

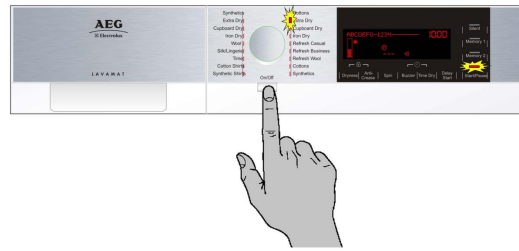
- **Diagnostics**

The diagnostics process is designed to check all the components in the tumble dryer.

To enter diagnostics mode, proceed as follows:

Turn on the tumble dryer at the On/Off button. Wait for the LEDs to be lit and for the buzzer to BEEP (if the alarm is not disabled).

Series 9 uses a Hi-Fi selector dial so the first position is already selected by default.



Press the **Start/Pause** and **Delay Start** buttons simultaneously.



WARNING

This must be done within 5 seconds after the tumble dryer has been turned on!



- **Quitting diagnostics mode**

To quit diagnostics mode, turn the tumble dryer off at the On/Off button, then turn it back on in order to reset it. The display shows the words ELECTRIC RESET then turn it back off.

- **Selector dial positions in diagnostics**

See the paragraph which applies to all stylings "SELECTOR DIAL POSITION IN DIAGNOSTICS".

4.4.10 Warnings

There are three icons under the time indication on the display dedicated to showing warnings, to remind the user to perform specific operations.

- **Condensation water tank**

It lights up at the end of every cycle to remind the user to empty the condensation water collection tank or during the actual cycle if it is full.

This warning can be disabled using the dedicated key combination if the water drain kit is fitted in the tumble dryer.



- **Filter**

It lights up at the end of every cycle to remind the user to clean the fluff filter in the air conduit.



- **Capacitor**

It lights up at the end of the cycle only after approximately 100 hours of operation, to remind the user to clean the capacitor at the bottom of the tumble dryer.



5 Selector dial positions in diagnostics

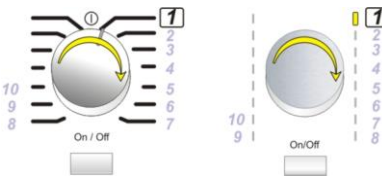


The alarms are enabled during diagnostic testing of components. If an alarm appears, move the selector to the first position to exit the alarm status and, if necessary, continue the test (if the alarm is not triggered again).

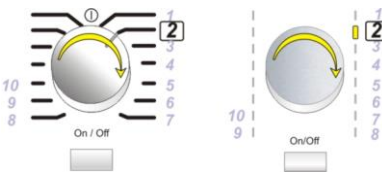
To check the correct functioning of the float switch and pump, the trap should be filled with approximately 0.7 litres of water.

In order to test the conductivity sensor properly in case of a short-circuit (position 8), a short circuit must be created between the two sensors on the front air conduit before moving the selector dial to the eighth position. If the short-circuit is not created properly, the circuit board will display alarm E32 (sensor frequency too low). To exit this alarm, move the selector to the first position.

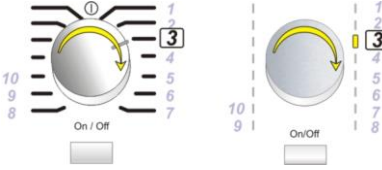
Position 1

User interface test	Purpose of the test:	To test the functionality of all LEDs and switches
	Components activated:	All LEDs. LCD display.
	Behaviour:	All LEDs flash in sequence. Press a button and the corresponding LED is lit; the code is shown on the LCD display and the buzzer sounds. All LCD icons flash simultaneously.
	Working conditions:	there is a control to run the test (always active).

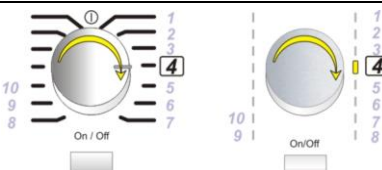
Position 2

Float micro-switch and condensation water pump	Purpose of the test:	To test the pump and micro-switch situated in the condensation water tray.
	Components activated:	If the condensation water collection tray is full and the micro-switch detects this condition, the pump is started.
	Behaviour:	If the water level in the tray is low, the LCD displays III and if the level is high (micro-switch triggered), the LCD displays 000.
	Working conditions:	door closed (timeout 10 secs.).

