13. FAULT ANALYSIS

WARNING

- When carrying out repairs and cleaning the device, the plug should always be removed from the wall socket before the device is opened.

Preface

Before searching for the defect, check if all parts are in their correct positions. To do this, remove the backplate of the device and make sure that all printed circuit boards, connectors, wire beams and pipes are mounted correctly.

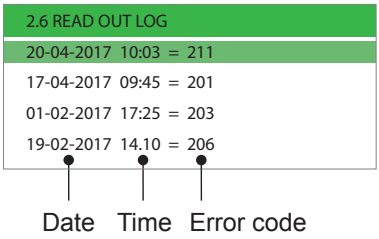
After carrying out a general parts inspection, use section 13.4 Troubleshooting analysis to verify the probable cause of the problem.

If the solution column advises replacement of the part concerned, it is possible that the defect is caused by another problem. The operation of the device should therefore be thoroughly tested to make sure that the defect does not reappear.

13.1 Read log

During use, the most recent 20 error messages displayed are registered and saved.

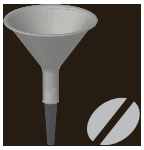
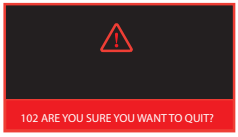
To read these error messages, activate the menu item. Read out the log (menu 2.6) in the service menu. The first error displayed is the most recent error message.



13.2 Clear log

Use the delete log function (service menu 2.7) to clear the log.

13.3 Display and button signals during use

Signal	Possible cause	Solution
	The OK button blinks. The energy safe mode of the boiler is activated.	Select OK to activate the boiler again.
	The boiler button blinks. The boiler is heating	Wait until the boiler has been refilled and heated.
	Coffee system needs descaling.	Start the descaling program in the operator menu.
	Boiler system needs descaling.	Start the descaling program in the operator menu.
	Someone pressed the STOP [X] button during an brewing process.	Press START [OK] to continue the brewing process. Press STOP [X] to stop the brewing process permanently.
	Software update in progress	Wait until the update is ready. Remove the SD card Select the model settings

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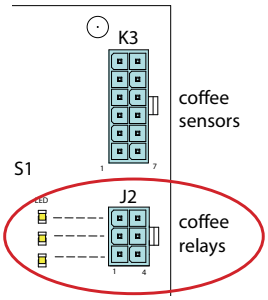
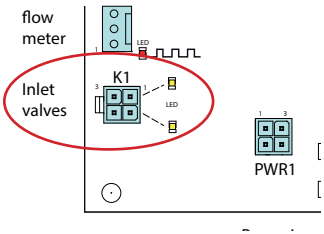
13.4 Troubleshooting

Errors marked with ⓘ can hold extra dealer information about who to call if an error pops up.

See chapter 9.2 to see how to upload dealer information.

Brew system errors

Display	Possible cause	Solution
206 BREW SYSTEM HEAT-UP TOO LONG	The system detects that the brew process is not working at full force. It notices that the flow heater element is activated for more than twenty minutes.	Check if the brew system produces enough hot water from the swivel arm. CB5 / 3 kW = 0.5 litres/min. CB10 / 6 kW = 1.0 litres/min. CB20 / 9 kW = 1.5 litres/min. CB40 / 18 kW = 3.0 litres/min.
	One of the three heaters does not heat.	Check if all 3 phases are live. Restore the power supply if necessary.
		Check each flow heater with an ampere clamp or check the resistance of each heating element of the flow heater. Replace the flow heater if necessary.
		Check all three LEDs (main PC board conector J2). They must light up and all three power relays must be activated to start the flow heater power relays. **Attention:** If the flow heater starts heating, only two heaters heat. When the machine refills for the first time, the third heater will be switched on.
	The temperature protection does not conduct all of the three contacts controlling the neutral of each heater element.	Check all three contacts for continuity.

