

FFH

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DIAGNOSIS

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DIAGNOSIS

1. FFH

Trouble Code	Trouble Description	Remedies
0	No faults	-
10	Shutdown for overvoltage	Measure battery voltage (must be < 15.9V). Check alternator and overvoltage.
11	Shutdown for undervoltage	Measure battery voltage (must be > 10.2V under load). Check alternator, wiring and undervoltage.
12	Overheating (abnormal reference value)	Temperature at overheating sensor > 125°C: check cooling system. Check temperature sensor and overheating sensor, replace if necessary.
14	Overheating (difference evaluation-1)	Difference in temperature values between surface sensor and control overheating sensor is too large. (Prerequisite for this trouble code display is that the heater is in operation and the water temperature at the overheating sensor has reached min. 80°C): check cooling system. Check temperature sensor and overheating sensor, replace if necessary
15	Overheating (abnormal heater operation)	Heater does not operate (The controller is locked.) Delete trouble code to release controller lock: check cooling system. Check temperature sensor and overheating sensor, replace if necessary
16	Overheating (difference evaluation-2)	If the surface sensor has a far higher temperature value than the control overheating sensor, then the system proceeds with a fault shutdown.
17	Overheating (defective hardware-2)	Temperature at control overheating sensor > 130°C: check cooling system. Check temperature sensor and overheating sensor, replace if necessary.
20	Open glow plug circuit	Check plug cable for damage, replace if necessary
21	Overload or short circuit of glow plug	Check plug cable for damage, replace if necessary
22	Short circuit of glow plug	Check plug cable for damage, replace if necessary
23	-	-
24	-	-
25	Short circuit of communication line	Check the communication line.
30	Abnormal speed of combustion fan motor	Defective fan wheel or combustion air fan motor (frozen, contaminated, stiff, damaged cable)
31	Defective combustion fan motor	Check cable harness for damage, replace if necessary.
32	Overload or short circuit of combustion fan motor	Defective fan wheel or combustion air fan motor (contaminated, stiff) Check cable harness for damage, replace if necessary.
34	Abnormal output of combustion fan motor	Check the ground and short of combustion air fan motor circuit, replace if necessary.
36	-	-
38	-	-
39	-	-
41	Abnormal water pump operation	Check connector.
42	Overload or short circuit of water pump	Check connector.

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Trouble Code	Trouble Description	Remedies
43	Abnormal output of water pump	-
47	Overload or short circuit of fuel pump	Check cable harness for damage, replace if necessary.
48	Abnormal fuel pump operation	Check cable harness for damage, replace if necessary. Check plug-in connection, replace if necessary.
49	Short circuit of fuel pump (B+)	Check cable harness for open to battery voltage, replace if necessary.
50	Improper operation	The controller is locked due to excessive starting problem.
51	Delayed heating time	During start (no flame formed yet), the flame sensor reports temperature value too high for too long, check exhaust gas, combustion air and flame sensor.
52	Time exceeded for cold blowing	Check exhaust gas and combustion air. Check fuel quantity and fuel supply. Clean or replace filter in fuel pump.
53	Flame aborted from "large" stage	Fault (no more starting attempt allowed). Check exhaust gas and combustion air system. Check fuel quantity and fuel supply. Check flame sensor - see trouble code 64 and 65.
54	Flame aborted from "small" stage	Fault (no more starting attempt allowed). Check exhaust gas and combustion air system. Check fuel quantity and fuel supply. Check flame sensor - see trouble code 64 and 65.
60	Abnormal overheating sensor operation	Check cable harness for damage, check plug-in connection, replace if necessary. Check sensor resistance value, replace if necessary.
61	Short circuit or ground of overheating sensor	Check cable harness, replace if necessary. Check sensor resistance value, replace if necessary.
64	Abnormal flame sensor operation	Check cable harness for damage, check plug-in connection, replace if necessary. Check sensor resistance value, replace if necessary.
65	Short circuit of flame sensor	Check cable harness, replace if necessary. Check sensor resistance value, replace if necessary.
71	Defective surface sensor	Check cable harness for damage, check plug-in connection, replace if necessary. Check sensor resistance value, replace if necessary.
72	Short circuit of surface sensor	Check cable harness, replace if necessary. Check sensor resistance value, replace if necessary.
74	Defective overheating prevention device	-
87	-	-
88	-	-
89	-	-
90	Watchdog reset	Replace controller.
91	Abnormal reset function	If too many resets occurs, replace controller
92	ROM error	Replace controller.
93	RAM error	Replace controller.
94	Defective transistor	Replace controller.

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Trouble Code	Trouble Description	Remedies
95	Software error	Check cable harness for open to battery voltage, replace if necessary. Replace controller.
96	Abnormal process operation	Replace controller.
97	Wrong processor cycle	Replace controller.
98	Defective main relay	Replace controller.
99	EEPROM error	Replace controller.

- ECU-GASOLIN
- ECU-DIESEL
- BRAKE
- AIR-BAG
- CCCS
- FATC
- FFH**
- P/TRUNK
- RAIN SENSOR
- STICS
- TC
- TCU
- TGS LEVER

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Causes		Remedies
Low coolant level	<ul style="list-style-type: none"> Leakage in radiator Leakage in coolant auxiliary tank Leakage in heater core 	<ul style="list-style-type: none"> Change radiator. Change coolant auxiliary tank Change heater core.
	<ul style="list-style-type: none"> Leakage in joint junction of coolant hose Leakage in defective coolant hose 	<ul style="list-style-type: none"> Check hose or replace clamp. Change hose.
	<ul style="list-style-type: none"> Leakage in water pump gasket Leakage in water pump sealing 	<ul style="list-style-type: none"> Change gasket. Change water pump.
	<ul style="list-style-type: none"> Leakage in water inlet cap Leakage in thermostat housing 	<ul style="list-style-type: none"> Change water inlet cap gasket. Change thermostat sealing.
	<ul style="list-style-type: none"> Insufficient tightening torque of cylinder head bolt Damaged cylinder head gasket 	<ul style="list-style-type: none"> Tighten bolt to specified torque. Change cylinder head gasket.
	Abnormally high coolant temperature	<ul style="list-style-type: none"> The coolant leakage (Check the coolant level) Excessive anti-freezer Poor coolant hose condition
Abnormally low coolant temperature	<ul style="list-style-type: none"> Defective thermostat Defective water pump Defective radiator Defective coolant auxiliary tank or tank cap 	<ul style="list-style-type: none"> Change thermostat Change water pump. Change radiator. Change coolant auxiliary tank or tank cap.
	<ul style="list-style-type: none"> Crack in cylinder head or in cylinder block Clogged water flow in cylinder head or block 	<ul style="list-style-type: none"> Change cylinder head or cylinder block. Clean coolant flow line.
	<ul style="list-style-type: none"> Clogged water flow in radiator core 	<ul style="list-style-type: none"> Clean radiator core.
	<ul style="list-style-type: none"> Defective cooling fan 	<ul style="list-style-type: none"> Change or check cooling fan.
	<ul style="list-style-type: none"> Defective temp. sensor, wiring, and lamp cluster 	<ul style="list-style-type: none"> Change sensor or check relevant wiring.
	Abnormally low coolant temperature	<ul style="list-style-type: none"> Defective thermostat Defective cooling fan Defective temp. sensor, wiring, and lamp cluster

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