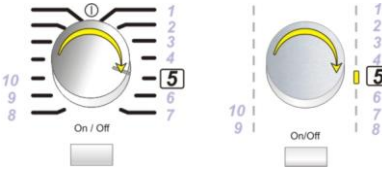
Position 3

Anti-clockwise drum rotation	Purpose of the test:	to test the drum rotation motor in an anti-clockwise direction.
	Components activated:	motor TRIAC. Anti-clockwise direction relay. Drum rotation motor. Condensation water filling pump.
	Behaviour:	The motor turns the drum anti-clockwise and the condensation water filling pump is in operation.
	Working conditions:	door closed (timeout 10 mins.).

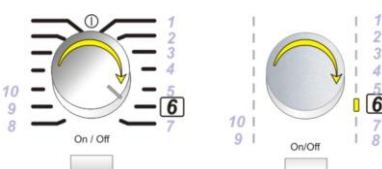
Position 4

Compressor cooling fan	Purpose of the test:	Test operation of the compressor cooling fan.
	Components activated:	Compressor cooling fan TRIAC. Safety relay.
	Behaviour:	LCD indicates the position of the selector.
	Working conditions:	door closed (timeout 10 mins.).

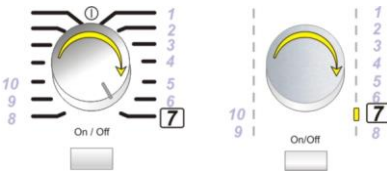
Position 5

Clockwise drum rotation	Purpose of the test:	To test clockwise rotation of the drum.
	Components activated:	clockwise drum rotation motor. Safety relay.
	Behaviour:	LCD indicates the position of the selector. the drying temperature NTC1 is displayed on the LCD.
	Working conditions:	door closed (timeout 10 secs.).

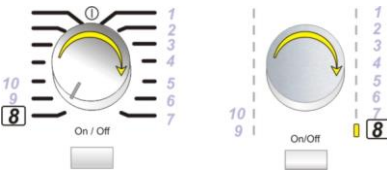

Position 6

Compressor and clockwise drum rotation	Purpose of the test:	To test compressor operation.
	Components activated:	Compressor. clockwise drum rotation motor.
	Behaviour:	LCD indicates the position of the selector. the drying temperature NTC1 is displayed on the LCD.
	Working conditions:	door closed (timeout 10 secs.).

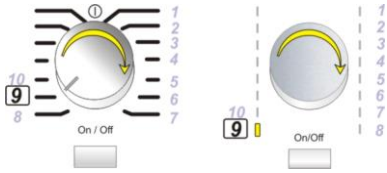
Position 7

<p>Open-circuited conductivity sensor</p>	<p>Purpose of the test:</p>	<p>to check the conductivity sensor in open-circuit conditions.</p>
	<p>Components activated:</p>	<p>Conductivity sensor.</p>
	<p>Behaviour:</p>	<p>The test lasts 4 seconds, during which the LCD flashes, displaying 000. At the end of the test, the LCD stops flashing and displays III. If the test was unsuccessful, the LCD continues to flash, displaying.</p>
	<p>Working conditions:</p>	<p>Conductivity sensor free from any garments or contact.</p>

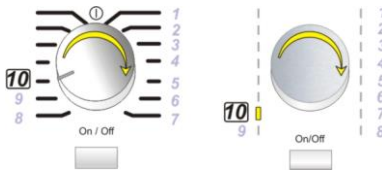
Position 8

<p>Closed circuited conductivity sensor</p>	<p>Purpose of the test:</p>	<p>To verify conductivity sensor in short circuit condition.</p>
	<p>Components activated:</p>	<p>Conductivity sensor.</p>
	<p>Behaviour:</p>	<p>The test lasts 4 seconds, during which the LCD flashes, displaying 000. At the end of the test, the LCD stops flashing and displays III. If the test is unsuccessful, the LCD displays the alarm E32.</p>
	<p>Working conditions:</p>	<p>Short-circuited conductivity sensor.</p>
		<p>Create a short circuit between the two sensors on the front air conduit before setting the selector dial to the eighth position.</p>

Position 9

<p>Condenser Tank Switch</p>	<p>Purpose of the test:</p>	<p>to test the micro-switch under the condensation water collection tray.</p>
	<p>Components activated:</p>	<p>If the condensation water collection tray is full and the micro-switch detects this condition, the pump is started.</p>
	<p>Behaviour:</p>	<p>If the water level in the tray is low, the LCD displays III and if the level is high (micro-switch triggered), the LCD displays 000.</p>
	<p>Working conditions:</p>	<p>door closed (timeout 10 secs.).</p>

Position 10

Last alarm display and possible reset	Purpose of the test:	To see the alarm and delete it.
	Behaviour:	The LCD display flashes and shows any alarm present.
	Working conditions:	Turn the dial to position 10, paying attention not to stop in position 8 in order to avoid error 32. Press the Start/Pause button to see all the alarms present. To delete the alarms, hold down the Start/Pause buttons and press the button on the left.