Display	Possible cause	Solution
207 BREW SYSTEM FILLING TOO LONG	There is a problem with the mains water supply.	Press the X button to restart the machine. Check the mains water pressure and supply hose connection. Open the tap completely.
	During the first installation, the minimum level sensor was not reached within 40 seconds. If the inlet valve stays open for 10 minutes, error 210 [C8] will take over and finally close the valve to prevent it from overheating.	Check the inlet valve on operation. Check the lower LED (main PC board connector K1). It must light up when the inlet valve is activated. 
208 ⓘ FALSE WATER FLOW DETECTED	There is a fault with the water inlet valve coffee maker.	Replace the inlet valve. Press the X button to restart the machine
209 ⓘ BREW SYSTEM MIN. ELECTRODE FAULT	The maximum level sensor detects enough water, but the minimum level sensor does not detect any water.	Press the X button to restart the machine. Check if the minimum electrode is working. Tip: Check if the level sensor signal reaches the electronic board by using the SERVICE MENU / 2.5 READ SENSOR VALUES / LEVEL SENSORS.
	The maximum level sensor falsely informs the electronic board that it detects a water level.	Check if the cold water reservoir lid is contaminated with descaler solution. The solution conducts extremely and causes false level information. Clean the complete lid under water or replace it.
210 BREW SYSTEM INLET VALVE CLOSED	After 10 minutes of trying to fill during error 207, the inlet valve is finally closed to prevent it from overheating.	Press the X button to restart the machine. Check the inlet valve during operation.

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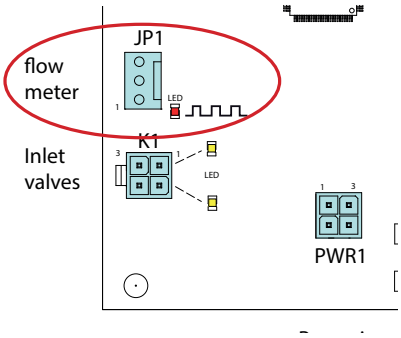
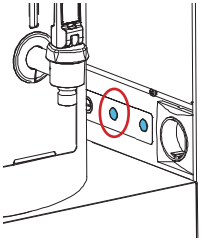
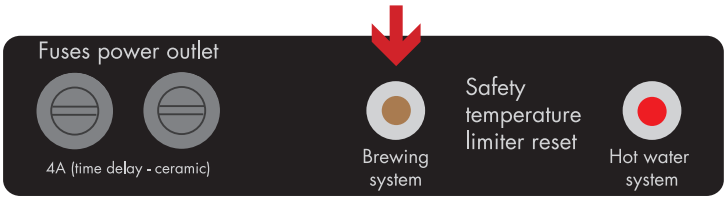
Display	Possible cause	Solution
211 NO WATER FLOW DETECTED	There is a fault in the water flow meter signal. The flow meter impulses do not arrive on the main board. When the inlet valve is activated, the flow meter must send impulses to the main board.	Check if the red LED blinks when the water inlet valve (lower LED K1) is activated. If no impulses arrive, check/replace the flow meter and the connection cable. 
212 ⓘ TEMP. SENSOR NOT DETECTED	The temperature sensor is not detected	Check the sensor and the wiring for bad connections. Press the X button to restart the machine.
213 ⓘ TEMP. SENSOR SHORT CIRCUIT	The temperature sensor is internally faulty.	Replace the temperature sensor Press the X button to restart the machine.
214 LOW TEMPERATURE	?	
215 PARAMETER FILE CORRUPTED	Bug in software	Update the software. Follow the instructions in chapter 9.3 This chapter also includes a direct link to the software.

Display	Possible cause	Solution
216 TEMP. PROTECTION DISABLED	The safety temperature limiter brewing system is activated.	Reset the **Safety temperature limiter brewing system**, see below. Refer to 10.1. Descale the machine. Press the X button to restart the machine.
		

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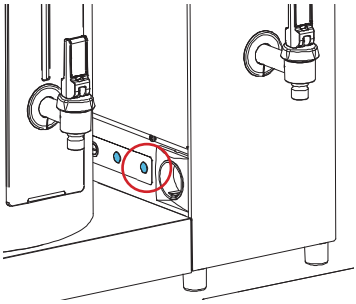
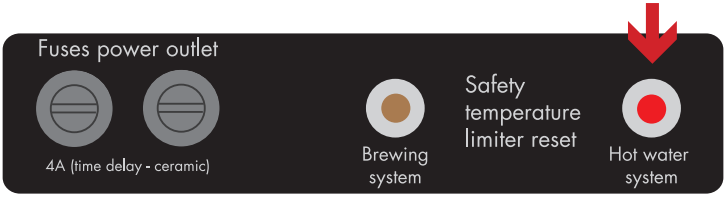
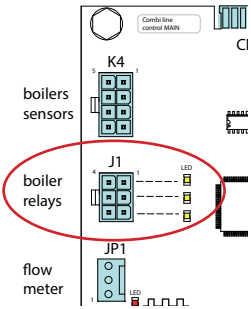
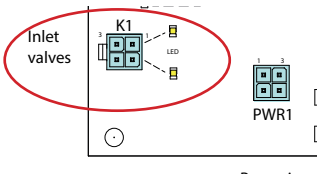
Boiler errors

