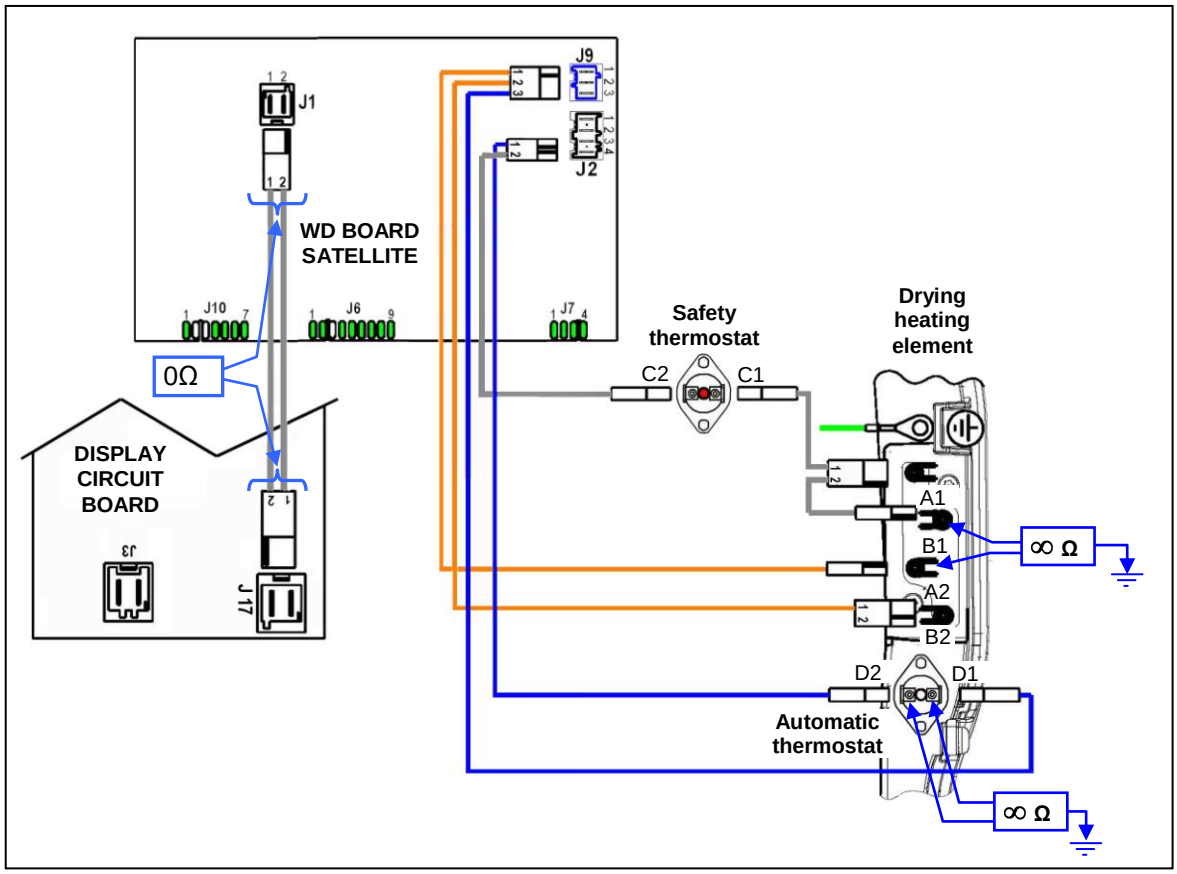


Fig. 44



If there are burns on the circuit board, see page 94/95

EdH	EdH: Faulty WD board microprocessor	EdH

Checks to perform:

Check that all the connectors are correctly inserted

Replace the WD circuit board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

EF1	EF1: Drain hose blocked/kinked/too high; drain filter clogged/dirty	EF1

Checks to perform:

Check that all the connectors are correctly inserted

This warning only appears at the end of the cycle. The appliance detected long drainage phases during the cycle. (E.g.: More than 20 seconds when draining after rinses). Check/clean the drain filter.

EF2	EF2: Excessive detergent dosing; drain hose kinked/blocked; drain filter dirty/clogged	EF2

Checks to perform:

Check that all the connectors are correctly inserted

This is an excessive detergent dosing warning. The system detected too much foam was forming during the drain phases. Advise the Customer to use the correct quantity of detergent and to make sure the filter and drain circuit are clean.

