

HYDRONIC II C FAULT CODES




THE TROUBLESHOOTING AND REPAIR INSTRUCTIONS ARE ONLY VALID FOR THE FOLLOWING ENGINE-INDEPENDENT WATER HEATERS

Heaters for diesel




D 5 S – 12 V 25 2506 05 00 00

D 5 S – 24 V 25 2507 05 00 00

4 TROUBLESHOOTING

FAULT CODE DISPLAY	FAULT DESCRIPTION	COMMENTS ▪ REMEDIAL ACTION
000	No faults	— —
009	Implausible air pressure information	Communication loss between the control box and air pressure sensor. <ul style="list-style-type: none"> ▪ Read out air pressure sensor fault memory (only using EDiTH Basic diagnostic tool, from software S3V7-F). ▪ Check wiring and plug-in connections, if ok replace ⇒ air pressure sensor.
010	Shutdown due to overvoltage (heater not functioning)	Overvoltage applied to control box for at least 20 seconds without interruption <ul style="list-style-type: none"> ▪ Disconnect plug-in connection B4/S4, vehicle engine on, connector B4 – measure voltage between chamber 1, cable 4² rt and chamber 2, cable 4² br. Voltage >15 V / >32 V ⇒ check the generator regulator, check battery.
011	Shutdown due to undervoltage (heater not functioning)	Undervoltage applied to control box for at least 20 seconds without interruption <ul style="list-style-type: none"> ▪ Vehicle engine off, disconnect plug-in connection B4/S4, connector B1 – measure voltage between chamber 1, cable 4² rt and chamber 2, cable 4² br. Voltage <10 V / < 20 V ⇒ Check fuses, supply cables, ground connections and positive support point at the battery for voltage drop (corrosion).
012	Overheating – software threshold exceeded	Temperature at overheating sensor >125 °C <ul style="list-style-type: none"> ▪ Check water circuit: <ul style="list-style-type: none"> – Heating control in max. position. – Check water circuit for leaks. – Vent water circuit. – If non-return valve / thermostat in the water circuit, check the flow direction. ▪ Check water throughput rate. ▪ Check overheating sensor: <ul style="list-style-type: none"> – Check cable for continuity, short circuit and damage. – Measure the resistive value in connector B2 – between chamber 10, cable 0.5² sw and chamber 11, cable 0.5² sw, see Page 26 for measured values. ▪ Check water pump, see Fault code 041 and 042.
013	Temperature difference error (before metering pump delivery)	Difference between the temperature values of the overheating sensor and the surface sensor is too large.
014	Possible overheating risk (1. differential evaluation)  PLEASE NOTE! Fault code 014 is only displayed if the heater is running and the water temperature at the overheating sensor has reached at least 80 °C.	<ul style="list-style-type: none"> ▪ For remedial action see Fault code 012. ▪ Check the surface sensor: <ul style="list-style-type: none"> – Check cable for continuity, short circuit and damage. – Measure the resistive value in connector B2 – between chamber 7, cable 0.5² ws and chamber 8, cable 0.5² ws, see Page 27 for measured values.
015	Operating lock-out – too many overheating events detected	The control box is locked due to consecutive too frequent overheating (Fault code 012 , 013 , 014 , 016). <ul style="list-style-type: none"> ▪ For remedial action see Fault code 013. ▪ Unlock the control box, see from page 14.