<table>
<tr><th>Display</th><th>Possible cause</th><th>Solution</th></tr>
<tr><td>200 ⓘ
BOILER
TEMPERATURE
TOO HIGH</td><td>There is a fault in the boiler temperature sensor.</td><td>Replace the temperature sensor.
Press the X button to restart the machine.</td></tr>
<tr><td>201 ⓘ
BOILER
TEMPERATURE
TOO LOW</td><td>There is a fault in the boiler temperature sensor.</td><td>Replace the temperature sensor.
Press the X button to restart the machine.</td></tr>
<tr><td rowspan="4">202
BOILER HEAT-UP
TOO LONG</td><td>Temperature protection is activated.

Boiler signal tries to heat the boiler for more than 30 minutes.</td><td>Reset the Safety temperature limiter hot water system, see below.
Refer to 10.2. Descale the boiler system.
Press the X button to restart the machine.
  </td></tr>
<tr><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">One of the three heaters does not heat.</td><td>Check if all 3 phases are live.
Restore the power supply if necessary.</td></tr>
<tr><td>Check each flow heater with an ampere clamp or check the resistance of each heating element of the flow heater.
Replace the flow heater if necessary.</td></tr>
</table>

Display	Possible cause	Solution
202 BOILER HEAT-UP TOO SLOW	The temperature protection does not conduct all of the three contacts controlling the neutral of each heater element.	Check all three contacts for continuity.
	Attention: The boiler heaters start alternately during start-up and when reaching the set temperature. 	Check all three LEDs (main PC board connector J1). They must light up and all three power relays must be activated to start each heating element.
203 BOILER FILLING TIME TOO LONG	There is a problem with the mains water supply.	Press the X button to restart the machine. Check the mains water pressure and supply hose connection. Open the tap completely.
	During the first installation of the hot water boiler, the minimum level sensor is not reached within 120 seconds. If the inlet valve stays open for 10 minutes, error 205 [B8] will take over and will close the valve to prevent it from overheating.	Check the inlet valve during operation. Check the upper LED (main PC board connector K1). It must light up when the inlet valve is activated. 

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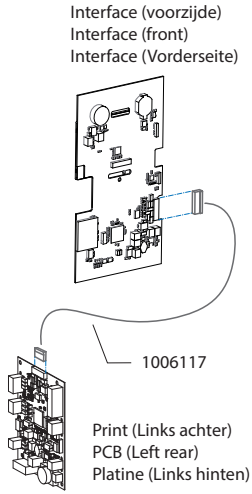
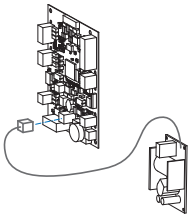
Display	Possible cause	Solution
204 ⓘ BOILER MINIMUM ELECTRODE FAULT	The maximum level sensor detects a sufficient quantity of water, but the minimum level sensor does not detect any water.	Press the X button to restart the machine. Check if the minimum electrode is working. Tip: Check if the level sensor signal reaches the electronic board by using the SERVICE MENU / 2.5 READ SENSOR VALUES / LEVEL SENSORS.
		Check the silicon tube connection between the cold water reservoir and the hot water reservoir for air bubbles or other obstructions.
205 BOILER INLET VALVE CLOSED	After 10 minutes of trying to fill during error 203, the inlet valve is finally closed to prevent it from overheating.	Press the X button to restart the machine. Check if the inlet valve is operating.

System warnings

Display	Possible cause	Solution
110 INTERNAL COMMUNICATION ERROR	No communication between main and interface. 	Restart the machine by switching it OFF and ON again. Check connections of cable or replace the cable [1006117]. Load factory settings, see service menu 2.8 Replace both control boards

Display	Possible cause	Solution
111 INTERNAL ERROR	24 volts lost on I/O board. Print (Links achter) PCB (Left rear) Platine (Links hinten)  24V voeding (Links voor) 24V Power supply (front left) 24V Spannungs versorgung (Links vorne)	Restart the machine by switching it OFF and ON again. 24V power supply deviates more than 2 volts, replace power supply.
114 TIMER ERROR	No more software timers available.	Restart the machine.
115 WATCHDOG RESET	The system has crashed and will be restarted as a result.	May appear in the log after a software update, but should not normally appear. Replace both control boards

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