EF3	EF3: Aqua Control device triggered	EF3

Checks to perform:

Check that all the connectors are correctly inserted

This warns about the presence of water at the bottom of the appliance. Check for any water leaks and that the Aqua Control device float is positioned correctly.
Or caused by excessive overheating of the drain pump. Check for any items which may obstruct the normal operation of the rotor.

If there are burns on the circuit board, see page 94/95

EF4	EF4: Water fill pressure too low and solenoid valve open	EF4

Checks to perform:

Check that all the connectors are correctly inserted

It is a warning that the water pressure is too low. If the water pressure is connect, check:
the wiring of the flowmeter and the Flowmeter.

EF5	EF5: Unbalanced load, spin phases skipped.	EF5

Checks to perform:

Check that all the connectors are correctly inserted

This is an unbalanced load warning. The appliance detected an extremely unbalanced load during the spin phases. Advise the customer to load more washing into the drum and not just individual garments.

If there are burns on the circuit board, see page 94/95

EF6	EF6: Reset appliance.	EF6

Checks to perform:

Check that all the connectors are correctly inserted

No action to be performed, if continues, replace the main circuit board

EH1	EH1: Mains frequency incorrect Power supply frequency out of configured range	EH1

Checks to perform:

Check that all the connectors are correctly inserted

Important!

The appliance remains in alarm status until the mains frequency returns to the correct values or the appliance is switched off (programme selector set to “0”). Only the family of the alarm is displayed and the diagnostics mode cannot be accessed. The complete alarm can only be read when the situation has normalised.

Is the supply line disturbed or the mains frequency out of range?

NO → Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

YES

Have the electrical system of the home checked / repaired by the proper Body.

If there are burns on the circuit board, see page 94/95

EH2: Supply voltage too high

EH2

Supply voltage value higher than the one configured (for more than 10 seconds)

EH2

Checks to perform:

Check that all the connectors are correctly inserted

Caution!

The appliance remains in alarm status until the mains voltage returns to the correct values or the appliance is switched off (programme selector set to “0”). Only the family of the alarm is displayed and the diagnostics mode cannot be accessed. The complete alarm can only be read when the situation has normalised.

Is the supply line disturbed or the mains voltage out of range?

NO

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

YES

Have the electrical system of the home checked / repaired by the proper Body.

If there are burns on the circuit board, see page 94/95

EH3: Supply voltage too low

EH3

Supply voltage value higher than the one configured

EH3

Checks to perform:

Check that all the connectors are correctly inserted

Caution!

The appliance remains in alarm status until the mains frequency returns to the correct values or the appliance is switched off (programme selector set to “0”). Only the family of the alarm is displayed and the diagnostics mode cannot be accessed. The complete alarm can only be read when the situation has normalised.

Is the supply line disturbed or the mains voltage out of range?

NO

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

YES

Have the electrical system of the home checked / repaired by the proper Body.

If there are burns on the circuit board, see page 94/95

EHC: Faulty WD line relay

EHC

(Incongruence between the relay status and the relay sensing)

EHC

Checks to perform:

Check that all the connectors are correctly inserted

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

EHD	EHD: Safety sensing circuit faulty Input voltage microprocessor wrong	EHD

Checks to perform:

Check that all the connectors are correctly inserted

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

EHE	EHE: Inconsistency between safety relay (main circuit board) and safety sensing circuit	EHE

Checks to perform:

Check that all the connectors are correctly inserted

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

EHF	EHF: Safety sensing circuit faulty Input voltage microprocessor wrong	EHF

Checks to perform:

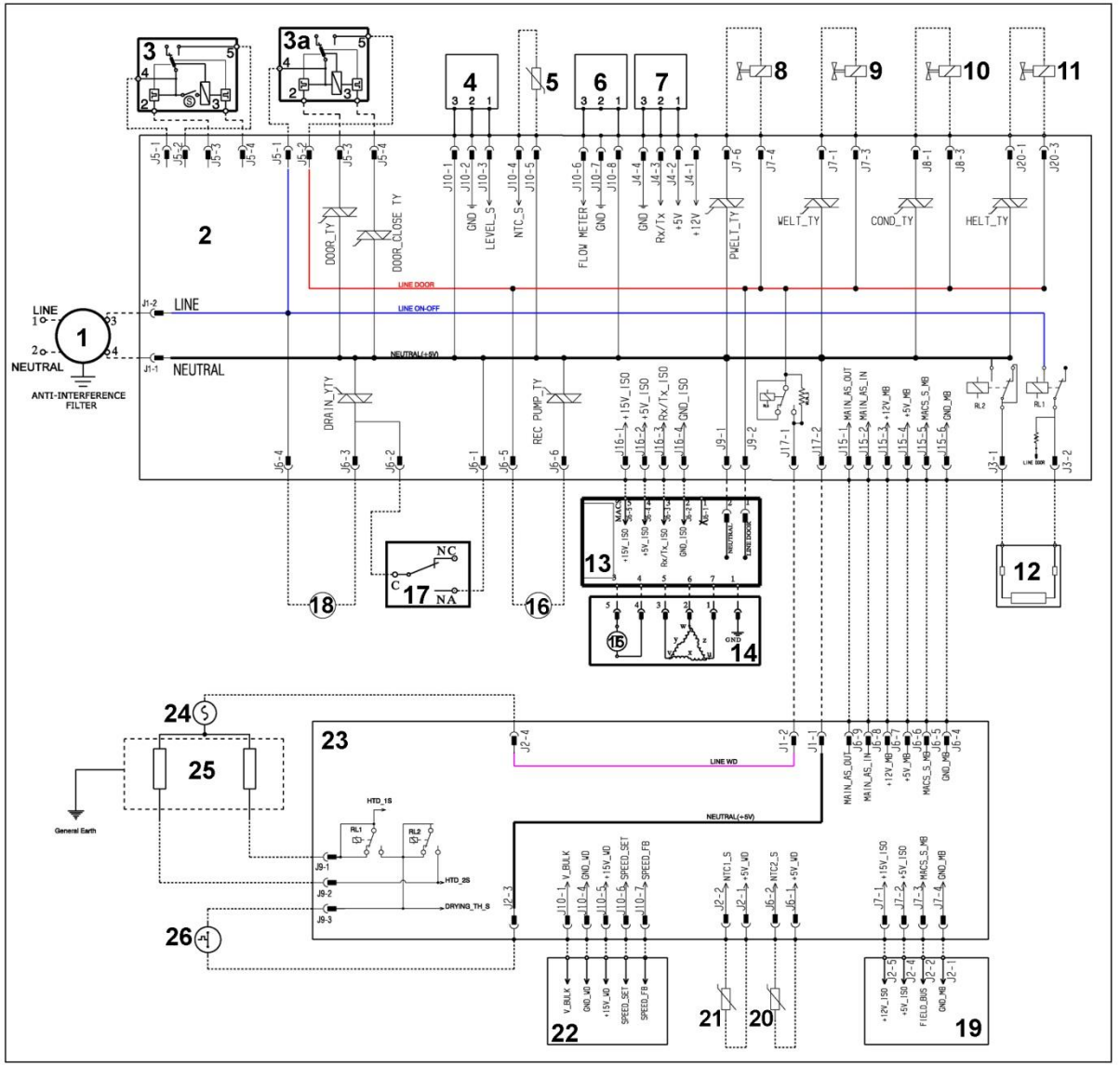
Check that all the connectors are correctly inserted

Replace the main circuit board and repeat the diagnostic cycle to check for any further alarms.

