Code #	Panel Description	Malfunction Root Cause	Recommended Troubleshooting Methods	Description Pt 2
01	Overheat	Exceedingly high difference in temperatures measured by the overheating sensor and the temperature sensor.	1. Perform complete test of the fluid loop. 2. Check the pump; replace if necessary. 3. Check overheating sensor and temperature sensor; replace if necessary.	
02	Overheat	Exceedingly high difference in temperatures measured by the overheating sensor and the temperature sensor.		
03	Error of the overheat temp. sensor	Short or open circuit in the electric wiring.	Replace both sensors.	
04	Error of the overheat temp. sensor			
05	Open circuit of the flame temp. sensor	Short circuit to frame or open circuit in the detector wiring.	Check the flame detector wiring and replace, if necessary.	
09	Glow plug error	Short or open circuit, control unit fault	Test glow plug. Replace if necessary. Check the control unit; replace if necessary.	
10	Fan speed does not correspond to the defined	Foreign particles obstruct spinner movement, or the spinner hits the air blower cover.	Check the electric wiring. Check the AB for dirt. Correct the fault; replace the air blower if necessary.	
12	Shutdown due to overvoltage.	Power supply voltage > 16 V.	Test voltage at connector XS2 on the heater. Test the battery, the vehicle voltage regulator, and power supply wiring.	
13	No ignition	Failure to ignite (after two attempts).	Check the fuel line, the fuel pump, and the air blower. Check the exhaust pipe. Check the combustion chamber, clean the Ø2.8 mm opening if necessary.	
14	Water pump error	Short or open circuit in heater pump wiring.	Check short circuit and discontinuity of circulation pump wiring; check the pump; replace if necessary. Clean the pumping elements of the pump.	
15	Low supply voltage	Power supply voltage < 9.5 V.	Test voltage at connector XS2 on the heater. Test the battery, the vehicle voltage regulator, and power supply wiring.	
16	Ventelation time exceeded	The flame sensor is not cooled down by purging sufficiently.	Check the air intake and the gas exhaust pipe. Check the flame detector; replace if necessary.	

17	Short circuit of the fuel pump	Short circuit in the fuel pump wiring.	Test the fuel pump power wiring for short circuit, replace if necessary.	
22	Open circuit of the fuel pump	Open circuit in the fuel pump wiring.	Test the fuel pump power wiring for breaks, replace if necessary.	
27	Fan does not rotate	The motor does not rotate (movement is possibly obstructed.	Check the AB for mechanical obstruction of its rotation. Test wiring, the air pump, and the control unit; replace if necessary.	
28	Fan self-rotation	The motor rotates uncontrollably (possible fault in the 5 V power supply to the control unit).		
29	Exceeding the limit of flame blowout	Ignition has been tried more than 4 times.	Check the fuel system. Check the security of the fuel line clamps, the seal of the fuel line and the fuel pump nozzle, and the fuel pump capacity.	
36	Overheating of the flame indicator	The flame sensor is not cooled down by purging sufficiently.	Check the air intake and the gas exhaust pipe. Check the flame detector; replace sensor if necessary.	
40	No connection with the heater	Data connection between heater and HCU has been dropped.	Reset power to HCU and Heater. Check all data wires and connecters between PU36 and HCU. Check Internal CAN wires and connector. Ensure Heater has 12V at power plug.	
45	Open circuit of the tank temp. sensor	Open circuit in the tank temperature sensor wiring.	Check the connection at the tank temperature sensor. Check if unplugged. Check for bad crimp or loose wiring. Check connection at 24 pin connector.	
46	Short circuit of the tank temp. sensor	Short circuit in the tank temperature sensor wiring.		
53	Open circuit of the flow sensor	Open circuit in the flow sensor wiring	Check the connection at the flow sensor. Check if unplugged. Check for bad crimp or loose wiring. Check connection at 24 pin connector.	
54	Short circuit of the flow sensor	Short circuit in the flow sensor wiring.		
55	Open circuit of the air temp. sensor	Open circuit in the temperature sensor wiring.	Check the connection at the wire temperature sensor. Check if unplugged. Check for bad crimp or loose wiring. Check connection at 24 pin connector.	
56	Short circuit of the air temp. sensor	Short circuit in the temperature sensor wiring.		
57	Short circuit of the zone 1 temp. sensor	Short circuit in the temperature sensor wiring.		
58	Open circuit of the zone 1 temp. sensor	Open circuit in the temperature sensor wiring		

59	Short circuit of the zone 2 temp. sensor	Short circuit in the temperature sensor wiring.	Check the connection at the wire temperature sensor. Check if unplugged. Check for bad crimp or loose wiring. Check connection at 24 pin connector.	
60	Open circuit of the zone 2 temp. sensor	Open circuit in the temperature sensor wiring		
61	Short circuit of the zone 3 temp. sensor	Short circuit in the temperature sensor wiring.		
62	Open circuit of the zone 3 temp. sensor	Open circuit in the temperature sensor wiring		
63	Short circuit of the zone 4 temp. sensor	Short circuit in the temperature sensor wiring.		
64	Open circuit of the zone 4 temp. sensor	Open circuit in the temperature sensor wiring.		
65	Short circuit of the zone 5 temp. sensor	Short circuit in the temperature sensor wiring.		
66	Open circuit of the zone 5 temp. sensor	Open circuit in the temperature sensor wiring.		
69	Short circuit of the pump 1	Short circuit in the circulation pump wiring.	Check the connection at the pump. Check if unplugged. Check for bad crimp or loose wiring. Turn on pump override. If pump does not spin with voltage at plug, replace pump.	
70	Open circuit of the pump 1	Open circuit in the circulation pump wiring.		
71	Short circuit of the pump 2	Short circuit in the circulation pump wiring.		
72	Open circuit of the pump 2	Open circuit in the circulation pump wiring.		
79	Short circuit of the fan 1	Short circuit in the fan wiring.	Check the connection at the fan. Check if unplugged. Check for bad crimp or loose wiring. Check for constant 12v on power.	
80	Open circuit of the fan 1	Open circuit in the fan wiring		
81	Short circuit of the fan 2x	Short circuit in the fan wiring.		
82	Open circuit of the fan 2	Open circuit in the fan wiring.		
83	Short circuit of the fan 3	Short circuit in the fan wiring.		
84	Open circuit of the fan 3	Open circuit in the fan wiring.		
85	Short circuit of the fan 4	Short circuit in the fan wiring.		
86	Open circuit of the fan 4	Open circuit in the fan wiring.		

87	Short circuit of the fan 5	Short circuit in the fan wiring.	Check the connection at the fan. Check if unplugged. Check for bad crimp or loose wiring. Check for constant 12v on power.	
88	Open circuit of the fan 5	Open circuit in the fan wiring.		
91	Liquid level too low	Antifreeze level in tank has dropped below minimum level.	Check antifreeze level inside tank. If low, top off with Timberline antifreeze. If fluid continues to drop, check system for leak.	
92	*Liquid level too high	Antifreeze level in tank has been overfilled.	Check antifreeze fluid level in “diagsnostics” screen. If fluid is registered above level 6, siphon antifreeze from tank until fluid level drops to level 5. [Code Discontinued]	
93	Level sensor short circuit	Short circuit in level sensor wiring.	Check the connection at the level sensor. Check if unplugged. Check for bad crimp or loose wiring. Check connection at 24 pin connector.	
94	Level sensor open circuit	Open circuit in level sensor wiring.		