

LIQUID HEATER FAULT CODES

Code	Malfunction description	Recommended solutions
01	Overheating	<ol style="list-style-type: none"> 1. Perform complete test of the fluid loop. 2. Test the pump; replace if necessary. 3. Test the overheating sensor and the temperature sensor; replace if necessary. 4. Test the antifreeze for suitability at current ambient temperatures.
02	The risk of overheating. Temperature difference between the readings of the overheating sensor and heat sensor is too big	
03	Temperature sensor fault No. 1.	Replace the sensor assembly.
04	Temperature sensor fault No. 2.	
05	Flame indicator fault.	Test connecting wires. Test ohmic resistance between display leads; it must not exceed 10 Ω. Replace the faulty flame indicator.
06	Control unit temperature sensor fault	Replace the control unit of the heater.
09	Glow plug fault.	Test glow plug. Replace if necessary.
10	Air pump fault. Speed lower than rated.	Test electric motor wiring. Correct the fault; replace the air pump if necessary.
12	Shutdown due to voltage over 16 V (30.8 V).	This defect is possible if the pre-heater starts when the vehicle engine is running. This may be caused by vehicle voltage regulator fault.
13*	All attempts to start failed.	In case all start attempts were used - test the amount and flow of fuel supplied. Test the air intake, the filter, and the gas exhaust pipe. Test the glow plug.
14	Liquid pump fault.	Test short circuit and discontinuity of circulation pump wiring; test the pump; replace if necessary.
15	Shutdown due to voltage below 10 (20) V.	Test voltage at connector XS2 on the heater. Test the battery, the vehicle voltage regulator, and power supply wiring.
16	Ventilation time exceeded.	The flame detector is not cooled down enough by purging. Test the air intake, the filter, and the gas exhaust pipe. Test the flame detector; replace if necessary.
17	Fuel pump fault.	Test the fuel pump power wiring for short circuit, replace if necessary.

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20	No communication between the control unit and the control panel.	Test connecting wires, connectors. Control panel fails to receive data from the control unit.
22	Fuel pump fault.	Test the fuel pump power wiring for breaks, replace if necessary.
24	Rapid temperature change indicated by one of the sensors.	Possible overheating near one of the temperature sensors due to poor coolant circulation.
25	The coolant heats up too quickly.	Perform complete test of the fluid loop. The pre-heater goes into the cooling down mode three times in one cycle in less than 6 minutes.
26	Air pump overload	Test the air pump. Air pump vane wheel jamming in the heater housing due to bracing misalignment is possible
27	Air pump fault. The motor does not rotate.	Test wiring, the air pump, and the control unit; replace if necessary.
28	Air pump fault. The engine rotates uncontrollably.	
29	All ignition attempts failed with the pre-heater in operation.	Test the fuel system. Test the tightness of the fuel line clamps, the seal of the fuel line and the fuel pump line, and the fuel pump output.
30	No communication between the control unit and the control panel.	Test connecting wires and connectors. Control unit fails to receive data from the control panel.
37*	Pre-heater is locked	To unlock the pre-heater, contact a service center.
50	No communication between the control panel and the modem.	Test connecting wires, connectors.
78	Flameout during operation.	Shown to inform the user. Check the tightness of the fuel line clamps, and integrity of fuel line and fuel pump fitting.

* If error 13 appears three times in a row during pre-heater start, it will be locked. This lock is to prevent excess fuel supply to the combustion chamber. In case of lock, the fault code 37 will be displayed on the control panel.