If there are burns on the circuit board, see page 94/95

8 DIAGRAMS

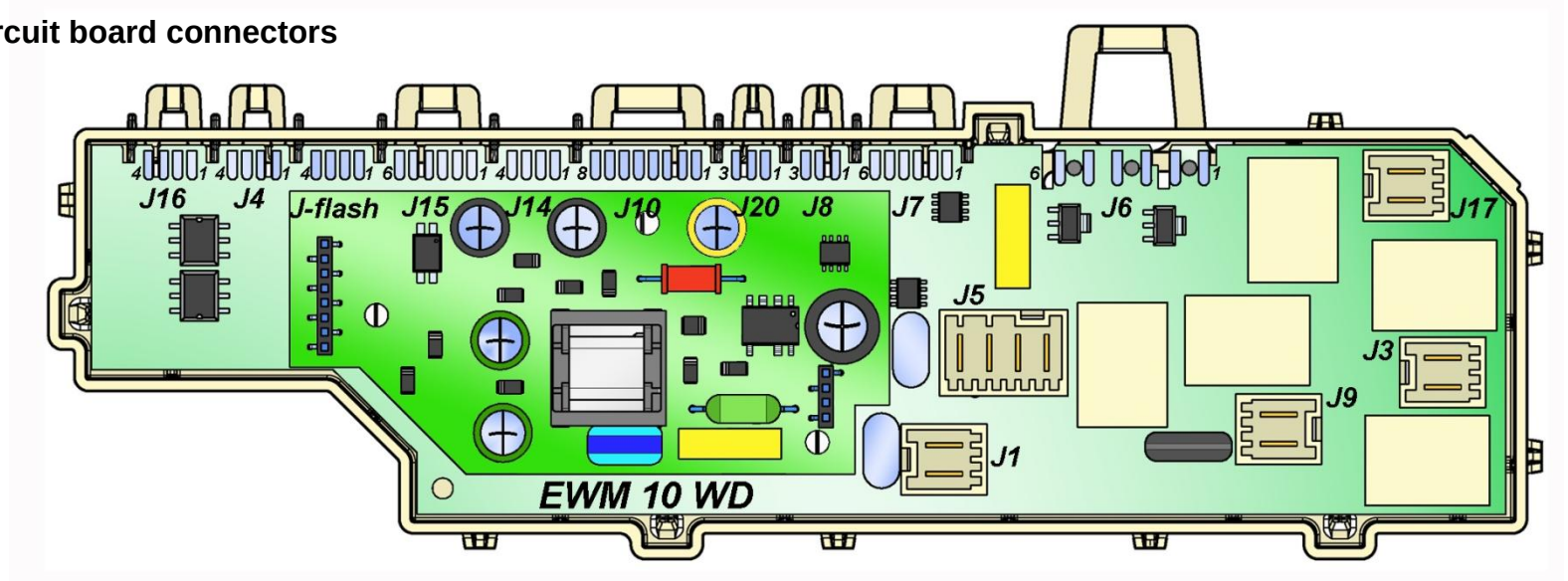
8.1 WD diagram with THREE-PHASE ASYNCHRONOUS MOTOR



8.1.1 Key to diagram

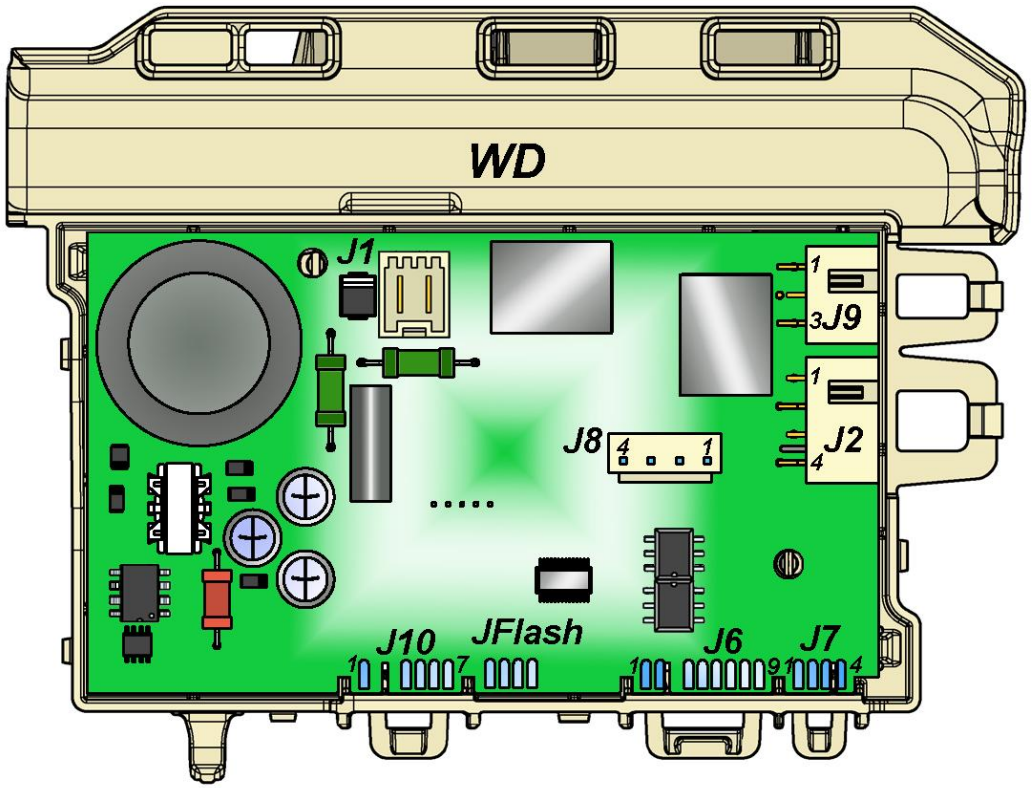
Appliance electrical components	PCB components	
1. Noise filter	DRAIN_YTY	Drain pump Triac
2. Main circuit board	DOOR_TY	Door interlock Triac
3. Door safety interlock (with micro-switch)	DOOR_CLOSE_TY	Door interlock Triac
3a. Door safety interlock (without micro-switch)	REC PUMP_TY	Circulation pump TRIAC switch
4. Electronic pressure switch	PWELT_TY	Pre-wash solenoid Triac
5. NTC (washing)	WELT_TY	Wash solenoid Triac
6. Flow sensor	COND_TY	Condensation solenoid Triac
7. Weight sensor	HELT_TY	Hot water solenoid triac
8. Pre-wash solenoid valve	RL1	Washing/drying heating element relay
9. Wash solenoid valve	RL2	Washing/drying heating element relay
10. Condensation solenoid valve	RL6	WD PCB power supply
11. Hot water solenoid valve		
12. Heating element		
13. Motor control board (Inverter)		
14. Triple-phase motor		
15. Tachometric generator (motor)		
16. Circulation pump		
17. Aqua control sensor		
18. Drain pump		
19. Display board		
20. Humidity sensor NTC		
21. Drying sensor NTC		
22. Power fan		
23. PCB - WD		
24. Safety thermostat		
25. Drying heating element		
26. Auto-reset thermostat		