Position 11 and subsequent positions

Last alarm display and possible reset		
	Behaviour:	All LEDs flash in sequence. Press a button and the corresponding LED is lit; the code is shown on the LCD display and the buzzer sounds.
	Working conditions:	door closed (timeout 10 secs.).

6 Alarms

Operation of the alarms is configurable according to the model. Some or all of the alarms may be displayed to the user.

When an alarm condition occurs, the drying cycle may be interrupted or paused; in some cases, for safety reasons, a forced cooling cycle is performed.

In this case, the electronic board, if possible, disconnects the power relay from the heating element and powers the drum rotation motor with cooling fan. The cycle remains active until the user switches off the appliance.

6.1 Alarm display during normal operation

On models with LCD the system displays the family of the current alarm to the user.

- First digit: letter "E"
- Second digit: the family of the alarm.
- Third digit: the alarm number.

If we consider, for example, the alarm E53 (communication error between the motor control board and the main board), the following will be displayed:

- First digit: letter "E" (error)
- Second-third digit: the number "5 0", i.e. the family of the alarm E53)

6.2 Reading the alarms

To read the last alarm code stored, proceed as follows:

- ⇒ Access diagnostics mode (see paragraph).
- ⇒ Turn the programme selector dial clockwise to the tenth position, the display will show the latest code stored.
- ⇒ To display any other alarms, press the Start/Pause button.



*Try not to stop on position 8, otherwise dummy alarm is triggered!
Alarm 32*

- First digit: letter "E"
- Second digit: the family of the alarm
- Third digit: the alarm number

The configuration errors E93 are displayed through the flashing of all LEDs and it is not possible to access the diagnostics system.

6.3 Cancelling the last alarm memorized

It is good practise to cancel the alarm code from memory:

- After reading the alarm, to check whether it is repeated during the diagnostics cycle.
 - After effecting repairs to the appliance, to check whether it is repeated during testing.
1. Start diagnostics mode.
 2. Turn the programme selector in a clockwise direction to position ten.
 3. Press the Start/Pause button and the button immediately to the left of it simultaneously.
 4. Hold the buttons down for approximately 5 seconds.
 5. After deleting, E00 will be displayed.

6.4 Notes about specific alarm codes

▪ Configuration alarm E93:

When configuration alarms are displayed (when the appliance is switched on), the appliance is inoperative and all the LEDs light. It is not possible to access diagnostics; the only operation possible is to switch off the appliance (selector knob on position "0").

▪ Alarms EH1-EH2-EH3:

In the event of problems with the power supply, the appliance remains in alarm mode until the voltage and frequency are restored to within the normal limits or the appliance is switched off. Alarm family "H" is displayed and it is not possible to access diagnostic mode nor to use the "rapid alarm display" function.

The complete alarm can be read only when the abnormal condition has terminated.

6.5 ALARMS TABLE

FAMILY		ALARM CODE	Full name	Action	Notes and possible causes
Ex20	CONDENSATION WATER FILLING PUMP	Ex21	Condensation water filling pump alarm	<ul style="list-style-type: none"> The cycle is suspended. If detected during configuration, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Pump disconnected (wiring or connector error). Pump faulty. Water filling pump TRIAC error (short-circuit, diode mode, open circuit) (power board error).
		Ex22	Condensation water filling pump detection alarm	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Pump TRIAC detection circuit error (main board error).
Ex30	CONDUCTIVITY SENSOR	Ex31	Conductivity sensor frequency too HIGH	No action.	<p>Only active during diagnostics of the HUMIDITY SENSOR SHORT-CIRCUIT.</p> <ul style="list-style-type: none"> The oscillation frequency is out of range (main board failure).
		Ex32	Conductivity sensor frequency too LOW	No action.	<p>Only active during diagnostics of the HUMIDITY SENSOR SHORT-CIRCUIT.</p> <ul style="list-style-type: none"> The drum is not short-circuited. Wiring error. The oscillation frequency is out of range (main board failure).
Ex40	DOOR	Ex45	Door closed sensing alarm	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<p>Error in the door closed detection circuit.</p> <ul style="list-style-type: none"> Door micro-switch faulty or disconnected. Main board error.
E0x50	DRUM ROTATION MOTOR	Ex51	Motor power triac short-circuited	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Motor faulty. Faulty wiring. Main circuit board faulty.
		Ex52	Motor thermal cut-out triggered	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Motor faulty. Motor thermal cut-out has triggered. Faulty wiring. Main circuit board faulty.