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FAULT CODE DISPLAY	FAULT DESCRIPTION	COMMENTS
016	Possible overheating risk (2. differential evaluation)  PLEASE NOTE! Fault code 016 is only displayed if the heater is running and the water temperature at the overheating sensor has reached at least 80 °C.	REMEDIAL ACTION Difference between the temperature values of the overheating sensor and the surface sensor is too large. <ul style="list-style-type: none"> For remedial action see Fault code 012. Check the surface sensor: <ul style="list-style-type: none"> Check cable for continuity, short circuit and damage. Measure the resistance in connector B2 – between chamber 7, cable 0.5² ws and chamber 8, cable 0.5² ws, see Page 27 for measured values.
017	Overheating, hardware threshold exceeded	Temperature at overheating sensor >130 °C <ul style="list-style-type: none"> For remedial action see Fault code 012. Check the surface sensor: <ul style="list-style-type: none"> Check cable for continuity, short circuit and damage. Measure the resistance in connector B2 – between chamber 7, cable 0.5² ws and chamber 8, cable 0.5² ws, see Page 27 for measured values.
018 019	Glow plug – start energy too low Glow plug – ignition energy too low	Glow plug energy input is too low. <ul style="list-style-type: none"> Perform functional check on the glow plug, see Fault code 020.
020 021 022	Glow plug – interruption Glow plug – overload Glow plug - short circuit downstream of +Ub or transistor error  CAUTION! The glow plug is irreparably damaged if the voltage values are exceeded. → Perform the functional check with max. 9.5 V / 16 V.  PLEASE NOTE! Ensure the power pack has adequate short-circuit resistance.	Glow plug energy input is too low. <ul style="list-style-type: none"> Check both cables for continuity, short circuit and damage. Perform functional check on the glow plug in installed condition. <ul style="list-style-type: none"> Connector B2 – chamber 3, cable 1.5² br and chamber 6, cable 1.5² ws, unclip both cables. 12 V <ul style="list-style-type: none"> Apply 9,5 V ±0.1 V voltage to the glow plug and after 25 sec measure the current intensity. if 9.5 A (+1 A / -1.5 A) the glow plug is ok. If values are different, renew the glow plug. 24 V <ul style="list-style-type: none"> Apply 16 V ±0.1 V voltage to the glow plug and after 25 sec measure the current intensity. if 5.2 A (±1 A) the glow plug is ok. If values are different, renew the glow plug.
023 024	Heating element – interruption Heating element – short circuit	<ul style="list-style-type: none"> Check the heating element: Check connector B2 – chamber 12, cable 1.5² sw – chamber 9, cable 1.5² sw for continuity, short circuit and damage, if ok ⇒ replace control box.
025	K-line – short circuit	<ul style="list-style-type: none"> Check the diagnostics cable: Check connector B1 and connector B8 (12 v) / B3 (V)– chamber 2, cable 0.5² bl/ws continuity, short circuit and damage, if ok ⇒ replace control box.
026	Heating element – short circuit downstream of +Ub or transistor error	<ul style="list-style-type: none"> Check the heating element: Check connector B2 – chamber 12, cable 1.5² sw – chamber 9, cable 1.5² sw for continuity, short circuit and damage, if ok ⇒ replace control box.
029	Heating element – ignition energy too low	<ul style="list-style-type: none"> Check the heating element: Check connector B2 – chamber 12, cable 1.5² sw – chamber 9, cable 1.5² sw for continuity, short circuit and damage, if ok ⇒ replace control box.

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FAULT CODE DISPLAY	FAULT DESCRIPTION	COMMENTS ▪ REMEDIAL ACTION
030 031 032 033 034 035	Burner motor – EMF outside the allowable range – Interruption – Short circuit – No signal in signal cable / motor blocked – sluggish – Short circuit downstream of +Ub or transistor error	Impeller blocked (frozen, soiled, sluggish, ...) ▪ Remove blockage and check the burner motor for ease of movement by manually turning the impeller. ▪ Check burner motor cable: Check connector B2 – chamber 14, cable 0.75 ² br, chamber 13 cable 0.75 sw and cable 0.75 ² gn/bl for continuity, short circuit and damage, if ok ⇒ replace control box, see Fault code 090 .
038 039	Vehicle blower – interruption Vehicle blower – short circuit	▪ Check “blower” lead harness: Check connector B1 – chamber 3, cable 0.5 ² sw/rt and connector B4 – chamber 2, cable 4 ² br for continuity, short circuit and damage, if ok ⇒ renew relay (2.5.7.).
040	Vehicle blower – short circuit downstream of +Ub or transistor error	▪ Pull off relay (2.5.7.), if fault code 038 is displayed, the relay (2.5.7.) is defective ⇒ renew relay (2.5.7.).
041 042	Water pump – interruption Water pump – short circuit	▪ Check “water pump” lead harness: Check connector B9 (12 V) / connector B8 (24 V) – chamber 2, cable 0.5 ² vi and chamber 1, cable 1.0 ² br for continuity, short circuit and damage, if ok ⇒ renew water pump.
043	Water pump - short circuit downstream of +Ub or transistor error	▪ Pull off connector at water pump, if fault code 041 is displayed, the water pump is defective ⇒ renew water pump.
047 048	Metering pump – short circuit Metering pump interruption	▪ Check “metering pump” lead harness: Check connector B1 – chamber 4, cable 1.5 ² gn and connector B4 – chamber 2, cable 4 ² br/gn for continuity, short circuit and damage, if ok ⇒ renew metering pump.
049	Metering pump – short circuit downstream of +Ub or transistor error	▪ Disconnect connector connection of "metering pump" cable loom or unplug the plug at the metering pump, if Fault code 048 is displayed the metering pump is defective ⇒ renew the metering pump.
050	Operating lock-out – too many safety timeouts	Too many start attempts, the control box is locked. ▪ Unlock the control box, see from page 14 . ▪ Check fuel quantity and fuel supply, see Page 35 .
051	Cold air – timeout	On starting the flame sensor signals a temperature >70 °C for longer than 240 sec. ▪ Check exhaust and combustion air system. ▪ Check flame sensor, see Fault code 064 and 065 .
052	Safety time – exceeded	▪ Check exhaust and combustion air system. ▪ Check fuel quantity and fuel supply, see Page 35 . ▪ Renew the gauze fuel filter inserted in the connection socket of the metering pump.