8.2 Main circuit board connectors



J16	J10	J7	J3
MACS communication **J16-1** Vee 15V **J16-2** 5V **J16-3** Rx/Tx **J16-4** GND	**J10-1** Analogue pressure switch (+5V) **J10-2** Analogue pressure switch (GND) **J10-3** Analogue pressure switch (signal) **J10-4** NTC temperature probe (signal) **J10-5** NTC temperature probe (+5V) **J10-6** Flowmeter (signal) **J10-7** Flowmeter (GND) **J10-8** Flowmeter (+5V)	**J7-1** Wash solenoid valve (Triac) **J7-3** Wash solenoid valve (Line) **J7-4** Pre-wash solenoid valve (Triac) **J7-6** Pre-wash solenoid valve (Line)	**J3-1** heating element (Neutral Relay) **J3-2** heating element (Line Relay)
J4		**J6**	**J9**
J4-1 Vee 12V **J4-2** 5V **J4-3** Rx/Tx **J4-4** GND	**J20**	**J6-1** Aqua control device (Neutral) **J6-2** Aqua control device (Line) **J6-3** Drain pump (Triac) **J6-4** Drain pump (Line) **J6-5** Circulation pump (Line) **J6-6** Circulation pump (Triac)	**J9-1** FCV power supply (Neutral) **J9-1** FCV power supply (Relay)
J15	**J20-1** Hot water solenoid valve (Triac) **J20-3** Hot water solenoid valve (Line)		**J5**
J15-1 MAIN_AS_OUT **J15-2** MAIN_AS_IN **J15-3** Vee 12V_MB **J15-4** 5V _MB **J15-5** MACS:S_MB **J15-6** GND_MB	**J8**	**J17**	**J5-1** Door lock (Line) **J5-2** Door lock (Door line) **J5-3** Door lock (PTC Triac) **J5-4** Door lock (Triac)
	J8-1 Condensation solenoid valve (Triac) **J8-3** Condensation solenoid valve (Line)	**J17-1** Power supply WD Board (Line) **J17-2** Power supply WD Board (Neutral)	**J1**
			J1-1 line (neutral) **J1-2** line