FAMILY		ALARM CODE	Full name	Action	Notes and possible causes
		Ex53	Motor TRIAC "sensing" circuit faulty	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Main circuit board faulty.
		Ex54	Motor blocked	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Washing load is too large. Power supply voltage low. Motor / drive system blocked.
		Ex55	Inverter board safety alarm	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	-----
		Ex56	FCV motor plug not connected	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> Motor Wiring Motor Windings FCV Board
		E57	Inverter is drawing too much current (> 15 A)	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Motor-inverter wiring faulty. Inverter board faulty. Motor faulty.
		E58	Inverter is drawing too much current (> 4.5 A)	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Abnormal motor operation (overload). Motor-inverter wiring faulty. Motor faulty. Inverter board faulty.
		E59	No signal from tachometric generator for 3 seconds	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Motor-inverter wiring faulty. Inverter board faulty. Motor faulty.
E0x50	DRUM ROTATION MOTOR	E5A	Overheating on cooling dissipater for inverter (> 88 °C)	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Overheating caused by continuous operation or ambient conditions. Inverter board faulty. NTC open (on the inverter board).
		E5B	FCV under voltage Failure	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> Main Board - FCV power supply wiring FCV Board Failure"

FAMILY		ALARM CODE	Full name	Action	Notes and possible causes
		E5H	Input voltage is lower than 175 V	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Faulty wiring. Inverter board faulty.
		E5C	Input voltage is too high - greater than 430 V	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Input voltage is too high (measure the grid voltage). Inverter board faulty.
		E5d	Data transfer error between inverter and main PCB	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Line interference. Faulty wiring. Main board or inverter board faulty.
		E5E	Communication error between inverter and main PCB	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Faulty wiring between main board and inverter. Inverter board faulty. Main board faulty.
		E5F	Inverter PCB fails to start the motor	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Faulty wiring. Inverter board faulty. Main board faulty.
Ex60	HEATING ELEMENTS	Ex61	Compressor Hardware Failuew	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> VSC Board
		Ex62	Compressor short-circuited	<ul style="list-style-type: none"> The drying cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Compressor short-circuited. Compressor current leakage. Faulty wiring. Main circuit board faulty.
		Ex63	Compressor alarm	<ul style="list-style-type: none"> The drying cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Compressor disconnected (wiring or connector error). Compressor thermal cut-out has triggered. Compressor faulty. Relay error (main board faulty).
		Ex64	Compressor "sensing" circuit faulty	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> Error in the compressor detection circuit. Main board faulty.
		Ex65	VSC Safety Alarm	<ul style="list-style-type: none"> Stops cycle execution 	-----

FAMILY		ALARM CODE	Full name	Action	Notes and possible causes
		Ex66	VSC motor plug not connected	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> Motor Wiring Motor Windings VSC Board
		Ex67	VSC Current Trip Failure	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> VSC Board - Motor Wiring Motor Connector VSC Board
		Ex68	VSC over current Failure	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> VSC Board - Motor Wiring Motor Connector Motor mechanical blockage VSC Board
		Ex69	VSC - motor not following	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> VSC Board - Motor Wiring Motor Connector Motor mechanical blockage VSC Board
		Ex6A	VSC Board overheating	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> Motor mechanical blockage VSC Board
		Ex6B	VSC under voltage Failure	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> Main Board - VSC power supply wiring VSC Board Failure
		Ex6C	VSC over voltage Failure	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> VSC BOARD Failure
		Ex6D	VSC Failure	<ul style="list-style-type: none"> No Action 	-----
		Ex6E	VSC unknown message Failure	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> Main Board - VSC communication wiring Main Board - VSC power supply wiring Main Board or VSC Board Failure
		Ex6F	VSC Failure	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> VSC BOARD Failure