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053	Flame cutout from control stage "Power"	<ul style="list-style-type: none"> ▪ Check exhaust and combustion air system.
054	Flame cutout from control stage "High"	<ul style="list-style-type: none"> ▪ Check fuel quantity and fuel supply, see Page 35.
056	Flame cutout from control stage "Low"	<ul style="list-style-type: none"> ▪ Check flame sensor, see Fault code 064 and 065.
057	Flame cutout from start process  PLEASE NOTE! If allowable start attempts still remain, in the event of a flame cutout, the heater performs a new start, if applicable with subsequent repeat start. If the restart or repeated start was successful, the fault code display is deleted.	
060	Overheating sensor interruption	<ul style="list-style-type: none"> ▪ Check overheating sensor: <ul style="list-style-type: none"> – Check connector B2 – chamber 10, cable 0.5² sw and chamber 11, cable 0.5² sw for damage. – Remove the overheating sensor and check, see Page 26. – If fault code 060 continues to be displayed, replace the control box.
061	Short circuit in overheating sensor	<ul style="list-style-type: none"> ▪ Check overheating sensor: <ul style="list-style-type: none"> – Check connector B2 – chamber 10, cable 0.5² sw and chamber 11, cable 0.5² sw for damage. – Remove the overheating sensor and check, see Page 26. – If fault code 061 continues to be displayed, replace the control box.
062	Printed circuit board sensor – interruption	<ul style="list-style-type: none"> ▪ Replace control box
063	Printed circuit board sensor – short circuit	
064	Flame sensor interruption	<ul style="list-style-type: none"> ▪ Check flame sensor: <ul style="list-style-type: none"> – Check connector B2 – chamber 1, cable 0.22² br and chamber 2, cable 0.22² br for damage. – Remove the flame sensor and check, see Page 30. – If fault code 064 continues to be displayed, replace the control box.

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FAULT CODE DISPLAY	FAULT DESCRIPTION	COMMENTS ▪ REMEDIAL ACTION
065	Short circuit in flame sensor	<ul style="list-style-type: none"> ▪ Check flame sensor: <ul style="list-style-type: none"> – Check connector B2 – chamber 1, cable 0.22² br and chamber 2, cable 0.22² br for damage. – Remove the flame sensor and check, see Page 30. – If fault code 065 continues to be displayed, replace the control box.
066 067 068	Battery disconnecter <ul style="list-style-type: none"> – Interruption – Short circuit – Short circuit downstream of +Ub or transistor error 	<ul style="list-style-type: none"> ▪ Check the battery isolating switch: <ul style="list-style-type: none"> – Battery isolating switch ok ⇒ Connector B1, – chamber 5, check cable 0.5² ws/rt for continuity, short circuit and damage.
069	JE communication error	<ul style="list-style-type: none"> ▪ Check the diagnostics cable: <ul style="list-style-type: none"> – Connector B1 and connector B8 (12 V) / B3 (24 V) – chamber 2, check cable 0.5² bl/ws for continuity, short circuit and damage, if ok ⇒ check the components connected to the diagnostics cable, if ok ⇒ replace the control box.
071	Surface sensor – interruption	<ul style="list-style-type: none"> ▪ Check the surface sensor: <ul style="list-style-type: none"> – Remove the surface sensor and check, see Page 26. – If fault code 071 continues to be displayed, replace the control box.
072	Surface sensor – short circuit	<ul style="list-style-type: none"> ▪ Check the surface sensor: <ul style="list-style-type: none"> – Check connector B2 – chamber 7, cable 0.5² ws and chamber 8, cable 0.5² ws for damage. – Remove the surface sensor and check, see Page 26. – If fault code 072 continues to be displayed, replace the control box.
074	Operating lock-out – overheating detected, hardware is defective	<ul style="list-style-type: none"> ▪ Check overheating sensor: <ul style="list-style-type: none"> – Check cable for continuity, short circuit and damage. – Measure the resistive value in connector B2 – between chamber 10, cable 0.5² sw and chamber 11, cable 0.5² sw, see Page 26 for measured values. – If fault code 074 continues to be displayed, replace the control box. ▪ Unlock the control box, see from page 14.
090	Hardware is defective	Replace control box
091	Too many resets	Check voltage supply
092 – 099	Control box defective	Replace control box