8.3 WD electronic satellite board connectors

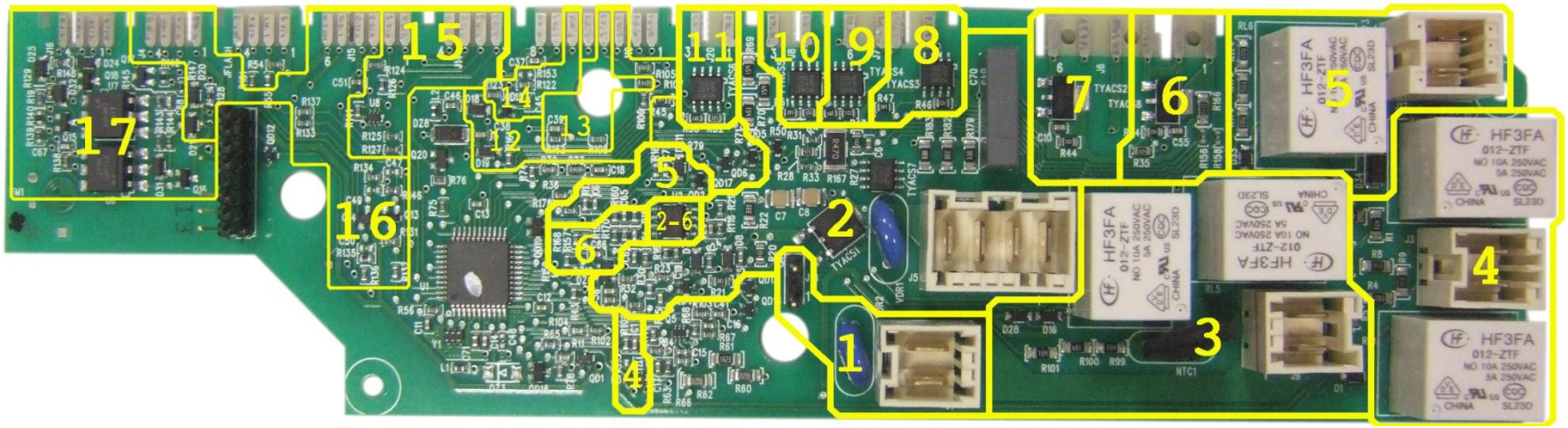


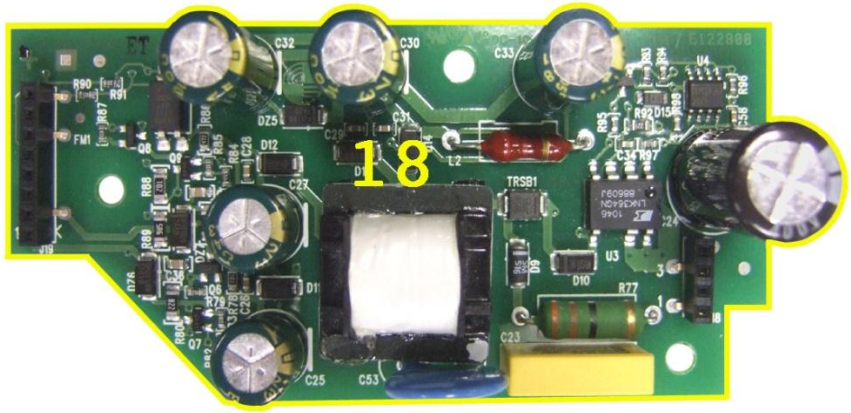
J1
MACS communication **J1-1** Power supply WD Board (Neutral) **J1-2** Power supply WD Board (Line)
J9
J9-1 Drying heating element (low) **J9-2** Drying heating element (up) **J9-3** Automatic Thermostat
J2
J2-1 NTC WD temperature probe (+5V) **J2-2** NTC WD temperature probe (signal) **J2-3** Automatic Thermostat (Line) **J2-4** Safety Thermostat (Line)
J7
J7-1 Vee 15V **J7-2** 5V **J7-3** MACS_S_MB **J7-4** GND_MB
J6
J6-1 NTC WD temperature probe (+5V) **J6-2** NTC WD temperature probe (signal) **J6-4** GND_MB **J6-5** MACS:S_MB **J6-6** 5V _MB **J6-7** Vee 12V_MB **J6-8** MAIN_AS_IN **J6-9** MAIN_AS_OUT
J10
J10-1 V_BULK **J10-4** GND_WD **J10-5** Vee 15V_WD **J10-6** SPEED_SET **J10-7** SPEED_FB

8.4 Burns on the main circuit board EWD10931

In the event of burns on the main circuit board, check whether the problem was caused by another electrical component (short-circuits, poor insulation, water leaks). Use the figures that follow to pinpoint the component which may have caused the problem, depending on the area of the burns.
The type of board illustrated is the one with the largest number of components; other boards do not feature some of these components.