FAMILY		ALARM CODE	Full name	Action	Notes and possible causes
0x70	NTC	Ex71	Drying NTC alarm	<ul style="list-style-type: none"> The cycle is suspended. If it is detected before the cycle starts, the cycle start will not be permitted. 	<ul style="list-style-type: none"> NTC1 reading out of range. Wiring failure. NTC failure. NTC reading circuit error (main board error).
		Ex72	Heaters NTC Alarm	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> NTC2 reading out of Range Wiring Failure NTC Failure NTC reading circuit Failure (Main Board Failure)
		Ex73	Steamer NTC Alarm	<ul style="list-style-type: none"> Stops cycle execution 	<ul style="list-style-type: none"> NTC3 reading out of Range Wiring Failure NTC Failure NTC reading circuit Failure (Main Board Failure)
0x80	IU	Ex83	Incorrect selector dial position	<ul style="list-style-type: none"> No action. 	<ul style="list-style-type: none"> The code for the selector position is not recognised. Selector faulty (main board error).
		Ex86	Incorrect selector configuration	<ul style="list-style-type: none"> No action. 	<ul style="list-style-type: none"> Incorrect selector configuration (main board failure). Selector faulty (main board error).
		Ex87	Self-diagnosis of main circuit board faulty	<ul style="list-style-type: none"> No action. 	<ul style="list-style-type: none"> Main board faulty.
Ex90	CFG	Ex91	User interface board communication alarm	<ul style="list-style-type: none"> No action possible. 	<ul style="list-style-type: none"> Faulty wiring. User interface board faulty. Main board faulty.
		Ex92	Inconsistent user interface board protocol	<ul style="list-style-type: none"> No action possible. 	<ul style="list-style-type: none"> The user interface board is not compatible with the main board.
		Ex93	MCF checksum alarm	<ul style="list-style-type: none"> The machine could not work until a right configuration file is programmed. 	<ul style="list-style-type: none"> Wrong machine configuration file.
		Ex94	CCF checksum alarm	<ul style="list-style-type: none"> The machine could not work until a right configuration file is programmed. 	<ul style="list-style-type: none"> Wrong cycle configuration file.

FAMILY		ALARM CODE	Full name	Action	Notes and possible causes
		Ex97	Missing programme on CTF alarm	<ul style="list-style-type: none"> Only detected when configuration is performed. Does not allow the cycle to start. 	<ul style="list-style-type: none"> Wrong selector configuration (MCF) or missing cycle on cycle table (CCF).
		Ex98	Inconsistent inverter board protocol	<ul style="list-style-type: none"> Only detected when configuration is performed. Does not allow the cycle to start. 	<ul style="list-style-type: none"> The user interface board is not compatible with the main board. Inverter board faulty. Bad main board configuration.
		Ex9C	User interface checksum alarm	<ul style="list-style-type: none"> No action possible. 	
		Ex9E	One or more touch keys on the user interface does not work	<ul style="list-style-type: none"> No action possible. 	<ul style="list-style-type: none"> Faulty wiring. Presence of damp on the user interface board. Board faulty.
ExB0 (ExH0)	POWER SUPPLY	ExH1	Power supply frequency out of range	<ul style="list-style-type: none"> If detected in setup, it would not be possible cycle starting. If happens during cycle execution, it suspend working. It is automatically cleared when power supply return within right limits, it would be possible to start. If a cycle was temporary suspended due to this alarm it automatically restarts. 	<ul style="list-style-type: none"> Power supply problems. Wrong MCF. Main board error.
		ExH2	Power supply voltage out of range (too HIGH)		<ul style="list-style-type: none"> Power supply problems - TOO HIGH VOLTAGE. Wrong MCF. Main board error.
		ExH3	Power supply voltage out of range (too LOW)		<ul style="list-style-type: none"> Power supply problems - TOO LOW VOLTAGE. Wrong MCF. Main board error.
		ExH4	Zero Watt relay alarm	<ul style="list-style-type: none"> The tumble dryer is working properly but the zero Watt circuit is never activated. 	<ul style="list-style-type: none"> Main board faulty.
		ExHD	Current leakage alarm	<ul style="list-style-type: none"> The cycle is suspended. 	<ul style="list-style-type: none"> Current leakage of any actuator. Faulty wiring. Main board faulty.
		ExHE	Safety line alarm	<ul style="list-style-type: none"> The cycle is suspended. 	<ul style="list-style-type: none"> Main board faulty.
		ExHF	Safety line sensing alarm	<ul style="list-style-type: none"> The cycle is suspended. 	<ul style="list-style-type: none"> Main board faulty.

FAMILY		ALARM CODE	Full name	Action	Notes and possible causes
ALARMS		ExF6	Microprocessor safety reset	<ul style="list-style-type: none"> ▪ No action possible. 	<ul style="list-style-type: none"> ▪ Main board faulty.

7 Revisions

Revision	Date	Description	Written by	Approved by - on
00	03/2011	Document creation	A.D.L.	A.D.L. – 03/2011
01	08/2015	Alarms table update	MP	