MAIN BOARD & SMPS



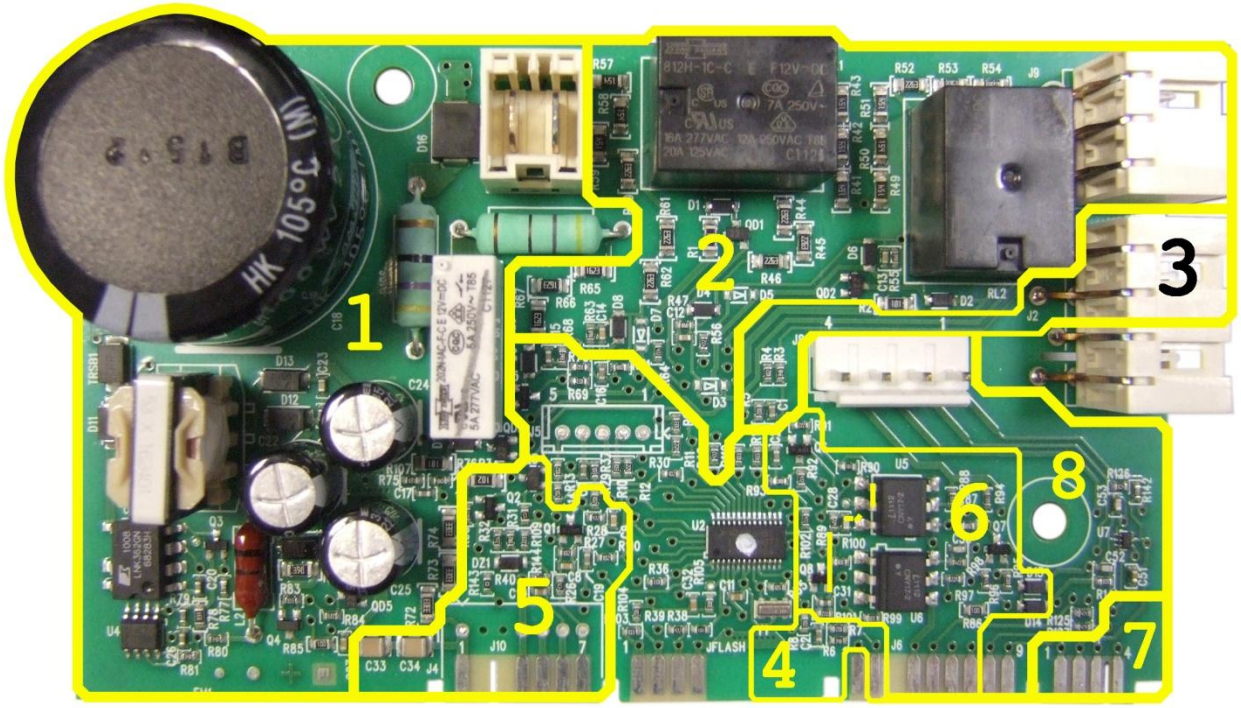


LEGEND

1. Power supply area
2. Door lock area
3. FCV relay area (motor)
4. Heating element area
5. WD relay area
6. Drain pump area
7. Recirculation pump area
8. Washing solenoid valve area
9. Prewash solenoid valve area
10. Condensation solenoid valve area
11. Hot water solenoid valve area
12. Analogue level sensor area
13. Washing NTC temperature probe area
14. Flowmeter area
15. Daas Area (WD board)
16. MACS Area weight sensor
17. MACS ISO Area (FCV)
18. SMPS power supply area

8.5 Burning on the WD satellite electronic board

WD SATELLITE BOARD



1. Power supply area 2. Drying heating element area 3. Drying NTC probe area (outlet) 4. Humidity NTC probe area (back tub)	5. Fan motor area 6. MACS ISO (main board) 7. MACS (display board) 8. Daas

Remarks

REVISION:

Revision	Date	Description	Author	Approved by
00	04/2012	Document Creation	DMM	XX – 0X/201X